# Psychological Flexibility, Coping, and Attachment Style in Predicting Secondary Traumatic Stress and Burnout In Forensic Inpatient Staff

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Thesis submitted in partial fulfilment of the requirements of Staffordshire University for the degree of Doctorate in Clinical Psychology

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# CANDIDATE DECLARATION

|  |  |
| --- | --- |
| **Title of degree programme** | **Professional Doctorate in Clinical Psychology** |
| **Candidate name** | **Katrina Chapman** |
| **Registration number** |  |
| **Initial date of registration** | **September 2020** |

|  |
| --- |
| **Declaration and signature of candidate** |
| I confirm that the thesis submitted is the outcome of work that I have undertaken during my programme of study, and except where explicitly stated, it is all my own work.  I confirm that the decision to submit this thesis is my own.  I confirm that except where explicitly stated, the work has not been submitted for another academic award.  I confirm that the work has been conducted ethically and that I have maintained the anonymity of research participants at all times within the thesis.  A hand holding a piece of paper  Description automatically generated  Signed: Date: 06/26/23 |

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# Thesis Abstract

Paper one is a literature review that explores predictors of burnout in forensic inpatient healthcare professionals (FHCPs). A systematic search of the literature identified 10 relevant studies. The review established 12 factors found to be predictive of levels of burnout in inpatient FHCPs. Factors that were consistently associated with staff burnout were younger age, number of hours worked, quality of supervision, work-related stress, negative attitudes towards clients who demonstrate aggressive behaviour, and avoidance of emotional expression. Factors associated with lower levels of burnout were older age, positive ward environment, trait empathy, dispositional mindfulness, trust in colleagues, and expression of emotions. The findings support the dominant models explaining burnout and provide recommendations to improve staff wellbeing.

The second paper describes a cross-sectional quantitative study investigating individual factors (psychological flexibility, coping style and attachment style) as predictors of secondary traumatic stress and burnout. The sample comprised 98 FHCPs recruited from two male medium secure inpatient hospitals in the UK. Multiple regression analyses were conducted. The results indicated that higher levels of maladaptive coping and lower psychological flexibility significantly predicted increased secondary traumatic stress and burnout, whilst increased adaptive coping predicted lower burnout. In terms of attachment, increased anxious attachment significantly predicted increased personal accomplishment. The findings suggest that practices and interventions which develop FHCP’s psychological flexibility and adaptive coping strategies may be useful approaches to help reduce levels of secondary traumatic stress and burnout.

The third paper is an executive summary of the research study described in paper two, written for those that participated or are interested in the study. It also aims to convey the recommendations of the study to those within forensic organisations in a position to act. FHCPs from within the participating services provided valuable feedback to ensure the paper’s accessibility.

# Paper 1: Literature Review

## Individual and Organisational Factors Associated with Burnout in Inpatient Forensic Staff: A Systematic Review

**Word count:** 7948 (Excluding the title page, references and appendices)

This literature review is written in accordance with APA 7th edition referencing style, in line with the Journal of Forensic Psychology Research and Practice requirements. Author guidelines for the journal can be found in Appendix A.

# Abstract

Despite being considered a challenging place to work, the well-being of forensic health care professionals (FHCPs) is an under-researched area. This review systematically examines individual and organisational factors associated with burnout in inpatient FHCPs. Ten papers were included in this review following a search of relevant databases. Younger age, number of hours worked, quality of supervision, work-related stress, negative attitudes towards clients who demonstrate aggressive behaviour, and avoidance of emotional expression were consistently associated with staff burnout. The associated factors with lower levels of burnout were older age, positive ward environment, trait empathy, dispositional mindfulness, trust in colleagues, and expression of emotions. The findings align with dominant models of staff burnout; namely the Job Demands‐Resources (JD-R) model (Demerouti et al, 2001), and The Conservation of Resources model (Hobfoll, 1989). The findings also indicated that the ways in which FHCPs interpret their experiences is an important component affecting their experience of burnout.

# Introduction

Staff burnout is a state of physical and emotional exhaustion and can result from long term stress in work (Maslach & Leiter, 2016). Whilst burnout is well researched across various areas of healthcare such as physical health nursing (Dall’Ora et al, 2020; Epp, 2012), medical training (IsHak, 2009) and non-forensic mental health nursing (Melchior et al, 1997), it is under-researched in forensic health care professionals (FHCPs) (Flarity et al, 2016; Jones et al, 1987; Kirby & Pollock, 1995; Mason, 2002). Forensic inpatient settings are unique environments as they typically traverse health, social, and criminal justice systems (Barr, 2019). Service-users in forensic settings are often required to receive specialist care by law and staff working in forensic healthcare uniquely balance their therapeutic role with managing risk and maintaining security (Durey et al, 2014).

Burnout definitions typically refer to three ‘dimensions’; emotional exhaustion, depersonalisation, and reduced personal accomplishment (Maslach & Jackson, 1986). Specifically, emotional exhaustion refers to depleted emotional resources and staff feeling ‘unable to give of themselves’ within their work role (Maslach & Jackson, 1986). Depersonalisation refers to the development of cynical attitudes and feelings towards service-users. Reduced personal accomplishment refers to staff feeling dissatisfied in relation to their achievements in work (Maslach & Jackson, 1986).

Burnout can impact the individual, the organisation, and service-users. Research indicates that for the individual, burnout reduces physical and psychological well‐being (Maslach et al, 2001) and is associated with anxiety, irritability, and depression (Duquette et al, 1994). For the organisation, burnout is associated with reduced job performance (Jahrami, 2009; Bakker et al, 2004), increased staff absenteeism (Gil‐Monte, 2008), and higher staff turnover (Schaufeli, Leiter, & Maslach, 2009). Burnout also has significant implications for the patient experience, including service-users perceiving staff as unhelpful, rejecting, and distant (Holmqvist & Jeanneau, 2006), and reporting reduced satisfaction with treatment and the healthcare environment (Garmen et al, 2002).

Periard (2016) outlined two current dominant models that explain the development of burnout in healthcare professionals: The Job Demands‐Resources (JD-R) model (Demerouti et al, 2001), and The Conservation of Resources model (Hobfoll, 1989). The JD‐R model suggests that ‘resources’ can be both ‘internal’ (cognitive features) and ‘external’ (organisational and social). The presence of such resources can support in both achieving work goals and/or lessening work demands (Demerouti et al, 2001). In this model, ‘demands’ are understood as the costs associated with sustained physical and/or psychological effort required by the job (Berry & Robertson, 2019). According to the model, burnout results from a job in which the demands outweigh the resources. The Conservation of Resources model (Hobfoll, 1989; Hobfoll & Lilly, 1993) defines ‘resources’ as the means by which an individual can acquire additional sources of support within their job role, such as object resources (tools for work), condition resources (seniority), personal resources (personal traits such as optimism), and energy resources (knowledge). Under circumstances where acquisition of additional resources is perceived as unsuccessful, the model explains that burnout will increase. Both models propose that burnout develops as demands exceed resources, and diminished resources lead to emotional detachment to prevent further loss of resources (Berry & Robertson, 2019).

Within the recent but limited inpatient forensic healthcare literature, burnout prevalence was been reported as moderate (Elliott & Daley, 2013; Kriakous et al, 2019). Conversely, Happell et al (2003) did not find elevated levels of burnout in forensic nurses working in UK prisons, secure hospitals, and community-based forensic services. They reported that high levels of staff support appeared to be one of the primary factors protecting against stress and burnout.

One previously published review examining burnout in FHCPs only included studies that focused specifically on nursing staffs’ experiences of burnout (Dickinson, 2008). Whilst offering a useful summary of the factors associated with burnout in forensic nursing, the review did not include studies that examined burnout in other professional mental health groups who work in forensic healthcare settings, such as psychologists, occupational therapists, or psychiatrists. Furthermore, the studies reviewed in Dickinson’s (2008) paper were undertaken in various settings, such as the community and prisons. As such, the results of the review may not necessarily be generalisable to staff who work in forensic inpatient settings. The current paper addresses this ‘gap’ by systematically reviewing studies examining burnout in all mental health professionals[[1]](#footnote-1) working in inpatient forensic settings, with a focus on identifying which factors are associated with increased burnout, and which factors are associated with lower levels of burnout.

## Aims

The current paper aims to: [1] provide a comprehensive and systematic literature review of studies investigating the individual and organisational factors associated with increased burnout, and the factors associated with lower levels of burnout in FHCPs working with adults (male or female) in forensic inpatient settings[[2]](#footnote-2); [2] evaluate the methodological quality of the studies included in this review; and [3] offer recommendations for clinical practice, and future studies examining burnout in FHCPs.

# Method

The following search strategy took place in April 2022. The databases were selected due to their relevance to psychology and healthcare settings. APA PsychArticles, APA PsychInfo, CINAHL Plus, MEDLINE and Scopus. The search terms were: (“Burnout” OR “Burn-out” OR “Burn out”) AND (“Forensic Psychiat\*” OR “Forensic health care” OR “Secure Forensic” OR “Forensic Mental health” OR “Forensic nurse\*” OR “secure hospital\*” OR “medium secure” OR “high secure” OR “low secure”).

Another search was used to capture relevant published dissertations in Ethos and google scholar to capture the grey literature in order to manage issues relating to publication bias. The search terms “Burnout” AND “forensic mental health” with no limiters was used.

## Inclusion Criteria

The following inclusion criteria were applied: [1] studies which recruited staff who worked with adult (i.e., 18 years+) patient populations; [2] studies which recruited staff who worked in forensic inpatient settings, including, low, medium, and high secure settings, and locked rehabilitation settings; [3] studies which recruited mental health staff who would have direct clinical input to patient care, including nursing (e.g., registered mental health nurses, senior nurses, nursing assistants, trainee nurses), medical staff including GPs and psychiatrists, allied healthcare professionals including psychologists (e.g., clinical, forensic, counselling), social workers, occupational therapists, and support staff including support workers, healthcare assistants, recreational therapists, activity facilitators, and chaplaincy staff; [4] studies that used validated measures of burnout (e.g., MBI); and [5] studies that included mixed samples of staff working in different service settings (e.g., such as inpatient forensic learning disabilities services and inpatient forensic services) but where the data for the staff working in the inpatient forensic services were reported independently.

## Exclusion Criteria

The following exclusion criteria were applied: [1] qualitative studies; [2] studies involving staff working with children and/or adolescents; [3] studies which solely recruited staff from forensic learning disability services due to the specialist nature of the setting; [4] studies which recruited staff from forensic community services; [5] unpublished theses, unpublished dissertations, book chapters, and book reviews; and [6] studies evaluating interventions aimed at reducing burnout in FHCPs working in inpatient settings.

After the removal of duplicates, a total of 122 articles were retrieved and screened based on the inclusion and exclusion criteria. Assessment for eligibility was conducted by reviewing the title, abstract, and assessing the content of the paper. This resulted in a total of 10 studies eligible for the review. See fig.1 for a PRISMA flow diagram of this procedure. See table 1. for an overview of the characteristics of the studies included.

Diagram

Description automatically generated

Figure 1. PRISMA Flow Diagram.

## Quality Assessment

The Appraisal tool for Cross-Sectional Studies (AXIS:Downes et al 2016) was used to appraise the quality of included studies (appendix B). The AXIS is specifically designed to assess the quality of cross-sectional studies. Quality is assessed and rated according to several items relating to aspects of the study such as whether the sample size was justified and whether the aims of the study were specified. The AXIS does not include an overall score. Instead, items are categorised as being present (‘yes’), not present (‘no’), or unclear (‘don’t know’). The AXIS tool was chosen as seven out of the 10 studies reviewed used a cross-sectional design, with the remaining three studies employing quasi-experimental designs. The AXIS was deemed appropriate in the absence of a quality appraisal tool designed to assess the quality of both cross-sectional and quasi-experimental designs. Furthermore, the AXIS tool includes items relevant to both cross-sectional and quasi-experimental designs (e.g., were the authors' discussions and conclusions justified by the results?).

# Results

Ten studies met the inclusion criteria for the review. Most of these studies took place in the UK (*n*=7). The security level of the hospitals varied from a locked rehabilitation unit to high security units. However, the research was predominantly conducted in settings categorised as medium security. Most of the studies recruited FHCPs from both male and female or mixed sex wards (*n*=5), one study recruited from a male only ward and four studied did not specify the sex of the service-users. The total number of participants across all 10 studies was 1294 (not including participants who did not complete the follow-up in Nathen et al, 2007). Participants’ professional roles also varied across the studies, including nursing staff, health care assistants, occupational therapists, psychologists, psychiatrists, social workers, activity workers, educational staff, and chaplaincy staff. Most studies were cross-sectional (*n*=7) with the addition of three quasi-experimental studies. Most of the studies (*n*=7) used the Maslach Burnout Inventory (MBI) to measure burnout. Other burnout measures used were the Copenhagen Burnout Inventory (CBI), English version of the Spanish Burnout Inventory (SBI), and the Professional Quality of Life Scale (ProQual), which includes a burnout subscale. Other variables measured in relation to burnout included: demographic factors such as age and sex, perceived effectiveness of supervision and hours of supervision received, the ward environment, psychological flexibility, staff perceptions of aggression from service-users and the perceived and actual frequency of aggressive incidents carried out by service-users, perception of safety at work, coping, trust within colleagues/teams, dispositional mindfulness, and occupational stress.

## Table 1.

*Key Characteristics of Studies Included in this Review.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Author & Date** | **Security Level** | **Study Design** | **Staff Group** | **Sample Size** | **Measure of Burnout** | **Measures of Other Factors** | **Key Findings** |
| Berry, Robertson,  2019  England, UK | Medium | Cross-sectional | Front line nursing staff (i.e., support workers, & senior registered mental health nurses) | 137 | Maslach Burnout Inventory (MBI-HSS) | Clinical supervision –  Manchester Clinical Supervision Scale, version 26 (MCSS−26)  Ward environment- English Essen Climate Evaluation Schema (EssenCES) | *Emotional exhaustion:*  Sig associated with > in younger staff  RMHN sig associated with > compared to senior RMHN  Patient cohesion and experienced safety explained 20% of the variance  *Depersonalisation:*  Sig > younger staff  Perceived level of support from clinical supervision, therapeutic hold and experienced safety explained 25% of the variance  *Personal accomplishment:*  Sig associated with > therapeutic hold |
| Bott, Ferreria, O’Rourke, Reid & Cooper,  2019  Scotland, UK | High | Secondary analysis of cross-sectional data originally collected by Cooper (2016) | Healthcare staff (‘including Mental Health Nurses, Nursing assistants, Psychological services, Allied Health Professionals, Skye Centre staff, Medical staff, Other’) | 142 | Professional quality of life scale - ProQual    (Sub scales; Compassion Satisfaction, Burnout, & Secondary Traumatic Stress) | Workplace psychological flexibility.- Work Related Acceptance and Action Questionnaire (WAAQ) -  Attitudes Towards Aggression Scale (ATAS)  The Perception of Prevalence of Aggression Scale (POPAS)  Work Safety Scale (WSS) | Burnout was only associated with negative attitudes towards aggression (ATAS) when participants also experienced increased perceived exposure to aggression (POPAS) and increased concern about safety (WWS). Indicating full mediation.    Psychological flexibility (WAAQ) was not a significant mediator for burnout. |
| Cramer, Ireland, Hartley, Long, Ireland & Wilkins, 2019  England, UK | Low, Medium & High | Cross-sectional | Nurses or Nursing Assistants.  Psychologists    Psychiatrists    ‘Other’ | 170 | English version of the Spanish Burnout Inventory (SBI) | Coping Self-Efficacy (CSE)  The Need for Affect Questionnaire-Short Form (NAQ-S) | *Psychological Exhaustion*  Sig associated with > younger staff  Sig associated with > avoidance of emotional expression  *Indolence*  Sig associated with > preference to avoid emotion (NAQ-S, avoidance)  *Job enthusiasm*  Sig associated with > preference to express emotion (NAQ-S, approach) |
| Decaire, Bédard, Riendeau & Forrest,  2006  Canada | Medium | Cross-sectional | Full time Registered Nurses | 13 | Maslach Burnout Inventory (MBI-HSS) | Incident count defined as ‘non-violent, violent, verbal or aggressive’ though hospital records.  Human Services Demographic Data Sheet (HSDDS) | No association between burnout subscales and non-violent, violent, or verbal incidents with service-users.  No association between frequency of incidents and burnout |
| Eggert, Kelly, Margiott, Hegvik, Vaher & Kaya,  2014  USA | Medium and High (experimental groups)    Intermediate and Minimum (control group) | Quasi-experimental design | Nursing, Psychiatry, Social Work, Psychology, Occupational Therapy, Recreational Therapy, Education, Chaplaincy, and ‘Public Safety’. | 353 | Copenhagen Burnout Inventory (CBI) |  | There were no significant main effects detected for any of the three CBI factors across the three time periods; 6 months prior to moving into High Security Forensic Institute (HSFI) (Time Period 1), 6 months after moving into HSFI (Time Period 2), and 12 months after moving into HSFI (Time Period 3). |
| Johnson, Worthington, Gredecki, & Wilks-Riley,  2016  England & Wales, UK | Medium, Low, & Locked Rehabilitation | Quasi-experimental design | Support workers  Qualified nursing staff  Multidisciplinary team members including Psychology, Social Work and Occupational Therapy  Activity Facilitators | 117 | Maslach Burnout Inventory (MBI-HSS) | Measure of trust within teams | *Emotional Exhaustion*  Sig univariate effect and association with > less perceived trust in colleagues  Sig association with > more monitoring behaviours  Sig univariate effect and association with > less cooperative behaviours  Sig association with > younger staff  Sig association with > impact of boundary violations  *Depersonalisation*  Sig univariate effect and association with > less perceived trust in colleagues  Sig univariate effect and association with > more monitoring behaviours  Sig univariate effect and association with > less cooperative behaviours  Sig association with > younger staff  Sig association with > frequency of boundary violations  Sig association with > impact of boundary violations  *Personal accomplishment*  Sig univariate effect, association with > more perceived trust in colleagues  Perceived trust in colleagues predicted 42% of the model  Sig association with > older staff |
| Kriakous, Elliott & Owen,  2019  Wales, UK | Low & Medium | Cross-sectional | Nurses  Healthcare Assistants    Psychologists    Occupational Therapists    Psychiatrists    Social Workers    Other Therapists | 151 | Maslach Burnout Inventory (MBI-HSS) | The Five-Facet Mindfulness Questionnaire-Short Form (FFMQ-SF)  The Brief Cope Inventory (BCI)  The Staff Stressor Questionnaire (SSQ) | *Emotional Exhaustion*  Sig association with > having dependents  Sig association with < more dispositional mindfulness  Lower quality supervision explained 3.9% of the variance  Work stress, maladaptive coping and dispositional mindfulness explained 50.9% of the variance  *Depersonalisation*  Sig association with > younger staff  Sig association with < more hours of supervision  Sig association with < more dispositional mindfulness  Work stress and dispositional mindfulness explained 25.8% of the variance  *Personal accomplishment*  Sig association with > lower dispositional mindfulness  Maladaptive coping explained 10.1% of the variance |
| Nathan, Brown, Redhead, Holt & Hill,  2007  England, UK | Medium | Quasi-experimental design | Nursing staff | Baseline (when ward opened) e = 47  Follow up (18 months later) up= 28 | Maslach Burnout Inventory (MBI-HSS) |  | Emotional Exhaustion  > significantly on new female ward over time  > significant but smaller on male only ward over time |
| Oddie & Ousley  2007  Unspecified, UK | Medium | Cross-sectional | Ward based Qualified and Unqualified Nursing Staff and Occupational Therapists | 71 | Maslach Burnout Inventory (MBI-HSS) | Adapted- The Psychiatric Nurses Occupational Stress Scale (PNOSS)  (Adapted by omitting one item, changing the wording of other items and changing how the items were rated.) | *Emotional Exhaustion*  Sig association with > All categories on the stress scale:  > organisational administration  > limited resources  > staff conflict  > negative patient characteristics  *Depersonalisation*  Sig association with > staff conflict  *Personal Accomplishment*  Sig association with > organisational administrative stress  Sig association with > conflict stress |
| Van Dierendonck, Schaufeli & Buunk, 1996  Holland | Not reported | Cross-sectional | Therapists | 112 | Maslach Burnout Inventory (MBI-HSS) |  | *Emotional Exhaustion*  Sig univariant effect with < equitable patient relationships  Sig univariant effect with > Overbenefited in patient relationships  Sig univariant effect with > Underbenefited in patient relationships  Sig univariant effect with > Underbenefited in organisational relationship |

*Note;* EE= emotional exhaustion; DP= depersonalisation; PA= personal accomplishment ; RMHN= Registered Mental Health Nurses

Overall, the quality of the assessed studies was inconsistent. Three of the 10 studies had sample sizes of over 100 participants, with one study containing >300 subjects (Eggert et al, 2014). Only one study completed a power calculation to determine sample size (Cramer et al, 2019). As well as having moderate sample sizes, four studies reported a response rate of over 50% (Berry & Robertson, 2019; Nathan et al, 2007; Oddie & Ousley, 2007; Van Dierendonck, 1996). However, of these four studies, three did not report their recruitment methodology, limiting their replicability (Berry & Robertson, 2019; Oddie & Ousley, 2007; Van Dierendonck, 1996). In addition, all the studies were vulnerable to self-selection bias due to convenience sampling. The roles of the professionals included in the studies were not always clear. For example, Bott et al (2019) did not define the professional roles of the staff participating in their study. Similarly, Eggert et al (2014) did not define the ‘Public Safety’ staff recruited in their study. Van Dierendonck (1996) reported that ‘therapists’ participated in their study but did not define this further. Moreover, Cramer et al (2019) included a category of ‘other’ professional staff but did not define this. In addition to poorly defined participant characteristics in some studies, Eggert et al (2014) included staff and service-users in their study. Whilst it is possible to intuit that only staff completed the Copenhagen Burnout Inventory (CBI), this is not explicitly stated. All the studies included used standardised and validated measures of staff burnout, although Cramer et al (2019) used a translated Spanish measure which had not been validated.

### Factors Associated with Increased Burnout

#### FHCPs Demographic Characteristics.

##### Age

Across the 10 studies reviewed four examined age as a variable associated with burnout (Johnson et al, 2015; Berry et al, 2019; Cramer et al, 2019 and Kriakous et al, 2019); this variable was measured more than any other. In all four studies younger FHCPs were reported to have greater levels of burnout. In a cross-sectional study of 151 FHCPs including nurses, healthcare assistants, psychologists, occupational therapists, psychiatrists, social workers and ‘other therapists’, Kriakous et al (2019) stated that younger staff reported significantly higher levels of depersonalisation than older staff, as measured on the MBI. Similarly, Berry et al (2019) reported that younger FHCPs reported significantly higher levels of emotional exhaustion and depersonalisation than older FHCPs in a cross-sectional study examining burnout in 137 nursing staff, including support workers, registered mental health nurses, and senior nurses in a medium secure hospital. In a further UK cross-sectional study, which recruited nursing staff, nursing assistants, psychologists, psychiatrists and ‘other professionals’ working across low, medium, and high secure hospitals, Cramer et al (2019) reported that younger FHCPs experienced significantly higher levels of psychological exhaustion, as measured on the English version of the Spanish Burnout Inventory (SBI). A similar finding was reported by Johnson et al (2015) in a quasi-experimental study of 177 UK FHCPs in medium, and low secure, and a locked rehabilitation setting. They reported that younger FHCPs showed significantly higher levels of emotional exhaustion and depersonalisation as measured on the MBI. Commensurate with these findings, Johnson et al (2015) reported that personal accomplishment was significantly higher in older compared with younger FHCPs. Overall, the studies indicate that younger FHCPs report increased levels of burnout compared with older FHCPs.

##### Seniority

Berry et al (2019) were the only study to examine the relationship between level of seniority (measured according to annual salary) and burnout. Specifically, more senior nursing staff reported significantly lower levels of emotional exhaustion compared with their less senior colleagues.

##### Having Dependents

Kriakous et al (2019) was the only study to examine the relationship between having dependents (which they defined as ‘children living at home’) and burnout. They reported that having dependents was significantly associated with higher levels of emotional exhaustion in the workplace, compared with FHCPs without dependents.

#### Work and Organisational Factors

##### Clinical Supervision

Two studies (Berry et al, 2019; Kriakous et al, 2019) investigated the relationship between burnout and clinical supervision. Specifically, the frequency, quality (measured by staff rating how ‘adequate’ they felt their supervision to be) (Kriakous et al, 2019), and ‘perceived effectiveness’ (measured by the MCSS-26 which examines perceived level of support via clinical supervision) (Berry et al, 2019) of supervision was measured. Kriakous et al (2019) reported that lower quality of supervision predicted increased emotional exhaustion. They also reported a positive correlation between number of hours of supervision received per month and decreased emotional exhaustion and depersonalisation. Conversely, Berry et al (2019) found that the perceived effectiveness of supervision[[3]](#footnote-3) did not significantly correlate with emotional exhaustion, nor levels of personal accomplishment. Supervision that was perceived as effective was reported to significantly predict lower levels of depersonalisation, although this only accounted for 4% of the variance.

##### Patient Incidents

Two studies measured patient behaviour. Johnson et al (2016) specifically measured boundary violations, such as physical assault (e.g., spitting), whereas, Decaire et al (2006) measured non-violent (e.g., non-aggressive actions such violation of ward rules), violent (e.g., any outward expressions of physical aggression directed at an individual or property in order to intimidate), verbal incidents (e.g., verbal threats) and aggressive incidents (e.g., combined verbal and violent behaviour). Within a sample of 117 FHCPs across a locked rehabilitation, low and medium security hospitals in the UK, higher frequency of boundary violations by service-users was found to be weakly correlated with increased depersonalisation (Johnson et al, 2016). Furthermore, there was a weak positive association between the perceived impact of the boundary violation (rated on a 4-point scale from “not at all” to “significant”) and depersonalisation and emotional exhaustion (Johnson et al, 2016). Conversely, Decaire et al (2006) study of 13 nursing staff working in a medium secure hospital in Canada found no association between all burnout subscales on the MBI and incident type (non-violent, violent, and verbal), nor frequency of incidents. Overall, findings regarding the relationship between patient incidents and burnout are mixed.

##### Patient Sex

Only one study investigated the relationship between patient sex and staff burnout. In a quasi-experiment conducted in England, Nathan et al (2007) assessed the impact of patient sex on burnout in 28 nursing staff within a medium security hospital. This study measured burnout in a cohort of staff who began work at the opening of a new female-only ward and a second cohort of staff working on an existing ward which had previously included mixed-sex service-users but was now male only (baseline). The study took place over an 18-month period and included two time points (baseline-taken at the opening of the new ward and 18-months later). Results showed that staff working on the women’s ward reported significantly greater emotional exhaustion at 18-months compared to their baseline scores, however, no significant difference was reported for depersonalisation. For the male ward, emotional exhaustion was reported to have a non-significant increase at 18 months, with an effect size of .70. The effect size for the increase in emotional exhaustion for the staff on the female ward was reported to be significantly greater at 1.70. Therefore, despite staff on both wards reporting an increase in emotional exhaustion over the 18-month period, the results indicated that working on a female-only ward was significantly associated with increased levels of emotional exhaustion.

