



# Examining Potential Psychological Protective and Risk Factors for Stress and Burnout in Social Workers

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## Abstract

Social work professionals experience high levels of stress and burnout. Stress and burnout can have a negative impact on the individual social worker, the organisations they work for, and perhaps most importantly, the quality of care that marginalised groups that are supported by social workers receive. Several work-related predictors of stress and burnout have been identified; however, no studies have examined the underlying psychological protective and risk factors which might help to explain changes in social worker stress and burnout. Using the clinically modified Buddhist psychological model (CBPM) as a theoretical framework, this cross-sectional study attempted to identify psychological protective and risk factors for stress and burnout in 121 social workers in Northern Ireland, using structural equation modelling, and conditional process analyses. This study provided promising preliminary evidence for a mediated effect CBPM as being a potentially useful explanatory framework of variation in social worker stress, emotional exhaustion, and depersonalisation. This study also provided evidence that several CBPM domains could have a direct effect on personal accomplishment. This study provides preliminary evidence that support programmes, which have the capacity to improve each CBPM domain (mindfulness, acceptance, attention regulation/decentering, self-compassion, non-attachment, and non-aversion) and reduce experiences of worry and rumination, are likely to support social workers to experience reduced stress, emotional exhaustion, depersonalisation of service users, and improvements in personal accomplishment.

**Keywords** Burnout · Depersonalisation · Emotional exhaustion · Stress

## Introduction

Social work is a rewarding, but challenging profession for practitioners, which can lead to high levels of stress and burnout (Evans et al., 2006; McFadden et al., 2015). The sources of social work stress and burnout are multi-faceted, sector specific, and need to be understood within the context of the social, institutional, and political environments within which social worker's practice (Lavee & Strier, 2018). For example, social workers must deal with substantial, sometimes overwhelming caseloads, under public scrutiny, within blame cultures e.g., at an organisational and/or political level (Kinman et al., 2020; Turley et al., 2021). Social workers also have to operate within neoliberal managerial and

bureaucratic environments, which are often counter to the profession's value base, while implementing policy and legislative changes, with very limited resources (Kinman et al., 2020; Lavee & Strier, 2018; Turley et al., 2021).

Stress is an elevated emotional, cognitive, and physiological response to a stressor (Maslach et al., 1996). A stressor is a situation, circumstance or demand that is appraised by the person as taxing, or has the potential to exceed their resources, endangering their equilibrium and/or their sense of well-being (Lazarus & Folkman, 1984). Burnout in social work is the result of prolonged attempts to cope with the chronic physical, emotional, and psychological stressors that can manifest in practice (Maddock et al., 2023). Social workers experiencing burnout can feel (1) emotionally exhausted, the feeling that all their emotional resources are drained, and that they have nothing left to give; (2) a sense of depersonalisation, which is the loss of empathy for, and the development of negative attitudes towards service users, and (3) reduced feelings of personal accomplishment (Maslach et al., 1996).

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Social workers that receive support from their organisation, have been found to experience less burnout, and report better stress coping skills (Savaya et al., 2021). It is surprising that social work organisations have not made more significant and integrated efforts to reduce the stress and burnout experienced by social workers, given that both are directly linked to employee turnover (Ravalier et al., 2021), increased employee sick days (Maslach et al., 1996), poor job performance (Maslach et al., 1996; Taris, 2006), reduced organisational commitment (Savaya et al., 2021), productivity, increased training costs, and disruption of services (Ravalier et al., 2021). Social work organisations also have an ethical duty to protect their employees from the harms that may accrue as part of fulfilling their mandate (Maddock, 2023).

Social worker stress and burnout directly impacts on client care, as practitioners are less willing to expend efforts to develop a positive working relationship with their clients (Savaya et al., 2016), which is likely to reduce the quality and effectiveness of any programme of support offered by a social worker (Rogers, 1995). Stress and burnout can reduce social worker attentiveness, empathy, collaboration, and capacity to connect emotionally with, or risk assess what the client's needs are (Maslach et al., 1996; Savaya et al., 2016). Stress and burnout can lead to social workers being more pessimistic about the capacity of clients to make targeted changes and are more likely to blame clients for the issues they face (Salyers et al., 2017).

Historically, the risk of stress and burnout in social work, and their deleterious effects on social work practice have been outlined e.g., Daley (1979). It is only in more recent times, particularly within the last decade, that attempts have been made to empirically examine the rates of stress and burnout in social work, along with the potential reasons for their very high prevalence. This emerging body of evidence has highlighted the very worrying levels of stress, emotional exhaustion, and depersonalisation experienced by social workers across all areas of practice. Ravalier et al. (2021) (n = 3,421) found that UK social workers experienced much higher rates of stress than the general population in England. Evans et al. (2006) (n = 237) highlighted that mental health social workers in England and Wales experienced higher rates of emotional exhaustion than consultant psychiatrists, and at a rate three times higher than other mental health professionals. In a cross-sectional study with social workers (n = 1,359) across the United Kingdom, McFadden (2015) found, when compared to a normative sample of health and social care professionals, that social workers experienced much higher rates of emotional exhaustion and depersonalisation. McFadden (2015) found that social workers working with adults with physical disabilities (84%), in mental health (80%), with children with disabilities (79%), with older people (79%), and in child protection social work

(75%) experienced the highest rates of emotional exhaustion. Social workers working with adults with physical disabilities (36%), child protection (32%) and mental health (31%) experienced the highest rates of depersonalisation. The more encouraging aspect of this research highlights that even though social workers across different areas of social work practice experience these negative physical, emotional, and psychological burdens, the rates of personal accomplishment they experience, are higher than those experienced by other health and social care professionals (Evans et al., 2006; McFadden, 2015).

Within this literature, several work-related risk factors have been identified as having a negative effect on the stress and feelings of burnout of social workers working across a range of settings. The main drivers of stress, emotional exhaustion, depersonalisation, and lower feelings of personal accomplishment across all areas of social work have been found to be high workload demands, low control/decision latitude, feeling devalued by your employer, lack of organisation support (including peer support), role clarity/ambiguity, and the professional's role not being congruent with their professional values (Evans et al., 2006; Maddock, 2015; McFadden et al., 2018; Ravalier et al., 2021). A lack of supervision had been found to be a source of stress for social workers (Evans et al., 2006; McFadden, 2015). The research on social worker turnover has highlighted that supervision support can buffer the effect of burnout (McFadden et al., 2015). However, social workers who felt that they were in receipt of poor-quality supervision, have been found to be at a risk of higher rates of emotional exhaustion and depersonalisation (Evans et al., 2006; McFadden, 2015). Even those that felt that they were receiving effective supervision experienced high rates of emotional exhaustion (60%) and depersonalisation (24%) (McFadden, 2015). This would indicate that supervision alone is unlikely to mitigate the effects of stress and burnout on social workers. The profession, and the organisations that social workers work for, would best be served by reducing the structural sources of stress affecting social workers e.g., by instituting protected maximum caseloads, and by providing additional stress coping interventions which would support social workers to work sustainably over the longer term (Maddock et al., 2022).

