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ORIGINAL PAPER

Fears and Resistances to Mindfulness: Development of a Self-Report Scale

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Abstract

Objectives The aim of the study was to develop a new self-report scale to explore the "fears, blocks and resistances of mindfulness". Currently, there is no scale to identify individuals who may struggle with engaging in mindfulness.

Method A total of 522 participants were invited to take part in the study from three countries: Australia ($n=199$), Portugal ($n=160$), and the UK ($n=163$). Participants completed a range of self-report scales including the newly developed Fears and Resistances to Mindfulness (FRM), Fears of Compassion, Depression, Anxiety and Stress Scales, Forms of Self-criticising/Attacking and Self-Reassuring, and the Five Facet Mindfulness Questionnaire.

Results Factor analyses suggested the scale comprised 2 factors. One was related to fears of paying attention to what arises within one's mind. The second factor was related to resistances, i.e. that mindfulness is a waste of time. Seven items were filler items, and 5 items were identified as problematic due to low communalities or cross-loading; therefore from the original 31 items, 19 were retained in the final scale, which demonstrated excellent internal consistency (McDonald's $\Omega=0.90$ for both scales), good construct validity, and temporal stability. Blocks to mindfulness did not emerge as a separate factor.

Conclusions This is the first study to specifically explore fears and resistances to mindfulness and their associations with fears of compassion, self-criticism, and mental health difficulties. Data suggested that fears and resistances are distinct constructs and should be measured independently. The new measure can offer insights in to fears and resistances to mindfulness, and future research can explore how to work with them.

Preregistration This study was not preregistered.

Keyword Fears · Resistance · Mindfulness · Meditation · Buddhism · Psychometric

Long before Pierre Janet and Sigmund Freud presented their psychoanalytic concepts of the mind, humans were aware that there is much that goes on in our minds that frightens us (Ellenberger, 1970). Indeed, we can be so fearful of some of our dreams, thoughts, feelings, and memories that we block them out with various defences such as dissociation and denial (Dell & O'Neil, 2009; Ellenberger, 1970; Greenberg & Mitchell, 1983; Van der Hart et al., 2006) and the use of drugs and alcohol (Brown & Stewart, 2008). In their classic review of the function of a variety of psychological therapies, Hayes et al. (1996) pointed out that helping people develop tolerance for feared or overwhelming emotions and memories is a central therapeutic focus of nearly all psychotherapies. Certainly, the central basis of the early psychoanalytic therapies was to facilitate people's ability to become aware of, tolerate and work with desires, emotions and memories that they found overwhelming and frightening and had repressed, denied or dissociated from (Dell & O'Neil, 2009; Ellenberger, 1970; Rice & Hoffman, 2014). Later therapies dropped the psychoanalytic concepts such as

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repression, sublimation, denial and concerns with nonconscious processing, and explored various multifactorial and social contextual approaches to the more generic concept of *experiential avoidance* (Boulanger et al., 2010).

Against this background, mindfulness is a process which actively encourages and guides individuals to pay attention to, and to get to know, their own minds (Hanh, 2020; Kabat-Zinn, 2005). It is rooted in learning to deliberately pay attention to the contents of one's mind at any moment. Focused attention involves attending to a specific focus such as the breath, whereas open attention focuses on observing the fluctuating patterns of one's thoughts, emotions, and memories. Openness means we enable ourselves to experience what arises without judgement, and do not try to avoid or suppress those thoughts and feelings which arise. However, Van Dam et al. (2018) raised concerns about the proliferation of mindfulness practices, not only in terms of the definition of mindfulness, but also in terms of how and what is taught, opening the practices to harmful effects.

One of the major applications of mindfulness has been to psychotherapy (Didonna, 2009; Germer et al., 2013, 2017; Gilbert & Simos, 2022; Pollak et al., 2014). The concept of mindfulness is partly derived from the Pali word *Sati*, which is a complex concept that relates to training one's mind to become more "aware" by remembering to deliberately and consciously pay attention to (observe) the flow of the mind rather than being lost in its automatic (nonreflective) processes (Gilbert & Choden, 2013; Kabat-Zinn, 2015). People can be guided to distinguish awareness and consciousness from the content of awareness and to see some of the arising difficult thoughts or feelings to be like leaves on a stream or clouds in the sky and to let them pass through without "holding them". Over time, such mind training enables us to distinguish the contents of our minds from the (conscious) nature of our minds and understand that ultimately all things are co-dependent and in flux, hence there is no permanent separate self—although the latter is a somewhat advanced form of insight (Van Gordon et al., 2021).