##### Work Stress

Two studies investigated work stress, defined as a negative event or situation that a person is exposed to and results in adverse effects (Kriakous et al, 2019). Kriakous et al (2019) found that higher levels of work-related stress—as measured using the Staff Stressor Questionnaire (SSQ)—significantly predicted higher levels of emotional exhaustion and depersonalisation. Oddie et al (2007) also investigated the relationship between burnout and work stress, as measured by an adapted version of the Psychiatric Nurses Occupational Stress Scale (PNOSS), in 71 ‘unqualified’ and ‘qualified mental health nurses’, and occupational therapists working on a medium security ward in the UK. Stress was significantly associated with burnout as measured using the MBI. Specifically, emotional exhaustion and depersonalisation were positively and significantly related to the ‘organisational/administrative’ and ‘limited resources’ subscales of stress. Emotional exhaustion and depersonalisation also had a smaller, but still significant, correlation with the ‘staff conflict’ category of stress. Emotional exhaustion was also significantly associated with ‘negative patient characteristics’, for example issues such as physical assault and threatened aggression by service-users. In addition, personal accomplishment was found to be negatively related to ‘organisational/administrative’ and ‘staff conflict’ categories of stress, suggesting that staff who experienced less stress in work also experienced greater satisfaction. Overall, the research indicates that work-related stress is associated with increased levels of burnout.

##### Colleague and Patient Relationships

Two studies explored relationships in work and burnout. Van Dierendonck et al (1996) investigated the impact of relational equity (defined as the disparity in the amount of effort or investment put in, such as care assistance, help, advice, support provided and/or time, and what is received or the outcome, such as gratitude, salary and/or promotion, in staff-patient, and staff-organisation relationships) on burnout levels in 112 therapists[[4]](#footnote-4) in a forensic[[5]](#footnote-5) hospital in Holland. Two Likert measures of relational equity were developed in which staff rated their investment and the outcomes of their relationship with service-users and the organisation. The measures asked questions such as "Overall, how much effort do you feel you put into your relations with inmates?" and "The organisation invests much more than it gains from me". With regards to relationship equity with the organisation, therapists who reported that they ‘underbenefited’ (defined as staff giving more effort to the organisation than they received), reported significantly higher levels of emotional exhaustion than therapists who perceived their relationship with the organisation as equitable. Regarding service-users, therapists who perceived their relationship with service-users as equitable experienced less emotional exhaustion compared with therapists who reported they either ‘overbenefited’ (the therapist received more effort from the patient than they gave) or ‘underbenefited’ (the therapist gave more effort to the patient than they received). The therapists who perceived themselves as ‘overbenefited’ felt most exhausted. In a quasi-experimental study conducted in the UK, Johnson et al (2015) explored the role of ‘trust within teams’ and burnout in 177 medium security FHCPs. In this study, ‘trust’ was defined as a facet of personality that develops from early life experiences and relational components at an organisational level that allows for more open discussion of difficulties and the acceptance of advice. Professionals experiencing higher levels of emotional exhaustion and depersonalisation were significantly more likely to engage in monitoring behaviours, such as checking and monitoring the behaviour of team members, less likely to engage in cooperative behaviours towards their colleagues, and reported less trust in their colleagues. They also reported that professionals with higher levels of personal accomplishment were more likely to trust colleagues. Overall, staff-patient and staff-staff relationships appeared to have a specific impact on emotional exhaustion. Where relationships between staff-service-users and staff-organisation were inequitable, and trust between colleagues was low, staff reported more emotional exhaustion.

##### Ward Environment

Ward environment was measured in three studies. In a recent study, Berry et al (2019) investigated whether burnout in nursing staff was predicted by ward environment. Ward environment was measured by the English Essen Climate Evaluation Schema (EssenCES) which explores patient cohesion (whether mutual support among the service-users is typically present), therapeutic hold (the extent to which the climate is perceived as supportive of service-users’ therapeutic needs), and experienced safety (the level of perceived tension and threat of aggression or violence by service-users towards staff). A more positive ward environment was found to be significantly associated with lower levels of burnout on all MBI subscales. Specific associations between aspects of ward environment and burnout were reported. In particular, personal accomplishment was associated with ‘therapeutic hold’, suggesting that staff who found the ward supportive of service-users’ therapeutic needs also felt more valued in work. ‘Experienced safety’ and ‘patient cohesion’ accounted for 16% of the variance for emotional exhaustion, indicating that nurses who felt less unity with service-users and higher threat of patient violence and aggression were more likely to report higher levels of emotional exhaustion. ‘Therapeutic hold’ and ‘experienced safety’ accounted for 14% of the variance for depersonalisation, suggesting that staff who felt the ward was supportive of service-users’ therapeutic needs and felt safer from the threat of violence and aggression, were less cynical. Kriakous et al (2019) also highlighted the importance of the ward environment in relation to burnout. This study reported that being ward based or non-ward based[[6]](#footnote-6) significantly predicted stress (as measured on the SSQ) and depersonalisation (as measured on the MBI). Eggert et al (2014) also investigated the ward environment and impact on burnout. In particular, they examined the impact of a newly established, person-centred ward environment on burnout in FHCPs. The newly designed ward was developed with the intention of improving ward climate and safety, job satisfaction, and treatment outcomes, and included improved electronic safety and security features, as well as increased natural light. Burnout was measured using the Copenhagen Burnout Inventory (CBI), which was completed at three time points: 6 months prior to moving to the new ward, and 6 months and 12 months after the move. Contrary to the study’s stated hypotheses, the new ward environment had no impact on burnout at any timepoint. Burnout did not correlate with the ward climate as measured by the EssenCES (therapeutic hold, patient cohesion, mutual support and experienced safety). Overall, findings relating to the impact of ward climate on staff burnout are mixed.

#### Staff Attitudes and Traits

##### Attitudes to Patient Aggression and Safety

Two studies investigated perceptions of staff safety, and aggression from service-users. In a cross-sectional study of 142 FHCPs working in a high secure hospital in Scotland, Bott et al (2019) reported that negative staff attitudes towards aggression by service-users (e.g., acts which causes physical harm) significantly predicted burnout. The relationship between negative staff attitudes and burnout was mediated by increased perceived exposure to aggression and increased concern about safety. Therefore, staff were more likely to experience burnout if they held negative attitudes towards aggression by service-users when also perceiving themselves as exposed to aggression and holding concerns about their safety in work. Conversely, in an earlier quasi-experiment conducted by Eggert et al (2014), there was no significant association between perceived safety and burnout in professionals working on a ward with a new person-centred environmental design.

##### Staff Emotional and Psychological Characteristics

Four studies examined staff emotional and psychological characteristics in relation to burnout. Characteristics measured included dispositional mindfulness (defined as the innate capacity of paying and maintaining attention to the present-moment with an open and non-judgmental attitude [Brown & Ryan, 2003]), psychological flexibility (defined similarly as the ability to connect to the present-moment), and coping style. Kriakous et al (2019) found that lower levels of dispositional mindfulness were significantly associated with lower personal accomplishment on the MBI. In addition, FHCPs who reported higher dispositional mindfulness reported significantly lower levels of emotional exhaustion. In particular, ‘acting with awareness’ significantly predicted lower levels of depersonalisation. In contrast, Bott et al (2019) reported that psychological flexibility had no significant interaction with burnout levels in their sample. Kriakous et al (2019) also measured coping style using The Brief Coping Inventory (BCI) and found that higher levels of ‘maladaptive coping’ (defined as unhelpful or ineffective coping strategies including denial, substance use, and self-blame), significantly predicted lower levels of personal accomplishment and higher levels of emotional exhaustion on the MBI. The relationship between coping and burnout was also investigated in a UK cross-sectional study by Cramer et al (2019), which included a sample of nurses, nursing assistants, psychologists, psychiatrists and ‘other’ professionals. ‘Need for affect’ (defined as a person’s preference to express or avoid emotion and measured using the NAQ-S), was explored in relation to burnout. Results showed that ‘affect avoidance’ was positively and significantly associated with psychological exhaustion and indolence. Whereas ‘affect approach’, (defined as a person’s preference to express emotions) was found to be positively and significantly associated with job enthusiasm[[7]](#footnote-7). Overall, the four studies which examined the relationship between burnout and various staff’s emotional and psychological characteristics indicated that burnout was associated with lower dispositional mindfulness and more emotionally avoidant and maladaptive ways of coping, but not psychological flexibility. However, the expression of emotions was associated with lower psychological exhaustion and increased enthusiasm in work.

# Discussion

The relationship between age and burnout indicated that being younger in age is typically associated with greater levels of burnout in FHCPs (Berry et al, 2019; Cramer et al, 2019; Johnson et al, 2015; Kriakous et al, 2019). It is possible that older staff have more protective factors, such as life experience and emotional maturity. These protective factors are defined as increased ‘resources’ in The Conservation of Resources model (Hobfoll, 1989; Hobfoll & Lilly, 1993) and may function as effective coping strategies (Johnson et al, 2015). In addition to being less vulnerable to burnout, older forensic mental health professionals also reported increased personal accomplishment, suggesting they felt an increased sense of competence and success in their work (Johnson et al, 2015). Johnson et al (2015) suggested that as older staff are more experienced at managing service-users and providing treatment, this may be a protective factor for burnout. In addition, seniority has also been associated with lower levels of burnout (Berry et al, 2019). Berry et al (2019) also suggested that more senior staff were more likely to have increased resources, again, aligning with the Conservation of Resources model (Hobfoll, 1989; Hobfoll & Lilly, 1993). This research and the aligned models indicate that older and more senior staff may have greater internal (e.g., skills, maturity etc.) and external (e.g., financial stability) resources, and, therefore, the balance of resources against job demands (JD-R model; Demerouti et al, 2001), protects against burnout. Both models can also potentially explain the relationship between having dependents and higher burnout. Having dependants was specifically associated with higher levels of emotional exhaustion. It is possible that due to the culmination of demands both outside and inside of work, internal resources described by the JD-R model, such as emotional availability, may be overextended and not replaced as described by the conservation of resources model, which then results in burnout.

The findings in relation to burnout and clinical supervision are mixed. For example, clinical supervision that was perceived as effective was reported to have had little impact on burnout (Berry et al, 2019). However, fewer hours of supervision per month and perceived poorer quality of supervision was found to increase burnout vulnerability in Kriakous et al (2019). It is possible that clinical supervision which is perceived as effective offers limited protection from burnout and may simply sustain current levels of resources. However, when clinical supervision occurs less frequently and is perceived as poorer quality, burnout may increase. The limited and mixed evidence examining the impact of clinical supervision on burnout amongst FHCPs is contradicted by a larger evidence base supporting the positive effect of clinical supervision on burnout in general nursing (Martin et al, 2021). Berry et al (2019) suggested that in their study, supervision was a weak predictor of staff burnout due to the measure used (MCSS-26; Winstanley & White, 2014), which only captured formal supervision, as opposed to informal supervision and global support (e.g., from friends and family). Indeed, it may be that supportive relationships more generally may reduce mental health and stress problems in staff.

Within the reviewed studies, ward culture appeared to have a significant impact on burnout. Berry et al (2019) found that staff who reported a more positive ward environment (specifically how safe staff feel, how therapeutic the ward feels, and how well service users relate to one another), reported significantly less burnout and experienced more personal accomplishment. Although burnout levels did not reduce in FHCPs in Eggert et al (2014) following the introduction of a new person-centred ward environment, the perception of safety did increase. Interestingly, “actual safety” did not change as assaults, seclusion, and restraint levels were maintained. This suggests that ‘how safe staff feel’ may not be enough to reduce burnout and may require other ward environment factors linked to the culture, such as therapeutic hold, greater patient cohesion, and ‘actual safety’, to reduce burnout levels.

In contrast, Decaire et al (2006) found no association between frequency of incidents nor the type of incident (non-violent, violent, and verbal) and burnout in their sample of forensic nursing staff. It is possible that forensic facilities enable FHCPs to manage patient violence, and therefore, they may not be significantly impacted by violence following an incident (Zimmer & Cabelus, 2003). However, Decaire et al (2006) had a sample size of just 13 nurses, likely resulting in the study being underpowered. In a more recent study, Johnson et al (2016) reported that incidents (described as ‘boundary violations’ such a spitting) significantly increased burnout. Interestingly, although both “impact” (staff rated how much they felt affected) and “frequency” of incidents were associated with depersonalisation, only the “impact” was associated with increased emotional exhaustion, suggesting that how the incident was experienced and interpreted had the greatest affect on burnout. Indeed, several of the studies reviewed suggested that the way FHCPs interpret work-based experiences appeared to impact on burnout levels. For example, feeling less able to tolerate patient aggression was found to have an indirect relationship to burnout (Bott et al, 2019). This was due to staff perceiving themselves as more exposed to patient aggression, feeling more vulnerable, and fearing for their safety.

FHCP’s interpretations of behaviour was also an important factor in the relationship between burnout and the sex of patient. It was suggested that relational and interpersonal difficulties, and behaviours associated with female service-users, such as ‘deliberate’ self-harm, are interpreted by FHCPs with more pessimism and less sympathy, increasing staff burnout (Nathan at al, 2007). Nathan et al (2007) suggested that FHCPs working on female wards might be more exposed to control and restraint methods of intervention, potentially leading to increased demands on staff and burnout. These results indicate patient sex may be a predictor for burnout levels in staff.

External resources, such as staffing levels on each shift and administrative requirements, also appeared to be related to burnout. Both studies investigating work-related stress in FHCPs (Eggert et al, 2014; Berry et al, 2019) found that stress was associated with increased levels of burnout. Organisational resources were specifically related to workplace stress, including ineffective communication between staff, perceived lack of staffing, staff conflict, and lack of support from senior staff (Oddie & Ousley, 2007). These results are supported by past research summarised in Dickinson’s (2008) review in which forensic nursing staff reported that the administrative demands of the job were more stressful than the clinical aspects of the role (i.e., patient supervision; Cacciacarne, 1986). In addition, Jones et al (1987) reported that burnout in nursing staff was associated with organisational issues (such as lack of communication and administrative issues), rather than challenges associated with patient care.

Staff-organisation and staff-patient relationships were found to be associated with burnout. Specifically, when staff reported that they felt they invested greater effort into their relationship with the organisation than they received in return, this was associated with greater levels of burnout (Van Dierendonck et al, 1996). This can be understood using the J-DR model, which suggests that burnout occurs when organisations fail to replenish staff’s depleted resources. Conversely, when staff perceived they ‘overbenefited' (the therapist received more effort from the patient than they gave), this was also associated with greater burnout. The authors suggested that ‘overbenefitting’ in relation to staff-patient relationships may lead to burnout as this experience differs significantly from the staff members’ expectations. FHCPs reporting higher levels of burnout were also found to be less likely to report trusting relationships with their colleagues, more likely to monitor and check the behaviour of team members, and less likely to cooperate with other staff (Johnson et al, 2015); whilst those with trusting colleague relationships were found to have significantly lower levels of burnout. Trusting relationships may ‘buffer’ staff from burnout, as such these relationships potentially preserve or increase resources according to the Conservation of Resources model. Conversely, less trusting relationships may increase the demands of the job as staff engage in additional tasks, such as checking and monitoring behaviours, thus increasing vulnerability to burnout. The studies reviewed indicate that relationships in work may increase staff burnout particularly when the perceived effort given to these relationships is unequal or lacks trust.

A range of individual characteristics appeared to be related to burnout in the studies reviewed. In particular, professionals reporting greater dispositional mindfulness (Kriakous et al, 2019), ‘adaptive’ coping (Kriakous et al, 2019), and those who reported higher levels of emotional expression within the workplace (Cramer et al, 2019) reported lower levels of burnout. These individual characteristics may provide increased internal resources, as per the Conservation of Resources model. As such, it is possible that staff who are more aware of their experience of emotions and the emotional needs of others are more protected from burnout.

## Clinical Implications and Recommendations

The findings reported in this review have important implications for clinical practice. FHCP burnout contributes to increased staff sickness (Paris & Hoge, 2010), reduced staff well-being (Hall et al, 2016), and poorer outcomes for service-users (Jun, et al 2021). The literature suggests that burnout is prevalent within a forensic healthcare population and therefore requires addressing (Elliot & Daily, 2013). Service development projects should aim to reduce the strain resulting from organisational issues which were found to be associated with increased levels of burnout. For example, the organisation should strive to foster trusting relationships between colleagues, teams should be provided with appropriate levels of staffing and FHCPs should feel the organisation invests in them. In addition, the review highlighted the benefits of a therapeutic environment. Therefore, services should aim to reduce assaults, develop healthy staff patient boundaries, increase safety and improve service user’s relationships with each other. Even though organisational changes are not quick fixes and require systemic change and funding to be implemented, these issues must be addressed to enact long term change and protect FHCPs from burnout.

Clinical supervision has been a popular recommendation within the reviewed literature. Whilst having clinical supervision appeared to be important, as fewer hours was associated with increased burnout, increased consideration must be given to how FHCP’s experience clinical supervision. This is because increased levels of burnout were reported by staff that also reported poorer quality clinical supervision. Therefore, services should look to gather feedback on the effectiveness of their clinical supervision and aim to improve this where necessary. The review has indicated that younger FHCPs are more vulnerable to burnout, thus interventions should be targeted towards this group. This review has also highlighted the need for services to consider FHCP’s individual characteristics, perceptions and interpretations as this has been found to influence their level of vulnerability to burnout. Individual interventions should aim to increase staff mindfulness skills, adaptive coping skills (e.g. talking to others) and their ability to express their emotions in work in order to reduce the impact of burnout.

## Limitations and Future Research

This review is the first to examine burnout specifically in inpatient FHCPs. This review did not include studies investigating burnout in FHCPs working in specialist forensic learning disabilities services, nor staff working in forensic community services. As such, results of this review may not be generalisable to FHCPs working in other forensic settings. Future reviews would benefit from including studies who recruited such staff populations. This could provide a broader overview of staff burnout across both inpatient and community forensic services, as well as including staff who work with specialist populations, such as service-users with a learning disability.

This review did not include qualitative literature as its aim was to specifically review the literature examining variables associated withstaff burnout. As such, it is possible that this review lacks the richness that qualitative research provides, where participants can express the complexity of experiences of burnout (Dennis & Leach, 2007; Husted & Dalton, 2021; Mistry et al, 2022). A quantitative synthesis would also be beneficial. Doing a meta-analysis would help to quantify the strength/magnitude of the effect between variables and burnout, however, due to the methodological differences across studies it was not possible.

The appraisal tool used in this research is specifically designed for cross-sectional studies. Although much of the research used this design, some studies did not. Therefore, it is possible that the review may not have considered all varied strengths or weaknesses of each study.

Future research would benefit from larger sample sizes, which could detect smaller effect sizes in relation to the factors that are related to burnout. Furthermore, future studies would benefit from recruiting other forensic mental health professional staff as many of the studies reviewed included mostly nursing staff. Given the mixed findings in relation to clinical supervision, future research specifically examining the impact of clinical supervision (both perceived effectiveness and frequency) on burnout in these professional groups would help clarify the role of clinical supervision on burnout. This is particularly important as clinical supervision is recommended as a strategy to prevent burnout across may of the studies reviewed. In addition, the impact of ward environment on burnout was also unclear and as such, this would benefit from further investigation.

## Conclusions

This review reported that several factors were associated with increased burnout in inpatient FHCPs. These included younger age, having dependents, hours and quality of supervision, impact of boundary violations, less tolerant attitudes to patient aggression, caring for female service-users, limited organisational resources, and inequitable relationships with service-users. Several factors were also related to lower levels of burnout, including seniority, increased actual ward safety, dispositional mindfulness, adaptive coping strategies, expressed emotion, and trust in colleagues. This review indicates that the way FHCPs perceive their relationships and work environment may play an important role in burnout, as the influence of many of these associated factors is determined by how staff perceive their experiences. In addition, many factors were theoretically supported by both the dominant burnout models; JR-D (Demerouti et al, 2001) and the Conservation of Resources (Hobfall, 1989) model. The review also offers an important contribution to forensic services in its recommendations to reduce and prevent burnout in staff.

# References

Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands‐resources model to predict burnout and performance. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management*, *43*(1), 83-104. <https://doi.org/10.1002/hrm.20004>

Barr, L., Wynaden, D., & Heslop, K. (2019). Promoting positive and safe care in forensic mental health inpatient settings: Evaluating critical factors that assist nurses to reduce the use of restrictive practices. *International Journal of Mental Health Nursing*, *28*(4), 888-898. <https://doi.org/10.1111/inm.12588>

Berry, S., & Robertson, N. (2019). Burnout within forensic psychiatric nursing: Its relationship with ward environment and effective clinical supervision?. *Journal of psychiatric and mental health nursing*, *26*(7-8), 212-222. https://[doi.org/10.1111/jpm.12538](https://doi.org/10.1111/jpm.12538)

Bott, L. (2019). *Mental health and intellectual disability professionals use of emotion regulation and coping strategies, and their relationship to burnout: a systematic review; and, The indirect effect of attitudes towards aggression on forensic mental health professionals’ wellbeing, and the role of psychological flexibility.* [Unpublished doctoral dissertation]. University of Edinburgh <https://era.ed.ac.uk/bitstream/handle/1842/36635/Bott2019.pdf?sequence=1&isAllowed=y>

Cacciacarne, M., Resnick, P. J., McArthur, C., & Althof, S. E. (1986). Burnout in forensic psychiatric staff. *Medicine & Law*, 5, 303-308. <https://heinonline.org/HOL/LandingPage?handle=hein.journals/mlv5&div=31&id=&page=>

Cooper, A., Ferreira, N. & Slessor, M. (2016) ‘Demands, resources and wellbeing for clinicians working in a high secure forensic hospital’. Doctoral thesis, University of Edinburgh, Edinburgh, viewed 30th June 2019, https://www.era.lib.ed.ac.uk/bitstream/handle/1842/25501/Cooper2016.pdf?sequenc e=2&isAllowed=y

Cramer, R. J., Ireland, J. L., Hartley, V., Long, M. M., Ireland, C. A., & Wilkins, T. (2019). Coping, mental health, and subjective well-being among mental health staff working in secure forensic psychiatric settings: Results from a workplace health assessment. *Psychological services*, *17*(2), 160. https://[doi.org/10.1037/ser0000354](https://doi.org/10.1037/ser0000354)

Dall’Ora, C., Ball, J., Reinius, M., & Griffiths, P. (2020). Burnout in nursing: a theoretical review. *Human resources for health*, *18*(1), 1-17. https://[doi.org/10.1186/s12960-020-00469-9](https://doi.org/10.1186/s12960-020-00469-9)

Decaire, M. W., Bédard, M., Riendeau, J., & Forrest, R. (2006). Incidents in a psychiatric forensic setting: association with patient and staff characteristics. *Canadian Journal of Nursing Research Archive*, *38*(3), 68–80. <https://cjnr.archive.mcgill.ca/article/view/2008>

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied psychology*, *86*(3), 499. https://[doi.org/10.1037/0021-9010.86.3.499](https://doi.org/10.1037/0021-9010.86.3.499)

Dennis, A. M., & Leach, C. (2007). Expressed emotion and burnout: the experience of staff caring for men with learning disability and psychosis in a medium secure setting. *Journal of Psychiatric and Mental Health Nursing*, *14*(3), 267-276. https://[doi.org/10.1111/j.1365-2850.2007.01073.x](https://doi.org/10.1111/j.1365-2850.2007.01073.x)

Dickinson, T., & Wright, K. M. (2008). Stress and burnout in forensic mental health nursing: a literature review. *British Journal of Nursing*, *17*(2), 82-87. https://[doi.org/10.12968/bjon.2008.17.2.28133](https://doi.org/10.12968/bjon.2008.17.2.28133)

Downes, M. J., Brennan, M. L., Williams, H. C., & Dean, R. S. (2016). Development of a critical appraisal tool to assess the quality of cross-sectional studies (AXIS). *BMJ open*, *6*(12), e011458. https://[doi.org/10.1136/bmjopen-2016-011458](https://doi.org/10.1136/bmjopen-2016-011458)

Duquette, A., Kérowc, S., Sandhu, B. K., & Beaudet, L. (1994). Factors related to nursing burnout a review of empirical knowledge. *Issues in Mental Health Nursing*, *15*(4), 337-358. <https://doi.org/10.3109/01612849409006913>

Durey, A., Wynaden, D., Barr, L., & Ali, M. (2014). Improving forensic mental health care for Aboriginal Australians: Challenges and opportunities. *International Journal of Mental Health Nursing*, *23*(3), 195-202. <https://doi.org/10.1111/inm.12042>

Eggert, J. E., Kelly, S. P., Margiotta, D. T., Hegvik, D. K., Vaher, K. A., & Kaya, R. T. (2014). Person–environment interaction in a new secure forensic state psychiatric hospital. *Behavioral sciences & the law*, *32*(4), 527-538. https://[doi.org/10.1002/bsl.2127](https://doi.org/10.1002/bsl.2127)

Epp, K. (2012). Burnout in critical care nurses: a literature review. *Dynamics*, *23*(4), 25-31. https://[doi.org/10.1046/j.1365-2850.1997.00057.x](https://doi.org/10.1046/j.1365-2850.1997.00057.x)

Flarity, K., Nash, K., Jones, W., & Steinbruner, D. (2016). Intervening to improve compassion fatigue resiliency in forensic nurses. *Advanced emergency nursing journal*, *38*(2), 147-156. https://[doi.org/10.1097/tme.0000000000000101](https://doi.org/10.1097/tme.0000000000000101)

Garman, A. N., Corrigan, P. W., & Morris, S. (2002). Staff burnout and patient satisfaction: evidence of relationships at the care unit level. *Journal of occupational health psychology*, *7*(3), 235. <https://doi.org/10.1037/1076-8998.7.3.235>

Gil-Monte, P. R. (2008). Magnitude of relationship between burnout and absenteeism: a preliminary study. *Psychological reports*, *102*(2), 465-468. <https://doi.org/10.2466/pr0.102.2.465-468>

Hall, Johnson, J., Watt, I., Tsipa, A., & O’Connor, D. B. (2016). Healthcare staff wellbeing, burnout, and patient safety: A systematic review. *PloS One*, *11*(7), e0159015–e0159015. <https://doi.org/10.1371/journal.pone.0159015>

Happell, B., Pinikahana, J., & Martin, T. (2003). Stress and burnout in forensic psychiatric nursing. *Stress and health: Journal of the international society for the investigation of stress*, *19*(2), 63-68. https://[doi.org/10.1002/smi.963](https://doi.org/10.1002/smi.963)

Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *American psychologist*, *44*(3), 513. https://[doi.org/10.1037/0003-066x.44.3.513](https://doi.org/10.1037/0003-066x.44.3.513)