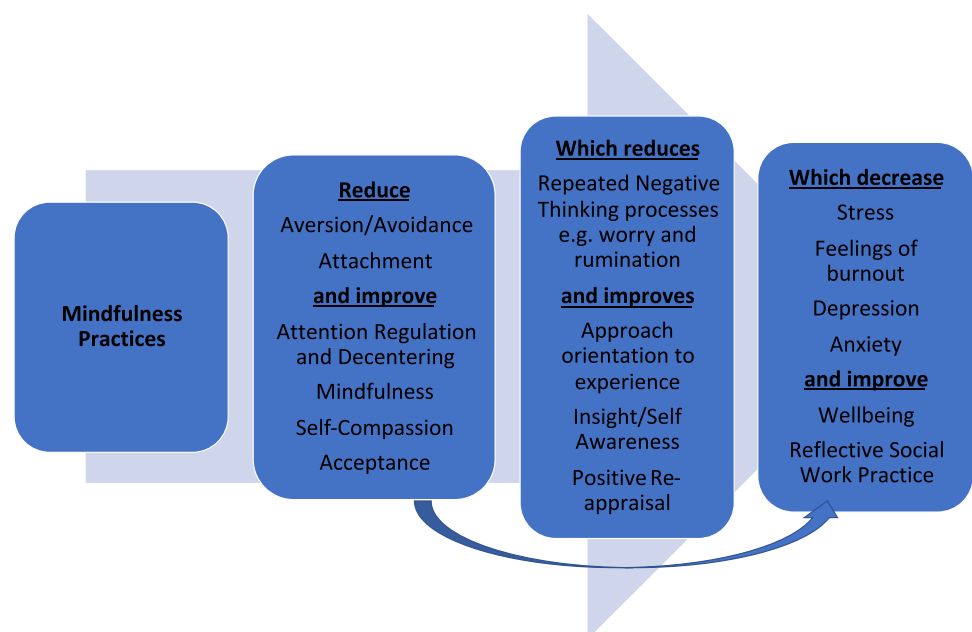
Acker (2018) and Park et al. (2023) have highlighted the need for social workers to be given the opportunity to develop more stress coping strategies through increased access to organisational interventions. Acker (2018) highlighted that self-care strategies were associated with reduced role stress, with McFadden et al. (2018) highlighting the relationships between social worker resilience, emotional exhaustion, depersonalisation, and personal accomplishment. Anderson (2000) similarly found that active coping mechanisms and social supports protect against burnout. There have been no studies which have examined the

underlying psychological protective and risk factors which might help to explain changes in social worker stress and burnout, to broaden this research base beyond the work related components of these negative outcomes. Research of this nature would support the development of effective interventions which would help to reduce feelings of stress and burnout in social workers (Maddock & Blair, 2021). This need has been echoed by Caravaca-Sánchez et al. (2022) who called on other researchers to analyse the protective factors that can cushion the appearance and negative effects of stress and burnout in social workers.

Mindfulness-based programmes (MBP) have shown promise in their capacity to support social workers to recover from and adapt to feelings of stress and burnout (Craigie et al., 2016; Maddock et al., 2022). Maddock et al. (2023) (n = 62) in a randomised controlled trial of the Mindfulness-based social work and self-care programme (MBSWSC) found that a 6 week online bespoke mindfulness programme for social work practice and self-care led to MBSWSC participants experiencing large significant reductions in stress and emotional exhaustion against an active control group. MBSWSC group participants also experienced reduced depersonalisation (Maddock et al., 2023). It is still unclear how MBSWSC helped to improve these outcomes, and there are consistent calls in the literature to understand how MBPs, such as MBSWSC achieve their therapeutic effects (Gu et al., 2015; Maddock & Blair, 2021; van der Velden et al., 2015). Examining the potential psychological protective and risk factors for social worker stress and burnout is important for a number of reasons: firstly, from a theoretical perspective, it will help us to understand the relationship between engaging in a

supportive MBP, such as MBSWSC, and the mechanisms through which this engagement might reduce feelings of stress and burnout (Kazdin, 2007; Maddock et al., 2022; Van der Velden et al., 2015), and secondly, from a clinical perspective, it will support the development of other innovative and efficient programmes of support which will likely help to reduce stress and feelings of burnout in social workers (Kuyken et al., 2010; Maddock & Blair, 2021). MBSWSC is underpinned by the clinically modified Buddhist psychological model (CBPM), which allows an examination of potential psychological protective and risk factors for social worker stress and burnout to be conducted in this study (Maddock, 2023). The CBPM is an integrative evidence-informed theory of how MBPs, which include increased psychoeducation and reflective practices, could help to improve the feelings of stress and burnout, along with the mental health and well-being deficits that can result from social work practice (Maddock, 2023). The CBPM is presented in Fig. 1 below and in more detail in Maddock (2023). In short, and for the purposes of this paper, the CBPM focusses on the effects that the development of six MBP mechanisms of action (CBPM domains); mindfulness, acceptance, attention regulation/decentering, self-compassion, non-attachment, and non-aversion could have on social worker stress and burnout (Maddock, 2023). The CBPM highlights how each CBPM domain, can operate both individually, and collectively, to support social workers to move from well-worn avoidant coping patterns (e.g., denial of challenging emotions that can result due to work stress), to instead use more approach oriented stress coping strategies (e.g., reflect on, engage with subjective experiences of stress, and then

**Fig. 1** The clinically modified Buddhist psychological model



accept any challenging emotions that result, allowing them to arise and pass) (Maddock, 2023). The CBPM highlights how the development of each CBPM domain and a more approach orientation to stress directly leads to reduced stress and feelings of burnout (emotional exhaustion, depersonalisation, and personal accomplishment) (Maddock, 2023). The development of each CBPM domain, coupled with an increased approach orientation to stress, also leads to social workers experiencing reduced negative thinking (e.g., worry and rumination), which subsequently reduces feelings of stress and burnout (Maddock, 2023).

This study has three aims:

- (1) To provide a greater understanding of what the potential psychological protective and risk factors for social worker stress and burnout might be, from a sample of data collected from social workers;
- (2) To provide empirical evidence regarding whether: (a) a direct and mediated effect CBPM model, which contains both direct (i.e., mindfulness, acceptance, attention regulation/decentering, self-compassion, non-attachment, and non-aversion) are examined to see if they are directly associated with stress, emotional exhaustion, depersonalisation, and personal accomplishment) and mediated effects i.e., do worry and rumination as mediators, individually, help to explain the relationship between the CBPM domains and social worker stress, and burnout, or (b) a mediated effect CBPM model, which contains only mediated effects between the CBPM domains and social worker stress, and burnout, is potentially the most useful theoretical framework with which to understand the associations between the CBPM domain, mediating variables and social worker stress, and burnout;
- (3) Examine what the statistically significant associations are between the individual CBPM domains (mindfulness, acceptance, attention regulation/decentering, self-compassion, non-attachment, or non-aversion), mediating variables (rumination or worry) and social worker stress and burnout (emotional exhaustion, depersonalisation, or personal accomplishment) are.

Consequently, this study will test several hypotheses:

- (1) H 1: A direct and mediated CBPM model of stress and burnout (emotional exhaustion, depersonalisation, and personal accomplishment) will fit the data of a sample of social workers, indicating that it is a good explanatory model.
- (2) H 1: A mediated CBPM model of stress and burnout (emotional exhaustion, depersonalisation, and personal accomplishment) will fit the the data of a sample of

social workers, indicating that it is a good explanatory model.

- (3) H 1: Direct associations: mindfulness, acceptance, attention regulation/decentering, self-compassion, non-attachment, and non-aversion will have a statistically significant association with stress and burnout (emotional exhaustion, depersonalisation, and personal accomplishment).
- (4) H 1: Mediated associations: mindfulness, acceptance, attention regulation/decentering, self-compassion, non-attachment, and non-aversion will have a statistically significant association with stress and burnout (emotional exhaustion, depersonalisation, and personal accomplishment), and these associations will be mediated by both worry and rumination respectively.

## Methods

### Participants and Procedure

Using a cross-sectional study design, a convenience and purposive sample of social workers were recruited from participants of two randomized controlled trials comparing the effects of MBSWSC on stress and burnout in social workers in Northern Ireland (Maddock et al., 2023, 2024). The sample included social workers, senior social workers, social work managers, and service managers in Northern Ireland who engaged with service users as part of their role. Inclusion criteria were: social work professional with service user contact; aged 18 years and over; working in Northern Ireland. The social workers who expressed an interest in this study received detailed written information about the study and what participation would entail. All participants were provided with opportunities to ask questions, and all social workers who chose to participate provided written informed consent. One hundred and twenty-one participants completed the study's measures at baseline, prior to the beginning of both randomised controlled trials (RCTs). This sample size was deemed sufficient to test the research hypotheses and deemed to be sufficient to power structural equation model analyses of fit, as in line with Bentler and Chou (1987), we had more than 10 participants per variable estimated. These rule-of-thumb guidelines have also been used recently in similar published research, e.g., Howells et al. (2018).

