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Burnout within forensic psychiatric nursing: its relationship with ward environment and effective clinical supervision?

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Forensic Nurses: Burnout, Support & Environment

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Abstract

Introduction

Despite extensive research examining burnout in psychiatric nursing staff, literature exploring key predictors of burnout in secure psychiatric settings has been relatively neglected. Research has yet to explore burnout in these settings by adopting previously identified predictors such as support or the ward environment.

Aim

The current study aimed to reduce this gap by exploring burnout, the perceived effectiveness of clinical supervision and ward environment.

Method

In 2014, nursing staff working in a medium secure forensic psychiatric unit in the United Kingdom (N=137) provided demographic information and completed the measures assessing: Burnout, Clinical Supervision and the ward environment.

Results

Approximately 10% of nursing staff could be classed as 'burnt-out'. The main predictors of burnout were age and ward environment. Clinical supervision had minimal association with burnout.

Discussion

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The current study sheds doubt on clinical supervision as a potential intervention for burnout and results appear comparable to research within other settings. The implications of the ward environment, supervision and burnout are discussed herein.

Implication for Practice

Interventions may need to focus on a positive ward environment (including patient cohesion, experienced safety and enhancing the therapeutic atmosphere). Organisations should support younger nursing staff as they appear particularly vulnerable to burnout.

Keywords: burnout, clinical supervision, forensic, nursing staff, ward environment.

Relevance Statement

The findings of the present study contribute significantly to the existing knowledge base regarding burnout in a relatively neglected area of research; forensic psychiatric nursing. Current literature and interventions for the mental health and wellbeing of nursing staff emphasise the pertinent role of clinical supervision. However, most notably, this study revealed this has little impact on nursing staff's experience of burnout in a forensic healthcare setting. Contrastingly, ward environment, specifically the experienced safety of staff, was revealed as a more important predictor of burnout. This study questions the efficacy of current interventions and highlights the need for further research.

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Accessible Summary**What is known about this subject?**

- Burnout is a prominent issue in psychiatric nursing, and is associated with significant adverse consequences for staff, service users and at an organisational level.
- Exploration of the extent and predictors of burnout in secure settings has received little research attention. It is not fully understood why prevalence rates of burnout in forensic settings are not elevated in comparison to other settings, despite the presence of known risk-related correlates.

What this paper adds to existing knowledge.

- In contrast to previous research, findings suggest that clinical supervision may not be an effective, stand-alone intervention to support staff experiencing burnout. Thus, the current focus on clinical supervision to mitigate burnout may be insufficient in forensic services.
- The ward environment (specifically how safe staff feel, how therapeutic the ward feels, and how well service users relate to one another) was found to be more important than clinical supervision in terms of burnout for forensic psychiatric nursing staff.

What are the implications for practice?

- Policies regarding staff health and wellbeing should be developed with due consideration given to the association between burnout and the working environment.
- It should not be assumed that clinical supervision is sufficient to mitigate burnout in practice. Further research assessing all types of support and the ward environment is needed to gain a better understanding of its relationship to burnout.

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Introduction

The experience of burnout in the workplace is a manifestation of distress, where staff are described as experiencing emotional depletion, increased cynicism, detachment from service users and perceive themselves to have little value within their organisation (Maslach *et al.* 2001). Dominant theories explaining the development of burnout (Periard, 2016) comprise the Job Demands-Resources model (Demerouti *et al.* 2001) and the Conservation of Resources theory (Hobfoll, 1989). The Job Demands-Resources Model (JD-R) defines resources as both internal and external, helping achieve a goal/personal development or temper demands (Demerouti *et al.* 2001). The JD-R also defines demands as “those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort and are therefore associated with certain physiological and/or psychological costs” (Bakker *et al.* 2003; p. 344). The Conservation of Resources Theory (Hobfoll, 1989; Hobfoll & Lilly, 1993) defines resources as anything a person values, or can use, to gain more resources. Furthermore, when the threat/actual loss of resources occurs, or people are unable to regain invested resources, levels of stress increase. Both theories suggest burnout develops consequent on personal demands exceeding, and subsequently depleting their resources, with the former suggesting that as individuals’ resources diminish, they detach emotionally and psychologically to manage this imbalance and prevent further loss of resources.