Hobfoll, S. E., & Lilly, R. S. (1993). Resource conservation as a strategy for community psychology. *Journal of community psychology*, *21*(2), 128-148. https://[doi.org/10.1002/1520-6629(199304)21:2<128::aid-jcop2290210206>3.0.co;2-5](https://doi.org/10.1002/1520-6629(199304)21:2%3C128::aid-jcop2290210206%3E3.0.co;2-5)

Holmqvist, R., & Jeanneau, M. (2006). Burnout and psychiatric staff's feelings towards service-users. *Psychiatry research*, *145*(2-3), 207-213. <https://doi.org/10.1016/j.psychres.2004.08.012>

Husted, M., & Dalton, R. (2021). ‘Don’t show that you’re scared’: resilience in providing healthcare in a UK low-to-medium secure hospital. *Health Psychology and Behavioral Medicine*, *9*(1), 84-103. https://[doi.org/10.1080/21642850.2021.1874956](https://doi.org/10.1080/21642850.2021.1874956)

IsHak, W. W., Lederer, S., Mandili, C., Nikravesh, R., Seligman, L., Vasa, M., ... & Bernstein, C. A. (2009). Burnout during residency training: a literature review. *Journal of graduate medical education*, *1*(2), 236-242. https://[doi.org/10.4300/jgme-d-09-00054.1](https://doi.org/10.4300/jgme-d-09-00054.1)

Jahrami, H. (2009). A survey of burnout of the mental health occupational therapy staff in the Psychiatric Hospital, Bahrain. *British Journal of Occupational Therapy*, *72*(10), 458-464. <https://doi.org/10.1177/030802260907201008>

Johnson, H., Worthington, R., Gredecki, N., & Wilks-Riley, F. R. (2016). The relationship between trust in work colleagues, impact of boundary violations and burnout among staff within a forensic psychiatric service. *Journal of forensic practice. 18*(1), 64–75. <https://doi.org/10.1108/JFP-03-2015-0024>

Jones, J. G., Janman, K., Payne, R. L., & Rick, J. T. (1987). Some determinants of stress in psychiatric nurses. *International Journal of Nursing Studies*, *24*(2), 129-144. https://[doi.org/10.1016/0020-7489(87)90055-1](https://doi.org/10.1016/0020-7489(87)90055-1)

Jun, Ojemeni, M. M., Kalamani, R., Tong, J., & Crecelius, M. L. (2021). Relationship between nurse burnout, patient and organizational outcomes: Systematic review. *International Journal of Nursing Studies*, *119*, 103933–103933. <https://doi.org/10.1016/j.ijnurstu.2021.103933>

Kirby, S. D., & Pollock, P. H. (1995). The relationship between a medium secure environment and occupational stress in forensic psychiatric nurses. *Journal of Advanced Nursing*, *22*(5), 862-867. https://[doi.org/10.1111/j.1365-2648.1995.tb02636.x](https://doi.org/10.1111/j.1365-2648.1995.tb02636.x)

Kriakous, S. A., Elliott, K. A., & Owen, R. (2019). Coping, mindfulness, stress, and burnout among forensic health care professionals. *Journal of Forensic Psychology Research and Practice*, *19*(2), 128-146. https://[doi.org/10.1080/24732850.2018.1556545](https://doi.org/10.1080/24732850.2018.1556545)

Martin, P., Lizarondo, L., Kumar, S., & Snowdon, D. (2021). Impact of clinical supervision on healthcare organisational outcomes: A mixed methods systematic review. *PloS one*, *16*(11), e0260156–e0260156.. <https://doi.org/10.1371/journal.pone.0260156>

Maslach, C. and Jackson, S. E. (1981a). Maslach Burnout Inventory: Manual, Consulting Psychologists Press, Palo Alto, California. <https://doi.org/10.1037/t05190-000>

Maslach, C., & Leiter, M. P. (2016). Burnout. In *Stress: Concepts, cognition, emotion, and behavior* (pp. 351-357). Academic Press.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual review of psychology*, *52*(1), 397-422. https://[doi.org/10.1146/annurev.psych.52.1.397](https://doi.org/10.1146/annurev.psych.52.1.397)

Maslach. (1986). Stress, burnout, and workaholism. In *Professionals in distress: Issues, syndromes, and solutions in psychology* (pp. 53–75). American Psychological Association. https://doi.org/10.1037/10056-004

Mason, T. (2002). Forensic psychiatric nursing: A literature review and thematic analysis of role tensions. *Journal of Psychiatric and Mental Health Nursing*, *9*(5), 511-520. https://[doi.org/10.1046/j.1365-2850.2002.00521.x](https://doi.org/10.1046/j.1365-2850.2002.00521.x)

Melchior, M. E. W., Bours, G. J. J. W., Schmitz, P., & Wittich, Y. (1997). Burnout in psychiatric nursing: A meta‐analysis of related variables. *Journal of psychiatric and mental health nursing*, *4*(3), 193-201. https://[doi.org/10.1046/j.1365-2850.1997.00057.x](https://doi.org/10.1046/j.1365-2850.1997.00057.x)

Mistry, D., Gozna, L., & Cassidy, T. (2022). Psychological and the physical health impacts of forensic workplace trauma. *The Journal of Forensic Practice*, *24*(1), 18-33. https://[doi.org/10.1108/jfp-05-2021-0027](https://doi.org/10.1108/jfp-05-2021-0027)

Nathan, R., Brown, A., Redhead, K., Holt, G., & Hill, J. (2007). Staff responses to the therapeutic environment: A prospective study comparing burnout among nurses working on male and female wards in a medium secure unit. *The Journal of Forensic Psychiatry & Psychology*, *18*(3), 342-352. https://[doi.org/10.1080/14789940701441136](https://doi.org/10.1080/14789940701441136)

Oddie, S., & Ousley, L. (2007). Assessing burn‐out and occupational stressors in a medium secure service. *The British Journal of Forensic Practice*, *9*(2), 32-48. https://[doi.org/10.1108/14636646200700011](https://doi.org/10.1108/14636646200700011)

Paris, & Hoge, M. A. (2010). Burnout in the Mental Health Workforce: A Review. *The Journal of Behavioral Health Services & Research*, *37*(4), 519–528. <https://doi.org/10.1007/s11414-009-9202-2>

Periard, D. A. (2016). A Bifactor Model of Burnout? An Item Response Theory Analysis of the Maslach Burnout Inventory-Human Services Survey. https://[doi.org/10.1002/smi.2481](https://doi.org/10.1002/smi.2481)

Schaufeli, W. B., & Peeters, M. C. (2000). Job stress and burnout among correctional officers: A literature review. *International Journal of stress management*, *7*(1), 19-48. https://[doi.org/10.1023/a:1009514731657](https://doi.org/10.1023/a:1009514731657)

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career development international*, *14*(3), 204-220. <https://doi.org/10.1108/13620430910966406>

Van Dierendonck, D., Schaufeli, W. B., & Buunk, B. P. (1996). Inequity among human service professionals: Measurement and relation to burnout. *Basic and applied social psychology*, *18*(4), 429-451. https://[doi.org/10.1207/s15324834basp1804\_5](https://doi.org/10.1207/s15324834basp1804_5)

Winstanley, J., & White, E. (2014). The Manchester Clinical Supervision Scale©: MCSS-26©. In C. E. Watkins, Jr. & D. L. Milne (Eds.), The Wiley international handbook of clinical supervision (pp. 386–401). Wiley-Blackwell. [https://doi.org/10.1002/9781118846360.ch17](https://psycnet.apa.org/doi/10.1002/9781118846360.ch17)

Zimmer, K. K., & Cabelus, N. B. (2003). Psychological effects of violence on forensic nurses. *Journal of psychosocial nursing and mental health services*, *41*(11), 28-35. https://[doi.org/10.3928/0279-3695-20031101-12](https://doi.org/10.3928/0279-3695-20031101-12)

# Appendix A

## Journal Guidelines

Please refer to the Journal of Forensic Psychology Research and Practice webpage for the author submission guidelines:

<https://www.tandfonline.com/action/authorSubmission?show=instructions&journalCode=wfpp21#word-limits>

* Referencing style APA 7th edition is used in the current paper, as per the journal guidelines

# Appendix B

## Axis Table

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1.     Were the aims/objectives of the study clear?** | **2.      Was the study design appropriate for the stated aim(s)?** | **3.      Was the sample size justified?** | **4.      Was the target/reference population clearly defined? (Is it clear who the research was about?)** | **5.      Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?** | **6.      Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?** | **7.      Were measures undertaken to address and categorise non-responders?** | **8.      Were the risk factor and outcome variables measured appropriate to the aims of the study?** | **9.      Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted or published previously?** | **10.   Is it clear what was used to determined statistical significance and/or precision estimates? (e.g. p-values, confidence intervals)** |
| **Berry & Robertson (2019)** | Y | Y | N | Y | Y | Don’t know | Don’t know | Y | Y | Y |
| **Bott et al (2019)** | Y | Y | Y | Y | Y | Y | Don’t know | Y | N | Y |
| **Cramer et al (2019)** | Y | Y | Y | Y | Y | Y | N | Y | N | Y |
| **Decaire et al (2006)** | Y | Y | N | Y | Y | Don’t know | N | Y | Y | Y |
| **Eggert et al (2014)** | Y | Y | N | Y | Y | Y | N | N | Y | Y |
| **Johnson et al (2015)** | Y | Y | N | Y | Y | Y | N | Y | N | Y |
| **Kriakous et al (2019)** | Y | Y | N | Y | Y | Y | N | Y | Y | Y |
| **Nathan et al (2007)** | Y | Y | Y | Y | Y | Don't know | Y | Y | Y | Y |
| **Oddie & Ousley (2007)** | Y | Y | N | Y | Y | Y | N | Y | N | Y |
| **Van Dierendonck et al (1996)** | N | Y | N | Y | Y | Don’t know | N | Y | N | Y |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **11.   Were the methods (including statistical methods) sufficiently described to enable them to be repeated?** | **12.   Were the basic data adequately described?** | **13.   Does the response rate raise concerns about non-response bias?** | **14.   If appropriate, was information about non-responders described?** | **15.   Were the results internally consistent?** | **16.   Were the results presented for all the analyses described in the methods?** | **17.   Were the authors' discussions and conclusions justified by the results?** | **18.   Were the limitations of the study discussed?** | **19.   Were there any funding sources or conflicts of interest that may affect the authors’ interpretation of the results?** | **20.   Was ethical approval or consent of participants attained** |
| **Berry & Robertson (2019)** | Y | Y | N | N | Y | Y | Y | Y | N | Y |
| **Bott et al (2019)** | Y | Y | Y | N | N | Y | Y | Y | Don’t know | Y |
| **Cramer et al (2019)** | Y | Y | N | N | Y | Y | Y | Y | N | Y |
| **Decaire et al (2006)** | Y | Y | N | N | Y | Y | Y | Y | Don’t know | Y |
| **Eggert et al (2014)** | Y | N | N | N | Y | Y | Y | Y | N | Don’t know |
| **Johnson et al (2015)** | Y | Y | N |  | Y | Y | Y | Y | N | Y |
| **Kriakous (2019)** | Y | Y | N | N | Y | Y | Y | Y | N | Don’t know |
| **Nathan et al (2007)** | Y | Y | N | Y | N | Y | Y | Y | Don’t know | Y |
| **Oddie & Ousley (2007)** | Y |  | N | N | Y | Y | Y | Y | N | Y |
| **Van Dierendonck et al (1996)** | Y | Y | N | N | Y | Y | Y | Y | Don’t know | Don’t know |
| *Note*. Y= Yes, N= No | | | | | | | | | | |

# Paper 2: Empirical Paper

# Psychological Flexibility, Coping, Attachment Style, Length of Service and Sex of Staff as Predictors of Secondary Traumatic Stress and Burnout in Forensic Inpatient Staff

**Word count:** 7987 (Excluding the title page, references and appendices)

This literature review is intended for publication in the Journal of Forensic Psychology Research and Practice. The referencing style of this paper is APA 7th edition, in line with the journal requirements. Author guidelines for the journal can be found in Appendix A.

# Abstract

This study investigated psychological flexibility, coping style, attachment style, length of service and sex of staff as predictors of secondary traumatic stress and burnout in 98 healthcare professionals working in two UK forensic inpatient settings. Results indicated lower psychological flexibility significantly predicted increased secondary traumatic stress, emotional exhaustion, and depersonalisation. Higher levels of maladaptive coping significantly predicted increased secondary traumatic stress and lower levels of personal accomplishment. Increased adaptive coping predicted increased levels of personal accomplishment. Increased anxious attachment predicted increased personal accomplishment. Sex and length of service were not found to be predictive. The indication that lower psychological flexibility and maladaptive coping are predictive of higher levels of secondary trauma stress and burnout suggests that interventions such as Acceptance and Commitment Therapy (ACT) and coping skills interventions, may offer protective benefits to inpatient forensic healthcare professionals.

*Keywords*: Burnout, secondary traumatic stress, attachment style, psychological flexibility, coping, forensic

# Introduction

There is a lack of empirical research exploring the experience of working in forensic mental health care settings (Elliot & Daley, 2012; Kriakous et al, 2019; Pirelli et al, 2020). This research area is important, as evidence indicates that healthcare professionals who are routinely exposed to trauma and violence at work are vulnerable to developing symptoms related to secondary trauma and burnout (Johnson, et al 2018; Sprang et al, 2019).

Secondary trauma is defined as the indirect traumatisation of a person through the stress of helping, wanting to help, or knowing about traumatised individuals or events (Figley, 1995). For example, hearing or reading a clients offence history or knowing about violence on the ward. The term is often used interchangeably with similar terms such as compassion fatigue and vicarious traumatisation (Branson, 2019), despite subtle differences in definition and presentation (Elwood et al, 2011). Secondary traumatic stress mirrors Post Traumatic Stress Disorder (PTSD) symptoms such as increased physical arousal and intrusive thoughts or imagery related to client trauma (Bride, 2007; Jenkins & Baird, 2002). Prevalence rates for secondary traumatic stress in inpatient forensic health care professionals (FHCPs) are limited, however, 75% of FHCP reported low levels in a high secure hospital in Scotland (Cooper, 2016).

Burnout is most commonly conceptualised to include three dimensions (Maslach et al, 1996). Firstly, emotional exhaustion is the depletion of emotional resources, such as motivation. Secondly, depersonalisation involves a cognitive distancing from the cared-for individual through an increase in cynicism. Thirdly, personal accomplishment refers to a sense of achievement and competence in work (Maslach et al, 2001). Burnout is hypothesised to emerge gradually in relation to long-term work-related stress (Maslach et al, 1996). Burnout is associated with physical symptoms such as low energy, tension, anxiety, fatigue and insomnia (Elliot & Daley, 2012; Pirelli et al, 2020). Burnout prevalence research has reported moderate burnout levels in inpatient FHCPs (Elliott & Daley, 2012; Kriakous et al, 2019).

The literature in forensic inpatient settings has explored risk and resiliency factors, aimed to develop strategies to improve FHCP’s wellbeing (Cramer et al, 2019; Elliot & Daley, 2012; Kriakous et al, 2019). The evidence has indicated individual characteristics influence how FHCPs experience the challenges of their work (Cooper et al, 2016; Cramer et al, 2019; Elliot & Daley, 2012; Kriakous et al, 2019). However, the literature in this population is in its infancy. Only one study has explored predictive factors for secondary traumatic stress in inpatient FHCPs (Cooper, 2016). In a high secure setting in Scotland, Cooper (2016) identified that greater belief that the job is unsafe and lower psychological flexibility were predictive of secondary trauma. Psychological flexibility is the capacity to psychologically adapt and balance situational demands (Kashdan & Rottenberg, 2010). For example, staying open to experiencing whatever thoughts and feelings appear (good or bad). Cooper (2016) proposed greater psychological flexibility may allow clinicians to accommodate the difficult feelings that arise from their job more effectively.

Significantly more literature exploring burnout in inpatient FHCPs exists. In a recent literature review investigating burnout in inpatient FHCPs across the world, 10 studies explored 12 different factors as predictors of burnout level (Chapman & Rydon-Grange, 2023 manuscript in preparation). Psychological flexibility was one of these factors. However, Bott et al (2019) reported that psychological flexibility was not significantly associated with levels of burnout in high secure FHCP in Scotland. Research in other professionals routinely exposed to trauma violence, such as community FHCPs and police personnel, provide a valuable contribution; particularly adding to the limited secondary traumatic stress evidence base. One such study also explored psychological flexibility in a sample of UK police personnel. This study reported increased psychological flexibility was significantly associated with decreased levels of burnout, as well as secondary traumatic stress (Gray & Rydon-Grange, 2019).

Coping style is a prominent individual factor within the inpatient FHCP burnout literature. Coping styles are defined as stable psychological and behavioural strategies used to overcome or tolerate external and internal challenges or stressors (Folkman & Lazarus, 1986). Coping styles have typically been categorised as adaptive (e.g., helpful or effective such as social support) or maladaptive (e.g., unhelpful or ineffective such as substance use). This research is important as unhelpful coping strategies are often associated with poor mental and physical health (Casagrande et al 2019; Santarnecchi et al 2018). In their sample of 151 FHCPs, Kriakous et al (2019) reported that maladaptive coping correlated with higher levels of stress, and emotional exhaustion, and lower levels of personal accomplishment. Similarly, Cramer et al (2019) investigated mental health symptoms including stress and PTSD symptoms in a sample of FHCPs in the UK. Avoidant coping was associated with higher burnout, stress, and PTSD; conversely, adaptive coping was associated with lower levels of burnout (Cramer et al, 2019). Elliott and Daley (2013) explored coping as a predictor of burnout in FHCPs working in forensic learning disability services in the UK and similarly reported that maladaptive coping was a significant predictor of burnout. Consistently the literature indicates that maladaptive coping may be a risk factor for stress and burnout, whereas adaptive coping may be a resiliency factor.

Attachment style literature indicates that FHCPs with insecure attachment styles anticipate greater threat and are more likely to be hyper-aroused, leading to exhaustion and are therefore at greater risk of stress and burnout (Adshead, 2013). Despite this conclusion, empirical literature in this field is limited. One study which investigated attachment style, secondary traumatic stress and burnout in UK psychologists working in forensic settings, reported avoidant and increased anxious attachment styles correlated with increased burnout (Collins, 2015). A more recent study has examined attachment style in similar helping professions. Gray and Rydon-Grange (2019) reported a positive correlation between avoidant and anxious attachment styles and secondary traumatic stress and burnout in police personnel working in sexual and violent offending teams.

Individual demographic factors have also been explored within the literature. Cooper (2016) reported length of time in the service was a significant predictor for increased burnout levels in FHCPs. In addition, two recent studies examining police samples reported that length of service in current role was significantly associated with increased levels of secondary traumatic stress and burnout (Gray & Rydon-Grange, 2019; Turgoose et al, 2017).

Finally, the results regarding sex as a predictor for burnout and secondary traumatic stress are mixed. McCormack et al’s (2018) systematic review examined levels of burnout in psychologists working in clinical practices internationally and found a distinct pattern of results for males and females. Specifically, being male predicted higher levels of depersonalisation, whereas being female predicted higher levels of emotional exhaustion (McCormack et al, 2018). With regards to secondary traumatic stress, Moulden and Firestone (2007) suggested that women are at greater risk of secondary traumatic stress as they report twice the rate of PTSD compared with men. However, in their study, Gray and Rydon-Grange (2019) reported no significant sex differences in relation to secondary traumatic stress and burnout in a UK police force.

The current study aimed to examine whether psychological flexibility, coping style, attachment style, length in service and sex predicted secondary traumatic stress and burnout in a sample of FHCPs working in medium secure male services in England. Specifically, it was hypothesised that:

1. FHCPs that reported lower levels of psychological flexibility would report higher levels of secondary traumatic stress and burnout.
2. FHCPs that reported higher levels of maladaptive coping would report higher levels of secondary traumatic stress and burnout.
3. FHCPs that reported higher levels of avoidant and anxious attachment styles would report higher levels of secondary traumatic stress and burnout.
4. FHCPs that reported longer service would report higher levels of secondary traumatic stress and burnout.
5. Due to the mixed empirical findings regarding FHCP sex and burnout, in addition to the lack of empirical literature examining FHCP sex and secondary traumatic stress, no directional hypotheses were made for FHCP sex.

# Methods

## Procedure

Staffordshire University Independent Ethics Committee and the Health Research Authority (HRA) granted ethical approval (ID: 316370). The NHS site supporting recruitment also confirmed their capacity for the research (Appendices A and B).

Participants were recruited via an email that was disseminated by two clinical psychologists, each working in one of the two participating hospitals or completed paper research packs during two onsite visits. The email contained the study information and a link which provided access to the online questionnaires (Qualtrics). Approximately 600 FHCPs at both participating hospitals received the email, 29 participants participated online between 22nd December 2022 and 09th March 2023. Following two onsite visits to each hospital in February and March 2023, 90 paper packs were disseminated and 73 returned. Paper copies were returned to the researcher in a sealed envelope to maintain anonymity and confidentiality. Regardless of participation method, before completing the questionnaires, participants were required to complete a consent form confirming they had read the participant information sheet and were willing to participate.

### Participants

A total of 102 FHCPs working[[8]](#footnote-8) in two adult male secure forensic inpatient hospitals in the UK participated in the study (table 1). To be eligible, FHCPs had to be aged 18 and over, employed in a direct care/support role on the wards (e.g., Nurses, Psychologists, Psychiatrists, and other direct clinical staff such as Complementary Therapists), and must have been in the same role at the participating sites for at least six months to have been exposed to the service. The exclusion criteria included staff in non-clinical roles, such as administration, domestic services and managerial roles with no direct clinical contact with clients.

Of the 102 participants, four participants’ data were removed prior to analysis due to their level of missing data. The remaining sample consisted of 98 FHCPs, 37 men, 58 women, and 3 participants that did not report their sex. The average age was 40.54 years (*SD* = 12.10; range = 21-64 years). White British was the most reported ethnicity (53.06%) and the average length of service in current role was 9.7 years (*SD* = 8.17; range = 6 months-36 years, mode= 1 year). The most common profession was nursing (*n*=68).

**Table 1**

*Participant Demographic Characteristics* (*n* = 98)

|  |  |  |
| --- | --- | --- |
| Demographic Variable | Category | Participant  Count |
| Age | 21-30 | 22 |
|  | 30-40 | 28 |
|  | 40-50 | 19 |
|  | 50-60 | 21 |
|  | 60+ | 3 |
|  | Unknown | 5 |
|  |  |  |
| Professional discipline | Psychology/ Psychological Therapies | 12 |
|  | Psychiatry/ Medic/ Pharmacy | 4 |
|  | Nursing | 68 |
|  | Occupational therapy | 12 |
|  | Pharmacy | 1 |
|  |  |  |
| Ethnicity | White British | 53.06% |
|  | Asian/Asian British - Pakistani | 10.20% |
|  | Black/ African/ Caribbean /Black British - African | 8.16% |
|  | Any other White background | 6.12% |
|  | Asian/Asian British - Indian | 5.10% |
|  | Black/ Black British | 5.10% |
|  | Mixed Ethnics Groups - White and Black Caribbean | 4.08% |
|  | Unknown | 2.04% |
|  | White - Irish | 2.04% |
|  | Asian/Asian British - Bangladeshi | 1.02% |
|  | Any other Asian background | 1.02% |
|  | Other ethnic groups | 1.02% |
|  | Mixed Ethnic Groups - Any other | 1.02% |

## Measures

### Secondary Traumatic Stress

The Secondary Traumatic Stress Scale (STSS; Bride, 2013) is a 21-item questionnaire comprising three subscales assessing secondary traumatic stress in the workplace. Respondents rate themselves on a Likert scale from 1 (*never*) to 5 (*very often*) regarding how frequently over the last week they experienced symptoms of intrusion (e.g., ‘I had disturbing dreams about my work with clients’), avoidance (e.g., ‘I felt discouraged about the future’), and arousal (e.g., ‘I was easily annoyed’). Scores are interpreted within the following ranges (Bride, 2007): < 28 (little or no Secondary traumatic stress), 28–37 (mild), 38–43 (moderate), 44–48 (high), 49 or higher (severe). The STSS has been reported to have high levels of internal consistency and good validity (Bride et al, 2004). Cronbach’s coefficient alpha in this study was α =.762.

### Burnout

The Maslach Burnout Inventory (MBI; Maslach, Jackson & Leiter 1996) is a 22-item questionnaire assessing burnout and is comprised of three subscales: personal accomplishment (PA; scores range from 0–48), emotional exhaustion (EE; scores range 0–36), and depersonalisation (DP; scores range 0–30). Higher scores on each subscale indicate higher levels of the construct of interest. Respondents rate themselves on a 7-point Likert scale from 0 (*never*) to 6 (*every day*). The measure comprises questions such as ‘I’m afraid my job is making me uncaring’ and ‘I feel full of energy’. Each subscale has its own cut-off scores indicating low, moderate or high levels of burnout. For EE: low are scores <17; moderate are between 18-29; high are >30. For DP: low are scores <5; moderate are between 6-11; high are >12. PA scores are reversed, lower scores indicate higher burnout levels. For PA: low scores are <33; moderate are between 34-39; high are >40. Maslach et al. (1996) found that all three subscales had good levels of internal consistency (EE α = 0.90; DP α = 0.79; PA α = 0.71). The test-retest reliability for the two subscales emotional exhaustion (0.82) and personal accomplishment (0.80) were good and depersonalisation (0.60) was acceptable. In this study the Cronbach’s coefficient alpha for EE was α =.925, DP was α =.589 and PA was α =.814.

### Psychological Flexibility

The Acceptance and Action Questionnaire-II (AAQ; Bond, Hayes, Baer, Carpenter, Guenole, Orcutt & Zettle, 2011) is a 10-item questionnaire assessing psychological flexibility. Respondents rate themselves on a Likert scale ranging from 1 (*never true*) to 7 (*always true*). Higher scores indicate lower psychological flexibility. ‘I am afraid of my feelings’ and ‘Emotions cause problems in my life. The authors have reported that the AAQ-II has good discriminant validity and predicts a range of psychosocial outcomes consistent with its underlying theory (Bond et al, 2011). There is also good test-retest reliability at 3- and 12-months, .81 and .79 respectively (Bond et al, 2011). Cronbach’s coefficient alpha in this study was α =.929.

### Coping Style

The Brief Cope Inventory (BCI; Carver, 1997) is a 28-item questionnaire assessing a wide range of coping strategies**.** Each item is rated on a four-point Likert scale from 1 (*I* *don’t do this)* to 4 (*I do this a lot*). Respondents are asked to rate questions such as “I've been turning to work or other activities to take my mind off things,” and “I've been making fun of the situation”. Two categories of coping style are measured: Adaptive (e.g., positive reframing), and Maladaptive (e.g., denial). Hastings and Brown’s (2002) study of staff working in child intellectual disability services identified good levels of reliability for two dimensions of adaptive coping (α = 0.83) and maladaptive coping (α = 0.75). In this study the Cronbach’s coefficient alpha for adaptive coping was α = .925. And for maladaptive coping was α =.808.

