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Wellbeing, burnout, and safe practice among healthcare professionals: predictive influences of mindfulness, values, and self-compassion

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ABSTRACT

Poor wellbeing and burnout are significant issues among healthcare professionals (HCPs) and may contribute to unsafe practice. In this exploratory study, we aimed to: provide the first investigation of the combined and unique influences of these psychological factors in predicting safe practice; confirm the role played by mindfulness in relation to wellbeing, burnout and safe practice; and investigate whether values and self-compassion predict additional variability above and beyond mindfulness skills. Ninety-eight NHS staff completed measures of wellbeing, burnout, perceived safety of practice, mindfulness, values and self-compassion. Practitioners with higher perceived safety of practice reported higher levels of mindfulness, but not values or self-compassion, particularly lower experiential avoidance and nonjudgmental attitude toward difficult thoughts. Mindfulness explained significant variability in psychological distress (20%), emotional exhaustion (8%), cognitive weariness (10%), patient safety related to oneself (7%), and related to work (8%). Values (obstruction) added unique variance for psychological distress (12%) and physical fatigue (10%). Moreover, self-compassion explained a small yet significant portion of variability in emotional exhaustion. These preliminary findings suggest that mindfulness processes may be associated with perceived safety of practice. The results also indicate that mindfulness-based interventions for HCPs may benefit from the inclusion of values-based action components and self-compassion practices.

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Wellbeing; burnout; patient safety; mindfulness; values; self-compassion; worry and rumination

Introduction

Poor wellbeing and high levels of work-related stress are well documented in health-care professionals (HCPs) (Johnson et al., 2018; O'Connor et al., 2020). Prolonged symptoms of work-related stress can have serious consequences at an individual level (poor work-life balance, reduced quality of life, substance abuse and suicidality) and at an organisational level (high staff turnover, sickness absence, poor quality of care), both of which contribute to poor patient care (Hall et al., 2016; Johnson et al., 2018). When HCPs

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Supplemental data for this article can be accessed here.

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experience symptoms of distress following an error or near miss, they may be reluctant to seek help. As a consequence, depression, anxiety, shame and guilt are reported consistently (see Sirriyeh et al., 2010; Seys et al., 2013, for reviews). These effects may affect the health and wellbeing of 'second victims' – clinicians who encounter a medical error or witness adverse event (Stewart et al., 2015).

Given these challenges, we designed the current study to examine the potential influences of various psychological processes on both stress-related and patient safety outcomes among HCPs. Specifically, we explored the role played by a number of variables proposed by the theories underlying 'third wave' cognitive behavioural therapies, such as Acceptance and Commitment Therapy (ACT), mindfulness-based interventions (MBIs), and Compassion Focused Therapy (CFT) as important determinants of psychological wellbeing, alongside more established factors such as work-related worry and rumination. Specifically, we investigated the integration of values and self-compassion alongside mindfulness in explaining wellbeing, burnout and perceived safety of practice among health-care staff. It is hoped that the findings will hold practical implications for the design of ACT and mindfulness-based programs being delivered to staff in health-care settings. In particular, we intend to examine the congruency of this study's findings with recent discussions around integrating values-based behavioural processes within mindfulness interventions (Puolakanaho et al., 2020), and the potential benefits of integrating SC strategies within workplace ACT programs.

Mindfulness, values and self-compassion in health-care professionals

The first variable of interest in the current study is mindfulness. Mindfulness is commonly defined as 'paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally' (Kabat-Zinn, 1994, p. 4). Growing evidence suggests that mindfulness-based programmes are effective for improving wellbeing in HCPs (see Bartlett et al., 2019 for a review). These programmes also teach acceptance-based ways to interact with unwanted emotions as alternatives to unhelpful attempts to control or avoid these experiences (experiential avoidance) (Lindsay & Creswell, 2017).

Secondly, we are interested in investigating the role of values, which is explicitly included as the motivational and behavioural activation process within ACT's intervention model. Values are defined as one individual's freely chosen orientations (e.g., caring for others) that influence daily behaviours, goals and activities (e.g., caring for a severely ill patient) (Wilson, 2009).