Burnout is recognised internationally as a critical problem within the caring workforce, with adverse impacts on staff and association with poorer quality of care (Skirrow & Hatton, 2007). Within psychiatric care, elevated burnout in nursing staff may predict: reduced physical and psychological wellbeing in nursing staff (Wykes *et al.* 1997; Maslach *et al.* 2001), increased staff absenteeism (Carson *et al.* 1999a; Gil-Monte, 2008) and staff turnover (Blankertz &

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Robinson, 1997; Schaufeli *et al.* 2009), as well as diminished job performance (Taris, 2007; Jahrami, 2009). There are also adverse implications for service users under the care of nurses experiencing higher levels of burnout (Skirrow & Hatton, 2007), with service users viewing staff experiencing burnout as unhelpful, rejecting and distant (Holmqvist & Jeanneau, 2006), whilst reporting less satisfaction with treatment, their hospital environment, and preparation for independence (Garmen *et al.* 2002).

Background

As a burgeoning evidence base has revealed the detrimental effects of burnout, research has increasingly focused on factors which are associated with, and predict, its development. Burnout has been associated with age (Edwards *et al.* 2006; Laker *et al.* 2012), length of employment (Lasalvia *et al.* 2009), and the professionals most at risk are those directly delivering psychiatric care, specifically nursing staff (Sullivan 1993; Caldwell *et al.* 2006; Laker *et al.* 2012). This is perhaps unsurprising given that the experience of burnout is associated with sustained contact with distressed service users, as well as working unsociable hours within 24-hour shift patterns: prominent in psychiatric settings (Laslavia *et al.* 2009).

As the research base has evolved, focus has shifted from individual characteristics (Demerouti *et al.* 2001; Hobfoll, 1989), towards organisational factors that may be more amenable to system level interventions, that can enhance employees' resources or diminish the demands placed on them. Support is considered a job resource (Zis *et al.* 2014) and has been extensively explored, notably general support provided by colleagues and family (Tummers *et al.* 2001; Ducharme *et al.* 2007), informal support from colleagues (Halbesen & Buckley, 2004; Kay-Eccles, 2012) and formal support - Clinical Supervision (Butterworth *et al.* 1997; Edwards *et al.* 2006; Gonge & Buus, 2011). Although previous literature has highlighted the importance of general and informal support, further examination of the role of clinical supervision is

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warranted given it can be systematically deployed within organisations to mitigate burnout and enhance staff resilience.

The various ways in which clinical supervision has been operationalised has undermined a better understanding of its role and impact. Most previous studies have explored support at work dichotomously, asking if nursing staff were receiving clinical supervision or not. Given clinical supervision is both individualised and subjective (Butterworth *et al.* 1997), this may be flawed since its receipt does not necessarily imply it is useful or effective. Studies that assessed perceived effectiveness of clinical supervision have found a positive association, with beneficial changes to quality of care, service user outcomes (Winstanley & White, 2010) and lower levels of burnout (Edwards *et al.* 2006; Gonge & Buus, 2011). However, Edwards *et al.* (2006) and Gonge and Buus (2011) only found weak relationships between levels of burnout and clinical supervision, even when other known correlates were controlled for. This suggests that although clinical supervision may be important, other factors may be as important.

The exploration of organisational factors predictive of burnout has extended to examination of the context in which care is delivered. Differing care settings, notably community, hospital and secure settings, place differing demands on psychiatric nursing staff due to the specific characteristics of the clients cared for within each setting. The differences in these contexts can be assessed by measuring the ward environment. Schalast and Tonkin (2016) describe the ward environment, also referred to as the social climate/atmosphere, as the specific interaction between the physical, social and emotional conditions of a setting (Schalast & Tonkin, 2016).

The ward environment appears key in the development and mitigation of burnout (Halbesen & Buckley, 2004; Laschinger *et al.* 2006). However, secure hospitals have received relatively little attention, despite their noted distinct and singular environments (Dickinson & Wright,

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2008; Schalast & Tonkin, 2016), as possible contributory factors to potential resource depletion and burnout.

Such forensic services are distinct as they care for individuals who are deemed to require an enhanced level of physical, procedural and relational security. Clients are considered to pose a high risk in terms of violence or aggression to themselves or others, and may have a history of offending (Dickinson & Wright, 2008; Royal College of Psychiatrists, 2015). Various factors present in forensic services appear associated with higher levels of burnout, notably increased levels of violence and aggression (Dickinson & Wright, 2008; Crabbe *et al.* 2002).

Furthermore, forensic psychiatric nursing is reported as extremely stressful (Elliott & Daley, 2013). Given that nursing staff from other settings have reported increased levels of stress whilst also experiencing increased levels of burnout (Laker *et al.* 2012), it might be anticipated that levels of burnout within forensic settings would be relatively high. However, burnout and stress are reported at comparable or lower levels by nurses within forensic services than by colleagues employed in other mainstream services (Melchoir *et al.* 1997; Chalder & Nolan, 2000; Happell *et al.* 2003b; Caldwell *et al.* 2006).