### Attachment Style

The Experiences in Close Relationships Questionnaire revised (ECR-R; Fraley, Waller, & Brennan, 2000) is a 36-item questionnaire assessing adult romantic attachment style. The measure has two subscales, namely ‘anxiety’ and ‘avoidance’. Respondents rate themselves using a Likert scale ranging from 1 *(not at all characteristic of me*) to 5 (*very characteristic of me*). Questions measure attachment-related anxiety (e.g., ‘I often worry that my partner will not want to stay with me’), and attachment-related avoidance (e.g., ‘I prefer not to be too close to romantic partners’). Total scores are calculated for each of the two subscales. The mean score is then calculated, this score ranges from 1 (low) to 7 (high). The ECR-R has been found to have adequate convergent and discriminant validity (Sibley et al, 2005). In this study the Cronbach’s coefficient alpha for avoidant attachment was α =.813 and anxious attachment was α =.952.

### Demographic questionnaire

The demographic questionnaire asked participants their sex, age, ethnic group, job role and length of time working in the service (years and months).

### Power Analysis

The data analysis was conducted on SPSS Statistic software (Version 27; IBM CORP., C). A power analysis was calculated using GPower (Faul et al, 2009). This was based on seven predictor variables (psychological flexibility, psychological avoidance, adaptive coping, maladaptive coping, anxious attachment, avoidant attachment, length of time in service and sex), and four criterion variables (secondary traumatic stress and burnout; emotional exhaustion, depersonalisation, and personal accomplishment). Power was set at the conventional 0.8 and alpha at 0.05. For a medium effect size (0.15), which is based on similar studies (Elliott, 2012; Gray & Rydon-Grange, 2019; Kriakous, 2019); 103 participants were required.

### Statistical Assumptions

The data were screened to check if there were any violations to the assumptions for a multiple regression analysis, which included absence of outliers, normality of residuals, linearity, homoscedasticity, and absence of multicollinearity (Field, 2017). Only the secondary traumatic stress model did not meet the range of assumptions checked as it contained one outlier and was not normally distributed. However, the outlier was not removed as it did not have a leverage value above 0.2 (*n*= 0.06) and the Cook’s value was below one (*n*= 0.22), suggesting the case did not exhibit high leverage or unduly influence the model (Field, 2017). Although the distribution of the secondary traumatic stress regression standardised residuals was mildly positively skewed, the Q-Q plot indicated that the residuals were close enough to normal for the analysis to proceed (Field, 2017; see Appendix I and J). All other variables met the required assumptions for multiple regression (Field, 2017).

### Missing data

The dataset was screened for missing data. Across the whole dataset there was considerable missing data; of the 102 participants, 38% (*n*= 39) of cases had at least one item of missing data[[9]](#footnote-9). 35 participants were missing between 1-10 items across all the questionnaires completed, which accounted for between 0.9%-8.6% of their data. Four participants had more than 10% of data missing, with the amount of missing data for these four participants ranging from 29.3% to 47.4%. There is precedence in the literature for removing participants with more than 10% of missing data in order to reduce the potential for bias. As such, data from these four participants were not included in the final analysis (Bennett, 2001; Lee, 2021). Therefore, the final sample included data from 98 participants.

All the variables included in the study had at least one question which was missing/unanswered. Within the demographic questionnaire, 3.9% of participants did not report their sex and 2% did not report their length of service. In terms of the measures, the following percentage of missing data across all 98 participants was calculated: AAQ (3.2%); BCI (0.8%); ECR-R (3.9%); MBI (1.7%); and STSS (1.2%). Little’s test (Little, 1988) indicated the data was Missing Completely at Random (MCAR), demonstrated by the non-significant result (*X²* . 3104.234, *df* = 3553, *p* = 1.000) and thus no questionnaires were not included in the final analysis due to missing data.

Multiple imputation was an appropriate resolution to manage the missing data. Given the amount of missing data, multiple imputation Predictive Mean Matching (PMM) was used to create a complete dataset. PMM borrows an observed value from a ‘donor’ with a similar predictive mean to estimate a missing value (Morris et al, 2014). This model was selected as it provides a level of robustness when the normality assumption is in question, residuals are heteroscedastic, or associations are non-linear (Morris et al, 2014; Kleinke, 2017). Due to the violation to normality for the secondary traumatic stress model, PMM was deemed appropriate. Bootstrapping would typically be used to resolve issues with normality in the secondary traumatic stress model. However, bootstrapping is not recommended for multiple imputation analysis, as it has not been found to reliably reduce bias and may indeed increase it (von Hipple, 2013). Additionally, regression models are robust in relation to minor issues with normality (Schmidt et al, 2018). The analysed results reported are from the imputed dataset (*n* = 98). For comparison, the analyses were also performed on the original dataset, using a complete case approach (Hair et al, 2010), which excludes participants with incomplete data sets (see Appendix J for the SPSS analysis outputs). The results were similar for both analyses suggesting that the imputation employed was likely to be an accurate estimate of the true data values.

# Results

Mean scores (*M*) were calculated for the STSS, MBI, AAQ, BCI and ECR-R (see Table 2) using the complete case dataset (*n*=63). This dataset was examined as it provided a more accurate representation of the samples scores without estimated data generated by imputation (Morris, 2014). The secondary traumatic stress mean was within the high range. Burnout score means for EE and DP were within the moderate range, whilst PA was within the low range. The sample reported moderate to high psychological flexibility. Both adaptive and maladaptive coping scores were within the moderate range. Finally, both avoidant attachment and anxious attachment scores fell within the moderate range.

**Table 2**

*Descriptive Statistics for variables. (n = 63)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **M** | **SD** | **Range** | **Category** |
| **Secondary Trauma Stress** | 43.60 | 17.18 | 21-99 | High |
| **Emotional Exhaustion** | 24.57 | 13.23 | 0-54 | Moderate |
| **Depersonalisation** | 7.16 | 5.08 | 0-21 | Moderate |
| **Personal Accomplishment** | 28.79 | 9.48 | 5-48 | Low |
| **Psychological Flexibility** | 16.83 | 8.32 | 7-38 | Low/ Moderate |
| **Adaptive Coping** | 28.60 | 8.73 | 12-45 | Moderate |
| **Maladaptive Coping** | 20.81 | 5.64 | 12-36 | Moderate |
| **Avoidant Attachment** | 3.08 | 1.65 | 1-7 | Moderate |
| **Anxious Attachment** | 3.30 | 1.08 | 1-6 | Moderate |

## Correlations

Using the imputed data, the association between secondary traumatic stress, burnout, psychological flexibility, coping, attachment style, length of service and FHCP sex, were examined using Pearson correlation coefficients (see Table 3). It is noteworthy that the psychological flexibility measure stipulates lower scores equities to greater levels of psychological flexibility. Secondary traumatic stress was strongly positively correlated with psychological flexibility (*r* (80)= 0.633, *p* < 0.001), indicating that FHCPs who reported greater levels of secondary traumatic stress were also less psychological flexibility. Secondary traumatic stress was moderately positively correlated with higher levels of adaptive coping (*r* (80) = 0.300, *p* = 0.001) and strongly positively correlated with maladaptive coping (*r* (80) = 0.628, *p* < 0.001), indicating that FHCPs who reported greater levels of secondary traumatic stress also had both greater adaptive and maladaptive coping styles. There were no significant correlations between secondary traumatic stress and avoidant attachment style (*r* (80) -0.050= -0.218, *p* = 0.313) or anxious attachment style (*r* (80) = 0.1, *p* = 0.163), length of service (*r* (80) = -0.047, *p* = 0.322), nor FHCP sex (*r* (80) = 0.109, *p* = 0.148). With regards to the burnout measure, EE was strongly positively correlated with psychological flexibility (*r* (80) = 0.533, *p* < 0.001), indicating that those with higher levels of EE were also less psychological flexible. EE was also moderately positively correlated with higher levels of maladaptive coping (*r* (80) = 0.396, *p* < 0.001), indicating that FHCPs who reported greater levels of EE also had greater levels of maladaptive coping styles. Furthermore, EE was mildly positively correlated with FHCP sex (*r* (80) = 0.183, *p* = 0.036), indicating that higher levels of EE was associated with female staff. EE was not significantly associated with adaptive coping (*r* (80) = 0.161, *p* = 0.57), avoidant attachment style (*r* (80) = -0.071, *p* = 0.245) or anxious attachment style (*r* (80) = 0.073, *p* = 0.238), nor length of service (*r* (80) = 0.021, *p* = 0.419). DP was mildly positively correlated with psychological flexibility (*r* (80) = 0.269, *p* = 0.004) and higher maladaptive coping (*r* (80) =0.132, *p* =0.099), indicating that FHCPs who reported greater levels of depersonalisation were less psychological flexible and greater levels of maladaptive coping. DP was not correlated with adaptive coping (*r* (80) = -0.044, *p* = 0.333), avoidant attachment style (*r* (80) = -0.072, *p* = 0.241) or anxious attachment style (*r* (80) = -0.026, *p* = 0.399), FHCP length of service (*r* (80) = 0.020, *p* = 0.421) nor sex (*r* (80) = 0.063, *p* = 0.421). PA showed a mild positive correlation with greater adaptive coping (*r* (80) = 0.255, *p* = 0.006), and anxious attachment (*r* *(*80) = 0.244, *p* = 0.008), indicating that FHCPs who reported greater levels of personal accomplishment also reported greater levels of adaptive coping and endorsed a more anxious attachment style. Furthermore, PA was also mildly negatively correlated with a less avoidant attachment style (*r* (80) = -0.218, *p* = 0.000). PA was not correlated with maladaptive coping (*r* (80) = -0.083, *p* = 0.210), psychological flexibility *r* (80) = -0.042, *p* = 0.342), length of service (*r* (80) = 0.134, *p* = 0.094) or FHCP sex (*r* (80) = -0.135, *p* = 0.094).

**Table 3.**

*Pearson Correlation Coefficients for all variables.*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **STSS** | **EE** | **DP** | **PA** | **PF** | **Adaptive** | **Maladaptive** | **Avoidant** | **Anxious** | **Sex** | **Length** |
| **STSS** | 1.000 | - | - | - |  |  |  |  |  |  |  |
| **EE** | - | 1.000 | - | - |  |  |  |  |  |  |  |
| **DP** | - | - | 1.000 | - |  |  |  |  |  |  |  |
| **PA** | - | - | - | 1.000 |  |  |  |  |  |  |  |
| **PF** | 0.633 | 0.533 | 0.269 | -0.042 | 1.000 |  |  |  |  |  |  |
| **Adaptive** | 0.300 | 0.161 | -0.044 | 0.255 | 0.281 | 1.000 |  |  |  |  |  |
| **Maladaptive** | 0.628 | 0.396 | 0.132 | -0.083 | 0.515 | 0.572 | 1.000 |  |  |  |  |
| **Avoidant** | -0.050 | -0.071 | -0.072 | -0.218 | 0.064 | -0.220 | 0.035 | 1.000 |  |  |  |
| **Anxious** | 0.100 | 0.073 | -0.026 | 0.244 | 0.273 | 0.303 | 0.286 | 0.182 | 1.000 |  |  |
| **Sex** | 0.109 | 0.183 | 0.063 | -0.135 | 0.181 | 0.086 | 0.036 | 0.159 | 0.021 | 1.000 |  |
| **Length** | -0.047 | 0.021 | 0.020 | 0.134 | -0.171 | -0.128 | -0.162 | -0.078 | -0.181 | -0.009 | 1.000 |
| *Note;* STSS= Secondary Trauma Stress Scale, EE= Emotional Exhaustion, DP= Depersonalisation, PA= Personal Accomplishment, PF=Psychological flexibility, Adaptive & Maladaptive= coping style, Avoidant & Anxious= Attachment style, Length= Length of service. | | | | | | | | | | | |

## Regression analyses

A multiple regression analysis was conducted to examine whether psychological flexibility, coping (adaptive/maladaptive), attachment style (avoidant/anxious), length of service and FHCP sex predicted secondary traumatic stress.

All the predictor variables were entered into the model at the same time using the enter method. The secondary traumatic stress model was significant (*F* (7,90) = 16.034, *p* <.001 to *F* (7,90) = 16.675, *p* <.001) and accounted for 55.5% - 56.5% of the total variance (52.0% - 53.1% when adjusted). Higher psychological flexibility scores (β = 0.436-0.447, *p* < .001) and maladaptive coping (β = 0.490-0.508, *p* < .001) predicted higher levels of secondary traumatic stress. None of the other predictors were significant. These results indicate that lower levels of psychological flexibility and higher levels of maladaptive coping significantly predicted higher levels of secondary traumatic stress (see Table 4).

**Table 4**

*Multiple Regression Analysis of for All Variables: Psychological Flexibility, Coping, and Attachment Style as Predictors For Secondary Traumatic Stress (STS)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | ***SE*** | **β Range** | ***p*** | **95% CIs** | |
|  |  |  |  |  | Lower | Upper |
| **Constant STS** | 6.655 | 7.585 |  | 0.380 | -8.212 | 21.522 |
| **Psychological Flexibility** | 0.936 | 0.179 | 0.436 – 0.447 | <0.001 | 0.585 | 1.287 |
| **Adaptive Coping** | -0.182 | 0.184 | -0.103 – -0.087 | 0.321 | -0.543 | 0.178 |
| **Maladaptive Coping** | 1.523 | 0.300 | 0.490 – 0.508 | <0.001 | 0.934 | 2.111 |
| **Avoidant Attachment** | -1.635 | 1.294 | -0.103 – 0.093 | 0.206 | -4.170 | 0.901 |
| **Anxious Attachment** | -1.079 | 0.806 | -0.109 – -0.099 | 0.181 | -2.659 | 0.501 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals, | | | | | | | |

To improve precision of the model, the regression was rerun with only the significant predictors. This model remained significant, (*F* (2,95) = 51.655, *p* <.001 to *F* (2,95) = 53.373, *p* <.001), and accounted for between 52.1% - 52.9% of the total variance (51.1%-51.9 when adjusted). Both psychological flexibility (β = 0.411-0.428, *p* < .001) and maladaptive coping (β = 0.406-0.420, *p* < .001) remained significant predictors of secondary traumatic stress (see Table 5).

**Table 5**

*Multiple Regression Analysis of significant variables: Psychological Flexibility for Secondary Traumatic Stress (STSS)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | ***SE*** | **β Range** | ***p*** | **95% CIs** | |
|  |  |  |  |  | Lower | Upper |
| **Constant STS** | 2.384 | 4.625 |  | 6.606 | -6.680 | 11.448 |
| **Psychological Flexibility** | 0.888 | 0.175 | 0.411 – 0.428 | <0.001 | 0.765 | 1.759 |
| **Maladaptive Coping** | 1.262 | 0.254 | 0.406 – 0.420 | <0.001 | 0.545 | 1.231 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals | | | | | | |

For the first burnout regression model—emotional exhaustion—all the predictor variables were entered into the model at once using the enter method. This model was significant (*F* (7,90) = 6.964, *p* <.001 to *F* (7,90) = 7.491, *p* <.001) and accounted for between 35.1% - 36.8% of the total variance (30.1% - 31.9%). Higher psychological flexibility scores (β = 0.424 - 0.460, *p* < 0.001) and maladaptive coping (β = 0.256 - 0.298, *p* < 0.021) predicted greater emotional exhaustion. There were no further significant predictors. These results indicated that lower levels of psychological flexibility and higher levels of maladaptive coping significantly predicted higher levels of emotional exhaustion (see Table 6).

**Table 6**

*Multiple Regression Analysis of for All Variables: Psychological Flexibility, Coping, and Attachment Style as Predictors of Emotional Exhaustion (EE)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | ***SE*** | **β Range** | ***p*** | **95% CIs** | |
|  |  |  |  |  | Lower | Upper |
| **Constant EE** | 4.865 | 7.148 |  | 0.496 | -9.146 | 18.875 |
| **Psychological Flexibility** | 0.735 | 0.170 | 0.424 – 0.460 | <0.001 | 0.401 | 1.069 |
| **Adaptive Coping** | -0.210 | 0.173 | -0.151 – -0.123 | 0.225 | -0.550 | 0.130 |
| **Maladaptive Coping** | 0.656 | 0.284 | 0.256 – 0.298 | 0.021 | 0.099 | 1.213 |
| **Avoidant Attachment** | -1.879 | 1.219 | -0.155 – -0.137 | 0.123 | -4.269 | 0.511 |
| **Anxious Attachment** | -0.343 | 0.758 | -0.047 – -0.041 | 0.651 | -1.828 | 1.142 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals | | | | | | |

The regression was rerun with only the significant predictors to improve precision of the model. The emotional exhaustion model remained significant when the regression was rerun with only psychological flexibility and maladaptive coping (*F* (2,95) = 20.086, *p* <.001 to *F* (2,95) = 21.841, *p* <.001). This model accounted for between 29.3% - 31.5% of the total variance (27.8% - 30.1% when adjusted). In this model, psychological flexibility (β = 0.427-0.459, *p* < .001) remained a significant predictor of emotional exhaustion, whereas maladaptive coping (β = 0.158 – 0.180, *p* < 0.100) became non-significant (see Table 7).

**Table 7**

*Multiple Regression Analysis of significant variables: Psychological Flexibility and Coping as Predictors of Emotional Exhaustion (EE)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | ***SE*** | **β Range** | ***p*** | **95% CIs** | |
|  |  |  |  |  | Lower | Upper |
| **Constant EE** | 4.156 | 4.369 |  | 0.342 | -4.408 | 12.720 |
| **Psychological Flexibility** | 0.737 | 0.166 | 0.427 – 0.459 | <0.001 | 0.411 | 1.063 |
| **Maladaptive Coping** | 0.394 | 0.240 | 0.158 – 0.180 | 0.100 | -0.076 | 0.864 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals | | | | | | |

For the second burnout regression model—depersonalisation—all the predictor variables were entered into the model at once using the enter method. This model was not significant (*F* (7,90) = 1.664, *p* <.128 to *F* (7,90) = 1.781, *p* <.101). Higher psychological flexibility was the only potentially significant predictor of depersonalisation (β = 0.261 - 0.300, *p* < 0.020) (see Table 8).

**Table 8**

*Multiple Regression Analysis of all variables: of Psychological Flexibility, Coping, and Attachment Style as Predictors of Depersonalisation (DP)*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | | ***SE*** | **β Range** | ***p*** | **95% CIs** | |
|  |  | |  |  |  | Lower | Upper |
| **Constant DP** | 6.923 | | 3.167 |  | 0.029 | 0.715 | 13.131 |
| **Psychological Flexibility** | | 0.175 | 0.075 | 0.261 – 0.300 | 0.020 | 0.027 | 0.322 |
| **Adaptive Coping** | | -0.124 | 0.076 | -0.227 – -0.205 | 0.104 | -0.274 | 0.026 |
| **Maladaptive Coping** | | 0.120 | 0.125 | 0.120 – 0.144 | 0.339 | -0.126 | 0.365 |
| **Avoidant Attachment** | | -0.683 | 0.541 | -0.153 – -0.125 | 0.207 | -1.744 | 0.378 |
| **Anxious Attachment** | | -0.132 | 0.336 | -0.052 – -0.037 | 0.694 | -0.790 | 0.526 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals | | | | | | | |

As such, the regression was rerun with only psychological flexibility as the potentially significant predictor variable. The depersonalisation model was significant when the regression was rerun with psychological flexibility as the only predictor (*F* (1,96) = 6.597, *p* <.012 to *F* (1,96) = 8.153, *p* <.005), and accounted for 6.4% - 7.8% of the total variance (5.5% - 6.9% when adjusted). These results indicated that lower psychological flexibility (β = 0.254 - 0.280, *p* < 0.007) was a significant predictor of depersonalisation (see Table 9).

**Table 9**

*Multiple Regression Analysis of significant variables: Psychological Flexibility, Coping, and Attachment Style as Predictors of Depersonalisation (DP)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | ***SE*** | **β Range** | ***p*** | **95% CIs** | |
|  |  |  |  |  | Lower | Upper |
| **Constant DP** | 4.369 | 1.152 |  | <0.001 | 2.110 | 6.628 |
| **Psychological Flexibility** | 0.167 | 0.062 | 0.254 – 0.280 | 0.007 | 0.047 | 0.288 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals, | | | | | | |

For the third burnout regression model—personal accomplishment—all the predictor variables were entered into the model at once using the enter method. This model was significant (*F* (7,90) = 4.532, *p* <.001 to *F* (7,90) = 4.672, *p* <.001) and accounted for between 26.7% - 26.1% of the total variance (20.9% - 20.3%). Maladaptive coping (β = -0.357 - -0.356, *p* < 0.007) was a significant predictor of lower levels of personal accomplishment, whilst adaptive coping (β = 0.352-0.371, *p* < 0.003) was a significant predictor of higher levels of personal accomplishment. These results suggest that FHCPs who endorsed using more maladaptive coping styles reported lower personal accomplishment, whilst FHCPs who endorsed using more adaptive coping reported greater personal accomplishment. Surprisingly, anxious attachment (β = 0.283-0.294, *p* < 0.004) was a significant predictor of higher personal accomplishment. This indicated that a more anxious attachment style predicted greater personal accomplishment (see Table 10). No further significant predictors were found.

**Table 10**

*Multiple Regression Analysis of All Variables: Psychological Flexibility, Coping, and Attachment Style as Predictors of Personal Accomplishment (PA)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | ***SE*** | **β Range** | ***p*** | **95% Cis** | |
|  |  |  |  |  | Lower | Upper |
| **Constant PA** | 31.630 | 5.301 |  | <0.001 | 21.241 | 42.019 |
| **Psychological Flexibility** | 0.021 | 0.125 | 0.007 – 0.026 | 0.869 | -0.224 | 0.266 |
| **Adaptive Coping** | 0.382 | 0.128 | 0.352 – 0.371 | 0.003 | 0.131 | 0.633 |
| **Maladaptive Coping** | -0.569 | 0.209 | -0.357 – -0.336 | 0.007 | -0.979 | -0.158 |
| **Avoidant Attachment** | -1.311 | 0.904 | -0.160 – -0.135 | 0.147 | -3.083 | 0.461 |
| **Anxious Attachment** | 1.601 | 0.562 | 0.283 – 0.294 | 0.004 | 0.499 | 2.702 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals | | | | | | |

The regression was rerun with only the significant predictors to improve the precision of the model. The personal accomplishment model remained significant when the regression was rerun with only the significant predictors (*F* (3,94) = 7.272, *p* <.001 to *F* (3,94) = 7.611, *p* <.001), and accounted for 18.8 - 19.5% of the total variance (16.2% - 17% when adjusted). Maladaptive (β = 0.379 - 0.409, *p* < 0.001) and adaptive coping (β = -0.393 - -0.366, *p* < 0.000), and anxious attachment (β = 0.207 - 0.233, *p* < .019) remained significant predictors of personal accomplishment (see Table 11).

**Table 11**

*Multiple Regression Analysis, Psychological Flexibility, Coping, and Attachment Style as Predictors of Personal Accomplishment (PA)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***B*** | ***SE*** | **β Range** | ***p*** | **95% Cis** | |
|  |  |  |  |  | Lower | Upper |
| **Constant PA** | 26.020 | 3.542 |  | <0.001 | 19.077 | 32.964 |
| **Psychological Flexibility** | 0.426 | 0.122 | 0.379 – 0.409 | <0.001 | 0.187 | 0.664 |
| **Adaptive Coping** | -0.627 | 0.190 | -0.393 – -0.366 | 0.001 | -0.999 | -0.254 |
| **Maladaptive Coping** | 1.282 | 0.547 | 0.207 – 0.233 | 0.019 | 0.211 | 2.354 |
| *Note*. B= Unstandardised regression coefficients, SE= Standard error, β= standardised regression coefficients, p = alpha (significance), CI’s = Confidence Intervals | | | | | | |

# Discussion

This study examined whether individual characteristics (i.e., psychological flexibility, coping style, attachment style, length of service and sex) predicted secondary traumatic stress and burnout levels in a sample of FHCPs. The sample reported moderate levels of burnout and high levels of secondary traumatic stress. When compared to previous research, similar levels of burnout were identified amongst FHCPs working in inpatient hospitals (Elliot & Daley, 2013; Kriakous et al, 2019). However, the level of secondary traumatic stress in this study was greater than that reported by Cramer (2019).

## Psychological Flexibility as a Predictor for Secondary Traumatic Stress and Burnout

Hypothesis one was partially supported. As hypothesised, lower levels of psychological flexibility predicted higher levels of secondary traumatic stress. However, psychological flexibility predicted two of the three burnout subscales. Specifically, lower levels of psychological flexibility predicted lower levels of emotional exhaustion and depersonalisation but not personal accomplishment. Unlike emotional exhaustion and personal accomplishment, the initial depersonalisation regression model (with all five variables) was not significant, however, the p-value for psychological flexibility was significant, indicating that it may be a predictor for depersonalisation. As the overall regression ANOVA does not indicate contributions from individual variables (Field, 2017), a second model testing only psychological flexibility as a predictor of depersonalisation was run for precision. This model was significant, therefore, it is possible that the interaction between the predictor variables in the initial regression model reduced the degree of prediction in that model overall (Field, 2017). The findings in this study are supported by evidence in inpatient FHCP and occupational groups who are also exposed to high levels of trauma and violence in their work, such as Police personnel (Cooper, 2016; Gray & Rydon-Grange, 2019). The current research provides support for the theoretical perspective that psychological flexibility may be a psychosocial resource, protecting and supporting FHCPs to manage the difficult emotions elicited in work (Chabinska, 2016; Cooper, 2016; Phillips, 1983). Interventions, such as Acceptance and Commitment Therapy (ACT), have been shown to enhance psychological flexibility and reduce stress and burnout in healthcare staff, including those exposed to similar levels of violence (Frögéli et al, 2015; Kent et al, 2019; Zarvijani et al, 2021). As such, it is possible that interventions which support the development of psychological flexibility in FHCPs could potentially reduce their vulnerability to secondary traumatic stress and burnout.

## Coping as a Predictor for Secondary Traumatic Stress and Burnout

Hypothesis two was also partially supported. As hypothesised, higher levels of maladaptive coping predicted higher levels of secondary traumatic stress. However, higher levels of maladaptive coping only predicted lower scores for personal accomplishment but not emotional exhaustion or depersonalisation (subscales for burnout). Maladaptive coping was found to be predictive of emotional exhaustion in the first regression model; however, there was not a significant relationship in the final model that only included significant predictors. This is likely due to changes in how the predictor variables interacted (Field, 2017). Nevertheless, higher levels of adaptive coping predicted greater personal accomplishment, which further supports hypothesis two. These results indicated that FHCPs that use higher levels of maladaptive coping strategies, such as substance use or avoidance, may experience higher levels of secondary traumatic stress and a lower sense of personal accomplishment in work. Cramer’s (2019) findings regarding psychological stress and PTSD in FHCP are comparable. Cramer (2019) reported maladaptive coping strategies were associated with increased psychological stress, whilst adaptive coping strategies were associated with decreased psychological stress and PTSD symptoms. Similarly, Kriakous et al (2019) found that maladaptive coping styles significantly predicted higher levels of occupational stress, in addition to lower personal accomplishment.