The close integration of mindfulness and values-based processes has long been a feature in newer types of workplace cognitive behavioural programs, such as ACT (e.g., Bond & Bunce, 2000; Flaxman et al., 2013). However, little is known about the more specific role of values-based processes above and beyond mindfulness and, specifically, the degree to which both values progress (e.g., engaging in action that is consistent with personal values) and values obstruction (e.g., experiences of obstacles to pursuing such actions) uniquely influence psychological distress, burnout, and practice outcomes among health-care staff.

The third variable of interest is self-compassion (SC), the primary treatment target of Compassion-Focused Therapy (CFT; Gilbert, 2009). CFT aims to engender SC by helping participants reduce the amount of harshly comparative and self-critical thoughts

being experienced (self-kindness), by teaching self-reflection and self-awareness skills (mindfulness), and purposefully adopting a caring approach toward oneself, patients and colleagues (common humanity) (Neff, 2003). Several studies have shown that SC correlated positively with wellbeing in HCPs (Beaumont, Durkin, Hollins Martin et al., 2016; Beaumont, Durkin, Martin et al., 2016; Linley & Joseph, 2007).

In recent years, there has been growing interest in integrating SC processes in cognitive behavioural interventions with the overarching aim of helping clients to engage more fully in value-consistent behaviours with self-kindness and self-validation (Neff & Tirch, 2013; Polk et al., 2016). In health-care contexts, SC techniques can support employees to deal with negative emotions such as shame and guilt, especially in the face of errors and patient incidents. SC can help foster particular qualities such as self-kindness, self-awareness or recognizing one's own humanity. However, in the current literature little is known about the combined and unique influences of mindfulness, values, and SC on the psychological health and practice of HCPs.

Finally, we were interested in testing whether these variables together explain unique variance in addition to more established drivers of poor well-being and burnout in working populations, such as worry and rumination (Brosschot et al., 2006; Flaxman et al., 2012; O'Connor et al., 2021, 2013). In this study, we were interested in investigating work-related worry and rumination (work-related WR), defined as perseverative 'thought or thoughts directed to issues relating to work' (Cropley & Zijlstra, 2011, p. 6).

While previously separate strands of evidence suggest that each of the focal variables contribute to well-being in HCPs, it is unknown the extent to which they are associated with perceived safety of practice. Also, in terms of informing practice, it seems timely to investigate whether values and SC processes can account for unique variance in HCPs' wellbeing, burnout and perceived safety of practice beyond mindfulness alone. Understanding the unique effects for one or more of these variables allows us to understand which processes should be optimally targeted within existing mindfulness programs that are being delivered in the workplace, and particularly to staff in health-care organisations.

Primary aims

(1) To investigate the association between mindfulness, values, self-compassion, work-related worry and rumination and perceived safety of practice in a sample of NHS staff;
(2) To confirm the role played by mindfulness in explaining wellbeing, burnout and perceived safety of practice in HCPs;
(3) To explore whether values contribute unique variance in explaining wellbeing, burnout and perceived safety of practice after accounting for mindfulness;
(4) To explore whether self-compassion (SC) contributes unique variance in explaining wellbeing, burnout and perceived safety of practice after accounting for mindfulness and values.

Secondary aim

(1) To explore whether mindfulness, values and SC explain unique variability in wellbeing, burnout and safety of practice beyond work-related WR.

Method

Design

A cross-sectional questionnaire-based study. The ethical approval was granted by the School of Psychology Research Ethics Committee (ref#17-0212 accepted on 22/07/2017) and the Health Research Authority R&D approval (ref#18/HRA/0200 accepted on 21/09/2017).

Participants

Of a total of 146 participants who showed interest in the study, 98 staff (90.8% female) within the NHS in West Yorkshire, England returned both the consent form and the questionnaire and, thus, were included in the study. The mean age was 42.97 years (SD = 10.18). On average, staff reported working 34.14 (SD = 8.5) hours per week and a mean of 8.06 (SD = 7.59) years in the current role. Forty-eight percent of staff reported working full time with the remainder working part-time.

Measures

Participants completed the survey via Bristol Online Survey (BOS).