Such contradictory findings suggest that other contributory factors may be operating. Forensic settings have been reported to offer higher levels of support (Melchoir *et al.* 1997; Caldwell *et al.* 2006), which may be one such mitigating factor. However, the link between clinical supervision and burnout has been relatively weak (Edwards *et al.* 2006; Gonge & Buus, 2011), suggesting there may be another more significantly related factor. As forensic settings present particularly unique ward dynamics due to service users' complex behavioural and mental health needs, the ward environment may also play a significant role. Currently, there has been very little research examining burnout whilst simultaneously investigating the perceived effectiveness of clinical supervision and the ward environment (Barkham *et al.* 2004; Paris &

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Hodge, 2010). The lack of literature available suggests the need for a broader understanding of possible predictors of staff burnout, potentially enabling a better understanding of why levels, and experience, of burnout may differ within forensic units.

The aim of the current paper is to determine the extent to which experience of burnout in forensic psychiatric nursing staff is predicted by the perceived effectiveness of clinical supervision and the ward environment.

Methods

Design

This study used opportunity sampling and a cross-sectional design, utilising questionnaires, to determine the extent to which experience of burnout in forensic psychiatric nursing staff is predicted by the perceived effectiveness of clinical supervision and the ward environment. To reduce possible confounding variables and meet requirements for the measurement instruments used, all front line nursing staff (i.e. support workers through to senior registered mental health nurses) employed for a minimum of one year, in daily contact with service users, working full time on a 24-hour rotational shift pattern, within one NHS English medium secure forensic psychiatric hospital were invited to take part ($N=159$). Validated questionnaires were completed by means of self-administration between April 2014 and June 2014. Salient and sufficient demographic information, as identified as possible correlates from the evidence base, was also elicited regarding participants' age, gender, pay banding (Agenda for Change Project Team, 2004) and duration of employment within the medium secure unit. All participants were deemed to have had clinical supervision a minimum of six times, due to minimum employment duration for the sample recruited and associated hospital policies and procedures. To ensure confidentiality and anonymity of the data, further demographic information (including the

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specific ward level data within the hospital sampled) was not collected as the data became identifiable.

Measurement scales

The present study utilised validated and reliable questionnaires, see Table 1 for overview of the measurement scales used **and the psychometric properties of the scales and subscales used in this study**. To measure the levels of burnout, the Maslach Burnout Inventory Human Services Survey was employed (MBI-HSS; Maslach & Jackson, 1981). The MBI-HSS, one of the most robust measures of burnout, has been consistently validated over the past 20 years (Halbesen & Buckley, 2004; Schaufeli *et al.* 2009). Respondents rate statements about personal attitudes/feelings in the workplace on a seven-point Likert scale from zero, 'Never', through to six, 'Every day'. The MBI-HSS measures three aspects of burnout within healthcare professionals: Emotional Exhaustion (EE; higher scores denoting the depletion of emotional resources); Depersonalisation (higher scores denoting increased cynicism and a detachment from service users); and Personal Accomplishment (PA; higher scores indicating increased feelings of personal achievement and value). Burnout is indicated by high levels of EE and depersonalisation in combination with low levels of PA.

The perceived level of support via clinical supervision was assessed using the Manchester Clinical Supervision Survey-26 (MCSS-26; Winstanley & White, 2011). The MCSS-26 has been shown to be reliable and robust in the face of detailed scrutiny of its internal validity and reliability (see Winstanley & White, 2011). The MCSS-26 uses a five-point Likert scale from zero, 'Strongly Disagree', through to four, 'Strongly Agree'; with a mid-point of two for 'no opinion', to assess how effective nursing staff find clinical supervision as a means of support. The MCSS-26 comprises three domains based on Proctor's (1986) model describing three functions of supervision (Normative, Restorative and Formative functions) with two subscales

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per function. In the present study, only the total score for the perceived effectiveness of supervision was used, see results section for further details.