In this study, adaptive coping strategies, such as social support or self-care, were also found to predict a greater sense of personal accomplishment in work. Cramer’s (2019) similar findings are commensurate with this result; FHCP’s endorsing more adaptive coping strategies, such as seeking social support or expressing emotions, reported less burnout. Overall, these results suggest that adaptive coping may buffer against the development of burnout in FHCPs. Arguably these findings could support the use of resilience enhancement programmes for staff, as these incorporate adaptive coping strategies as part of the intervention and have been suggested by experts as effective for managing secondary traumatic stress (Sprang, 2019).

## Attachment Style as a Predictor for Secondary Traumatic Stress and Burnout

Hypothesis three was not supported. Avoidant or anxious attachment style was not a significant predictor of secondary traumatic stress nor higher levels of burnout. Avoidant attachment style was found to correlate with lower personal accomplishment; however, this was not found to be a significant predictor. Nonetheless, higher anxious attachment was surprisingly a significant predictor for increased personal accomplishment on the burnout subscale. This result indicated that FHCPs that report a greater anxious attachment style also reported higher levels of personal accomplishment. This finding is contrary to previous research, which has reported that insecure attachment styles (anxious and avoidant) were associated with higher levels of secondary traumatic stress and burnout (Collins 2014; Gray & Rydon-Grange, 2019). One possible explanation for the current study is that those FHCPs reporting an anxiously attached style may have had their needs met by the organisation and/or by their colleagues (Adshead, 2002). Adshead (2013) recommended ways in which forensic services can become psychologically safe, including a need for boundaries and time for reflection in supervision. It may be that these practices are in place and support psychological safety for insecurely attached FHCPs, however, this inference is tentative as the sample means indicated high secondary traumatic stress and moderate burnout. Furthermore, the measure used to assess attachment style (i.e., ECR-R) in this study was developed to be applied to romantic relationships. As such, the generalisability of the ECR-R to measure attachment style in occupational settings is unclear and may account for the surprising results observed. Whilst the theoretical underpinning suggests that attachment style is stable across different relationships (Bowlby, 1958), this result should be interpreted with caution.

## Length of Service and FHCP’s Sex as Predictors for Secondary Traumatic Stress and Burnout

Hypotheses four and five were not supported as length of service and FHCP’s sex did not significantly predict secondary traumatic stress nor burnout. The current findings are inconsistent with the existing literature from police and FHCP studies, which suggests length of service is associated with secondary traumatic stress and burnout (Cooper, 2016; Turgoose et al, 2017; Gray & Rydon-Grange, 2019). There are several differences between the current study and this body of work that could explain the opposing outcome. Firstly, the average length of service in current roles was much greater in the current study compared to the samples from the police studies (M= 1.7 years, Turgoose et al, 2017; M=2.28 years, Gray & Rydon-Grange, 2019) and much lower than Cooper (2016) who reported a mode of 16 years or longer. Second, the security level experienced in the forensic setting differed in the current study. Cooper’s (2016) study found length of service to be a significant predictor, however, it took place in a high security hospital compared to medium security in the current study. Research regarding the impact of sex on burnout and secondary traumatic stress are mixed in direction (McCormack et al, 2018). In contrast to this study’s findings, the literature in forensic mental health nurses has indicated a relationship. Whilst this study did find being a woman correlated with greater emotional exhaustion, this was not a significant predictor of secondary trauma and burnout. It is possible that the inclusion of multiple professional groups (e.g. nurses, psychologists, psychiatrists etc) in the current study was a confounding factor. Further research is needed to support these explanations.

## Strengths and Limitations

There are several limitations to the study, which require further consideration. Firstly, the study had missing data which required imputation. Although a helpful solution, imputation has limitations regarding validity as it can only create a best estimate for the missing values. The missing data were likely a result of the data collection method using paper packs completed by staff whilst they were on shift. FHCP’s are busy and work in noisy environments, which may have increased their chance of accidentally missing out questions. Secondly, self-report measures are open to issues of bias and generalisability. In particular, the ECR-R has been developed to assess romantic relationships and may not be generalisable to work-based relationships. This was also the questionnaire with the most missing data. It may be that participants did not understand its relevance to their experiences at work and therefore they missed these questions. As such, the findings in relation to attachment style as a predictor of higher personal accomplishment should be interpreted with caution. Due to the ECR-R’s potential limitations, developing a valid and reliable scale for attachment style in work relationships would support future research in this area. Lastly, although a strength of the study was the inclusion of multi-disciplinary professionals, which has offered an insight into the wellbeing of the wider clinical workforce, the sample consisted mostly of nursing professionals (69%) reducing the finding’s generalisability to multi-disciplinary teams.

Despite these limitations, the sample size was comparable to other studies in this population (Elliot & Daley, 2012). The study offers a valuable contribution to support the growing evidence demonstrating that secondary traumatic stress and burnout affects a proportion of FHCPs. In addition, it adds to the efforts to gain insights into staff wellbeing. Poor staff wellbeing has significant implications for individuals, organisations and service users who are in their care, therefore, it is hoped that the study has offered a base from which more research can develop strategies and interventions to improve FHCP’s wellbeing.

## Clinical Implications and Recommendations

The presence of elevated burnout and secondary traumatic stress contributes to the belief that inpatient forensic environments are challenging places to work. The results emphasise the need for policies and practices in these settings to reflect the risk of secondary traumatic stress and burnout, and the implications for FHCP’s wellbeing.

In addition, the results of the study suggest coping style and psychological flexibility plays an important role in FHCP’s experience of secondary traumatic stress and burnout. Consequently, it is recommended that practices or interventions delivered enhance adaptive coping. Adaptive coping strategies include mindfulness, social support, emotional awareness and regulation (Sprang, 2019). Therefore, services should create available space for mindful practice, formal and informal peer support groups and clinical supervision which promotes open discussion, self-awareness and self-care (McCormack et al 2018; Sprang, 2019). Psychoeducation with an emphasis on resilience, such as resilience enhancement programmes for staff (Sprang, 2019), may be a promising prevention avenue. Resilience interventions may be more appropriate for FHCPs as they offer practical skills for coping and reduce stigma with their focus on strengths. ACT based interventions, which includes therapeutic groups for staff, develop psychological flexibility. ACT aims to alleviate stress by altering the function of internal experiences, rather than focusing on their content (Cooper, 2016). This allows for professionals to hold apposing views about their job, for example feeling both safe and at risk in the workplace, whilst behaving in ways consistent to their values and preventing overwhelm by their internal experiences (Cooper, 2016). Although effectiveness of ACT for FHCP has not yet been explored, as professionals in this setting face high psychological demands it is likely a suitable intervention but requires further investigation.

## Future Research

A replication of this study would be beneficial to address the issues relating to the missing data. Based on the study findings, future research exploring interventions aimed at developing adaptive coping skills and increasing psychological flexibility may be beneficial. For example, a randomised control trial could investigate the effectiveness of ACT and a resilience enhancement programme for FHCPs level of secondary trauma and burnout. In addition, the focus of this research on individual characteristics neglects the impact of the environment and system. There is a growing body of research exploring system wide factors impacting clinicians’ experience of burnout (Berry et al, 2019; Decaire et al, 2006; Johnson et al, 2016; Kriakous et al, 2019), however, there is a significant lack of literature investigating secondary traumatic stress in FHCPs. Therefore, in addition to more research exploring secondary traumatic stress and individual characteristics, organisational factors should also be considered.

## Conclusion

This research offers an important contribution to a developing evidence base, indicating the prevalence and predictors of secondary traumatic stress and burnout in FHCPs. The results indicate that lower levels of psychological flexibility predict increased levels of burnout. These findings support a limited evidence base, therefore, this is an important avenue for future research. The findings also support existing literature suggesting that maladaptive coping predicts higher levels of secondary traumatic stress and burnout, whilst adaptive coping may protect from burnout in FHCPs. Future research would benefit from developing a valid and reliable measure which assesses attachment style in the workplace. Further research is needed to fully explore the impact of psychological interventions for addressing secondary traumatic stress and burnout in FHCPs.

# References

Adshead, G. (2002). Three degrees of security: Attachment and forensic institutions. *Criminal Behaviour and Mental Health*, *12*(S2), S31-S45. https://[doi.org/10.1002/cbm.2200120605](https://doi.org/10.1002/cbm.2200120605)

Adshead, G., Aiyegbusi, A. (2013). Four Pillars of Security: Attachment Theory and Practice in Forensic Mental Health Care. In N. Danquah & K. Berry (Ed.), *Attachment Theory in Adult Mental Health: A guide to clinical practice*. (pp.199-212) Routledge. <https://doi.org/10.4324/9781315883496>

Bennett, D. A. (2001). How can I deal with missing data in my study?. *Australian and New Zealand journal of public health*, *25*(5), 464-469. https://[doi.org/10.1111/j.1467-842x.2001.tb00294.x](https://doi.org/10.1111/j.1467-842x.2001.tb00294.x)

Berry, S., & Robertson, N. (2019). Burnout within forensic psychiatric nursing: Its relationship with ward environment and effective clinical supervision?. *Journal of psychiatric and mental health nursing*, *26*(7-8), 212-222. https://[doi.org/10.1111/jpm.12538](https://doi.org/10.1111/jpm.12538)

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., ... & Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior therapy*, *42*(4), 676-688. https://[doi.org/10.1016/j.beth.2011.03.007](https://doi.org/10.1016/j.beth.2011.03.007)

Bott, L. (2019). *Mental health and intellectual disability professionals use of emotion regulation and coping strategies, and their relationship to burnout: a systematic review; and, The indirect effect of attitudes towards aggression on forensic mental health professionals’ wellbeing, and the role of psychological flexibility.* [Unpublished doctoral dissertation]. University of Edinburgh <https://era.ed.ac.uk/bitstream/handle/1842/36635/Bott2019.pdf?sequence=1&isAllowed=y>

Bowlby, J. (1958). The nature of the child's tie to his mother 1. Influential Papers from the 1950s, 222-273. https://[doi.org/10.4324/9780429475931-15](https://doi.org/10.4324/9780429475931-15)

Branson, D. C. (2019). Vicarious trauma, themes in research, and terminology: A review of literature. *Traumatology*, *25*(1), 2. https://[doi.org/10.1037/trm0000161](https://doi.org/10.1037/trm0000161)

Bride, B. E. (2007). Prevalence of secondary traumatic stress among social workers. *Social Work* 52(1), 63–70. https://[doi.org/10.1093/sw/52.1.63](https://doi.org/10.1093/sw/52.1.63)

Bride, B. E. (2013). The Secondary Traumatic Stress Scale, DSM 5 Revision. Unpublished Manuscript. <http://www.srcac.org/wpcontent/uploads/2020/07/18_STSS_DSM_5.pdf>

Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice* 14(1), 27–35. [doi.org/10.1177/1049731503254106](https://doi.org/10.1177/1049731503254106)

Carver, C. S. (1997). You want to measure coping but your protocol ’too long: Consider the brief cope. *International journal of behavioral medicine*, *4*(1), 92-100. https://[doi.org/10.1207/s15327558ijbm0401\_6](https://doi.org/10.1207/s15327558ijbm0401_6)

Casagrande, M., Boncompagni, I., Mingarelli, A., Favieri, F., Forte, G., Germanò, R., ... & Guarino, A. (2019). Coping styles in individuals with hypertension of varying severity. *Stress and Health*, *35*(4), 560-568. <https://doi.org/10.1002/smi.2889>

Chabinska, J. (2017). *Burnout, depression and job satisfaction in acute psychiatric and secure mental health settings*. [Unpublished doctoral dissertation]. University of Edinburgh. <https://era.ed.ac.uk/bitstream/handle/1842/23570/Chabinska2017.pdf?sequence=2&isAllowed=y>

Collins, S. (2015). *Exploring psychologists’ attachment style, compassion fatigue and satisfaction, and use of self-care within forensic settings.* [Unpublished doctoral dissertation]. University of Hertfordshire. <https://uhra.herts.ac.uk/bitstream/handle/2299/15343/12019564%20-%20Collins%20Sophia%20-%20final%20DClinPsy%20submission.pdf?sequence=1&isAllowed=y>

Cramer, R. J., Ireland, J. L., Hartley, V., Long, M. M., Ireland, C. A., & Wilkins, T. (2020). Coping, mental health, and subjective well-being among mental health staff working in secure forensic psychiatric settings: Results from a workplace health assessment. *Psychological services*, *17*(2), 160. https://[doi.org/10.1037/ser0000354](https://doi.org/10.1037/ser0000354)

Decaire, M. W., Bédard, M., Riendeau, J., & Forrest, R. (2006). Incidents in a psychiatric forensic setting: association with client and staff characteristics. *Canadian Journal of Nursing Research Archive*, 68-80. <https://cjnr.archive.mcgill.ca/article/view/2008>

Elliott, K. A., & Daley, D. (2013). Stress, coping, and psychological well‐being among forensic health care professionals. *Legal and Criminological Psychology*, *18*(2), 187-204. https://[doi.org/10.1111/j.2044-8333.2012.02045.x](https://doi.org/10.1111/j.2044-8333.2012.02045.x)

Elwood, L. S., Mott, J., Lohr, J. M., & Galovski, T. E. (2011). Secondary trauma symptoms in clinicians: A critical review of the construct, specificity, and implications for trauma-focused treatment. *Clinical psychology review*, *31*(1), 25-36. https://[doi.org/10.1016/j.cpr.2010.09.004](https://doi.org/10.1016/j.cpr.2010.09.004)

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G\*Power 3.1: Tests forcorrelation and regression analyses. *Behavior Research Methods,* 41, 1149–1160 https://[doi.org/10.3758/brm.41.4.1149](https://doi.org/10.3758/brm.41.4.1149)

Field, A. (2017). *Discovering statistics using IBM SPSS statistics*. sage. <https://doi.org/10.1024/1012-5302/a000397>

Figley, C. R. (1995). Systemic traumatization: Secondary traumatic stress disorder in family therapists. Integrating Family Therapy: Handbook of Family Psychology and Systems Theory., 571-581. https://[doi.org/10.1037/10172-033](https://doi.org/10.1037/10172-033)

Figley, C. R. (Ed.). (2002). *Treating compassion fatigue*. Routledge. https://[doi.org/10.1080/00029157.2004.10403632](https://doi.org/10.1080/00029157.2004.10403632)

Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of personality and social psychology*, *50*(3), 571. https://[doi.org/10.1037/0022-3514.50.3.571](https://doi.org/10.1037/0022-3514.50.3.571)

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). Experiences in Close Relationships Questionnaire—Revised. *Journal of Personality and Social Psychology*. https://[doi.org/10.1037/t03763-000](https://doi.org/10.1037/t03763-000)

Frögéli, E., Djordjevic, A., Rudman, A., Livheim, F., & Gustavsson, P. (2016). A randomized controlled pilot trial of acceptance and commitment training (ACT) for preventing stress-related ill health among future nurses. *Anxiety, Stress, & Coping*, *29*(2), 202-218. <https://doi.org/10.1080/10615806.2015.1025765>

Garner, E. V., & Golijani-Moghaddam, N. (2021). Relationship between psychological flexibility and work-related quality of life for healthcare professionals: A systematic review and meta-analysis. *Journal of Contextual Behavioral Science*, *21*, 98-112. https://[doi.org/10.1016/j.jcbs.2021.06.007](https://doi.org/10.1016/j.jcbs.2021.06.007)

Gray, C., & Rydon-Grange, M. (2019). Individual characteristics, secondary trauma and burnout in police sexual and violent offending teams. *The Police Journal*, *93*(2), 146-161. https://[doi.org/10.1177/0032258x19847499](https://doi.org/10.1177/0032258x19847499)

Hastings, R. P., & Brown, T. (2002). Coping strategies and the impact of challenging behaviors on special educators’ burnout. Mental Retardation, 40(2), 148–156. https://doi:10.1352/0047-6765(2002)0402.0.CO;2

Jenkins, S. R., & Baird, S. (2002). Secondary traumatic stress and vicarious trauma: A validational study. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *15*(5), 423-432. https://[doi.org/10.1023/a:1020193526843](https://doi.org/10.1023/a:1020193526843)

Johnson, H., Worthington, R., Gredecki, N., & Wilks-Riley, F. R. (2016). The relationship between trust in work colleagues, impact of boundary violations and burnout among staff within a forensic psychiatric service. *Journal of forensic practice*. https://[doi.org/10.1108/jfp-03-2015-0024](https://doi.org/10.1108/jfp-03-2015-0024)

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical psychology review*, *30*(7), 865-878. https://[doi.org/10.1016/j.cpr.2010.03.001](https://doi.org/10.1016/j.cpr.2010.03.001)

Kent, W., Hochard, K. D., & Hulbert-Williams, N. J. (2019). Perceived stress and professional quality of life in nursing staff: How important is psychological flexibility?. *Journal of Contextual Behavioral Science*, *14*, 11-19. https://[doi.org/10.1016/j.jcbs.2019.08.004](https://doi.org/10.1016/j.jcbs.2019.08.004)

Kleinke, K. (2017). Multiple imputation under violated distributional assumptions: A systematic evaluation of the assumed robustness of predictive mean matching. *Journal of Educational and Behavioral Statistics*, *42*(4), 371-404. https://[doi.org/10.3102/1076998616687084](https://doi.org/10.3102/1076998616687084)

Kriakous, S. A., Elliott, K. A., & Owen, R. (2019). Coping, mindfulness, stress, and burnout among forensic health care professionals. *Journal of Forensic Psychology Research and Practice*, *19*(2), 128-146. https://[doi.org/10.1080/24732850.2018.1556545](https://doi.org/10.1080/24732850.2018.1556545)

Lee, J. H., & Huber Jr, J. C. (2021). Evaluation of multiple imputation with large proportions of missing data: How much is too much?. *Iranian Journal of Public Health*, *50*(7), 1372. https://[doi.org/10.18502/ijph.v50i7.6626](https://doi.org/10.18502/ijph.v50i7.6626)

Little, R. J. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198-1202. https://<https://doi.org/10.2307/2290157>

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). Maslach burnout inventory manual (3rd ed.). Palo Alto: Consulting Psychologists Press, Inc, CA

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual review of psychology*, *52*(1), 397-422. https://[doi.org/10.1146/annurev.psych.52.1.397](https://doi.org/10.1146/annurev.psych.52.1.397)

McCormack, H. M., MacIntyre, T. E., O'Shea, D., Herring, M. P., & Campbell, M. J. (2018). The prevalence and cause (s) of burnout among applied psychologists: A systematic review. *Frontiers in psychology*, *9*, 1897. https://[doi.org/10.3389/fpsyg.2018.01897](https://doi.org/10.3389/fpsyg.2018.01897)

Morris, T. P., White, I. R., & Royston, P. (2014). Tuning multiple imputation by predictive mean matching and local residual draws. *BMC medical research methodology*, *14*, 1-13. https://[doi.org/10.1186/1471-2288-14-75](https://doi.org/10.1186/1471-2288-14-75)

Moulden, H. M., & Firestone, P. (2007). Vicarious traumatization: The impact on therapists who work with sexual offenders. *Trauma, Violence, & Abuse*, *8*(1), 67-83. https://[doi.org/10.1177/1524838006297729](https://doi.org/10.1177/1524838006297729)

Phillips, M. S. (1983) Forensic psychiatry: Nurses' attitudes revealed. *Dimensions in Health Service,* 60(9), 41-3. <https://pubmed.ncbi.nlm.nih.gov/6628868/>

Pirelli, G., Formon, D. L., & Maloney, K. (2020). Preventing vicarious trauma (VT), compassion fatigue (CF), and burnout (BO) in forensic mental health: Forensic psychology as exemplar. *Professional Psychology: Research and Practice*, *51*(5), 454. https://[doi.org/10.1037/pro0000293](https://doi.org/10.1037/pro0000293)

Santarnecchi, E., Sprugnoli, G., Tatti, E., Mencarelli, L., Neri, F., Momi, D., ... & Rossi, A. (2018). Brain functional connectivity correlates of coping styles. *Cognitive, Affective, & Behavioral Neuroscience*, *18*, 495-508. <https://doi.org/10.3758/s13415-018-0583-7>

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *30*(7), 893-917. https://[doi.org/10.1002/job.595](https://doi.org/10.1002/job.595)

Schmidt, A. F., & Finan, C. (2018). Linear regression and the normality assumption. *Journal of clinical epidemiology*, *98*, 146-151. https://[doi.org/10.1016/j.jclinepi.2017.12.006](https://doi.org/10.1016/j.jclinepi.2017.12.006)

Sibley, C. G., Fischer, R., & Liu, J. H. (2005). Reliability and validity of the revised experiences in close relationships (ECR-R) self-report measure of adult romantic attachment. *Personality and social psychology bulletin*, *31*(11), 1524-1536. https://[doi.org/10.1177/0146167205276865](https://doi.org/10.1177/0146167205276865)

Silva, R. G., & Figueiredo-Braga, M. (2019). The roles of empathy, attachment style, and burnout in pharmacy students’ academic satisfaction. *American journal of pharmaceutical education*, *83*(5). https://[doi.org/10.5688/ajpe6706](https://doi.org/10.5688/ajpe6706)

Sprang, G., Ford, J., Kerig, P., & Bride, B. (2019). Defining secondary traumatic stress and developing targeted assessments and interventions: Lessons learned from research and leading experts. *Traumatology*, *25*(2), 72. https://doi.org/10.1037/trm0000180

Turgoose, D., Glover, N., Barker, C., & Maddox, L. (2017). Empathy, compassion fatigue, and burnout in police officers working with rape victims. *Traumatology*, *23*(2), 205. https://[doi.org/10.1037/trm0000118](https://doi.org/10.1037/trm0000118)

Zarvijani, S. A. H., Moghaddam, L. F., & Parchebafieh, S. (2021). Acceptance and commitment therapy on perceived stress and psychological flexibility of psychiatric nurses: a randomized control trial. *BMC nursing*, *20*, 1-9. https://[doi.org/10.1186/s12912-021-00763-4](https://doi.org/10.1186/s12912-021-00763-4)

# Appendix A- Ethical Approval from Staffordshire University

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# Appendix B - Ethical Approval from NHS Ethics

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**A screenshot of a computer screen

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# Appendix C- Research Advertisement

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# Appendix D- Research Advertisement Email

Dear Clinical Staff

My name is Katrina Chapman, and I am a trainee clinical psychologist.**I am conducting a research study at the Tamarind center and Reaside Clinic,** investigating the role of coping, relating to others and the ability to be aware, open and adapt in relation to secondary trauma stress (the emotional impact resulting from exposure to people who have been traumatised) and burnout (exhaustion through overwork) in forensic care staff.

**Can I participate?**

You are invited to participate in this study if you have been working in your role for the **last six months** and you are a **clinical staff member** (this is defined as a staff who has regular clinical contact with clients and who are directly involved in client care e.g. nurse, health care assistant, psychologist, medic, occupational therapist or other allied health care professional).

**What would I need to do?**

To take part in this study you will be asked to provide demographic information about yourself (e.g. age, sex, and job role) and complete five questionnaires. These questionnaires focus on your experience of exhaustion at work, symptoms of secondary trauma stress, how you are in relationships, how you cope and adapt. You will be asked to rate each question on how much you agree with the statements. It will take approximately 25 minutes to complete the questionnaires.

**How can I participate?**

**Go to**[**https://staffordshire.qualtrics.com/jfe/form/SV\_0CUOg9DuqOdSF8O**](https://staffordshire.qualtrics.com/jfe/form/SV_0CUOg9DuqOdSF8O). This will take you to the study information sheet and consent form followed by the questionnaires. Your answers will be automatically submitted once you have completed the questionnaire. You can take a break at any point and return to your answers within one week. Please use the same browser.

**What happens next?**

The data is anonymised and analysed. The study will form a part of a Doctoral thesis project and may be published in a peer-reviewed journal. The researcher will also present the findings to secure care management of BSMHFT.

**Contact information and places for support**

Should you need any support to complete the questionnaire you can contact the researcher; [Katrina.Chapman@mpft.nhs.uk](mailto:Katrina.Chapman@mpft.nhs.uk)

Should you need any emotional support you can contact;

       Dr Nicola Murphy (Tamarind), clinical psychologist and collaborator for the research Working day Monday-Wednesday. Email address; [drnicola.murphy@nhs.net](mailto:drnicola.murphy@nhs.net)

       Dr Louise Pearson (Reaside), clinical psychologist and collaborator for the research. Working days Tuesday – Friday. Email address; [louise.pearson12@nhs.net](mailto:louise.pearson12@nhs.net)

You can also contact PAM Assist by going on the website at [pamassist.co.uk](http://pamassist.co.uk/), Or 0800 882 4102 or by downloading the App via Google Play or the App Store.

Alternatively, you can inform your ward manager or senior management who are aware of the study and will be able to support you.

Other places of support include;

       Mind, a charity which can provide advice and support to empower anyone experiencing a mental health problem- call 0300 123 3393 or visit the website [www.mind.org.uk](http://www.mind.org.uk/)

       Samaritans, a charity which provides a space for someone to talk to without judgement or telling you what to do- call 116 123 or visits the website [www.samaritans](http://www.samaritans/) .org

If you are concerned about your own mental health contact your GP or NHS 111.

Thank you for considering to participate.

Katrina Chapman (trainee clinical psychologist)

# Appendix E- Participant Information Sheet

**INFORMATION SHEET FOR PARTICIPANTS**

*Project Reference Number (IRAS ID):* **316370**

Participant number X

**Title of study**

Individual characteristics including coping, attachment style and psychological flexibility, secondary trauma and burnout in forensic inpatient staff.

**Invitation Paragraph**

My name is Katrina Chapman, and I am training to become a clinical psychologist. I would like to invite you to participate in this research project, which forms part of my Doctorate in Clinical Psychology. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please contact me by email address to [Katrina.chapman@mpft.nhs.uk](mailto:Katrina.chapman@mpft.nhs.uk) if there is anything that is not clear or if you would like more information.

**What is the purpose of the study?**

The main objective of this study is to investigate the role of coping, relating to others and the ability to be aware, open and adapt in relation to secondary trauma stress (the emotional impact resulting from exposure to people who have been traumatised) and burnout (exhaustion through overwork) in forensic care staff. In the forensic speciality this is an under-researched area, however it remains important as symptoms of secondary trauma and burnout can significantly impact on a person’s wellbeing. Therefore, this study aims to increase our understanding of the process behind the development of burnout and secondary trauma in forensic staff. I hope this can contribute to improving support for staff.

**Why have I been invited to take part?**

You have been invited to take part in this study as you are a clinical member of staff working at the Tamarind Centre and/or Reaside clinic for longer than 6 months.

**What will happen if I take part?**

To take part in this study you will be asked to provide demographic information about yourself (e.g. age, sex, and job role) and complete five questionnaires. These questionnaires focus on your experience of exhaustion at work, the impact of working with clients who have experienced trauma, how you are in relationships and how you cope. You will be asked to rate each question on how much you agree with the statements. It will take approximately 25 minutes to complete the questionnaires.