### Measures

Demographic information and self-report measures were gathered, at baseline of both RCTs. Scale reliabilities were calculated using the responses provided.

### The Perceived Stress Scale (PSS: Cohen et al., 1983)

The PSS is a widely used 10 item measure of perceived stress (Cohen et al., 1983). The PSS has consistently shown validity and reliability in measuring perceived stress in education and social work settings. A study conducted among teachers in universities highlighted good reliability and adequate concurrent validity (Reis et al., 2010). A study conducted among social work students, and social workers found high and acceptable levels of internal consistency ( $\alpha=0.91$ ) (Maddock et al., 2022) and ( $\alpha=0.88$ ) (Maddock et al., 2023) respectively. The PSS is a five-point Likert scale (0=never; 4=very often). Higher scores indicate higher perceived stress. Low stress is indicated by a score between 0–13, moderate stress is indicated by a score between 14–26, with high perceived stress indicated by a score between 27–40 on the PSS. The reliability of the scores on the PSS in this study was deemed to be acceptable (Cronbach's  $\alpha=0.87$ ).

### The Maslach Burnout Inventory (MBI: Maslach et al., 1996)

The MBI is the most widely used measure of occupational burnout (Crowder & Sears, 2017). The MBI has been found to be a reliable and valid measure, with its convergent and discriminant validity confirmed with a range of populations (Maslach et al., 1996, 2001). The MBI comprises of 22 items and is scored on a seven-point Likert scale (0=never; 6=everyday), with 3 subscales measuring: emotional exhaustion, depersonalisation/loss of empathy, and personal accomplishment. Maddock et al. (2022) and Maddock et al. (2023) confirmed moderate to high reliability on the MBI subscales reporting Cronbach's alphas of 0.81, 0.71 and 0.85 and an  $\alpha$  of 0.91, 0.69 and 0.75 for general burnout, depersonalisation, and personal accomplishment in studies with social work students, and social workers respectively.

A score of  $\leq 17$  on the emotional exhaustion scale indicates low-level emotional exhaustion; a score between 18 and 29 suggests moderate level emotional exhaustion, with score  $\geq 30$  indicating high-level emotional exhaustion. Low-level depersonalisation is indicated by a score of  $\leq 5$  on the depersonalisation/loss of empathy subscale; with scores of 6–11 suggesting moderate depersonalisation. A score of  $\geq 12$  indicates high-level depersonalisation. Low-level personal accomplishment is indicated by a score of  $\geq 40$  on the personal accomplishment subscale; scores of 34–39 suggest moderate level personal accomplishment, with scores of  $\leq 33$  indicating high-level personal accomplishment. The Cronbach's alpha for this study was 0.91, 0.66 and 0.76 for emotional exhaustion, depersonalisation, and personal accomplishment respectively.

### The Southampton Mindfulness Questionnaire (SMQ: Chadwick et al., 2008)

The 16-item SMQ is a valid measure that assesses domains of mindfulness in response to unpleasant images and thoughts (Chadwick et al., 2008). The SMQ is scored on a 7-point Likert scale (0=Disagree totally; 6=Agree totally). Lower scores on the SMQ are indicative of lower levels of mindfulness, with scores ranging from 0 to 96. Recent studies conducted among social workers reported good internal consistency ( $\alpha=0.87$ ) (Maddock et al., 2023), and high internal consistency ( $\alpha=0.94$ ) among social work students (Maddock et al., 2022). Among study participants, the reliability of the scores on the SMQ was found to be acceptable (Cronbach's  $\alpha=0.87$ ). This scale also delves into the components of mindfulness comprising 2 subscales which measure components of the CBPM; Letting Go/Non-attachment (SMQ-LG), and non-aversion (SMQ-AV). The Cronbach's alpha for these subscales, in this study, were 0.74 and 0.6 respectively.

### The Experiences Questionnaire—Attention Regulation/Decentering (EQ-D: Fresco et al., 2007)

The 11-item EQ-D is a measure of an individual's capacity to decenter i.e., to objectively observe their thoughts and emotions (Fresco et al., 2007). Fresco et al. (2007) confirmed the scale's convergent and discriminant validity. Gregório et al. (2015) confirmed the scale's good construct validity ( $\alpha=0.81$ ). The EQ-D is scored on a 5-point Likert scale (1=never; 5=always), and scores range from 11 to 55, with higher scores indicative of higher levels of attention regulation/decentering. The Cronbach's alpha for this study was 0.88.

### The Philadelphia Mindfulness—Acceptance Subscale (PHLMS-A: Cardaciotto et al., 2008)

The 10-item PHLMS-A is a measure of acceptance, a key facet of mindfulness (Cardaciotto et al., 2008). The convergent and discriminant validity of the PHLMS-A was confirmed by Cardaciotto et al. (2008); whilst Maddock et al. (2022) and Maddock et al. (2023) reported good scale reliability among a sample of social work students and social workers, with a Cronbach's alphas of 0.87 and 0.89 respectively. The PHLMS-A is scored on a 5-point Likert scale (1=never; 5=very often); with total scores ranging from 10 to 50. Lower scores on indicate greater levels of acceptance. The Cronbach's alpha for this study was 0.88.

### The Self-Compassion Scale—Short Form (SCS-SF: Raes et al., 2011)

The 12-item SCS-SF, is scored on a 5-point Likert scale (1 = almost never; 5 = almost always). Raes et al. (2011) confirmed the reliability and validity of the SCS-SF with Dutch and English speaking non-clinical populations. Higher scores indicate higher levels of self-compassion. The reliability of the scores on the SCS in this study was found to be acceptable (Cronbach's  $\alpha = 0.86$ ).

### Penn State Worry Questionnaire (PSWQ; Meyer et al., 1990)

The 16-item PSWQ is a valid and reliable measure of the intensity, pervasiveness, and uncontrollability of worry (Startup & Erickson, 2006). Brown et al. (1992) found that the 5-point Likert scale (1 = not at all typical of me; 5 = very typical of me) has good internal consistency and discriminant validity. Scores on the PSWQ range from 16 to 80, with higher scores indicating higher levels of worry (Startup & Erickson, 2006). A score of 45 or more suggests that worry is a significant problem. The reliability of the scores on the PSWQ in this study was found to be high (Cronbach's  $\alpha = 0.94$ ).

### Rumination Reflection Questionnaire—Rumination subscale (RRQ: Trapnell & Campbell, 1999)

The 12-item rumination subscale of the RRQ is a valid and reliable scale of rumination i.e., the extent to which individuals engage in recurring or repetitive thoughts about past experiences. Trapnell and Campbell (1999) highlighted the good discriminant and convergent validity of this subscale. Maddock et al. (2022) reported the subscale has moderate reliability among a sample of social work students, with Maddock et al. (2023) highlighting the scales high internal consistency with social workers (Cronbach's  $\alpha = 0.94$ ). This subscale was scored on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree), with scores ranging from 12 to 60. Higher scores on the scale indicate higher levels of rumination. The Cronbach's alpha for this study was 0.93.

## Analytic Approach

### Direct and Mediated, and Mediated Effects Structural Equation Models

To test hypothesis 1 and 2, this study used structural equation modelling (SEM). SEM is a multicomponent statistical process which can allow researchers to construct theoretical models, such as the CBPM, test their theoretical relationships, and consider both direct and mediated effects of

variables, such as the CBPM domain and mediating variables, on outcomes such as stress and burnout (Malaeb et al., 2000). Data were screened for missing values, errors, and outliers using the interquartile rule (Hoaglin et al., 1986), with whisker and box plots on SPSS 27 (IBM, Armonk, NY). To construct SEMs, a complete dataset is needed, so any missing data was dealt with using the expectation-maximization method (Schumacker & Lomax, 2016). Measurement and structural models based on the CBPM were constructed (model specification and identification). Eight models (mediated effect and direct and mediated effect models for stress, emotional exhaustion, depersonalisation, and personal accomplishment) representing different potential CBPM process arrangements were specified and estimated using LISREL 10.3.4.4 (Joreskog & Sorbom, 2009). A covariance matrix and an asymptotic weight matrix was computed and the parameters estimated using maximum likelihood (Joreskog & Sorbom, 2009). The model fit of these models to the data were then assessed (model estimation and testing) (Schumacker & Lomax, 2016).