To evaluate ward environment, the English Essen Climate Evaluation Schema (EssenCES; Howells *et al.* 2009; available from <http://www.forensik-essen.de>) was utilised. Developed from the original German iteration of the questionnaire (Schalast *et al.* 2008), this is specifically designed for both staff and service users residing within forensic psychiatric services and prison settings. The English EssenCES has been validated within a variety of prisons and forensic settings within the UK (Tonkin *et al.* 2012), showing good convergent validity when compared to the Good Milieu Index (Rössberg & Friis, 2003a) and the Ward Atmosphere Scale (Moos, 1996), as well as other factors associated with security and aggression (Howells *et al.* 2009). However, Cronbach's alpha of the subscale Therapeutic Hold in the present study was extremely low (0.53) and although not explored further given our primary focus on levels of burnout and predictors, the robustness of this domain is questionable, and results should be interpreted with caution. The English EssenCES asks respondents to rate agreement with statements about the extent of mutual support between service users (Patient Cohesion and Mutual Support; PC), the extent that the environment is perceived as supportive of service users' therapeutic needs (Therapeutic Hold; TH), and the perceived amount of threat from violence and aggression (Experienced Safety; ES). This uses a five-point Likert scale from zero, 'Not at all', through to four, 'Very much', high scores on the EssenCES indicates a positive ward climate.

Ethical considerations

Appropriate approval from the ethical review board for the hospital, the divisional NHS approval board and University board was sought and obtained. Confidentiality and anonymity were assured throughout, and informed consent was gained.

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Data analysis

The Statistical Package for Social Sciences (SPSS) version 20.0 (IBM Corp, 2011) was used to analyse data. Outcome data was first screened for missing items, checked against assumptions for multivariate analysis, and then descriptive statistics and Cronbach's alpha were undertaken. T-tests and Pearson correlation coefficients were conducted between the demographic variables and the measurement scales to assess for individual differences; ANOVA's and post hoc analysis were used to explore associations further. Assumptions underlying hierarchical multiple regression analysis were assured, with regressions then conducted.

Results

A response rate of 87.42% was achieved ($N=139$). Two respondents' data were removed (1.44% of the total data set) due to incomplete data on the MCSS-26 ($N=137$). Missing continuous data for the remaining sample was inputted using mean substitution for age ($N=4$) and using specific mean substitution techniques for the EssenCES as directed by Scholast (2010; $N=9$). Due to significant outliers (assessed by a difference of three standard deviations from the mean) and skew on all subscales of the MCSS-26 and the MBI-HSS, all data underwent Winsorizing (Field, 2013). The three lowest scoring and three highest scoring respondents of each skewed subscale were converted to the next score that was not an outlier ($N=6$ for each subscale). This removed all significant outliers and dramatically improved the skew of data for the MBI-HSS, but did not improve the skew on the subscales of the MCSS-26. As further transformations are not recommended post Winsorizing (Field, 2013), only the total MCSS-26 score was used. Utilisation of the total score has not been validated and therefore cautious interpretation is noted. However, the total score has been used by comparable research and therefore retains worth due to the limited research within forensic settings. No significant

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kurtosis was demonstrated on any measurement. General demographic statistics for the study sample are presented in Table 2.

General statistics for the scale scores are presented in Table 3. Average scores on the MCSS-26 suggests that respondents rated supervision as effective (68.46, SD=12.74), with scores falling between 62.5 and 83.2 indicating that overall participants responded more positively to the effectiveness of clinical supervision. Recently Schalast and Tonkin (2016) published normative ranges for raw scores collected. Average scores on the EssenCES indicate that the therapeutic hold of the ward environment fell within the range somewhat below average; however, only marginally so. Respondents rated experienced safety as average, and patient cohesion and mutual support as somewhat above average. Applying cut-off scores (Maslach *et al.* 1996), MBI-HSS scores indicated that just below a third of nursing staff were experiencing high levels of emotional exhaustion (29.20%), high levels of depersonalisation (29.90%) and low levels of personal accomplishment (29.90%). 8.76% of participants indicated that they were 'burnt-out' as they scored high on EE and depersonalisation and low on PA. Sample means fell within the moderate/average range on all three subscales.

Demographic differences

The only dimension showing significant difference by gender was that males reported the ward environment as less focused on the therapeutic needs of service users than did females ($t(135)=-2.24, p=0.03$). The length of tenure was positively significantly correlated with participant's age ($r(137)=0.62, p<0.001$), but had no significant relationships with other demographic variables or measurement scales. Younger nursing staff were found to be significantly more emotionally exhausted ($r(137)=-0.22, p=0.01$) and depersonalised ($r(137)=-0.28, p<0.001$) than older nursing staff.

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Significant differences were found between a participants' pay band and the three measurement scales used. Senior Nurses reported finding clinical supervision more effective than Support Workers ($t(66)=-2.86, p=0.01$), and Senior Support Workers ($t(44)=-2.11, p=0.04$). Regarding ward environment, Senior Support Workers found the ward environment more therapeutically enabling than Support Workers, ($t(78)=-2.09, p=0.04$), as measured by therapeutic hold within EssenCES. The sole difference within levels of burnout was that Nurses reported more emotionally exhaustion than Senior Nurses ($t(55)=2.44, p=0.02$). No other significant relationships between pay band and any other variables were found.