You can complete these questionnaires online by following the link in the email. You will first be asked to complete the consent form, followed by the questionnaires. Your answers will be automatically submitted once you have completed the questionnaires. You can take a break at any point and return within a week.

You can also complete paper copies of the questionnaires. If you would like to choose this option, the research packs will be available from myself during onsite visits. Please contact the me for these dates.

**Do I have to take part?**

No, you do not need to take part, participation is entirely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in any way. Once you have read the information sheet, please contact me if you have any questions that will help you make a decision about taking part or alternatively you can discuss this with Dr Nicola Murphy (Tamarind) or Dr Louise Pearson (Reaside), clinical collaborators for this study.

**What are the possible risks of taking part?**

A part of the study will ask you to rate your experiences of burnout, secondary trauma and the ways in which you cope. Although the questions do not ask you to share particular difficult experiences or require any specific detail, you may find the questions bring some difficult experiences to mind. You may potentially feel discomfort or distress as a result.

If this is the case please contact the following for support;

* Dr Nicola Murphy (Tamarind), psychologist and clinical collaborator for the research **Working day Monday-Wednesday**. Email address; [drnicola.murphy@nhs.net](mailto:drnicola.murphy@nhs.net)
* Dr Louise Pearson (Reaside), psychologist and clinical collaborator for the research. Working days Tuesday – Friday. Email address; [louise.pearson12@nhs.net](mailto:louise.pearson12@nhs.net)
* You can also contact PAM Assist by going on the website at pamassist.co.uk, Or 0800 882 4102 or by downloading the App via Google Play or the App Store
* Alternatively, you can inform your ward manager or senior management who are aware of the study and will be able to support you.
* Mind, a charity which can provide advice and support to empower anyone experiencing a mental health problem- call 0300 123 3393 or visit the website [www.mind.org.uk](http://www.mind.org.uk)
* Samaritans, a charity which provides a space for someone to talk to without judgement or telling you what to do- call 116 123 or visits the website www.samaritans .org
* If you are concerned about your own mental health contact your GP.

**What are the possible benefits of taking part?**

By taking part in the study it is unlikely that you will experience any immediate benefits, however, you will be helping us to better understand the prevalence and factors which may make it more likely for forensic staff to experience burnout and secondary trauma. The anonymised findings will be fed back to the service, with the intension to develop initiatives to improve staff wellbeing at work.

**Data handling and confidentiality**

Your data will be processed in accordance with the data protection law and will comply with the General Data Protection Regulation 2016 (GDPR) in addition to university ethics.

**How will your information be used?**

We (Staffordshire University) will need to use information from you for this research project. People who do not need to know who you are will not be able to see your name and we do not require contact details. Your data will have a code number instead.

We will keep all information about you safe and secure.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

**What are your choices about how your information is used?**

* You can stop being part of the study at any time before the data analysis, without giving a reason, but we will keep information about you that we already have.
* We need to manage your records in specific ways for the research to be reliable. This means that we won’t be able to let you see or change the data we hold about you.

**Where can you find out more about how your information is used?**

You can find out more about how we use your information;

* at [www.hra.nhs.uk/information-about-clients/](https://www.hra.nhs.uk/information-about-patients/)
* A leaflet is available from [www.hra.nhs.uk/clientdataandresearch](http://www.hra.nhs.uk/patientdataandresearch)
* by asking one of the research team
* by sending an email to dataprotection@staffs.ac.uk

**Anonymity-** For paper copies, your data will be assigned a number and any identifiable information will be stored separately including your consent forms. Only the researchers will look at your questionnaires upon completion. Once the data has been pooled together, it will not be possible to identify your responses from others who have taken part in the study, therefore, your data will remain anonymous and confidential.

Once the data has been collected it will be retained in a locked cabinet or on protected computer software, depending on how you submit the questionnaires. The research data will be securely stored for 10 years in keeping with University guidance and destroyed thereafter. Following NHS guidelines, paper consent forms will be destroyed three months after study completion.

**Data Protection Statement**

The data controller for this project will be Staffordshire University. The University will process your personal data for the purpose of the research outlined above. The legal basis for processing your personal data for research purposes under the data protection law is a ‘task in the public interest’. You can provide your consent for the use of your personal data in this study by completing the consent form that has been provided to you.

**What if I change my mind about taking part?**

You are free to withdraw at any point until the data analysis stage, without having to give a reason. You will need to contact the researcher by email at [Katrina.chapman@mpft.nhs.uk](mailto:Katrina.chapman@mpft.nhs.uk).You will need to provide your study number in order for your data to be identified and removed from the study. This can be found at the top of the participant information sheet, **please keep a document of this number as this will be required in order to find your data**. After data analysis, withdrawal of your data will no longer be possible as the data will have been processed and will be unidentifiable.

If you choose to withdraw from the study we will not retain any information that you have provided us as a part of this study.

**What will happen to the results of the study?**

The study will form a part of a Doctoral thesis project and may be published in a peer-reviewed journal. The results will be available for public viewing and stored at Stafford university library. The researcher will also present the findings to secure care management of BSMHFT. Your data will remain anonymous and no participant involved will be identifiable in any report, presentation or publication.

**Who should I contact for further information?**

If you have any questions or require more information about this study, please contact me using the following contact details or one of my supervisors should you prefer:

Research team

Katrina Chapman; [Katrina.Chapman@mpft.nhs.uk](mailto:Katrina.Chapman@mpft.nhs.uk)

Dr Michelle Rydon-Grange; [michelle.rydon-grange@staffs.ac.uk](mailto:michelle.rydon-grange@staffs.ac.uk)

Dr Helen Scott; [H.scott@staffs.ac.uk](mailto:H.scott@staffs.ac.uk)

Clinical team

Dr Nicola Murphy; [drnicola.murphy@nhs.net](mailto:drnicola.murphy@nhs.net)

Dr Louise Pearson; [louise.pearson12@nhs.net](mailto:louise.pearson12@nhs.net)

**What if I have further questions, or if something goes wrong?**

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions [Katrina.Chapman@mpft.nhs.uk](mailto:Katrina.Chapman@mpft.nhs.uk). If you remain unhappy and wish to complain formally, you can do this by contacting the study supervisor or Tim Horne, Chair of the Staffordshire University Ethics Committee for further advice and information [ethics@staffs.ac.uk](mailto:ethics@staffs.ac.uk)

**Thank you for reading this information sheet and for considering taking part in this research.**

# Appendix F- Participant Consent Form

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# Appendix G- Demographic Questionnaire

**Do you identify as**; Male Female Other

**How old are you**: years

**What is your ethnic group**?

Please select one option that best describes your ethnic group or background

White

1. English/Welsh/Scottish/Northern Irish/British
2. Irish
3. Gypsy or Irish Traveller
4. Any other White background, please describe

Mixed/ Multiple ethnic groups

1. White and Black Caribbean
2. White and Black African
3. White and Asian
4. Any other Mixed/Multiple ethnic background, please describe

Asian/ Asian British

1. Indian
2. Pakistani
3. Bangladeshi
4. Chinese
5. Any other Asian background, please describe

Black/ African/ Caribbean /Black British

1. African
2. Caribbean
3. Any other Black/ African/ Caribbean background, please describe

Other ethnic groups

1. Arab
2. Any other ethnic group, please describe

**What is your Job role (e.g Nurse, HCA, Psychologist etc)**?

**How long have you been in the service (with this client group)**?

years months

# Appendix HA picture containing text, parallel, document, number Description automatically generated- Measures

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Description automatically generatedExperiences of close relationships-revised**

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**Secondary Trauma Stress Multiple Regression Following Multiple Imputation (n = 98)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | | |
| Imputation Number | Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| Original data | 1 | .714a | .510 | .464 | 12.547 | 2.165 |
| 1 | 1 | .748c | .559 | .525 | 11.857 | 2.055 |
| 2 | 1 | .745c | .555 | .520 | 11.914 | 2.045 |
| 3 | 1 | .751d | .565 | .531 | 11.772 | 2.046 |
| 4 | 1 | .747d | .559 | .524 | 11.854 | 2.052 |
| 5 | 1 | .749c | .561 | .527 | 11.829 | 2.068 |
| a. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |
| b. Dependent Variable: Secondary Trauma Stress Total | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | |
| d. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | | |
| Imputation Number | Model | | Sum of Squares | df | Mean Square | F | Sig. |
| Original data | 1 | Regression | 12125.670 | 7 | 1732.239 | 11.004 | <.001b |
| Residual | 11648.720 | 74 | 157.415 |  |  |
| Total | 23774.390 | 81 |  |  |  |
| 1 | 1 | Regression | 16041.367 | 7 | 2291.624 | 16.301 | <.001c |
| Residual | 12652.516 | 90 | 140.584 |  |  |
| Total | 28693.883 | 97 |  |  |  |
| 2 | 1 | Regression | 15930.483 | 7 | 2275.783 | 16.034 | <.001c |
| Residual | 12774.243 | 90 | 141.936 |  |  |
| Total | 28704.726 | 97 |  |  |  |
| 3 | 1 | Regression | 16174.843 | 7 | 2310.692 | 16.675 | <.001d |
| Residual | 12471.575 | 90 | 138.573 |  |  |
| Total | 28646.419 | 97 |  |  |  |
| 4 | 1 | Regression | 15999.440 | 7 | 2285.634 | 16.267 | <.001d |
| Residual | 12645.844 | 90 | 140.509 |  |  |
| Total | 28645.284 | 97 |  |  |  |
| 5 | 1 | Regression | 16071.871 | 7 | 2295.982 | 16.409 | <.001c |
| Residual | 12592.894 | 90 | 139.921 |  |  |
| Total | 28664.765 | 97 |  |  |  |
| a. Dependent Variable: Secondary Trauma Stress Total | | | | | | | |
| b. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | | |
| d. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | | | | | | | | | | |
| Imputation Number | Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics | | Fraction Missing Info. | Relative Increase Variance | Relative Efficiency |
| B | Std. Error | Beta | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance | VIF |
| Original data | 1 | (Constant) | 7.981 | 8.669 |  | .921 | .360 | -9.292 | 25.254 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.291 | .208 | -.141 | -1.399 | .166 | -.705 | .123 | .160 | -.161 | -.114 | .652 | 1.533 |  |  |  |
| Brief Cope Avoidant Subscale | 1.602 | .328 | .530 | 4.889 | <.001 | .949 | 2.255 | .594 | .494 | .398 | .564 | 1.773 |  |  |  |
| ECR Avoidance Scale | -1.159 | 1.570 | -.066 | -.738 | .463 | -4.287 | 1.970 | .049 | -.085 | -.060 | .822 | 1.217 |  |  |  |
| ECR Anxiety Scale | -.974 | .905 | -.097 | -1.075 | .286 | -2.778 | .830 | .032 | -.124 | -.088 | .808 | 1.238 |  |  |  |
| AAQ Total | .807 | .203 | .382 | 3.977 | <.001 | .402 | 1.211 | .569 | .420 | .324 | .719 | 1.391 |  |  |  |
| Sex | 1.448 | 2.977 | .041 | .486 | .628 | -4.484 | 7.380 | .103 | .056 | .040 | .910 | 1.099 |  |  |  |
| Length of Service | .209 | .179 | .098 | 1.167 | .247 | -.148 | .565 | .029 | .134 | .095 | .945 | 1.059 |  |  |  |
| 1 | 1 | (Constant) | 6.075 | 7.561 |  | .803 | .424 | -8.947 | 21.097 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.172 | .183 | -.087 | -.938 | .351 | -.536 | .192 | .299 | -.098 | -.066 | .565 | 1.770 |  |  |  |
| Brief Cope Avoidant Subscale | 1.519 | .300 | .495 | 5.066 | <.001 | .924 | 2.115 | .629 | .471 | .355 | .514 | 1.945 |  |  |  |
| ECR Avoidance Scale | -1.535 | 1.284 | -.093 | -1.195 | .235 | -4.087 | 1.017 | -.044 | -.125 | -.084 | .815 | 1.227 |  |  |  |
| ECR Anxiety Scale | -1.085 | .805 | -.105 | -1.347 | .181 | -2.685 | .515 | .100 | -.141 | -.094 | .801 | 1.248 |  |  |  |
| AAQ Total | .936 | .179 | .443 | 5.226 | <.001 | .580 | 1.291 | .632 | .483 | .366 | .682 | 1.466 |  |  |  |
| Sex | 1.328 | 2.566 | .038 | .517 | .606 | -3.770 | 6.425 | .108 | .054 | .036 | .909 | 1.100 |  |  |  |
| Length of Service | .153 | .153 | .072 | .999 | .320 | -.151 | .456 | -.048 | .105 | .070 | .943 | 1.061 |  |  |  |
| 2 | 1 | (Constant) | 6.917 | 7.631 |  | .906 | .367 | -8.244 | 22.078 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.174 | .183 | -.089 | -.952 | .344 | -.538 | .189 | .302 | -.100 | -.067 | .569 | 1.759 |  |  |  |
| Brief Cope Avoidant Subscale | 1.509 | .300 | .491 | 5.025 | <.001 | .912 | 2.105 | .625 | .468 | .353 | .518 | 1.931 |  |  |  |
| ECR Avoidance Scale | -1.614 | 1.296 | -.097 | -1.245 | .216 | -4.188 | .961 | -.047 | -.130 | -.088 | .817 | 1.224 |  |  |  |
| ECR Anxiety Scale | -1.101 | .809 | -.107 | -1.362 | .177 | -2.708 | .506 | .101 | -.142 | -.096 | .803 | 1.245 |  |  |  |
| AAQ Total | .943 | .179 | .447 | 5.276 | <.001 | .588 | 1.298 | .631 | .486 | .371 | .690 | 1.450 |  |  |  |
| Sex | 1.115 | 2.570 | .032 | .434 | .666 | -3.991 | 6.220 | .081 | .046 | .030 | .924 | 1.082 |  |  |  |
| Length of Service | .139 | .154 | .066 | .906 | .367 | -.166 | .445 | -.049 | .095 | .064 | .938 | 1.066 |  |  |  |
| 3 | 1 | (Constant) | 7.180 | 7.547 |  | .951 | .344 | -7.813 | 22.173 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.203 | .183 | -.103 | -1.108 | .271 | -.568 | .161 | .299 | -.116 | -.077 | .556 | 1.799 |  |  |  |
| Brief Cope Avoidant Subscale | 1.524 | .299 | .498 | 5.101 | <.001 | .931 | 2.118 | .628 | .474 | .355 | .508 | 1.968 |  |  |  |
| ECR Avoidance Scale | -1.743 | 1.298 | -.103 | -1.343 | .183 | -4.321 | .835 | -.060 | -.140 | -.093 | .823 | 1.215 |  |  |  |
| ECR Anxiety Scale | -1.017 | .799 | -.099 | -1.273 | .206 | -2.604 | .570 | .100 | -.133 | -.089 | .805 | 1.242 |  |  |  |
| AAQ Total | .942 | .179 | .446 | 5.276 | <.001 | .587 | 1.297 | .639 | .486 | .367 | .677 | 1.477 |  |  |  |
| Sex | 1.369 | 2.548 | .039 | .537 | .592 | -3.693 | 6.430 | .122 | .057 | .037 | .909 | 1.100 |  |  |  |
| Length of Service | .149 | .151 | .071 | .985 | .327 | -.152 | .450 | -.045 | .103 | .068 | .944 | 1.060 |  |  |  |
| 4 | 1 | (Constant) | 6.692 | 7.576 |  | .883 | .379 | -8.358 | 21.743 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.174 | .183 | -.088 | -.948 | .346 | -.538 | .190 | .298 | -.099 | -.066 | .563 | 1.776 |  |  |  |
| Brief Cope Avoidant Subscale | 1.508 | .301 | .490 | 5.018 | <.001 | .911 | 2.106 | .627 | .468 | .351 | .515 | 1.942 |  |  |  |
| ECR Avoidance Scale | -1.578 | 1.287 | -.095 | -1.226 | .223 | -4.135 | .978 | -.051 | -.128 | -.086 | .825 | 1.212 |  |  |  |
| ECR Anxiety Scale | -1.069 | .806 | -.104 | -1.327 | .188 | -2.670 | .532 | .100 | -.139 | -.093 | .800 | 1.251 |  |  |  |
| AAQ Total | .942 | .180 | .446 | 5.246 | <.001 | .586 | 1.299 | .634 | .484 | .367 | .678 | 1.476 |  |  |  |
| Sex | 1.079 | 2.559 | .031 | .421 | .674 | -4.006 | 6.163 | .123 | .044 | .030 | .914 | 1.094 |  |  |  |
| Length of Service | .154 | .153 | .073 | 1.007 | .317 | -.149 | .457 | -.047 | .106 | .071 | .943 | 1.061 |  |  |  |
| 5 | 1 | (Constant) | 6.412 | 7.537 |  | .851 | .397 | -8.563 | 21.386 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.189 | .183 | -.096 | -1.034 | .304 | -.552 | .174 | .300 | -.108 | -.072 | .564 | 1.773 |  |  |  |
| Brief Cope Avoidant Subscale | 1.552 | .298 | .508 | 5.212 | <.001 | .960 | 2.144 | .631 | .481 | .364 | .514 | 1.947 |  |  |  |
| ECR Avoidance Scale | -1.704 | 1.285 | -.102 | -1.325 | .188 | -4.258 | .850 | -.048 | -.138 | -.093 | .821 | 1.218 |  |  |  |
| ECR Anxiety Scale | -1.122 | .805 | -.109 | -1.394 | .167 | -2.722 | .478 | .101 | -.145 | -.097 | .801 | 1.249 |  |  |  |
| AAQ Total | .919 | .178 | .436 | 5.168 | <.001 | .565 | 1.272 | .627 | .478 | .361 | .686 | 1.458 |  |  |  |
| Sex | 1.598 | 2.548 | .046 | .627 | .532 | -3.464 | 6.661 | .109 | .066 | .044 | .918 | 1.090 |  |  |  |
| Length of Service | .158 | .152 | .075 | 1.038 | .302 | -.144 | .460 | -.048 | .109 | .073 | .943 | 1.060 |  |  |  |
| Pooled | 1 | (Constant) | 6.655 | 7.585 |  | .877 | .380 | -8.212 | 21.522 |  |  |  |  |  | .004 | .004 | .999 |
| Brief Cope Approach Subscale | -.182 | .184 |  | -.993 | .321 | -.543 | .178 | .300 | -.104 | -.070 |  |  | .006 | .006 | .999 |
| Brief Cope Avoidant Subscale | 1.523 | .300 |  | 5.073 | <.001 | .934 | 2.111 | .628 | .472 | .356 |  |  | .004 | .004 | .999 |
| ECR Avoidance Scale | -1.635 | 1.294 |  | -1.264 | .206 | -4.170 | .901 | -.050 | -.132 | -.089 |  |  | .005 | .005 | .999 |
| ECR Anxiety Scale | -1.079 | .806 |  | -1.339 | .181 | -2.659 | .501 | .100 | -.140 | -.094 |  |  | .003 | .003 | .999 |
| AAQ Total | .936 | .179 |  | 5.228 | <.001 | .585 | 1.287 | .633 | .483 | .366 |  |  | .004 | .004 | .999 |
| Sex | 1.298 | 2.569 |  | .505 | .613 | -3.737 | 6.332 | .109 | .053 | .035 |  |  | .008 | .008 | .998 |
| Length of Service | .151 | .153 |  | .986 | .324 | -.149 | .450 | -.047 | .103 | .069 |  |  | .003 | .003 | .999 |
| a. Dependent Variable: Secondary Trauma Stress Total | | | | | | | | | | | | | | | | | |

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**Emotional Exhaustion Multiple Regression Following Multiple Imputation (n = 98)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | | |
| Imputation Number | Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| Original data | 1 | .543a | .295 | .222 | 11.729 | 2.013 |
| 1 | 1 | .597a | .357 | .307 | 11.163 | 1.923 |
| 2 | 1 | .593a | .351 | .301 | 11.169 | 1.919 |
| 3 | 1 | .607c | .368 | .319 | 11.091 | 1.896 |
| 4 | 1 | .599c | .359 | .309 | 11.167 | 1.880 |
| 5 | 1 | .595a | .354 | .303 | 11.148 | 1.923 |
| a. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | |
| b. Dependent Variable: MBI Emotional Exhaustion | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | | |
| Imputation Number | Model | | Sum of Squares | df | Mean Square | F | Sig. |
| Original data | 1 | Regression | 3909.999 | 7 | 558.571 | 4.060 | <.001b |
| Residual | 9354.790 | 68 | 137.570 |  |  |
| Total | 13264.789 | 75 |  |  |  |
| 1 | 1 | Regression | 6217.736 | 7 | 888.248 | 7.128 | <.001b |
| Residual | 11215.865 | 90 | 124.621 |  |  |
| Total | 17433.601 | 97 |  |  |  |
| 2 | 1 | Regression | 6081.570 | 7 | 868.796 | 6.964 | <.001b |
| Residual | 11227.274 | 90 | 124.747 |  |  |
| Total | 17308.844 | 97 |  |  |  |
| 3 | 1 | Regression | 6450.230 | 7 | 921.461 | 7.491 | <.001c |
| Residual | 11070.979 | 90 | 123.011 |  |  |
| Total | 17521.209 | 97 |  |  |  |
| 4 | 1 | Regression | 6277.560 | 7 | 896.794 | 7.191 | <.001c |
| Residual | 11223.389 | 90 | 124.704 |  |  |
| Total | 17500.949 | 97 |  |  |  |
| 5 | 1 | Regression | 6119.886 | 7 | 874.269 | 7.035 | <.001b |
| Residual | 11184.061 | 90 | 124.267 |  |  |
| Total | 17303.947 | 97 |  |  |  |
| a. Dependent Variable: MBI Emotional Exhaustion | | | | | | | |
| b. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | | |

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| **Coefficientsa** | | | | | | | | | | | | | | | | | |
| Imputation Number | Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics | | Fraction Missing Info. | Relative Increase Variance | Relative Efficiency |
| B | Std. Error | Beta | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance | VIF |
| Original data | 1 | (Constant) | 9.172 | 9.024 |  | 1.016 | .313 | -8.835 | 27.180 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.339 | .202 | -.206 | -1.676 | .098 | -.742 | .065 | -.064 | -.199 | -.171 | .683 | 1.464 |  |  |  |
| Brief Cope Avoidant Subscale | .621 | .335 | .250 | 1.851 | .068 | -.048 | 1.290 | .273 | .219 | .189 | .568 | 1.761 |  |  |  |
| ECR Avoidance Scale | -1.737 | 1.592 | -.123 | -1.092 | .279 | -4.913 | 1.438 | -.020 | -.131 | -.111 | .815 | 1.228 |  |  |  |
| ECR Anxiety Scale | -.143 | .891 | -.018 | -.161 | .873 | -1.920 | 1.634 | -.010 | -.019 | -.016 | .783 | 1.277 |  |  |  |
| AAQ Total | .619 | .203 | .375 | 3.056 | .003 | .215 | 1.024 | .447 | .347 | .311 | .687 | 1.455 |  |  |  |
| Sex | 3.808 | 2.923 | .140 | 1.303 | .197 | -2.024 | 9.639 | .176 | .156 | .133 | .898 | 1.114 |  |  |  |
| Length of Service | .258 | .169 | .160 | 1.523 | .132 | -.080 | .595 | .113 | .182 | .155 | .941 | 1.063 |  |  |  |
| 1 | 1 | (Constant) | 4.245 | 7.119 |  | .596 | .553 | -9.899 | 18.388 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.204 | .173 | -.133 | -1.184 | .239 | -.547 | .138 | .159 | -.124 | -.100 | .565 | 1.770 |  |  |  |
| Brief Cope Avoidant Subscale | .653 | .282 | .273 | 2.311 | .023 | .092 | 1.214 | .395 | .237 | .195 | .514 | 1.945 |  |  |  |
| ECR Avoidance Scale | -1.777 | 1.209 | -.138 | -1.470 | .145 | -4.180 | .625 | -.062 | -.153 | -.124 | .815 | 1.227 |  |  |  |
| ECR Anxiety Scale | -.345 | .758 | -.043 | -.455 | .650 | -1.852 | 1.161 | .073 | -.048 | -.038 | .801 | 1.248 |  |  |  |
| AAQ Total | .734 | .169 | .446 | 4.354 | <.001 | .399 | 1.069 | .534 | .417 | .368 | .682 | 1.466 |  |  |  |
| Sex | 3.651 | 2.416 | .134 | 1.511 | .134 | -1.149 | 8.450 | .185 | .157 | .128 | .909 | 1.100 |  |  |  |
| Length of Service | .179 | .144 | .109 | 1.247 | .216 | -.106 | .465 | .019 | .130 | .105 | .943 | 1.061 |  |  |  |
| 2 | 1 | (Constant) | 4.764 | 7.154 |  | .666 | .507 | -9.450 | 18.977 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.202 | .172 | -.133 | -1.179 | .242 | -.543 | .139 | .160 | -.123 | -.100 | .569 | 1.759 |  |  |  |
| Brief Cope Avoidant Subscale | .637 | .281 | .267 | 2.263 | .026 | .078 | 1.196 | .388 | .232 | .192 | .518 | 1.931 |  |  |  |
| ECR Avoidance Scale | -1.860 | 1.215 | -.144 | -1.531 | .129 | -4.273 | .554 | -.066 | -.159 | -.130 | .817 | 1.224 |  |  |  |
| ECR Anxiety Scale | -.375 | .758 | -.047 | -.494 | .622 | -1.881 | 1.132 | .071 | -.052 | -.042 | .803 | 1.245 |  |  |  |
| AAQ Total | .733 | .168 | .448 | 4.378 | <.001 | .401 | 1.066 | .528 | .419 | .372 | .690 | 1.450 |  |  |  |
| Sex | 3.791 | 2.409 | .139 | 1.574 | .119 | -.995 | 8.578 | .179 | .164 | .134 | .924 | 1.082 |  |  |  |
| Length of Service | .156 | .144 | .095 | 1.083 | .282 | -.130 | .442 | .018 | .113 | .092 | .938 | 1.066 |  |  |  |
| 3 | 1 | (Constant) | 5.637 | 7.110 |  | .793 | .430 | -8.489 | 19.763 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.225 | .173 | -.146 | -1.299 | .197 | -.568 | .119 | .164 | -.136 | -.109 | .556 | 1.799 |  |  |  |
| Brief Cope Avoidant Subscale | .666 | .282 | .278 | 2.366 | .020 | .107 | 1.226 | .402 | .242 | .198 | .508 | 1.968 |  |  |  |
| ECR Avoidance Scale | -1.965 | 1.223 | -.148 | -1.607 | .112 | -4.394 | .464 | -.085 | -.167 | -.135 | .823 | 1.215 |  |  |  |
| ECR Anxiety Scale | -.328 | .753 | -.041 | -.436 | .664 | -1.823 | 1.167 | .071 | -.046 | -.037 | .805 | 1.242 |  |  |  |
| AAQ Total | .753 | .168 | .456 | 4.473 | <.001 | .418 | 1.087 | .543 | .426 | .375 | .677 | 1.477 |  |  |  |
| Sex | 3.094 | 2.400 | .113 | 1.289 | .201 | -1.674 | 7.863 | .178 | .135 | .108 | .909 | 1.100 |  |  |  |
| Length of Service | .184 | .143 | .111 | 1.289 | .201 | -.099 | .467 | .026 | .135 | .108 | .944 | 1.060 |  |  |  |
| 4 | 1 | (Constant) | 5.078 | 7.137 |  | .711 | .479 | -9.101 | 19.257 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.189 | .173 | -.123 | -1.093 | .277 | -.532 | .154 | .166 | -.114 | -.092 | .563 | 1.776 |  |  |  |
| Brief Cope Avoidant Subscale | .617 | .283 | .256 | 2.180 | .032 | .055 | 1.180 | .396 | .224 | .184 | .515 | 1.942 |  |  |  |
| ECR Avoidance Scale | -1.785 | 1.212 | -.137 | -1.473 | .144 | -4.193 | .623 | -.073 | -.153 | -.124 | .825 | 1.212 |  |  |  |
| ECR Anxiety Scale | -.327 | .759 | -.041 | -.431 | .668 | -1.835 | 1.181 | .077 | -.045 | -.036 | .800 | 1.251 |  |  |  |
| AAQ Total | .759 | .169 | .460 | 4.485 | <.001 | .423 | 1.095 | .541 | .427 | .379 | .678 | 1.476 |  |  |  |
| Sex | 2.939 | 2.411 | .108 | 1.219 | .226 | -1.851 | 7.729 | .181 | .127 | .103 | .914 | 1.094 |  |  |  |
| Length of Service | .184 | .144 | .112 | 1.283 | .203 | -.101 | .470 | .023 | .134 | .108 | .943 | 1.061 |  |  |  |
| 5 | 1 | (Constant) | 4.600 | 7.103 |  | .648 | .519 | -9.512 | 18.712 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.231 | .172 | -.151 | -1.342 | .183 | -.573 | .111 | .157 | -.140 | -.114 | .564 | 1.773 |  |  |  |
| Brief Cope Avoidant Subscale | .706 | .281 | .298 | 2.516 | .014 | .149 | 1.264 | .399 | .256 | .213 | .514 | 1.947 |  |  |  |
| ECR Avoidance Scale | -2.006 | 1.211 | -.155 | -1.656 | .101 | -4.413 | .401 | -.069 | -.172 | -.140 | .821 | 1.218 |  |  |  |
| ECR Anxiety Scale | -.340 | .759 | -.042 | -.448 | .655 | -1.847 | 1.168 | .073 | -.047 | -.038 | .801 | 1.249 |  |  |  |
| AAQ Total | .695 | .168 | .424 | 4.148 | <.001 | .362 | 1.028 | .519 | .401 | .352 | .686 | 1.458 |  |  |  |
| Sex | 4.106 | 2.401 | .151 | 1.710 | .091 | -.665 | 8.877 | .191 | .177 | .145 | .918 | 1.090 |  |  |  |
| Length of Service | .178 | .143 | .108 | 1.240 | .218 | -.107 | .463 | .019 | .130 | .105 | .943 | 1.060 |  |  |  |
| Pooled | 1 | (Constant) | 4.865 | 7.148 |  | .681 | .496 | -9.146 | 18.875 |  |  |  |  |  | .007 | .007 | .999 |
| Brief Cope Approach Subscale | -.210 | .173 |  | -1.212 | .225 | -.550 | .130 | .161 | -.127 | -.103 |  |  | .012 | .012 | .998 |
| Brief Cope Avoidant Subscale | .656 | .284 |  | 2.307 | .021 | .099 | 1.213 | .396 | .238 | .197 |  |  | .017 | .017 | .997 |
| ECR Avoidance Scale | -1.879 | 1.219 |  | -1.541 | .123 | -4.269 | .511 | -.071 | -.161 | -.131 |  |  | .009 | .009 | .998 |
| ECR Anxiety Scale | -.343 | .758 |  | -.453 | .651 | -1.828 | 1.142 | .073 | -.048 | -.038 |  |  | .001 | .001 | 1.000 |
| AAQ Total | .735 | .170 |  | 4.311 | <.001 | .401 | 1.069 | .533 | .418 | .369 |  |  | .026 | .027 | .995 |
| Sex | 3.516 | 2.466 |  | 1.426 | .154 | -1.320 | 8.353 | .183 | .152 | .123 |  |  | .048 | .049 | .990 |
| Length of Service | .176 | .144 |  | 1.223 | .221 | -.106 | .459 | .021 | .128 | .104 |  |  | .008 | .008 | .998 |
| a. Dependent Variable: MBI Emotional Exhaustion | | | | | | | | | | | | | | | | | |