Procedure

The NHS employees were contacted via the NHS Leeds primary care managers who sent out posters and advertisements for taking part in this research. If participants were interested in the research, primary care managers would send a link with the Participant Information Sheet and a consent form to take part.

Mindfulness, values and self-compassion

Mindfulness was measured by following the compartmentalisation of attention monitoring and acceptance mechanisms suggested by Lindsay and Creswell (2017). The mechanism of attention monitoring was assessed with the Observing subscale of the Five Facet Mindfulness Questionnaire (FFMQ) (Baer et al., 2008). The acceptance component of mindfulness was assessed with the Distress Endurance subscale of the Multidimensional Experiential Avoidance Questionnaire (MEAQ) (Gámez et al., 2011) and the FFMQ facets of Nonjudgment and Nonreactivity. Each subscale, except for the MEAQ, was composed of three items. Higher scores indicate higher acceptance. The Cronbach's α for the MEAQ was .90, for the FFMQ-Observing was .70, for the FFMQ-Nonjudment was .78, and the FFMQ-Nonreactivity was .80.

Values. Values-based behaviour was assessed with the Valuing Questionnaire (Smout et al., 2014). This 10-item scale is designed to assess people's ability to engage in actions that are consistent with their personal values (values progression), and also their experiences of internal obstacles to pursuing such actions (values obstruction). The Cronbach's α in the current study was .79 for the progress component and .74 for the obstruction subscale.

Self-Compassion was measured with the short-form 12-item Self-Compassion Scale (Raes et al., 2011). The Cronbach's α in the current study was .83 for the total scale.

Work-related worry and rumination was measured with two 5-item questionnaires capturing affective rumination (Cropley et al., 2012) and perseverative cognition (Flaxman et al., 2012). The Cronbach's α for the combined worry and rumination scale was .93.

Psychological health outcomes and perceptions of safe practice

Perceived safety of practice

Perception of safe practice was measured using the Safe Practitioner measure via the following two items: 'In the past four weeks, my practice was not as safe as it could be because of work-related factors/conditions' (individual perceptions of safe practices about work); and, 'My practice is safe' (individual perceptions of safe practice about one's self). These measures were validated in previous studies (Louch et al., 2016, 2017).

Wellbeing

We used the 12-item General Health Questionnaire 12 (Goldberg & Williams, 1988) to assess recent symptoms of distress. The Cronbach's α in the current study was .84 for the total scale.

Burnout

The 14-item Shirom-Melamed Burnout Measure (Shirom & Melamed, 2006) was employed to measure work-related burnout. The Cronbach's α in the current study was .90 for the total scale (α = .86 physical fatigue; α = .94 emotional exhaustion; α = .94 cognitive weariness).

Statistical analyses

For the main analyses, we employed the GHQ Likert method. Caseness of psychological distress was also calculated by using a GHQ-scoring method, with scores greater than 4 points indicating symptomatic levels of distress (Russ et al., 2012). Missing data analysis are reported in supplementary materials.

Statistical analyses were conducted in SPSS (version 24). Pearson's correlations between variables of interest were examined, and effect sizes were interpreted as r= .10 weak, r= .25 moderate, and r= .40 strong effects (Cohen, 1988). Hierarchical regression analyses were conducted, after having controlled for age, length of time in the current role, number of hours typically worked in a week and mindfulness practice. Four hierarchical regressions were tested to explore whether: 1) mindfulness explained psychological distress, burnout (physical fatigue, emotional exhaustion, cognitive weariness) and perceived safety of practice; 2) values would add a unique contribution to mindfulness in explaining

psychological distress, burnout, and perceived safety of practice; 3) SC would add a unique contribution, after mindfulness and values, in explaining psychological distress, burnout, and perceived safety of practice; 4) psychological distress, burnout, and perceived safety of practice could be explained by the addition of mindfulness, values and self-compassion mechanisms together (step 2) to work-related worry and rumination (step 1).

Results

Descriptive statistics

Means, standard deviations and correlations for the outcomes and process measures are reported in Table 1. The mean GHQ-12 score was just above the cut-off indicating a symptomatic level of distress (M = 15.75, SD = 4.90) with participants reporting scores across the whole range of the scale: highly symptomatic (26.5), symptomatic (34.7), subclinical (22.4%), and asymptomatic (15.3%).