Hierarchical multiple regression

To ensure assumptions of hierarchical multiple regression analysis would not be violated and explore potential explanatory factors to include within the models, correlational analysis was applied between demographic information, burnout, the ward environment and the effectiveness of clinical supervision, and are presented in Table 4. Of the dependant variables, personal accomplishment showed significant association only with therapeutic hold ($r(137)=0.27, p<0.01$), suggesting that staff who found the ward to be more attuned to therapeutic needs of service users felt more valued whilst at work. Given no other significant associations, regression analysis was not undertaken for personal accomplishment.

As part of regression analyses, tolerance, variance inflation factors and correlations between explanatory factors were examined for multicollinearity. All were of acceptable levels with no correlations between explanatory variables exceeding 0.80 (Allison, 1999; Cooper and Schindler, 2003). Scatterplots of the residuals were examined indicating that assumptions of normality, linearity and homoscedasticity had not been violated. The results of the final hierarchical regression analysis for EE are presented in Table 5 and depersonalisation are

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presented in Table 6. For both regressions, significantly correlated explanatory variables were included.

For regression analysis of emotional exhaustion, **initial analyses** informed hierarchical input of age into the first block, then TH, then PC, with ES in the final block. Upon closer inspection of results, therapeutic hold did not significantly contribute to the regression model with the addition of experienced safety, and was subsequently removed. The final model comprised age, patient cohesion and ES; explaining 20% of the total amount of variance within EE scores ($\Delta R^2=0.20$, $F(3, 133)=12.55$, $p<0.001$). This suggests that nursing staff who felt more threatened from violence and aggression and perceived service users as less supportive of each other, were also likely to be emotionally and psychologically drained; particularly so for younger nursing staff.

For regression analysis of depersonalisation, **initial analyses were** used to inform hierarchical input of age into the first block, MCSS-26 into the second block, then TH and PC into the third block, with ES in the final block. Upon closer inspection of results, patient cohesion did not significantly contribute to the regression model with the addition of experienced safety. Therefore, PC was removed from the regression analysis, with the final model comprising age, MCSS-26, therapeutic hold and ES. The final regression model explained 25% of the total amount of variance within depersonalisation scores, for this model only $\Delta R^2=0.25$, $F(4, 132)=19.00$, $p<0.001$. This suggests that older nursing staff who perceived clinical supervision as effective, found the ward more attuned to therapeutic needs of service users, whilst feeling safer from the threat of violence and aggression, were also less likely to report cynical attitudes and feel detached from service users.

Discussion

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This is the first study to examine prevalence rates of burnout in nursing staff based at a forensic psychiatric hospital, whilst simultaneously measuring the ward environment and the perceived effectiveness of clinical supervision. The cross-sectional design of the study precludes inferences of causality. A more positive ward environment was found to be significantly associated with lower levels of burnout on all MBI-HSS subscales; emotional exhaustion (EE), depersonalisation and personal accomplishment (PA). However, regarding the perceived effectiveness of clinical supervision, whilst a negative correlation was hypothesised (as clinical supervision increased, levels of burnout would decrease) this was evidenced only for depersonalisation and accounted for just 4% of variance in rates of depersonalisation in the final regression model. Evidence was also found that the ward environment accounted for more variance in the reported levels of burnout than clinical supervision.

Overall, scores on the MBI-HSS revealed nursing staff felt valued whilst at work and able to manage with the emotional demands of providing care. Although means on all three subscales fell within the average (moderate) range of normative data (Maslach *et al.* 1996), staff reported less emotional exhaustion and depersonalisation than both community and non-secure mental health nurses (Edwards *et al.* 2006; Paris & Hodge, 2010). Low prevalence rates of burnout herein are consistent with previous literature, in which burnout and stress are reported at comparable/lower levels in forensic services than mainstream services (Happell *et al.* 2003; Caldwell *et al.* 2006).