There is no consensus within the literature on what the rules are for assessment of model fit in SEM, so the reporting of several different indices is necessary (Crowley & Fan, 1997; Hooper et al., 2008). In line with Hooper et al. (2008) and Kline (2005), this study includes the Chi-Square statistic (where a non-significant chi-square indicates model fit), its degrees of freedom and  $p$  value. It also includes a number of relative fit indices: the Standardised Root Mean Square Residual (SRMR) ( $< 0.05$ , Hooper et al., 2008), the Comparative Fit Index (CFI) ( $\geq 0.95$ , Hu & Bentler, 1999), and the parsimony fit index—PNFI ( $< 0.05$ , Hooper et al., 2008), and the RMSEA, which is an absolute fit index, where values which are  $\geq 0.06$  are taken indicate good model fit (Hu & Bentler, 1999). The Akaike Information Criterion (AIC; Akaike, 1987) was used for the purposes of model comparison, with the smallest value being indicative of the most parsimonious model (Byrne, 2012). In this study, if the Chi-Square test, more than one relative fit indices (SRMR, CFI, PNFI), and the RMSEA are deemed to indicate model fit in this study, the model will be deemed to be a good fit to the data. If only one fit index (the Chi-Square, more than one relative fit index (SRMR, CFI, PNFI), or the RMSEA) deems the model to fit the data, the model will be deemed to be an acceptable fit. If none deem the model to fit the data, the model will be deemed to be a poor model fit.

### Direct and Indirect Effects

In order to test hypotheses 3 and 4, and to examine the direct and indirect effect of each CBPM domain (mindfulness, acceptance, attention regulation/decentering, self-compassion, non-attachment, and non-aversion) on social worker stress and burnout (emotional exhaustion,

depersonalisation, and personal accomplishment), the CBPM was broken down into smaller conditional direct effect and indirect effects models, and tested. These analyses were performed using SPSS 27.0 (IBM, Armonk, NY). Each model was tested using the SPSS PROCESS macro (Hayes, 2018). Preacher and Hayes' bias-corrected non-parametric bootstrapping techniques with 5000 bootstrap samples were used to estimate the conditional direct effects of each CBPM domain on the stress and burnout levels of the social workers in this sample (Hayes, 2018). The direct and indirect effects models were considered statistically significant if the 95% confidence intervals (CIs) of the point estimates did not contain zero (Furr, 2018; Hayes, 2018).

## Results

A total of 108 female (89%), and 13 male (11%) social workers completed the study's measures, a ratio that is consistent with the gender profile split of social workers in Northern Ireland (Hughes, 2022). Ages in the sample ranged from 24 to 69 years ( $M = 46.47$ ;  $SD = 9.94$ ). The means and standard deviations for the CBPM domain, mediating and outcome variables are shown in Table 1. Based on the measure cut off scores available, the sample were experiencing moderate levels of stress, emotional exhaustion, depersonalisation, and high levels of personal accomplishment. The sample were also experiencing high levels of worry.

**Table 1** Means and standard deviations for the CBPM domain, mediating and outcome variables

Measure	Mean	Standard deviation
PSS	20.28	5.95
MBI-emotional exhaustion	19.75	9.79
MBI-depersonalisation	10.88	7.40
MBI-personal accomplishment	32.83	8.02
SMS	47.91	13.26
SMS-LG	10.69	4.15
SMS-AV	12.74	3.67
EQ-D	34.71	5.36
PMS-A	30.17	6.31
SCS	35.05	7.79
PSWQ	45.66	7.48
RRQ	41.36	8.38

## SEM Model Fit Statistics

The model fit statistics for all 8 mediated, and direct and mediated CBPM models are presented in Table 2 below.

## Stress

The fit indices in Table 2 indicate that the mediated effects CBPM model has a good model fit to the data on stress. The chi-square is non-significant ( $p = 0.17$ ), which is  $< 0.05$ ; the RMSEA = 0.06, which is  $< \text{or} = 0.06$  (Hu & Bentler, 1999), and the CFI = 0.996, which is  $< 0.95$  (Hu & Bentler, 1999), and the SRMR = 0.02, which is  $< 0.05$  (Hooper et al., 2008). The direct and mediated effects model was found to be an acceptable fit with a PNFI of 0.03, which is  $< 0.05$  (Hooper et al., 2008) and a CFI of 0.994 and SRMR of 0.01.

**Table 2** SEM model fit statistics

Model type	Model 1: mediated effects model—Stress	Model 2: direct and mediated effects model—Stress	Model 3: mediated effects model—emotional exhaustion	Model 4: direct and mediated effects model—emotional exhaustion	Model 5: mediated effects model—burn-out-depersonalisation	Model 6: direct and mediated effects model—depersonalisation	Model 7: mediated effects model—burn-out-personal accomplishment	Model 8: direct and mediated effects model—personal accomplishment
Df	6	1	6	1	6	1	6	1
Chi-square	9.03	5.81	11.8	5.81	12.3	5.81	27.2	5.81
<i>P</i>	0.17	0.02	0.07	0.02	0.06	1	$< 0.01$	0.02
RMSEA	0.06	0.2	0.09	0.2	0.09	0.2	0.17	0.2
AIC	4511.57	4518.38	4655.57	4659.61	4588.86	4592.42	4621.77	4610.4
PNFI	0.17	0.03	0.16	0.03	0.16	0.03	0.16	0.03
CFI	0.996	0.994	0.993	0.994	0.992	0.994	0.974	0.994
SRMR	0.02	0.01	0.03	0.01	0.03	0.01	0.06	0.01

### Burnout-Emotional Exhaustion

The fit indices in Table 2 indicate that the mediated effects CBPM model has a good model fit to the data on Burnout-emotional exhaustion. The chi-square is non-significant ( $p=0.07$ ), the CFI=0.99, and the SRMR=0.03. The direct and mediated effects model was found to be an acceptable fit with a PNFI of 0.03, a CFI of 0.994 and an SRMR of 0.01.

### Burnout-Depersonalisation

The fit indices in Table 2 indicate that the mediated effects CBPM model has a good model fit to the data on Burnout-depersonalisation. The chi-square is non-significant ( $p=0.06$ ), the CFI=0.992, and the SRMR=0.03. The direct and mediated effects model was found to be an acceptable fit with a PNFI of 0.03, a CFI of 0.994 and SRMR of 0.01.

### Burnout-Personal Accomplishment

The fit indices in Table 2 indicate that the mediated effects CBPM model was a poor model fit to the data on Burnout-personal accomplishment. The direct and mediated effects

model was found to be an acceptable fit with a PNFI of 0.03, a CFI of 0.994 and SRMR of 0.01.

### Conditional Direct and Indirect Effects

The conditional direct effects of the CBPM domains on the stress and burnout (emotional exhaustion, depersonalisation, personal accomplishment) of social workers is presented in Table 3 below, with the significant direct effects highlighted. Attention regulation/decentering and acceptance were found to be significantly associated with perceived stress. Non-attachment, non-aversion, self-compassion, mindfulness, and attention regulation/decentering were found to be significantly associated with Burnout-personal accomplishment. Acceptance and attention regulation/decentering were found to be significantly associated with Burnout-depersonalisation. Acceptance was found to be significantly associated with Burnout-emotional exhaustion.