Associations between mindfulness, values, self-compassion, work-related worry/ rumination and perceived safety of practice

The participants who reported that their practice was unsafe were also less willing to accept unpleasant thoughts and emotions (mindfulness-EA) (r= .22, p = .03), and were making more judgments about their inner experience (mindfulness-nonjudgment) (r= .25; p = .01). Participants who reported that their practice was unsafe because of work-related conditions reported that they were less able to pay attention without judgment (mindfulness-nonjudgment) (r= −.32, p= .002), and had higher levels of work-related worry and rumination about work (r= .27, p= .008).

Role of mindfulness and values in explaining psychological distress, burnout and safe practice perceptions

Regarding mindfulness, for psychological distress, at step 1, mindfulness-nonjudgment together with mindfulness-nonreactivity were found to be significant predictors, F (4, 93) = 7.176, p = <.001, accounting for 20% variance (see step 1 for each regression model in Table 2). For physical fatigue, mindfulness at step 1 was not found to be a significant predictor, F (4, 93) = 2.281, p= .066. For emotional exhaustion, mindfulness-nonjudgment at step 1, F (4, 93) = 3.157, p = .02, was found to be significant explaining 8% of the variance. For cognitive weariness, experiential avoidance (β = −.21, p = .04) and mindfulness-nonjudgment (β = −.23, p = .04), at step 1 explained 10% of the variance. For both perceived safety of practice related to one's self (β = .27, p = .003) and perceived safety of practice related to work (β = −.33, p = .02), mindfulness-nonjudgment alone explained, respectively, 7% and 8% of the variance.

Table 1. Pearson's correlations between main study variables (N = 98).

	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Psychological distress (1)	15.75	4.91	1	**.50****	0.11	**.43****	0.18	-0.11	-0.04	-0.13	**-.42****	**-.40****	**.52****	**-.29****	**-.38****	**.46****
Physical fatigue-burnout (2)	3.81	.97		1	**.26***	**.56****	**.20***	-0.0	0.03	-0.05	**-.25***	**-.24***	**.37****	**-.256***	**-.27****	**.48****
Emotional exhaustion-burnout (3)	2.78	1.29			1	**.29****	0.13	-0.12	0.07	-0.12	**-.30****	**-.21***	0.17	-0.062	0.001	**.34****
Cognitive weariness-burnout (4)	3.85	1.33				1	**.21***	**-.20***	**-.26****	-0.10	**-.30****	-0.15	**.32****	**-.256***	-0.194	**.37****
Patient safety (work) (5)	1.91	1.07					1	**-.54****	-0.16	0.05	**-.32****	-0.07	0.15	-0.085	-0.108	**.27***
Patient safety (self) (6)	1.83	0.89						1	**.22***	-0.05	**.25***	-0.01	-0.09	0.094	0.03	-0.10
Mindf- exp avoidance (DE) (7)	41.63	7.63							1	0.03	**.22***	0.05	**-.22***	**.30****	0.12	-.049
Mindfulness-observing (8)	8.76	2.71								1	0.18	**.35****	-0.16	**.38****	**.44****	-0.16
Mind-nonjudgment (9)	9.64	3.08									1	**.43****	**-.42****	**.36****	**.46****	**-.36****
Mindfulness - nonreactivity (10)	8.06	2.54										1	**-.42****	**.47****	**.41****	**-.42****
Values- obstruction (11)	19.02	5.72											1	**-.34****	**-.31****	**.29***
Values-progression (12)	21.5	5.80												1	**.40****	-0.13
Self-compassion (13)	31.98	7.67													1	**-.24***
Work-related worry and rumination (14)	14.95	4.83														1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).DE: distress endurance subscale.