Of all the demographic variables measured, only age was significantly associated with levels of burnout and incorporated into the final regression models used. Specifically, younger respondents reported higher levels of EE and depersonalisation, resonating with previous literature (Edwards *et al.* 2006; Laker *et al.* 2012). Although pay banding was not included in the final regression model due to the small individual pay band sample sizes, differing

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2
3 occupational status between qualified nursing staff was also found to be a significant correlate.
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5 Registered Mental Health Nurses ([RMHN] Band 5s) reported themselves significantly more
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7 emotionally exhausted than Senior RMHN ([SRMHN] band 6s), contrasting with other findings
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9 in which those with higher occupational status report higher levels of burnout (Laker *et al.*
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11 2012; Ben-Zur & Michael, 2007). However, analyses have rarely been conducted in relation to
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13 Agenda for Change pay banding (Agenda for Change Project Team, 2004) and often explore a
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15 person's salary (Laker *et al.* 2012; Ben-Zur & Michael, 2007). It is thus unclear whether this is
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17 a substantive difference and warrants further exploration.
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22 Findings relating to the ward environment suggested that staff perceived the ward as safe and
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24 perceived service users as living cohesively together, more so than other hospitals (Schalast &
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26 Tonkin, 2016). However, nursing staff scores suggested that wards were seen as marginally
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28 below average in meeting the therapeutic needs of the service users. As the EssenCES is a
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30 relatively new ward climate scale, the evidence base contains relatively few studies with which
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32 the current results can be compared. However, the normative data (Schalast & Tonkin, 2016) is
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34 likely to be directly comparable since they were accumulated as part of a large-scale validation
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36 study including six medium security forensic wards (Tonkin *et al.* 2012). It is of note that the
37
38 Cronbach's alpha for the subscale therapeutic hold was of questionable validity, perhaps a
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40 function of the amalgamation of staff working across seven wards (each with distinct purpose
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42 and differing care pathways for service users, and therefore differing interpretations of meeting
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44 the therapeutic needs). Results surrounding TH should be interpreted with caution. A medium
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46 secure hospital has unique difficulties to other psychiatric settings given its need to balance
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48 safety and security of both clients and staff alongside addressing therapeutic needs of service
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50 users. Therefore, therapeutic hold (capturing the hospital's ability to balance these demands)
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52 appeared salient and was included in subsequent analysis despite being outside the scope of the
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54 present study.
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In terms of the perceived effectiveness of clinical supervision, the total mean score fell within a range where staff perceived clinical supervision as generally effective. Although scores on the MCSS-26 were lower than norms suggested by Winstanley and White (2013), the total score for clinical supervision was within the average range. That no significant relationship with EE or PA was found, and that clinical supervision accounted for minimal variance in the total model of depersonalisation (4%), differs from previous research (Edwards *et al.* 2006; Gonge & Buus, 2011). However, this interpretation is cautiously expressed as the relationships previously found between the MCSS-26 and levels of burnout were weak (Edwards *et al.* 2006; Gonge & Buus, 2011). One possible explanation may be that the MCSS-26 (Winstanley & White, 2011) assesses only the effectiveness of clinical supervision, a formal means of support. Yet general support from colleagues, friends and family (Tummers *et al.* 2001; Ducharme *et al.* 2007) as well as informal supervision from colleagues (Halbesen & Buckley 2004; Kay-Eccles, 2012) have also been revealed as significant correlates of burnout, and may be preferred (Crabbe *et al.* 2002). This full range of support may predict levels of burnout rather than formal clinical supervision alone (Teasdale *et al.* 2001).

The relationship between burnout, the ward environment and clinical supervision

Various factors within this study were highlighted as correlates of levels of burnout, most notably the ward environment. This accounted for 16% of the variance within EE and 14% of the variance in depersonalisation, as well as being the only correlate of PA. The relationship between PA and a therapeutically enabling ward environment appears congruent with previous research (Crabbe *et al.* 2002; Edwards *et al.* 2006; Halbesen & Buckley, 2004; Laschinger *et al.* 2006), and appears to exist irrespective of service users' relationships to one another, whether the ward environment felt unsafe, and independent of the perceived effectiveness of clinical supervision. Of the specific correlates contributing significantly to the model of EE

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(age, PC and ES) and depersonalisation (age, clinical supervision, TH and ES), the experienced safety aspect of the ward environment accounted for the most variance, 10% in both. This finding concurs with previous research in which an increase in the fear of, threatened and actual violence, aggression and assault has been associated with increases in levels of burnout (Crabbe *et al.* 2002; Rose *et al.* 2013).