The conditional indirect effects of the CBPM domains on the stress and burnout (emotional exhaustion, depersonalisation, personal accomplishment) of social workers, when mediated by worry or rumination are presented in Table 4 below. Non-attachment ( $\beta - 0.42$ , SE=0.1; 95% CI - 0.64, - 0.22), non-aversion ( $\beta - 0.51$ , SE=0.1; 95% CI - 0.71,

**Table 3** Conditional direct effect analyses

Variables	Effect SE LLCI ULCI	Effect SE LLCI ULCI
Independent—dependent	Mediating variable: worry	Mediating variable: rumination
Non-attachment-stress	-.18 .13 -.43 .07	-.22 .15 -.52 .08
Non-attachment-burnout (EE)	-.16 .23 -.62 .3	-.44 .27 -.98 .11
Non-attachment-burnout (PA)	<b>.7 .2 .31 1.08</b>	-.18 .2 -.58 .23
Non-attachment-burnout (D)	-.12 .18 -.48 .23	-.18 .2 -.58 .23
Non-aversion-stress	-.054 .15 -.34 .23	-.19 .15 -.49 .12
Non-aversion-burnout (EE)	-.08 .26 -.6 .44	-.42 .27 -.96 .12
Non-aversion-burnout (PA)	<b>-.48 .23 .03 .92</b>	-.39 .2 -.79 .01
Non-aversion-burnout (D)	-.25 .2 -.65 .14	-.39 .2 -.79 .01
Self-compassion-stress	-.04 .08 -.19 .12	-.12 .09 -.29 .05
Self-compassion-burnout (EE)	.18 .14 -.1 .46	-.06 .15 -.37 .24
Self-compassion-burnout (PA)	<b>.49 .12 .26 .72</b>	<b>.44 .12 .2 .67</b>
Self-compassion-burnout (D)	-.09 .11 -.3 .12	-.19 .11 -.41 .04
Mindfulness-stress	-.04 .05 -.13 .05	-.08 .05 -.18 .03
Mindfulness-burnout (EE)	.04 .08 -.12 .2	-.09 .1 -.28 .1
Mindfulness-burnout (PA)	<b>.24 .07 .11 .38</b>	<b>.22 .08 .08 .37</b>
Mindfulness-burnout (D)	-.09 .11 -.3 .12	-.12 .07 -.26 .02
Attention reg-stress	<b>-.26 .11 -.48 -.04</b>	<b>-.4 .11 -.62 -.17</b>
Attention reg-burnout (EE)	-.01 .21 -.42 .4	-.38 .21 -.8 .03
Attention reg-burnout (PA)	<b>.82 .17 .49 1.15</b>	<b>.71 .16 .39 1.02</b>
Attention reg-burnout (D)	-.17 .16 -.48 .14	<b>-.32 .16 -.63 -.01</b>
Acceptance-stress	<b>-.18 .08 -.34 -.02</b>	<b>-.24 .09 -.42 -.07</b>
Acceptance-burnout (EE)	<b>-.28 .15 -.58 .01</b>	<b>-.47 .16 -.77 -.16</b>
Acceptance-burnout (PA)	.21 .13 -.05 .47	.16 .13 -.1 .42
Acceptance-burnout (D)	<b>-.37 .11 -.59 -.16</b>	<b>-.44 .11 -.67 -.22</b>



**Table 4** Conditional indirect effect analyses

Variables	Index SE LLCI ULCI	Index SE LLCI ULCI
Independent—dependent	Mediating variable: worry	Mediating variable: rumination
Non-attachment-stress	-.42 .1 - .64 - .22	-.8 .11 - .6 - .17
Non-attachment-burnout (EE)	-.57 .18 - .95 - .25	-.3 .19 - .67 .09
Non-attachment-burnout (PA)	.10 .12 - .13 .34	-.18 .2 - .58 .22
Non-attachment-burnout (D)	-.42 .12 - .69 - .2	-.37 .14 - .66 - .09
Non-aversion-stress	-.51 .1 - .71 - .33	-.37 .12 - .64 - .17
Non-aversion-burnout (EE)	-.67 .18 - 1.04 - .33	-.33 .17 - .7 - .03
Non-aversion-burnout (PA)	.21 .13 - .06 .48	-.29 .12 - .56 - .1
Non-aversion-burnout (D)	-.43 .2 - .7 - .2	-.29 .12 - .55 - .09
Self-compassion-stress	-.29 .06 - .41 - .16	-.21 .07 - .35 - .08
Self-compassion-burnout (EE)	-.49 .12 - .73 - .27	-.24 .11 - .46 - .04
Self-compassion-burnout (PA)	-.02 .09 - .2 .15	.03 .09 - .13 .22
Self-compassion-burnout (D)	-.25 .09 - .4 .1	-.16 .07 - .31 - .02
Mindfulness-stress	-.16 .04 - .23 - .09	-.12 .04 - .20 - .05
Mindfulness-burnout (EE)	-.25 .07 - .39 - .12	-.12 .08 - .27 .03
Mindfulness-burnout (PA)	-.01 .05 - .1 .1	.03 .06 - .08 .15
Mindfulness-burnout (D)	-.14 .05 - .23 - .05	-.09 .05 - .19 .01
Attention reg-stress	-.33 .09 - .49 - .15	-.19 .08 - .36 - .04
Attention reg-burnout (EE)	-.59 .17 - .92 - .27	-.21 .14 - .48 .06
Attention reg-burnout (PA)	-.09 .13 - .35 .15	-.03 .11 - .19 .23
Attention reg-burnout (D)	-.35 .11 - .58 - .13	-.2 .11 - .43 - .01
Acceptance-stress	-.25 .06 - .37 - .13	-.18 .06 - .31 - .07
Acceptance-burnout (EE)	-.31 .11 - .54 - .11	-.12 .09 - .32 .04
Acceptance-burnout (PA)	-.14 .08 .003 .31	.19 .07 .06 .34
Acceptance-burnout (D)	-.18 .07 - .32 - .06	-.11 .05 - .22 - .01

- 0.33), self-compassion ( $\beta = 0.29$ ,  $SE = 0.06$ : 95% CI - 0.41, - 0.16), mindfulness ( $\beta = 0.25$ ,  $SE = 0.04$ : 95% CI - 0.23, - 0.09), attention regulation/decentering ( $\beta = 0.33$ ,  $SE = 0.09$ : 95% CI - 0.49, - 0.15), and acceptance ( $\beta = 0.25$ ,  $SE = 0.06$ : 95% CI - 0.37, - 0.13) were significantly associated with perceived stress when mediated by reduced worry scores. Non-attachment ( $\beta = 0.8$ ,  $SE = 0.11$ : 95% CI - 0.6, - 0.17), non-aversion ( $\beta = 0.37$ ,  $SE = 0.12$ : 95% CI - 0.64, - 0.17), self-compassion ( $\beta = 0.21$ ,  $SE = 0.07$ : 95% CI - 0.35, - 0.08), mindfulness ( $\beta = 0.12$ ,  $SE = 0.04$ : 95% CI - 0.2, - 0.05), attention regulation/decentering ( $\beta = 0.19$ ,  $SE = 0.08$ : 95% CI - 0.36, - 0.04), and acceptance ( $\beta = 0.18$ ,  $SE = 0.06$ : 95% CI - 0.31, - 0.07) were significantly associated with perceived stress when mediated by reduced rumination scores.