Table 2. Hierarchical linear regression models testing the relationship between mindfulness, values and self-compassion and psychological health

		Predictors	β step 1	β step 2	β step 3	R2 change for step	Total ΔR2
		Psychological distress					
Step 1	Mindfulness	Exp Avoidance (DE)	.05	.13	.13		**.20****
		Mindfulness-Observing	.03	.05	.11		
		Mindfulness-Nonjudgment	**-.31****	**-.20***	-.14		
		Mindfulness-Nonreactivity	**-.28***	-.14	-.12		
Step 2	Values	Values-Progression		-.08	-.06	**.12****	**.31****
		Values-Obstruction		**.39****	**.38****		
Step 3	Self-Compassion	Self-Compassion			**-.20**	.02	.33
		Physical fatigue					
Step 1	Mindfulness	Exp Avoidance (DE)	.09	.18	.18		.05
		Mindfulness-Observing	.05	.09	.15		
		Mindfulness-Nonjudgment	-.20	-.09	-.04		
		Mindfulness-Nonreactivity	-.17	-.02	.00		
Step 2	Values	Values-Progression		-.20	-.18	**.10****	**.14****
		Values-Obstruction		**.31****	**.30****		
Step 3	Self-Compassion	Self-Compassion			-.17	.02	.15
		Emotional exhaustion					
Step 1	Mindfulness	Exp Avoidance (DE)	.14	.13	.13		**.08***
		Mindfulness-Observing	-.05	-.07	-.15		
		Mindfulness-Nonjudgment	**-.29****	**-.29****	**-.37****		
		Mindfulness-Nonreactivity	-.08	-.09	-.11		
Step 2	Values	Values-Progression		.09	.06	.00	.07
		Values-Obstruction		.06	.07		
Step 3	Self-Compassion	Self-Compassion			**.26***	**.04***	**.11***
		Cognitive weariness					
Step 1	Mindfulness	Exp Avoidance (DE)	**-.21***	-.15	-.15		**.10***
		Mindfulness-Observing	-.05	-.02	-.01		
		Mindfulness-Nonjudgment	**-.23***	-.17	-.16		
		Mindfulness-Nonreactivity	-.03	.07	.07		
Step 2	Values	Values-Progression		-.11	-.11	.04	.12
		Values-Obstruction		.20	.20		
Step 3	Self-Compassion	Self-Compassion			-.02	.00	.11
		Patient Safety related to one's self					
Step 1	Mindfulness	Exp Avoidance (DE)	.17	.16	.16		**.07***
		Mindfulness-Observing	-.06	-.07	-.05		
		Mindfulness-Nonjudgment	**.27****	**.27****	**.29****		
		Mindfulness-Nonreactivity	-.12	-.13	-.12		

(*Continued*)

Table 2. (Continued).

		Predictors	β step 1	β step 2	β step 3	R2 change for step	Total ΔR2
Step 2	Values	Values-Progression		.04	.05	.00	.05
		Values-Obstruction		.00	.00		
Step 3	Self-Compassion	Self-Compassion			-.07	.00	.04
		Patient Safety related to work					
Step 1	Mindfulness	Exp Avoidance (DE)	-.09	-.09	-.09		**.08***
		Mindfulness-Observing	.09	.10	.10		
		Mindfulness-Nonjudgment	**-.33****	**-.32****	**-.32****		
		Mindfulness-Nonreactivity	.04	.05	.05		
Step 2	Values	Values-Progression		.01	.01	.00	.06
		Values-Obstruction		.03	.03		
Step 3	Self-Compassion	Self-Compassion			-.01	.00	.05

Note: DE: Distress endurance
** p<.005
* p<.05

Testing the unique influence of values in explaining psychological distress, burnout and perceived safety of practice

Introducing values obstruction after mindfulness did significantly enter the regression equation (see step 2 for each regression model in Table 2) for psychological distress (β = .39, p = <.001), contributing 12% of unique variance, and for physical fatigue (β = .31, p = .007), contributing 10% of unique variance. Values did not enter the regression equation for cognitive weariness, emotional exhaustion, or perceptions of patient safety.

Testing the unique influence of self-compassion in explaining psychological distress, burnout and perceived safety of practice

After controlling for both mindfulness and values, self-compassion was found to be a significant predictor of the emotional exhaustion component of burnout, explaining an additional 4% of variance (see step 3 for each regression model in Table). However, SC was not a unique predictor of psychological distress, physical fatigue, cognitive weariness, or safe practice.