The relationships examined above can be interpreted in terms of dominant theories, arguing that imbalance between available resources available and job demands of a job potentiate burnout. The Job Demands-Resources Model defined resources as both internal and external (Demerouti *et al.* 2001), clinical supervision could be thought of as an external resource (Zis *et al.* 2014) whereas experienced safety and patient cohesion could be interpreted as potential demands. The Conservation of Resources Theory (Hobfoll, 1989; Hobfoll & Lilly, 1993) suggests that resources comprise anything that a person values or can use to gain more resources. That younger nursing staff report higher levels of EE and depersonalisation, may imply that they possess less extensively developed resources than older staff. Differential extent of resources may also underpin the differences found between RMHN and SRMHN, as senior nurses are likely to have developed a greater internal resource base, and more established external resources.

The relationship between therapeutic hold and personal accomplishment may be explained in terms of the definitions of resources articulated by Hobfoll and Lilly (1993). Care of service users in a medium secure unit can involve substantial investment of staff's personal resources. Nursing staff engaging therapeutically with service users may recoup some of the resources invested through contributing to an individual's recovery rather than simply containing service user distress, and may feel they have accomplished something of value, potentially mitigating this facet of burnout.

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The finding that patient cohesion and experienced safety accounted for most variance in EE may be better understood in terms of the overall development of burnout; that demands outweigh the available resources (Demerouti *et al.* 2001; Hobfoll, 1989). One possible understanding, based on Demerouti *et al.* (2001) and Hobfoll (1989) models, is that when interpersonal difficulties exist between service users alongside heightened threat of violence and aggression on the ward, the demands placed on nursing staff begin to outweigh their resources, potentiating emotional exhaustion. The importance of the experienced safety of staff in both EE and depersonalisation could be considered as a principal demand on nursing staff's resources in terms of Demerouti *et al.* (2001) and Hobfoll (1989) models.

However, the lack of significant relationships between burnout and clinical supervision is not easily explained by these developmental theories. There is a large evidence base supporting effective clinical supervision as a valuable resource (Zis *et al.* 2014) and as an important mitigating factor for the experience of burnout (Gonge & Buus, 2011). **As the results were insignificant in the face of a large evidence base suggesting otherwise, the possibility of confounding variables affecting the results are alluded to.** Also notable is that the regression models from this study for both depersonalisation and emotional exhaustion accounted for less than 70% of the variance in scores. This again suggests that prominent factors associated with burnout may not have been tapped into, and highlights the need for further exploration of forensic psychiatric nursing staff's experience of burnout.

Conclusion

The impact of clinical supervision on levels of burnout appeared minimal, suggesting this may have a limited role in addressing burnout for staff working in a medium secure forensic unit as a standalone intervention. The greater influence of the ward environment upon levels of burnout suggests that conditions likely to be related to lower levels of burnout within forensic

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3 psychiatric nursing staff are: the extent to which working therapeutically with service users is
4 encouraged and supported; the positive manner in which service users interact with each other;
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6 and foremost, when nursing staff feel safe with a reduced threat of violence and aggression.
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10 The final regression models accounted for 25% of variance in depersonalisation and 20%
11 within emotional exhaustion. With forensic psychiatric nursing being such a neglected area of
12 research, this study has enabled a greater understanding of correlates to burnout. Furthermore,
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14 with initial interpretations aligning with the dominant theories of burnout development
15 (Demerouti *et al.* 2001; Hobfoll, 1989), this highlights that future research may be able to
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17 support the application of those models within a forensic settings.
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Implications for practice

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28 Both nursing staff working in secure psychiatric settings and their employers can benefit from
29 the findings of this study. Organisations should play close attention to ward environment,
30 allowing for the continued monitoring of burnout without using intrusive techniques. Since
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32 clinical supervision appears to have little effect on levels of burnout, interventions may need to
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34 focus on nurturing the therapeutic nature of a forensic ward, enhancing feelings of safety and
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36 fostering mutual support and tolerance in service users. Organisations and staff should also be
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38 aware that younger nursing staff may be vulnerable to experiencing increased levels of burnout
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40 and should therefore offer additional support, training and acknowledgement. Where there are
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42 indices of burnout, nursing staff should seek diverse sources of support, and not rely solely on
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44 clinical supervision.
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Limitations

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55 We opted to examine a more circumscribed range of potential predictors of burnout due to the
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57 traditional low response rate achieved in forensic settings. Recognising time constraints on
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forensic nursing staff which can militate against research participation, we eschewed a broader range of potential variables for a higher response rate; effective as the final response rate was 87.42%. This also suggests the sample obtained would have been representative of the nursing staff population employed at the time of data collection.

We also opted to examine only clinical supervision, rather than informal measures of support, since no standardised measure of informal supervision exists making direct comparisons to previous research difficult. Being able to compare to previous research was especially important given the exploratory nature of the present study in the neglected area of forensic psychiatric nursing. Therefore, we recommend replication of this study using a wider range of support systems.