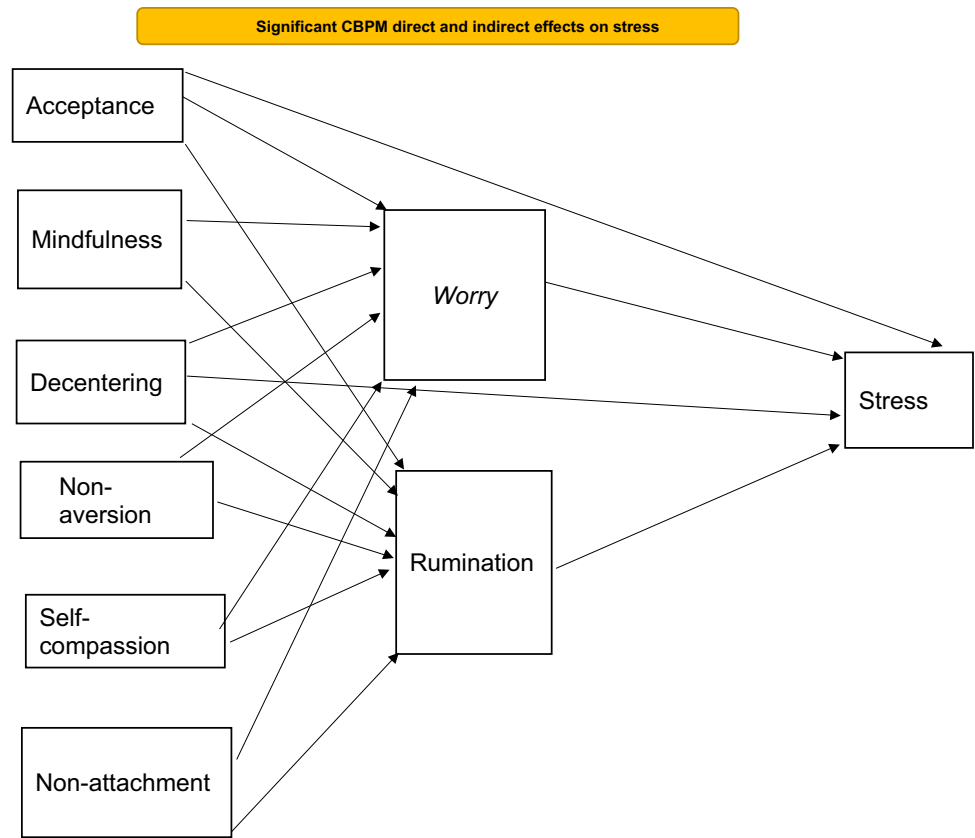
Non-attachment ( $\beta = 0.57$ ,  $SE = 0.18$ : 95% CI - 0.95, - 0.25), non-aversion ( $\beta = 0.67$ ,  $SE = 0.18$ : 95% CI - 1.04, - 0.33), self-compassion ( $\beta = 0.49$ ,  $SE = 0.12$ : 95% CI - 0.73, - 0.27), mindfulness ( $\beta = 0.25$ ,  $SE = 0.07$ : 95% CI - 0.39, - 0.12), attention regulation/decentering ( $\beta = 0.59$ ,  $SE = 0.17$ : 95% CI - 0.92, - 0.27), and acceptance ( $\beta = 0.31$ ,  $SE = 0.11$ : 95% CI - 0.54, - 0.11) were significantly associated with Burnout-emotional exhaustion when mediated by reduced worry scores. Non-aversion ( $\beta = 0.33$ ,

$SE = 0.17$ : 95% CI - 0.7, - 0.03), and self-compassion ( $\beta = 0.24$ ,  $SE = 0.11$ : 95% CI - 0.46, - 0.04) were significantly associated with Burnout-emotional exhaustion when mediated by reduced rumination scores.

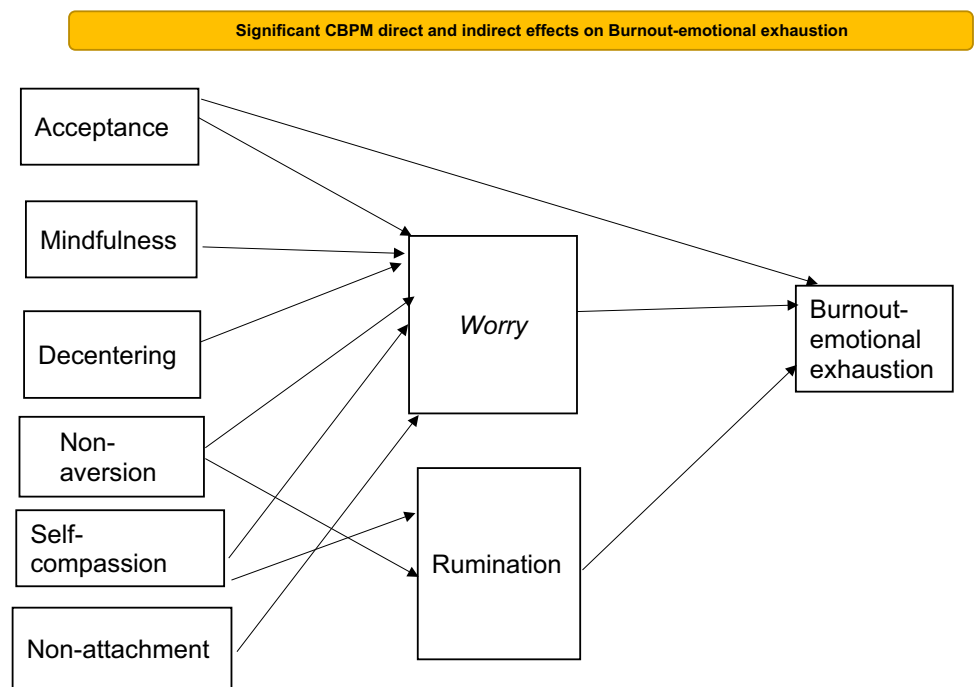
Non-attachment ( $\beta = 0.42$ ,  $SE = 0.12$ : 95% CI - 0.69, - 0.2), non-aversion ( $\beta = 0.43$ ,  $SE = 0.2$ : 95% CI - 0.7, - 0.2), mindfulness ( $\beta = 0.14$ ,  $SE = 0.05$ : 95% CI - 0.23, - 0.05), attention regulation/decentering ( $\beta = 0.35$ ,  $SE = 0.11$ : 95% CI - 0.58, - 0.13), acceptance ( $\beta = 0.18$ ,  $SE = 0.07$ : 95% CI - 0.32, - 0.06) were significantly associated with Burnout-depersonalisation when mediated by reduced worry scores. Non-attachment ( $\beta = 0.37$ ,  $SE = 0.14$ : 95% CI - 0.66, - 0.09), non-aversion ( $\beta = 0.29$ ,  $SE = 0.12$ : 95% CI - 0.55, - 0.09), self-compassion ( $\beta = 0.16$ ,  $SE = 0.07$ : 95% CI - 0.31, - 0.02), attention regulation/decentering ( $\beta = 0.2$ ,  $SE = 0.11$ : 95% CI - 0.43, - 0.01), acceptance ( $\beta = 0.11$ ,  $SE = 0.05$ : 95% CI - 0.22, - 0.01) were significantly associated with Burnout-depersonalisation when mediated by reduced rumination scores.

Acceptance ( $\beta = 0.14$ ,  $SE = 0.08$ : 95% CI 0.003, 0.31) was significantly associated with Burnout-personal accomplishment when mediated by reduced worry scores. Non-aversion ( $\beta = 0.29$ ,  $SE = 0.12$ : 95% CI - 0.56, - 0.1) and acceptance ( $\beta = 0.19$ ,  $SE = 0.07$ : 95% CI 0.06, 0.34) were