Secondary aim

Combined measures of mindfulness, values and SC added 23% of unique variance after work-related worry and rumination were included in the models in explaining psychological distress, 14% to physical fatigue and 12% to the cognitive weariness component of burnout (see Supplementary Table 1).

Discussion

Three main findings emerged from this study. First, it was found that those who reported that their practice was unsafe presented higher scores in EA and lower scores in the nonjudgment component of mindfulness. Second, values explained unique variance in psychological distress and physical fatigue, above and beyond the influence of attentional and attitudinal facets of mindfulness. Third, SC explained unique variance in emotional exhaustion after both mindfulness and values were included in the models. These findings lend support to the view that mindfulness-based programs delivered in the workplace could be enhanced by the inclusion of values based behavioural activation component (e.g., Puolakanaho et al., 2020).

To the best of our knowledge, this is the first study to investigate relationships between variables such as specific components of mindfulness, values, and SC in relation to perceived safety of healthcare practice. These findings are important because they suggest that mindfulness processes could affect the perceived safety of practice in several ways. Considered prospectively, EA could lead to avoidance of difficult emotions that might arise with the need to change behaviour in the service of implementing safe practice. Or perhaps the relationship between these variables is explained by participants who have

made mistakes at work, trying to avoid having the emotions and thoughts that come along with reflecting on one's mistakes.

The findings may also have practical implications for mindfulness-based interventions in the workplace. For example, staff who perceive themselves to have made a mistake may benefit from a mindfulness-based approach with an acceptance focus – on developing their ability to open-up to associated aversive emotions, like fear and anxiety. Similarly, it may be that training HCPs to notice their EA could lead to better patient safety of practice. Disentangling the direction of the relationships between EA and safety practices will allow us to know which intervention strategies are likely to be most effective. To this end, prospective study designs, such as daily diary studies, are recommended.

Commensurate with several previous studies (McCracken & Yang, 2008; Noone & Hastings, 2011; Vilardaga et al., 2011), findings from this study also confirm the role played by mindfulness and values in explaining significant proportions of variance in psychological distress (31%), and several aspects of burnout: physical fatigue (14%), emotional exhaustion (8%), and cognitive weariness (10%).

With regards to our second aim, SC explained a small yet statistically significant portion of additional variance (4%) in emotional exhaustion once mindfulness facets and values-based behaviour had been accounted for. These results are compatible with previous reviews of research involving HCPs showing the potential role of SC in helping HCPs reduce stress and increase clinical effectiveness (Raab, 2014). Based on the conservation of resources (COR) conceptualisation of job burnout, the emotional exhaustion measure used in this study was specifically capturing HCPs' emotional resources for offering interpersonal support at work (an example item was 'I feel I am not capable of investing emotionally in co-workers and patients'). Accordingly, the predictive role of SC in relation to this aspect of burnout implies that an increase in self-compassion could provide HCPs with adequate resources for helping co-workers and patients without becoming personally over-depleted (Shirom, 2003). In terms of the intervention implications, this unique relationship observed between SC and emotional exhaustion (above and beyond both mindfulness and values) suggests that workplace programs targeting staff burnout would benefit from the deliberate cultivation of SC around existing strategies (see Polk et al., 2016; Tirch, 2010).

Results from this exploratory study should be interpreted cautiously given a number of limitations. First, while the findings regarding relationships between EA and perceived safe practice are novel, causality cannot be assumed due to the cross-sectional design employed. Second, self-report and not behavioural measures were used. Third, a relatively small convenient sample of NHS staff in England were recruited, potentially reducing the generalisability of results.

In conclusion, this study has shown that the attitudinal facets of mindfulness (i.e., EA and nonjudgment) are associated with perceptions of safe practice among HCPs. The findings suggest that practitioners who adapt mindfulness-based interventions for workplace settings could consider the potential of integrating techniques designed to promote mindful awareness of values-oriented behaviour. Similarly, our results suggest that mindfulness programmes delivered to reduce burnout among health-care staff could be enhanced by integrating processes that target SC.

Disclosure statement

The authors report no conflict of interest.

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