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**Depersonalisation Multiple Regression Following Multiple Imputation (n = 98)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | | |
| Imputation Number | Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| Original data | 1 | .338a | .114 | .030 | 5.041 | 1.962 |
| 1 | 1 | .349c | .122 | .053 | 4.933 | 1.890 |
| 2 | 1 | .339c | .115 | .046 | 4.930 | 1.906 |
| 3 | 1 | .348d | .121 | .053 | 4.935 | 1.864 |
| 4 | 1 | .345d | .119 | .050 | 4.917 | 1.878 |
| 5 | 1 | .341c | .116 | .047 | 4.953 | 1.881 |
| a. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |
| b. Dependent Variable: MBI Depersonalisation | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | |
| d. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | | |
| Imputation Number | Model | | Sum of Squares | df | Mean Square | F | Sig. |
| Original data | 1 | Regression | 242.474 | 7 | 34.639 | 1.363 | .234b |
| Residual | 1880.404 | 74 | 25.411 |  |  |
| Total | 2122.878 | 81 |  |  |  |
| 1 | 1 | Regression | 303.318 | 7 | 43.331 | 1.781 | .101c |
| Residual | 2190.272 | 90 | 24.336 |  |  |
| Total | 2493.589 | 97 |  |  |  |
| 2 | 1 | Regression | 283.070 | 7 | 40.439 | 1.664 | .128c |
| Residual | 2187.311 | 90 | 24.303 |  |  |
| Total | 2470.381 | 97 |  |  |  |
| 3 | 1 | Regression | 301.522 | 7 | 43.075 | 1.769 | .103d |
| Residual | 2191.904 | 90 | 24.354 |  |  |
| Total | 2493.425 | 97 |  |  |  |
| 4 | 1 | Regression | 293.613 | 7 | 41.945 | 1.735 | .111d |
| Residual | 2175.756 | 90 | 24.175 |  |  |
| Total | 2469.369 | 97 |  |  |  |
| 5 | 1 | Regression | 289.626 | 7 | 41.375 | 1.687 | .122c |
| Residual | 2207.554 | 90 | 24.528 |  |  |
| Total | 2497.180 | 97 |  |  |  |
| a. Dependent Variable: MBI Depersonalisation | | | | | | | |
| b. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | | |
| d. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | | |

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| **Coefficientsa** | | | | | | | | | | | | | | | | | |
| Imputation Number | Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics | | Fraction Missing Info. | Relative Increase Variance | Relative Efficiency |
| B | Std. Error | Beta | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance | VIF |
| Original data | 1 | (Constant) | 6.777 | 3.483 |  | 1.946 | .055 | -.163 | 13.717 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.123 | .083 | -.200 | -1.475 | .144 | -.289 | .043 | -.086 | -.169 | -.161 | .652 | 1.533 |  |  |  |
| Brief Cope Avoidant Subscale | .128 | .132 | .142 | .972 | .334 | -.134 | .390 | .118 | .112 | .106 | .564 | 1.773 |  |  |  |
| ECR Avoidance Scale | -.740 | .631 | -.142 | -1.173 | .245 | -1.997 | .517 | -.074 | -.135 | -.128 | .822 | 1.217 |  |  |  |
| ECR Anxiety Scale | -.087 | .364 | -.029 | -.240 | .811 | -.812 | .638 | -.050 | -.028 | -.026 | .808 | 1.238 |  |  |  |
| AAQ Total | .151 | .081 | .239 | 1.856 | .067 | -.011 | .314 | .249 | .211 | .203 | .719 | 1.391 |  |  |  |
| Sex | .609 | 1.196 | .058 | .510 | .612 | -1.774 | 2.993 | .070 | .059 | .056 | .910 | 1.099 |  |  |  |
| Length of Service | .047 | .072 | .074 | .654 | .515 | -.096 | .190 | .065 | .076 | .072 | .945 | 1.059 |  |  |  |
| 1 | 1 | (Constant) | 6.810 | 3.146 |  | 2.165 | .033 | .560 | 13.060 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.126 | .076 | -.217 | -1.650 | .102 | -.277 | .026 | -.040 | -.171 | -.163 | .565 | 1.770 |  |  |  |
| Brief Cope Avoidant Subscale | .125 | .125 | .138 | 1.000 | .320 | -.123 | .373 | .136 | .105 | .099 | .514 | 1.945 |  |  |  |
| ECR Avoidance Scale | -.750 | .534 | -.153 | -1.403 | .164 | -1.811 | .312 | -.082 | -.146 | -.139 | .815 | 1.227 |  |  |  |
| ECR Anxiety Scale | -.115 | .335 | -.038 | -.342 | .733 | -.780 | .551 | -.023 | -.036 | -.034 | .801 | 1.248 |  |  |  |
| AAQ Total | .173 | .074 | .277 | 2.318 | .023 | .025 | .321 | .272 | .237 | .229 | .682 | 1.466 |  |  |  |
| Sex | .664 | 1.068 | .064 | .622 | .536 | -1.457 | 2.785 | .073 | .065 | .061 | .909 | 1.100 |  |  |  |
| Length of Service | .026 | .064 | .041 | .402 | .689 | -.101 | .152 | .016 | .042 | .040 | .943 | 1.061 |  |  |  |
| 2 | 1 | (Constant) | 6.871 | 3.158 |  | 2.176 | .032 | .597 | 13.145 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.131 | .076 | -.227 | -1.724 | .088 | -.281 | .020 | -.049 | -.179 | -.171 | .569 | 1.759 |  |  |  |
| Brief Cope Avoidant Subscale | .130 | .124 | .144 | 1.047 | .298 | -.117 | .377 | .127 | .110 | .104 | .518 | 1.931 |  |  |  |
| ECR Avoidance Scale | -.742 | .536 | -.152 | -1.384 | .170 | -1.807 | .323 | -.076 | -.144 | -.137 | .817 | 1.224 |  |  |  |
| ECR Anxiety Scale | -.111 | .335 | -.037 | -.333 | .740 | -.776 | .554 | -.026 | -.035 | -.033 | .803 | 1.245 |  |  |  |
| AAQ Total | .162 | .074 | .261 | 2.189 | .031 | .015 | .309 | .254 | .225 | .217 | .690 | 1.450 |  |  |  |
| Sex | .737 | 1.063 | .071 | .693 | .490 | -1.376 | 2.849 | .076 | .073 | .069 | .924 | 1.082 |  |  |  |
| Length of Service | .025 | .064 | .040 | .391 | .696 | -.101 | .151 | .023 | .041 | .039 | .938 | 1.066 |  |  |  |
| 3 | 1 | (Constant) | 7.150 | 3.164 |  | 2.260 | .026 | .865 | 13.436 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.119 | .077 | -.205 | -1.549 | .125 | -.272 | .034 | -.042 | -.161 | -.153 | .556 | 1.799 |  |  |  |
| Brief Cope Avoidant Subscale | .108 | .125 | .120 | .865 | .389 | -.141 | .357 | .132 | .091 | .085 | .508 | 1.968 |  |  |  |
| ECR Avoidance Scale | -.626 | .544 | -.125 | -1.150 | .253 | -1.707 | .455 | -.071 | -.120 | -.114 | .823 | 1.215 |  |  |  |
| ECR Anxiety Scale | -.157 | .335 | -.052 | -.468 | .641 | -.822 | .508 | -.031 | -.049 | -.046 | .805 | 1.242 |  |  |  |
| AAQ Total | .187 | .075 | .300 | 2.500 | .014 | .038 | .336 | .280 | .255 | .247 | .677 | 1.477 |  |  |  |
| Sex | .218 | 1.068 | .021 | .204 | .839 | -1.904 | 2.340 | .045 | .021 | .020 | .909 | 1.100 |  |  |  |
| Length of Service | .030 | .063 | .048 | .472 | .638 | -.096 | .156 | .023 | .050 | .047 | .944 | 1.060 |  |  |  |
| 4 | 1 | (Constant) | 7.230 | 3.142 |  | 2.301 | .024 | .987 | 13.473 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.122 | .076 | -.212 | -1.605 | .112 | -.273 | .029 | -.050 | -.167 | -.159 | .563 | 1.776 |  |  |  |
| Brief Cope Avoidant Subscale | .111 | .125 | .123 | .890 | .376 | -.137 | .359 | .130 | .093 | .088 | .515 | 1.942 |  |  |  |
| ECR Avoidance Scale | -.624 | .534 | -.127 | -1.168 | .246 | -1.684 | .437 | -.068 | -.122 | -.116 | .825 | 1.212 |  |  |  |
| ECR Anxiety Scale | -.136 | .334 | -.045 | -.405 | .686 | -.799 | .528 | -.026 | -.043 | -.040 | .800 | 1.251 |  |  |  |
| AAQ Total | .183 | .075 | .295 | 2.452 | .016 | .035 | .331 | .274 | .250 | .243 | .678 | 1.476 |  |  |  |
| Sex | .171 | 1.062 | .017 | .161 | .873 | -1.938 | 2.280 | .042 | .017 | .016 | .914 | 1.094 |  |  |  |
| Length of Service | .031 | .063 | .050 | .493 | .623 | -.095 | .157 | .024 | .052 | .049 | .943 | 1.061 |  |  |  |
| 5 | 1 | (Constant) | 6.553 | 3.156 |  | 2.077 | .041 | .284 | 12.823 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | -.123 | .076 | -.212 | -1.607 | .112 | -.275 | .029 | -.041 | -.167 | -.159 | .564 | 1.773 |  |  |  |
| Brief Cope Avoidant Subscale | .123 | .125 | .137 | .990 | .325 | -.124 | .371 | .133 | .104 | .098 | .514 | 1.947 |  |  |  |
| ECR Avoidance Scale | -.675 | .538 | -.137 | -1.254 | .213 | -1.744 | .394 | -.065 | -.131 | -.124 | .821 | 1.218 |  |  |  |
| ECR Anxiety Scale | -.143 | .337 | -.047 | -.423 | .673 | -.812 | .527 | -.025 | -.045 | -.042 | .801 | 1.249 |  |  |  |
| AAQ Total | .170 | .074 | .273 | 2.281 | .025 | .022 | .318 | .266 | .234 | .226 | .686 | 1.458 |  |  |  |
| Sex | .741 | 1.067 | .072 | .694 | .489 | -1.379 | 2.861 | .080 | .073 | .069 | .918 | 1.090 |  |  |  |
| Length of Service | .027 | .064 | .042 | .416 | .678 | -.100 | .153 | .016 | .044 | .041 | .943 | 1.060 |  |  |  |
| Pooled | 1 | (Constant) | 6.923 | 3.167 |  | 2.186 | .029 | .715 | 13.131 |  |  |  |  |  | .009 | .009 | .998 |
| Brief Cope Approach Subscale | -.124 | .076 |  | -1.624 | .104 | -.274 | .026 | -.044 | -.169 | -.161 |  |  | .004 | .004 | .999 |
| Brief Cope Avoidant Subscale | .120 | .125 |  | .955 | .339 | -.126 | .365 | .132 | .101 | .095 |  |  | .007 | .007 | .999 |
| ECR Avoidance Scale | -.683 | .541 |  | -1.262 | .207 | -1.744 | .378 | -.072 | -.133 | -.126 |  |  | .015 | .015 | .997 |
| ECR Anxiety Scale | -.132 | .336 |  | -.394 | .694 | -.790 | .526 | -.026 | -.042 | -.039 |  |  | .004 | .004 | .999 |
| AAQ Total | .175 | .075 |  | 2.323 | .020 | .027 | .322 | .269 | .240 | .232 |  |  | .022 | .022 | .996 |
| Sex | .506 | 1.111 |  | .455 | .649 | -1.675 | 2.687 | .063 | .050 | .047 |  |  | .083 | .087 | .984 |
| Length of Service | .028 | .064 |  | .434 | .664 | -.097 | .152 | .020 | .046 | .043 |  |  | .002 | .002 | 1.000 |
| a. Dependent Variable: MBI Depersonalisation | | | | | | | | | | | | | | | | | |

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**Personal Accomplishment Multiple Regression Following Multiple Imputation (n = 98)**

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| --- | --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | | |
| Imputation Number | Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| Original data | 1 | .491a | .241 | .167 | 7.994 | 2.297 |
| 1 | 1 | .513c | .263 | .206 | 8.265 | 2.258 |
| 2 | 1 | .515c | .265 | .208 | 8.250 | 2.248 |
| 3 | 1 | .511d | .261 | .204 | 8.269 | 2.224 |
| 4 | 1 | .511d | .261 | .203 | 8.265 | 2.255 |
| 5 | 1 | .516c | .267 | .209 | 8.244 | 2.262 |
| a. Predictors: (Constant), Length of Service, Brief Cope Approach Subscale, Sex, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | |
| b. Dependent Variable: MBI Personal Accomplishment | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | |
| d. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | | |
| Imputation Number | Model | | Sum of Squares | df | Mean Square | F | Sig. |
| Original data | 1 | Regression | 1459.701 | 7 | 208.529 | 3.263 | .005b |
| Residual | 4601.099 | 72 | 63.904 |  |  |
| Total | 6060.800 | 79 |  |  |  |
| 1 | 1 | Regression | 2197.528 | 7 | 313.933 | 4.595 | <.001c |
| Residual | 6148.196 | 90 | 68.313 |  |  |
| Total | 8345.724 | 97 |  |  |  |
| 2 | 1 | Regression | 2212.751 | 7 | 316.107 | 4.644 | <.001c |
| Residual | 6125.542 | 90 | 68.062 |  |  |
| Total | 8338.293 | 97 |  |  |  |
| 3 | 1 | Regression | 2177.773 | 7 | 311.110 | 4.550 | <.001d |
| Residual | 6153.425 | 90 | 68.371 |  |  |
| Total | 8331.198 | 97 |  |  |  |
| 4 | 1 | Regression | 2167.320 | 7 | 309.617 | 4.532 | <.001d |
| Residual | 6148.606 | 90 | 68.318 |  |  |
| Total | 8315.927 | 97 |  |  |  |
| 5 | 1 | Regression | 2222.578 | 7 | 317.511 | 4.672 | <.001c |
| Residual | 6115.978 | 90 | 67.955 |  |  |
| Total | 8338.556 | 97 |  |  |  |
| a. Dependent Variable: MBI Personal Accomplishment | | | | | | | |
| b. Predictors: (Constant), Length of Service, Brief Cope Approach Subscale, Sex, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | | |
| c. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | | |
| d. Predictors: (Constant), Length of Service, Sex, ECR Avoidance Scale, Brief Cope Avoidant Subscale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | | | | | | | | | | |
| Imputation Number | Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics | | Fraction Missing Info. | Relative Increase Variance | Relative Efficiency |
| B | Std. Error | Beta | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance | VIF |
| Original data | 1 | (Constant) | 28.601 | 5.532 |  | 5.170 | <.001 | 17.573 | 39.629 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | .432 | .139 | .410 | 3.115 | .003 | .156 | .708 | .261 | .345 | .320 | .607 | 1.646 |  |  |  |
| Brief Cope Avoidant Subscale | -.597 | .215 | -.389 | -2.780 | .007 | -1.026 | -.169 | -.130 | -.311 | -.285 | .538 | 1.859 |  |  |  |
| ECR Avoidance Scale | -.264 | 1.020 | -.030 | -.259 | .797 | -2.298 | 1.770 | -.083 | -.030 | -.027 | .799 | 1.252 |  |  |  |
| ECR Anxiety Scale | 1.258 | .598 | .246 | 2.105 | .039 | .066 | 2.450 | .242 | .241 | .216 | .770 | 1.299 |  |  |  |
| AAQ Total | .040 | .130 | .037 | .305 | .761 | -.220 | .299 | -.082 | .036 | .031 | .707 | 1.414 |  |  |  |
| Sex | -2.464 | 1.943 | -.138 | -1.268 | .209 | -6.337 | 1.409 | -.080 | -.148 | -.130 | .892 | 1.121 |  |  |  |
| Length of Service | .141 | .116 | .129 | 1.217 | .227 | -.090 | .371 | .102 | .142 | .125 | .939 | 1.065 |  |  |  |
| 1 | 1 | (Constant) | 32.033 | 5.271 |  | 6.077 | <.001 | 21.562 | 42.505 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | .383 | .128 | .361 | 2.997 | .004 | .129 | .637 | .251 | .301 | .271 | .565 | 1.770 |  |  |  |
| Brief Cope Avoidant Subscale | -.580 | .209 | -.350 | -2.776 | .007 | -.996 | -.165 | -.091 | -.281 | -.251 | .514 | 1.945 |  |  |  |
| ECR Avoidance Scale | -1.296 | .895 | -.145 | -1.447 | .151 | -3.075 | .483 | -.221 | -.151 | -.131 | .815 | 1.227 |  |  |  |
| ECR Anxiety Scale | 1.571 | .561 | .283 | 2.798 | .006 | .455 | 2.686 | .239 | .283 | .253 | .801 | 1.248 |  |  |  |
| AAQ Total | .025 | .125 | .022 | .202 | .840 | -.223 | .273 | -.045 | .021 | .018 | .682 | 1.466 |  |  |  |
| Sex | -2.709 | 1.789 | -.144 | -1.515 | .133 | -6.262 | .844 | -.144 | -.158 | -.137 | .909 | 1.100 |  |  |  |
| Length of Service | .186 | .106 | .163 | 1.749 | .084 | -.025 | .397 | .134 | .181 | .158 | .943 | 1.061 |  |  |  |
| 2 | 1 | (Constant) | 31.991 | 5.285 |  | 6.054 | <.001 | 21.492 | 42.489 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | .373 | .127 | .352 | 2.942 | .004 | .121 | .624 | .252 | .296 | .266 | .569 | 1.759 |  |  |  |
| Brief Cope Avoidant Subscale | -.561 | .208 | -.338 | -2.696 | .008 | -.974 | -.147 | -.084 | -.273 | -.244 | .518 | 1.931 |  |  |  |
| ECR Avoidance Scale | -1.283 | .897 | -.143 | -1.430 | .156 | -3.066 | .500 | -.218 | -.149 | -.129 | .817 | 1.224 |  |  |  |
| ECR Anxiety Scale | 1.633 | .560 | .294 | 2.916 | .004 | .520 | 2.746 | .244 | .294 | .263 | .803 | 1.245 |  |  |  |
| AAQ Total | .008 | .124 | .007 | .061 | .952 | -.238 | .253 | -.047 | .006 | .005 | .690 | 1.450 |  |  |  |
| Sex | -2.802 | 1.779 | -.148 | -1.574 | .119 | -6.337 | .734 | -.146 | -.164 | -.142 | .924 | 1.082 |  |  |  |
| Length of Service | .202 | .106 | .177 | 1.898 | .061 | -.009 | .414 | .136 | .196 | .171 | .938 | 1.066 |  |  |  |
| 3 | 1 | (Constant) | 30.964 | 5.301 |  | 5.841 | <.001 | 20.433 | 41.496 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | .389 | .129 | .367 | 3.019 | .003 | .133 | .645 | .264 | .303 | .273 | .556 | 1.799 |  |  |  |
| Brief Cope Avoidant Subscale | -.556 | .210 | -.337 | -2.651 | .009 | -.974 | -.139 | -.067 | -.269 | -.240 | .508 | 1.968 |  |  |  |
| ECR Avoidance Scale | -1.320 | .912 | -.145 | -1.448 | .151 | -3.131 | .491 | -.218 | -.151 | -.131 | .823 | 1.215 |  |  |  |
| ECR Anxiety Scale | 1.597 | .561 | .287 | 2.847 | .005 | .483 | 2.712 | .250 | .287 | .258 | .805 | 1.242 |  |  |  |
| AAQ Total | .030 | .125 | .026 | .239 | .812 | -.219 | .279 | -.031 | .025 | .022 | .677 | 1.477 |  |  |  |
| Sex | -2.621 | 1.790 | -.139 | -1.465 | .146 | -6.176 | .934 | -.124 | -.153 | -.133 | .909 | 1.100 |  |  |  |
| Length of Service | .192 | .106 | .168 | 1.804 | .075 | -.019 | .403 | .132 | .187 | .163 | .944 | 1.060 |  |  |  |
| 4 | 1 | (Constant) | 31.440 | 5.283 |  | 5.952 | <.001 | 20.945 | 41.935 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | .372 | .128 | .352 | 2.913 | .005 | .118 | .626 | .256 | .294 | .264 | .563 | 1.776 |  |  |  |
| Brief Cope Avoidant Subscale | -.558 | .210 | -.336 | -2.660 | .009 | -.974 | -.141 | -.081 | -.270 | -.241 | .515 | 1.942 |  |  |  |
| ECR Avoidance Scale | -1.440 | .897 | -.160 | -1.605 | .112 | -3.223 | .342 | -.223 | -.167 | -.146 | .825 | 1.212 |  |  |  |
| ECR Anxiety Scale | 1.621 | .562 | .292 | 2.885 | .005 | .505 | 2.737 | .246 | .291 | .262 | .800 | 1.251 |  |  |  |
| AAQ Total | .022 | .125 | .020 | .177 | .860 | -.227 | .271 | -.040 | .019 | .016 | .678 | 1.476 |  |  |  |
| Sex | -2.270 | 1.785 | -.121 | -1.272 | .207 | -5.816 | 1.275 | -.116 | -.133 | -.115 | .914 | 1.094 |  |  |  |
| Length of Service | .190 | .106 | .166 | 1.782 | .078 | -.022 | .401 | .134 | .185 | .161 | .943 | 1.061 |  |  |  |
| 5 | 1 | (Constant) | 31.722 | 5.253 |  | 6.039 | <.001 | 21.286 | 42.157 |  |  |  |  |  |  |  |  |
| Brief Cope Approach Subscale | .393 | .127 | .371 | 3.085 | .003 | .140 | .646 | .253 | .309 | .279 | .564 | 1.773 |  |  |  |
| Brief Cope Avoidant Subscale | -.589 | .208 | -.357 | -2.836 | .006 | -1.001 | -.176 | -.092 | -.286 | -.256 | .514 | 1.947 |  |  |  |
| ECR Avoidance Scale | -1.214 | .896 | -.135 | -1.355 | .179 | -2.993 | .566 | -.213 | -.141 | -.122 | .821 | 1.218 |  |  |  |
| ECR Anxiety Scale | 1.580 | .561 | .284 | 2.817 | .006 | .466 | 2.695 | .241 | .285 | .254 | .801 | 1.249 |  |  |  |
| AAQ Total | .018 | .124 | .016 | .146 | .884 | -.228 | .264 | -.047 | .015 | .013 | .686 | 1.458 |  |  |  |
| Sex | -2.716 | 1.776 | -.144 | -1.529 | .130 | -6.244 | .813 | -.146 | -.159 | -.138 | .918 | 1.090 |  |  |  |
| Length of Service | .185 | .106 | .162 | 1.747 | .084 | -.025 | .396 | .136 | .181 | .158 | .943 | 1.060 |  |  |  |
| Pooled | 1 | (Constant) | 31.630 | 5.301 |  | 5.967 | <.001 | 21.241 | 42.019 |  |  |  |  |  | .008 | .008 | .998 |
| Brief Cope Approach Subscale | .382 | .128 |  | 2.982 | .003 | .131 | .633 | .255 | .301 | .271 |  |  | .006 | .006 | .999 |
| Brief Cope Avoidant Subscale | -.569 | .209 |  | -2.715 | .007 | -.979 | -.158 | -.083 | -.276 | -.246 |  |  | .006 | .006 | .999 |
| ECR Avoidance Scale | -1.311 | .904 |  | -1.450 | .147 | -3.083 | .461 | -.218 | -.152 | -.132 |  |  | .010 | .010 | .998 |
| ECR Anxiety Scale | 1.601 | .562 |  | 2.849 | .004 | .499 | 2.702 | .244 | .288 | .258 |  |  | .003 | .003 | .999 |
| AAQ Total | .021 | .125 |  | .165 | .869 | -.224 | .266 | -.042 | .017 | .015 |  |  | .006 | .006 | .999 |
| Sex | -2.624 | 1.798 |  | -1.459 | .145 | -6.148 | .901 | -.135 | -.153 | -.133 |  |  | .016 | .016 | .997 |
| Length of Service | .191 | .107 |  | 1.792 | .073 | -.018 | .400 | .134 | .186 | .162 |  |  | .005 | .005 | .999 |
| a. Dependent Variable: MBI Personal Accomplishment | | | | | | | | | | | | | | | | | |