**Fig. 2** Significant CBPM direct and indirect effects on stress



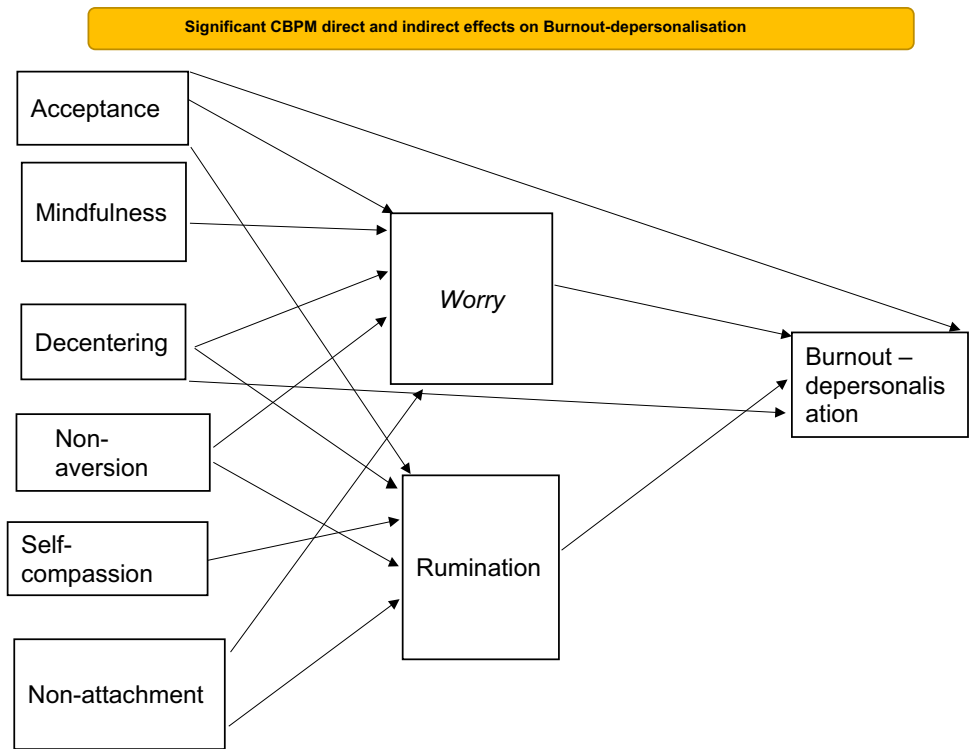
**Fig. 3** Significant CBPM direct and indirect effects on burnout-emotional exhaustion



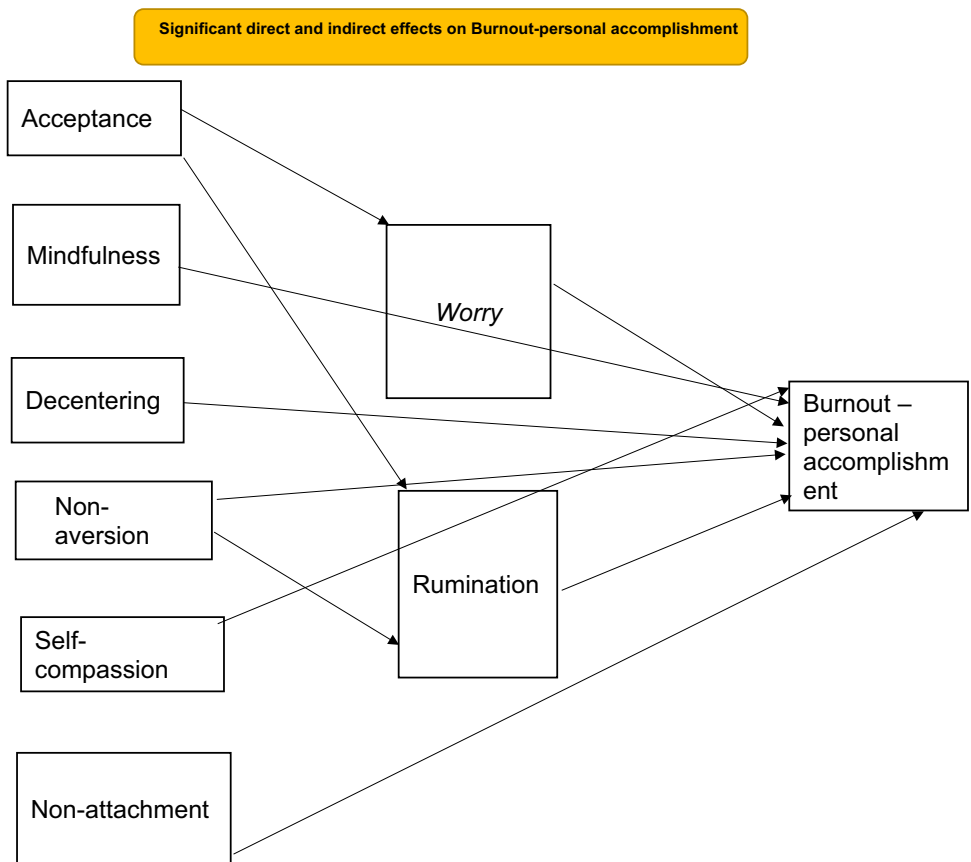
significantly associated with Burnout-personal accomplishment when mediated by reduced rumination scores. The

significant direct and indirect effect relationships for each outcome are represented in Figs. 2, 3, 4 and 5 below.

**Fig. 4** Significant CBPM direct and indirect effects on burnout-depersonalisation



**Fig. 5** Significant CBPM direct and indirect effects on burnout-personal accomplishment



## Discussion

The aims of this paper were to provide more theoretical transparency on what some of the most important protective and risk factors for social worker stress and burnout are, using the data attained from social workers in Northern Ireland. To support our analysis, the CBPM (Maddock, 2023), which is a multi-faceted stress coping, cognitive and emotional regulation theory was used. Using structural equation modelling, though the direct and mediated effects CBPM was found to be an acceptable fit to the data on perceived stress, emotional exhaustion, and depersonalisation, our results indicate that the mediated effects CBPM model was a better fit to the data on each of these outcomes. Most of the significant conditional effects found using Process, between the CBPM domains and perceived stress, emotional exhaustion, depersonalisation were also mediated by either worry or rumination and sometimes both (e.g., stress), highlighting that negative thinking styles, such as worry and rumination, are likely to be a key risk factor for the development of stress and emotional exhaustion in social workers along with the depersonalisation of service users. This supports Kazdin (2009), who asserted that individual risk or protective factors (in our case, worry and rumination respectively) can impact multiple outcomes. This highlights how interventions e.g., MBPs or CBT, that aim to reduce feelings of stress, emotional exhaustion, and depersonalisation of service users in social work, could be more parsimonious, and effective, if they focussed on supporting social workers to regulate the extent to which they engage in worry or rumination in response to feelings of stress or burnout. This could be achieved, particularly by MBPs, through the development of each CBPM domain (i.e., mindfulness, attention regulation/decentering, acceptance, self-compassion, non-attachment and non-aversion), each of which have been identified as approach oriented coping strategies, which have been the capacity to support social workers to regulate the extent to which they worry or rumination (Maddock, 2023).

It is clear from this study that the effects of different potential psychological protective and risk factors for social worker stress and burnout, are likely to be complex. The limited literature available attempting to explain the patterns of relationships between mindfulness variables and mental health and well-being outcomes such as stress and burnout has usually identified either significant direct (e.g., Hölzel et al., 2011) or mediated (e.g., Gu et al., 2015) pathways, but not both at the same time. This study thus highlights the potentially complex direct and mediated interactions between mindfulness variables e.g., acceptance, attention regulation, stress, and different domains of burnout in social work. This is supported by the fact that most of the significant effects of each CBPM domain on stress,

burnout-emotional exhaustion, burnout-depersonalisation, and burnout-personal accomplishment were found to be mediated by either worry or rumination. A number of CBPM domains e.g., acceptance and attention regulation/decentering also appeared to have a direct effect on stress and burnout-depersonalisation. These findings also support Kazdin (2009) who highlighted that outcomes, such as stress and depersonalisation, can be reduced through multiple pathways i.e., through both direct and mediated relationships.

The positive impact that increased acceptance could have on stress is supported by Lindsay et al. (2018) who in a randomised dismantling trial of three smartphone-based mindfulness programmes, found acceptance to be a positive emotion regulation strategy that helped to reduce stress in stressed adults (Lindsay et al., 2018). Maddock and McCusker (2022) found participation in a MBSWSC programme led to social work students experiencing significantly higher levels of acceptance, and that this increase in acceptance predicted their perceived stress levels. The positive impact that acceptance could have on the emotional exhaustion and depersonalisation was highlighted by Yao et al. (2013), who in a cross-sectional study, found that acceptance was associated with levels of emotional exhaustion and depersonalisation in a large sample of nurses in China. The role that attention regulation/decentering could play in reduced stress has been identified by both Lebois et al. (2015) and Duncan et al. (2021) as a constructive coping mechanism which supported stress regulation in university students. Maddock and McCusker (2022) confirmed this finding with a group of social work students who completed an MBSWSC programme. Crowder and Sears (2017), in a nonrandomised mixed methods exploratory study of the effects of a mindfulness-based programme, with a small sample of social workers, highlighted the potential for improved attention regulation/decentering skills as being an important protective factor in reducing stress and burnout in social workers, and our findings support this hypothesis.