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For Peer Review

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Tables

Table 1 Overview of measurement scales.

Variable	Instrument	Subscales (N items)	Item example	α
Support Variable	Manchester Clinical Supervision Scale, version 26 (MCSS-26) †	Total Score (26)	Clinical supervision is unnecessary for experienced/established staff My supervisor gives me support and encouragement	0.92
Ward Environment Variable	English Essen Climate Evaluation Schema (EssenCES) ‡	Patient Cohesion (5) Experienced Safety (5) Therapeutic Hold (5)	Even the weakest patient finds support from his/her fellow patients Really threatening situations can occur here Staff take a personal interest in the progress of patients	0.84 0.75 0.53
Outcome Variable	Maslach Burnout Inventory – Human Services Survey (MBI-HSS) §	Emotional Exhaustion (9) Depersonalisation (5) Personal Accomplishment (8)	I feel emotionally drained from my work I feel recipients blame me for some of their problems I feel very energetic	0.90 0.62 0.77

† Winstanley and White (2011), used as a singular construct within this study.

‡ Howells *et al.* (2009).

§ Maslach and Jackson (1981).

α , Cronbach's alpha coefficient **produced in the present study.**

Table 2. Demographic statistics for the study sample.

	Mean	Standard Deviation
Demographic Characteristics ($N = 137$)		
Age	36.75	9.83
Length of Tenure	7.77	6.02
	N	%
Male	73	53.29
Pay Band		
2 (Healthcare Support Worker)	51	37.23
3 (Senior Healthcare Support Worker)	29	21.17
5 (Registered Mental Health Nurse)	40	29.20
6 (Senior Registered Mental Health nurse, also known as a Clinical Team Leader)	17	12.40

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Table 3. General statistics for the scale scores.

	Mean	SD
Questionnaire Scores		
Manchester Clinical Supervision Scale, version 26 (Total Score)	68.46	12.74
English Essen Climate Evaluation Schema		
Patient Cohesion and Mutual Support	8.23	3.30
Therapeutic Hold	15.68	2.45
Experienced Safety	8.69	3.32
Maslach Burnout Inventory Human Services Scale		
Emotional Exhaustion	16.57	9.69
Depersonalisation	6.83	4.96
Personal Accomplishment	32.30	7.11

Scale Score Range: MCSS-26 = 0 - 104, subscales of EssenCES = 0 – 20, subscales of MBI-HSS EE = 0 - 54, Depersonalisation = 0 - 30, PA = 0 - 48.

Table 4. Correlations of burnout and the ward environment, the effectiveness of clinical supervision and demographic variables.

Explanatory Variables (N=137)	Dependent Variables		
	Emotional Exhaustion	Depersonalisation	Personal Accomplishment
MCSS-26	-0.14	-0.22**	0.14
Patient Cohesion	-0.28***	-0.27**	0.02
Therapeutic Hold	-0.18*	-0.28***	0.27**
Experienced Safety	-0.38***	-0.32***	0.04
Age	-0.22***	-0.28***	0.06
Length of Tenure	-0.12	-0.14	0.11

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

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Table 5. Hierarchical multiple regression analysis for emotional exhaustion (N=137); with age (1), patient cohesion and mutual support (2), and experienced safety (3) (explanatory variables).

Explanatory Variable	Beta	SE	Adjusted R ² Change	Adjusted R ²
1 Age	-0.22**	0.08	0.04**	0.04**
2 Age	-0.19*	0.08		
Patient cohesion	-0.77**	0.24	0.06**	0.10**
3 Age	-0.16*	0.08		
Patient cohesion	-0.62**	0.23		
Experienced safety	-0.96***	0.23	0.10***	0.20***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 6. Hierarchical multiple regression analysis for depersonalisation (N=137); with age (1), the perceived effectiveness of clinical supervision (2), the therapeutic hold of the ward environment (3), and experienced safety of staff (4) (explanatory variables).

Explanatory Variable	Beta	SE	Adjusted R ² change	Adj R ²
1 Age	-0.14***	0.04	0.08***	0.08***
2 Age	-0.13***	0.04		
MCSS-26	-0.08**	0.03	0.04**	0.11**
3 Age	-0.12**	0.04		
MCSS-26	-0.07*	0.03		
Therapeutic hold	-0.44**	0.16	0.04**	0.15**
4 Age	-0.11**	0.04		
MCSS-26	-0.08*	0.03		
Therapeutic hold	-0.48**	0.16		
Experienced safety	-0.49***	0.11	0.10***	0.25***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.