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# Appendix J- SPSS Analysis Output – Original Dataset

**Secondary Trauma Stress Multiple Regression Using a Complete Case Approach (n =82)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .714a | .510 | .464 | 12.547 | 2.173 |
| a. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | |
| b. Dependent Variable: Secondary Trauma Stress Total | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 12125.670 | 7 | 1732.239 | 11.004 | <.001b |
| Residual | 11648.720 | 74 | 157.415 |  |  |
| Total | 23774.390 | 81 |  |  |  |
| a. Dependent Variable: Secondary Trauma Stress Total | | | | | | |
| b. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | | Collinearity Statistics | |
| B | Std. Error | Beta | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | 7.981 | 8.669 |  | .921 | .360 |  |  |  |  |  |
| Brief Cope Approach Subscale | -.291 | .208 | -.141 | -1.399 | .166 | .160 | -.161 | -.114 | .652 | 1.533 |
| Brief Cope Avoidant Subscale | 1.602 | .328 | .530 | 4.889 | <.001 | .594 | .494 | .398 | .564 | 1.773 |
| ECR Anxiety Scale | -.974 | .905 | -.097 | -1.075 | .286 | .032 | -.124 | -.088 | .808 | 1.238 |
| ECR Avoidance Scale | -1.159 | 1.570 | -.066 | -.738 | .463 | .049 | -.085 | -.060 | .822 | 1.217 |
| AAQ Total | .807 | .203 | .382 | 3.977 | <.001 | .569 | .420 | .324 | .719 | 1.391 |
| Sex | 1.448 | 2.977 | .041 | .486 | .628 | .103 | .056 | .040 | .910 | 1.099 |
| Length of Service | .209 | .179 | .098 | 1.167 | .247 | .029 | .134 | .095 | .945 | 1.059 |
| a. Dependent Variable: Secondary Trauma Stress Total | | | | | | | | | | | |

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**Emotional Exhaustion Multiple Regression Using a Complete Case Approach (n = 76)**

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| **Model Summaryb** | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .543a | .295 | .222 | 11.729 | 1.920 |
| a. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | |
| b. Dependent Variable: MBI Emotional Exhaustion | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 3909.999 | 7 | 558.571 | 4.060 | <.001b |
| Residual | 9354.790 | 68 | 137.570 |  |  |
| Total | 13264.789 | 75 |  |  |  |
| a. Dependent Variable: MBI Emotional Exhaustion | | | | | | |
| b. Predictors: (Constant), Length of Service, Sex, Brief Cope Approach Subscale, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | | Collinearity Statistics | |
| B | Std. Error | Beta | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | 9.172 | 9.024 |  | 1.016 | .313 |  |  |  |  |  |
| Brief Cope Approach Subscale | -.339 | .202 | -.206 | -1.676 | .098 | -.064 | -.199 | -.171 | .683 | 1.464 |
| Brief Cope Avoidant Subscale | .621 | .335 | .250 | 1.851 | .068 | .273 | .219 | .189 | .568 | 1.761 |
| ECR Anxiety Scale | -.143 | .891 | -.018 | -.161 | .873 | -.010 | -.019 | -.016 | .783 | 1.277 |
| ECR Avoidance Scale | -1.737 | 1.592 | -.123 | -1.092 | .279 | -.020 | -.131 | -.111 | .815 | 1.228 |
| AAQ Total | .619 | .203 | .375 | 3.056 | .003 | .447 | .347 | .311 | .687 | 1.455 |
| Sex | 3.808 | 2.923 | .140 | 1.303 | .197 | .176 | .156 | .133 | .898 | 1.114 |
| Length of Service | .258 | .169 | .160 | 1.523 | .132 | .113 | .182 | .155 | .941 | 1.063 |
| a. Dependent Variable: MBI Emotional Exhaustion | | | | | | | | | | | |

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**Depersonalisation Multiple Regression Using a Complete Case Approach (n = 82)**

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| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .338a | .114 | .030 | 5.041 | 1.818 |
| a. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | |
| b. Dependent Variable: MBI Depersonalisation | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 242.474 | 7 | 34.639 | 1.363 | .234b |
| Residual | 1880.404 | 74 | 25.411 |  |  |
| Total | 2122.878 | 81 |  |  |  |
| a. Dependent Variable: MBI Depersonalisation | | | | | | |
| b. Predictors: (Constant), Length of Service, Sex, Brief Cope Avoidant Subscale, ECR Avoidance Scale, ECR Anxiety Scale, AAQ Total, Brief Cope Approach Subscale | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | | Collinearity Statistics | |
| B | Std. Error | Beta | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | 6.777 | 3.483 |  | 1.946 | .055 |  |  |  |  |  |
| Brief Cope Approach Subscale | -.123 | .083 | -.200 | -1.475 | .144 | -.086 | -.169 | -.161 | .652 | 1.533 |
| Brief Cope Avoidant Subscale | .128 | .132 | .142 | .972 | .334 | .118 | .112 | .106 | .564 | 1.773 |
| ECR Anxiety Scale | -.087 | .364 | -.029 | -.240 | .811 | -.050 | -.028 | -.026 | .808 | 1.238 |
| ECR Avoidance Scale | -.740 | .631 | -.142 | -1.173 | .245 | -.074 | -.135 | -.128 | .822 | 1.217 |
| AAQ Total | .151 | .081 | .239 | 1.856 | .067 | .249 | .211 | .203 | .719 | 1.391 |
| Sex | .609 | 1.196 | .058 | .510 | .612 | .070 | .059 | .056 | .910 | 1.099 |
| Length of Service | .047 | .072 | .074 | .654 | .515 | .065 | .076 | .072 | .945 | 1.059 |
| a. Dependent Variable: MBI Depersonalisation | | | | | | | | | | | |

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**Personal Accomplishment Multiple Regression Using a Complete Case Approach (n = 80)**

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| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .491a | .241 | .167 | 7.994 | 2.003 |
| a. Predictors: (Constant), Length of Service, Brief Cope Approach Subscale, Sex, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | |
| b. Dependent Variable: MBI Personal Accomplishment | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 1459.701 | 7 | 208.529 | 3.263 | .005b |
| Residual | 4601.099 | 72 | 63.904 |  |  |
| Total | 6060.800 | 79 |  |  |  |
| a. Dependent Variable: MBI Personal Accomplishment | | | | | | |
| b. Predictors: (Constant), Length of Service, Brief Cope Approach Subscale, Sex, ECR Avoidance Scale, AAQ Total, ECR Anxiety Scale, Brief Cope Avoidant Subscale | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | | Collinearity Statistics | |
| B | Std. Error | Beta | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | 28.601 | 5.532 |  | 5.170 | <.001 |  |  |  |  |  |
| Brief Cope Approach Subscale | .432 | .139 | .410 | 3.115 | .003 | .261 | .345 | .320 | .607 | 1.646 |
| Brief Cope Avoidant Subscale | -.597 | .215 | -.389 | -2.780 | .007 | -.130 | -.311 | -.285 | .538 | 1.859 |
| ECR Anxiety Scale | 1.258 | .598 | .246 | 2.105 | .039 | .242 | .241 | .216 | .770 | 1.299 |
| ECR Avoidance Scale | -.264 | 1.020 | -.030 | -.259 | .797 | -.083 | -.030 | -.027 | .799 | 1.252 |
| AAQ Total | .040 | .130 | .037 | .305 | .761 | -.082 | .036 | .031 | .707 | 1.414 |
| Sex | -2.464 | 1.943 | -.138 | -1.268 | .209 | -.080 | -.148 | -.130 | .892 | 1.121 |
| Length of Service | .141 | .116 | .129 | 1.217 | .227 | .102 | .142 | .125 | .939 | 1.065 |
| a. Dependent Variable: MBI Personal Accomplishment | | | | | | | | | | | |

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# Paper 3: Executive Summary

# Psychological Flexibility, Coping and Attachment Style as Predictors of Secondary Traumatic Stress and Burnout in Forensic Inpatient Staff: An Executive Summary

**Word count:** 2096 (Excluding title page and references)

This report summarises a research project that took place at two male forensic inpatient hospitals (medium level of security) in the UK. The study investigated if individual factors, including psychological flexibility, coping style, and attachment style predict secondary trauma stress and burnout in forensic inpatient staff. The summary is intended to convey the findings to staff working in the participating settings and other forensic inpatient services. Firstly, to provide feedback to those that participated or were interested in the study and secondly, to convey the recommendations to those in a position to take action. This report has been developed in consultation with three staff members across the participating services, and they kindly reviewed the report and provided feedback on the wording, structure and layout.

# What do we know?

Anecdotally, we know forensic settings are highly stressful environments but surprisingly research in this specialist area is lacking. Therefore, we need to understand more from those that work in forensic settings to be able to offer the best support.

## Secondary traumatic stress

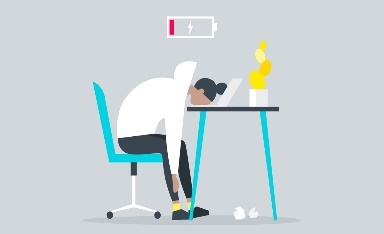
**What is it? -** Indirect traumatisation of a person through the stress of helping, wanting to help, or knowing about traumatised individuals or events (Figley, 1995). For example, hearing or reading a clients offence history or knowing about violence on the ward.

**What happens? -** People can experience intrusive thoughts or memories, problems with mood, interpersonal and/or romantic relationships and they may become avoidant (Jenkins & Baird, 2002).

**What do we know about forensic staff? -** Very little, only one study has looked at secondary traumatic stress in forensic inpatient staff (Cooper, 2016). This study found that a greater belief that the job is unsafe and lower psychological flexibility (ability to adapt) were predictors of levels of secondary traumatic stress.

## Burnout

**What is it? -** it gradually emerges in response to long-term work-related stress (Maslach et al, 1996)

**What happens? -** Maslach et al (1996) conceptualised it in three dimensions:

* + Emotional exhaustion - people have lower emotional resources such as motivation.
  + Depersonalisation - people psychologically distancing themselves from those they care for, for example becoming more cynical.
  + Personal accomplishment - people have a lower sense of achievement and competence in work.

**What do we know about forensic staff?** Research suggests individual differences, such as the ways in which we cope (talking to people vs using substances), may predict burnout levels (Cramer et al, 2019; Kriakous et al, 2019)

This research study investigated five predictive factors: **psychological flexibility, coping style, attachment style, length of service, and sex (i.e. females, males, others).**

1. **Psychological flexibility** is the ability to adapt and balance situational demands and competing desires (Kashdan & Rottenberg, 2010). It was hypothesised that staff who reported lower levels of psychological flexibility would report higher levels of secondary traumatic stress and burnout.
2. **Coping styles** are strategies used to overcome or tolerate challenges or stressors (Lazarus & Folkman, 1986). They are usually understood as adaptive (healthy strategies, such as talking to others or self-care) or maladaptive (less healthy strategies, such as smoking or being avoidant). It was hypothesised that staff who reported higher levels of maladaptive coping would report higher levels of secondary traumatic stress and burnout.
3. Research in other similar professions (such as the police) have also found staff attachment style predicts secondary traumatic stress and burnout (Gray & Rydon-Grange, 2019). **Attachment styles** are the ways in which individuals relate to other people. Those with an anxious attachment style have lower self-esteem and seek reassurance and support from others. Those with an avoidant attachment style are more self-reliant and suppress their own feelings or needs (Collins, 2014). It was hypothesised that staff who reported higher levels of avoidant and anxious attachment styles would report higher levels of secondary traumatic stress and burnout.
4. **Length of service** is the time in which a staff member has worked in their current role. It was hypothesised that those working in their current role for longer periods would report higher levels of secondary traumatic stress and burnout.
5. Previous research has identified **sex (male/female)** as a predictor of secondary traumatic stress and burnout. However, the results are inconsistent in terms of which sex is more at risk (McCormack et al, 2018). Therefore, sex was hypothesised to predict the level of secondary traumatic stress and burnout, but we were unable to hypothesise a direction for our prediction.

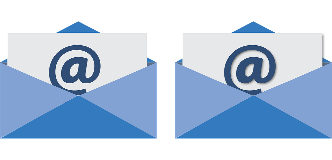
# What did we do?

## Who could take part?

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All participants had to be **aged 18 and over**, employed in a **direct care/support role** on the wards (e.g., Nurses, Health Care Assistants, Psychologists, Psychiatrists and Occupational Therapists), and must have been working in the same role at the participating sites for at least **six months**.



## How were participants recruited?

An **email** was sent to all clinical staff. The email contained the study information and link to participate online. This email was sent to approximately 600 members of staff. A total of 29 participants were recruited **online.** The researcher also made two onsite visits to each forensic hospital between February and March 2023 with paper research packs. Of the 90 **research packs** which were handed out, 73 were returned.



## What did taking part involve?

Participants were asked to complete **6 questionnaires:**

1. A **demographic questionnaire**. This asked questions relating to age, sex, ethnicity and length of service.
2. **The Secondary Traumatic Stress Scale** (STSS; Bride, 2013). This has 21 statements such as ‘I had disturbing dreams about my work with clients’ and ‘I felt discouraged about the future’.
3. **The Maslach Burnout Inventory** (MBI; Maslach, Jackson & Leiter, 1996). Measure of Burnout. This has 22 statements such as ‘I’m afraid my job is making me uncaring’ and ‘I feel full of energy’.
4. **The Brief Cope Inventory** (BCI; Carver, 1997). Measure of coping. This has 28 statements such as “I've been turning to work or other activities to take my mind off things,” and “I've been making fun of the situation”.
5. **The Acceptance and Action Questionnaire-II** (AAQ; Bond, Hayes, Baer, Carpenter, Guenole, Orcutt & Zettle, 2011). Measure of psychological flexibility. This has 10-items such as ‘I’m afraid of my feelings’ and ‘emotions cause problems in my life’.
6. **The Experiences in Close Relationships Questionnaire revised** (ECR-R; Fraley, Waller, & Brennan, 2000). Measure of attachment. This has 36 statements such as ‘I often worry that my partner will not want to stay with me’ and ‘I prefer not to be too close to romantic partners’.

## Who took part?

* A total of 98 participants
* 37 men and 58 women (3 did not report their sex)
* Average age = 40 years
* Majority were White British (53%)
* Average length of service in current role was 9 years
* Most common profession was nursing (68)

## How was the data analysed?

A method called **multiple regression analysis was used on the data**. Multiple regression shows us if the things which we have measured have a relationship with each other or not. For example, does someone’s coping style impact their level of burnout? If the multiple regression finds a relationship, we describe this as a ‘significant predictor’. For example, coping style might be a significant predictor of burnout, meaning....

# Key findings

## Prevalence

Firstly, the average levels of secondary traumatic stress and burnout in the sample were calculated. The average levels of psychological flexibility, coping styles, and attachment styles in the sample were also obtained. These are shown below:

|  |  |
| --- | --- |
| Variable | Level |
| Burnout- Emotional Exhaustion | **Moderate** |
| Burnout- Depersonalisation | **Moderate** |
| Burnout- Personal Accomplishment | **Low** |
| Secondary Traumatic Stress | **High** |
| Psychological Flexibility | **High/Moderate** |
| Attachment Style- Anxious | **Moderate** |
| Attachment Style- Avoidant | **Moderate** |
| Coping Style- Adaptive | **Moderate** |
| Coping Style- Maladaptive | **Moderate** |

**Results:**

**Hypothesis 1.**

Lower psychological flexibility significantly predicted increased secondary traumatic stress, emotional exhaustion, and depersonalisation levels.

Higher levels of emotional exhaustion

Lower levels of psychological flexibility

Higher levels of secondary trauma stress

=

Higher levels of depersonalisation exhaustion

**Hypothesis 2**

* Higher levels of maladaptive coping significantly predicted increased secondary traumatic stress levels and lower levels of personal accomplishment.

Higher levels of maladaptive coping

Higher levels of secondary trauma stress

Lower levels of personal accomplishment

=

* Higher levels of adaptive coping significantly predicted increased levels of personal accomplishment.

Higher levels of adaptive coping

Higher levels of personal accomplishment

=

**Hypothesis 3.**

Unexpectedly, a more anxious attachment style significantly predicted increased personal accomplishment.

Higher levels of anxious attachment

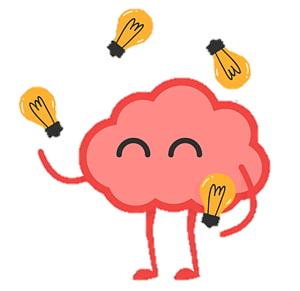
Higher levels of personal accomplishment stress

=

**Hypotheses 4 & 5**

Length of service and sex were not significant predictors for secondary traumatic stress and burnout.

# What does this mean?

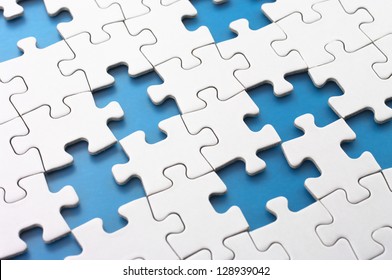
The prevalence of moderate burnout levels and high secondary traumatic stress levels found in this study support the anecdotal evidence that forensic settings are highly stressful places to work. This highlights the importance of developing clinical services to support the wellbeing of staff.

* The study’s findings suggest staff that who report lower levels of psychological flexibility may experience greater secondary traumatic stress and burnout symptoms.

Staff using maladaptive coping strategies, such as substance use or avoidance, may experience higher levels of secondary traumatic stress and burnout, whilst staff using adaptive coping strategies, such as social support or self-care, may be less burnt-out. These findings are consistent with the existing research.

* Unexpectedly, staff that report a more anxious attachment style may be less burnt-out.

**Limitations of this research**

The study had lots of **missing data** points because some of the questions were missed out. This may have happened because most of the data was collected through completion of paper packs whilst staff were on shift. Staff are busy and work in noisy environments, which may have increased their chance of accidentally missing out questions. The missing data was managed using statistical transformation so that the analysis could take place.

The attachment style measure (the ECR-R) asked **questions about romantic relationships**. This may explain why this questionnaire had the most missing answers. It may be that participants did not understand its relevance to their experiences at work. The amount of missing data may also explain the unusual finding that a more anxious attachment style predicted increased personal accomplishment. Even though the questionnaire asked about romantic relationships, which does limit its generalisability to working relationships, it was the only attachment measure that could practically be used as other questionnaires had to many questions or were interviews.

## Recommendations for forensic organisations and clinicians

The average level of burnout and secondary traumatic stress reported by the staff emphasise the need for **policies and practices** in forensic settings to reflect the risk and the implications on staff’s well-being.

The results of the study suggest coping style plays an important role in increasing risk and protecting staff from secondary traumatic stress and burnout. As adaptive coping styles are likely to be protective, it is recommended that **practices or interventions that enhance and maintain** **adaptive coping skills** are delivered in inpatient forensic settings. These should include strategies such as talking to others and self care. Existing interventions, such as **resilience enhancement programmes** for staff may be a promising avenue. In addition**, clinical supervision** may be an opportunity to support staff to discuss their coping style.

Psychological flexibility may reduce staff vulnerability to secondary traumatic stress and burnout. Therefore, **interventions for staff which develop psychological flexibility**, such as Acceptance and Commitment Therapy (ACT), could be explored and evaluated.

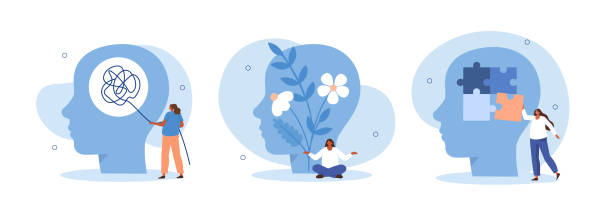
**In summary there is a need for:**

* Policies and practices in forensic settings to reflect the risk of secondary traumatic stress and burnout.
* Practices or interventions that enhance adaptive coping strategies, such as resilience enhancement programmes.
* Practices or interventions that enhance psychological flexibility, such as ACT.

**Recommendations for researchers**

There is scope to develop this area of research in the future. In particular, a **replication** of this study would be beneficial to address the issues relating to the missing data. Participants should be given more time to complete the questionnaires, and the window for data collection should be expanded and consideration on how to support staff to access the study online should be given. Other examples of future research include:

* Intervention studies, such as randomised control trials that investigate whether adaptive coping skills and/or increased psychological flexibility in forensic health care professionals reduces secondary trauma and burnout.
* Further investigation of the experience of secondary traumatic stress in forensic staff through qualitative research method eg. interpretative phenomenological analysis (IPA).
* Investigation of the impact of the environment and systems on secondary trauma stress and burnout in forensic staff through use of measures such as EssenCES measure of the ward environment.



Feedback was provided to the service via a presentation 25/08/23. The executive summary is to be disseminated to the participating sites and further discussion is taking place with the wellbeing lead.

# References

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., ... & Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior therapy*, *42*(4), 676-688. https://[doi.org/10.1016/j.beth.2011.03.007](https://doi.org/10.1016/j.beth.2011.03.007)

Bott, L. (2019). *Mental health and intellectual disability professionals use of emotion regulation and coping strategies, and their relationship to burnout: a systematic review; and, The indirect effect of attitudes towards aggression on forensic mental health professionals’ wellbeing, and the role of psychological flexibility.* [Unpublished doctoral dissertation]. University of Edinburgh <https://era.ed.ac.uk/bitstream/handle/1842/36635/Bott2019.pdf?sequence=1&isAllowed=y>

Bride, B. E. (2007). Prevalence of secondary traumatic stress among social workers. *Social Work,* 52(1), 63–70. https://[doi.org/10.1093/sw/52.1.63](https://doi.org/10.1093/sw/52.1.63)

Carver, C. S. (1997). You want to measure coping but your protocol’too long: Consider the brief cope. *International journal of behavioral medicine*, *4*(1), 92-100. https://[doi.org/10.1207/s15327558ijbm0401\_6](https://doi.org/10.1207/s15327558ijbm0401_6)

Cooper, A., Ferreira, N. & Slessor, M. (2016). *Demands, resources and wellbeing for clinicians working in a high secure forensic hospital*. [Unpublished doctoral dissertation]. University of Edinburgh, https://www.era.lib.ed.ac.uk/bitstream/handle/1842/25501/Cooper2016.pdf?sequenc e=2&isAllowed=y

Cramer, R. J., Ireland, J. L., Hartley, V., Long, M. M., Ireland, C. A., & Wilkins, T. (2020). Coping, mental health, and subjective well-being among mental health staff working in secure forensic psychiatric settings: Results from a workplace health assessment. *Psychological services*, *17*(2), 160. https://[doi.org/10.1037/ser0000354](https://doi.org/10.1037/ser0000354)

Figley, C. R. (1995). Systemic traumatization: Secondary traumatic stress disorder in family therapists. Integrating Family Therapy: Handbook of Family Psychology and Systemic Theory., 571-581. https://[doi.org/10.1037/10172-033](https://doi.org/10.1037/10172-033)

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). Experiences in Close Relationships Questionnaire—Revised. *Journal of Personality and Social Psychology*. https://[doi.org/10.1037/t03763-000](https://doi.org/10.1037/t03763-000)

Kriakous, S. A., Elliott, K. A., & Owen, R. (2019). Coping, mindfulness, stress, and burnout among forensic health care professionals. *Journal of Forensic Psychology Research and Practice*, *19*(2), 128-146. https://[doi.org/10.1080/24732850.2018.1556545](https://doi.org/10.1080/24732850.2018.1556545)

Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of personality and social psychology*, *50*(3), 571-579. <https://doi.org/10.1037/0022-3514.50.3.571>

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). Maslach burnout inventory manual (3rd ed.). Palo Alto: Consulting Psychologists Press, Inc, CA

1. Mental health professional is defined as staff employed in service-user facing roles in a inpatient forensic setting [↑](#footnote-ref-1)
2. In the UK forensic inpatient settings offer care with differing levels of security; high, medium and low. A patient risk level will be assessed, which informs which level of security from which they are cared for. Internationally other language is used such as maximum security. [↑](#footnote-ref-2)
3. defined as ‘perceived level of support via clinical supervision’ and measured using the Manchester Clinical Supervision Survey-26 (MCSS-26), [↑](#footnote-ref-3)
4. Professional roles not defined [↑](#footnote-ref-4)
5. Security level unspecified [↑](#footnote-ref-5)
6. Kriakous et al, (2019) do not define what constitutes ‘ward based’ or ‘non ward based’ staff. It is assumed ward-based staff includes nurses and health care assistants and non-ward based staff includes psychologists, occupational therapists, psychiatrists, social workers and other therapists. [↑](#footnote-ref-6)
7. Job enthusiasm is a subscale on the SBI measure of burnout [↑](#footnote-ref-7)
8. Working was defined as eligible FHCPs that were in full or part-time employment at the participating inpatient services at the time of data collection. [↑](#footnote-ref-8)
9. Missing data is defined as any data point for which there was no response. [↑](#footnote-ref-9)