Non-attachment, aversion, mindfulness, and self-compassion did not directly predict stress, emotional exhaustion, or depersonalisation. These results were not expected and do not support the CBPM or empirical evidence from the limited evidence base which has examined these variables as potential mechanisms of change in stress and burnout. For example, non-attachment has been found to predict lower stress in social work students (Maddock & McCusker, 2022), wider university students (Arch et al., 2016), to be negatively associated with burnout in social health activists (Pandey & Singh, 2015), and depersonalisation in social work students (Maddock & McCusker, 2022). Martinez-Rubio et al. (2023) found that aversion (experiential avoidance) was a risk factor for perceived stress, and that both mindfulness and self-compassion were protective factors for perceived stress in a large sample of Spanish university students and highlighted

the need for programmes aimed at reducing stress to include each as therapeutic targets. Maddock and McCusker (2022) also found that increased mindfulness and self-compassion post MBSWSC training predicted perceived stress and depersonalisation in social work students, but did not find, in line with the current study, that aversion (experiential avoidance) directly predicted stress. Maddock and McCusker (2022) did find that aversion predicted depersonalisation in social work students, but this finding was not replicated in this study.

The arrangement of the effects of the CBPM domains on personal accomplishment differed from their effects on emotional exhaustion and depersonalisation. The mediated effects CBPM model was found to be a poor fit to the data on personal accomplishment, with the direct and mediated effects model being an acceptable fit. Our results highlighted that several CBPM domains, including self-compassion, mindfulness, non-aversion, non-attachment, and attention regulation/decentering all had a direct effect on personal accomplishment. Most of these results are supported by cross-sectional studies of burnout in healthcare professionals. In a sample of Lebanese healthcare professionals, Hashem and Zeinoun (2020) found that self-compassion significantly explained levels of personal accomplishment. Zhao et al. (2019) found that levels of mindfulness predicted personal accomplishment in a large sample of Chinese nurses. Mojallal et al. (2022) found that aversion (experiential avoidance) was significantly associated with the personal accomplishment of Spanish critical care nurses. This is the first study to evaluate the effects of non-attachment, and attention regulation/decentering on personal accomplishment, highlighting the potential positive effects that both CBPM domains could have on this aspect of burnout in social workers, in line with the CBPM (Maddock, 2023). The difference in the nature of the effects between the CBPM domains and each aspect of burnout may be due to the fact that personal accomplishment, as highlighted by Schutte et al. (2000), develops independently from the other two burnout dimensions. Kristensen et al. (2005) highlighted that depersonalisation is likely a coping strategy when dealing with stress, with reduced personal accomplishment being a long-term consequence of stress. Worry and rumination are both highlighted as potential maladaptive avoidant coping strategies in the CBPM (Maddock, 2023), both of which increase when a social worker does not engage fully with the cognitive, emotional, and physical sequelae that accompanies difficult experiences, leading to increased stress and burnout. It is thus likely that when a social worker is feeling emotionally exhausted, or is depersonalising a service user, that this process is stimulated by repeated negative thinking, in the form of worry and/or rumination, and this is the reason why both were found to have an indirect effect on both emotional exhaustion and depersonalisation but not

personal accomplishment. Our results highlight, that should social workers experience reduced personal accomplishment, due to the accumulation of long-term stress, supporting increased self-compassion, mindfulness, non-aversion, non-attachment, and attention regulation/decentering e.g., through engagement in a support intervention, is likely to improve this outcome.

This study provides a greater theoretical understanding of what some of the psychological protective and risk factors for stress, emotional exhaustion, depersonalisation, and personal accomplishment in social workers might be, and how they might work. This study provides preliminary evidence supporting a mediated effects CBPM (Maddock, 2023) as an explanatory framework for how stress, emotional exhaustion and depersonalisation might be ameliorated in social workers. The results from this study highlight that the arrangements for the effects of the CBPM domains on personal accomplishment likely act in a direct manner. The theoretical clarity that this paper offers has potential implications for the self-care of social workers who are experiencing feelings of stress, emotional exhaustion, depersonalisation, and reduced personal accomplishment. The identification of each significant direct and mediated relationship between the CBPM domains and each outcome is an important contribution to the mindfulness and social work literatures. The identification of each may support the development of innovative self-care programmes that are specifically designed for social workers, in which active therapeutic components of the CBPM could be intensified to reduce feelings of stress, emotional exhaustion, depersonalisation, and improve personal accomplishment. One such programme, MBSWSC, which is underpinned by the CBPM has shown good evidence of acceptability and effectiveness at improving the stress, emotional exhaustion and depersonalisation in social workers, and social work students (Maddock et al., 2022, 2023, 2024).

## Limitations and Future Research

This study has several limitations, and its results should be observed with caution and considered preliminary. A primary limitation of this study is that the well-fitting mediated effects CBPM models for each outcome may be one of several possible models that fit the data equally well. The pattern of relationships among the variables is consistent with theoretical reasoning set out in the CBPM, but the data do not definitively prove that the relationships exist as they are presented in the model, despite the good fits between the mediated effects CBPM models and the data on perceived stress, emotional exhaustion, and depersonalisation of the social workers in this study (Schumacker & Lomax, 2016). The use of one data collection point means that conclusions regarding causality cannot be asserted

(Kazdin, 2007; Mathieu & Taylor, 2006). In addition, this study is only sufficiently powered to detect large effects and underpowered to control for type II error for small to medium effects. In order to control for type II error using bias-corrected bootstrapping, a sample size of 462 social workers would be needed for 80% power to detect small effects (Fritz & Mackinnon, 2007). The number of pathways tested likely reduced this study's power further and increased the potential for type II error. This may result in the analysis not detecting pathways that were statistically significant. The fact that the data were collected from a group of social workers from one country means that this paper's results are not generalisable to other countries.

Future research, which endeavours to investigate potential psychological protective and risk factors for stress and burnout in social work, might benefit from using the CBPM as a theoretical lens with social workers in different practice settings e.g., mental health and child protection social workers, as, in line with Kazdin (2009), these professionals, likely experience different reasons for their subjective feelings of stress and burnout, and thus the underlying risk and protective factors of both of these outcomes might be different. Further research replicating the CBPM model is needed to establish the validity and reliability of the CBPM over time and across other groups of social workers.

In conclusion, using a CBPM as a theoretical framework, this study aimed to provide a greater theoretical understanding of what some of the psychological protective and risk factors for stress, emotional exhaustion, depersonalisation and personal accomplishment in social workers might be, and how they might work. This study provided promising preliminary evidence for a mediated effect CBPM model as being a potentially useful explanatory framework of variation in social worker stress, emotional exhaustion, and depersonalisation. This study's results also suggest that acceptance could potentially have a direct effect on these outcomes. This study also provided evidence that a number of CBPM domains could have a direct effect on personal accomplishment. This study provides preliminary evidence that should social workers engage in support programmes, which have the capacity to improve each CBPM domain and mediating variable (worry and rumination), that they are likely to accrue reductions in stress, emotional exhaustion, and depersonalisation of service users, and improvements in personal accomplishment.

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**Data Availability** The data associated with this paper is available upon reasonable request.

## Declarations

**Competing Interests** The authors have no competing interests to declare that are relevant to the content of this article.

**Ethical Approval** This study was performed in line with the principles of the Declaration of Helsinki. Ethical approval was sought and granted from Research Ethics Committee, School of Social Sciences, Education and Social Work at Queen's University Belfast (REF\_204\_2021 and REF and REF\_167\_2122) for both RCTs, from which this study's data is drawn.

**Consent to Participate** Informed consent was obtained from all individual participants included in the study.

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