However, it has been noted that we rarely just have thoughts as thoughts. What comes into our zone of experience can be complex brain and body states and it is these accompanying emotional textures that constitute the most difficult aspects of awareness (Gilbert, 2022a, b). In addition, inwardly focusing attention, opening awareness and remembering to pay attention to what arises in the mind can lead people into exactly the problems that psychotherapists come across daily. Becoming an observer to one's mind is very difficult for some people because what arises can link to difficult personal histories, current crises, the activation of threat emotions and images, and feeling out of control. These in turn can trigger avoidance and may require therapeutic guidance (Germer et al., 2013; Gilbert & Simos, 2022).

While there is considerable evidence for the benefits of mindfulness, both by itself and when integrated into various psychotherapies (Cavanagh et al., 2014; Germer et al., 2013; Khoury et al., 2013; Pollak et al., 2014), there are also increasing concerns with the potential problems noted above with mindfulness and its potential to have distressing effects (Shapiro, 1992; Farias & Wikholm, 2015; Lindahl et al., 2017; Cebolla et al., 2017; Aizik-Reebs et al., 2021; Baer et al., 2019; for a review see Taylor et al., 2022). Lomas et al. (2015) argued that meditation is a difficult skill to learn and practice, troubling thoughts and feelings can arise that can be hard to manage, and some meditations exacerbate mental health issues (depression and anxiety). Britton et al. (2021) administered the meditation experiences interview developed by Lindahl et al. (2017). This measures 6 domains of functioning such as emotions, executive functioning and perceptual changes. In their sample of 96 participants, they found that between 37% and 58% had negative experiences, of which 6% to 14% had lasting effects. Common difficulties were re-experiencing trauma, time–space distortions, anxiety and panic. Baer et al. (2021) explored the potential harmful effects with an 8-week Mindfulness-Based Cognitive Therapy course in two nonclinical samples: schoolteachers and university students. Across both samples ($n = 158$), between 3% and 7% reported difficult experiences and deterioration of symptoms. Baer et al. (2021) also found that a number of people had initial difficulties such as agitation with the practice, addressing difficult emotions, or dealing with other issues in their lives, but most were able to work through them. This suggests that although some people may struggle with aspects of mindfulness, there is a potential to overcome these and benefit from it.

Presently, it is unclear which individuals are likely to experience adverse effects and the reasons for them. Aizik-Reebs et al. (2021) note that, in their sample of 82 participants, although a quarter of participants experienced sustained adverse effects in daily life following their 3-week mindfulness intervention, these were not predicted by either momentary adverse effects or vulnerability factors assessed at pre-intervention. This suggests the need for measures that enable early identification of potential problems people may experience with mindfulness, which are not directly measured by established mindfulness measures such as: the Kentucky Inventory of Mindfulness Skills (Baer et al., 2004), the Mindful Attention Awareness Scale (Brown & Ryan, 2003), the Freiburg Mindfulness Inventory (Walach et al., 2006), the Comprehensive Inventory of Mindfulness Experiences (Bergomi et al., 2014), the revised Cognitive and Affective Mindfulness Scale (Feldman et al., 2007), or the Five Facet Mindfulness Questionnaire (Baer et al., 2006). The Mindfulness-Based Self-Efficacy scale–revised (MSES-R; Cayoun et al., 2022) does explore people's *beliefs* in their ability to reduce their suffering, with items categorised into domains of emotion regulation, social skills, equanimity, distress tolerance, taking responsibility and interpersonal effectiveness. However, although the measure is useful for exploring the role of self-efficacy in mindfulness, it does not directly explore people's opinions about mindfulness as a concept and the fears, blocks and resistances (FBRs) associated with these thoughts.

Clearly, if people are frightened of mindfulness, or feel it is a waste of time, they will not put themselves forward for mindfulness training and therefore will not be picked up in studies on the impact of mindfulness. It is therefore important to explore these fears in the general public. Following on from some of our other studies on fears of processes such as negative emotions (feeling and expressing; Gilbert et al., 2014a); fears of happiness (Gilbert et al., 2014a, b, c) and fears, blocks, and resistances to the flows of compassion (Gilbert et al., 2011; Kirby et al., 2019), we sought to develop *a fears, blocks and resistances (FBRs) of mindfulness* scale. Briefly stated, fears relate to concerns with engaging in an activity and the consequences of such; blocks relate to processes such as being open to the activity but lacking knowledge of what to do, opportunity, or feeling "too busy"; resistances are linked to active rejection due to cost (in time, resources, or meaningfulness) or seeing it as against one's values, for instance viewing mindfulness as part of a different religion. These processes will be referred to as FBRs. Understanding FBRs can help to determine *why* some people struggle to benefit from mindfulness and *who is* likely to struggle. Having a measure that can help to identify FBRs to mindfulness can facilitate awareness in mindfulness participants, trainers, and in clinical practice, and enable research on how to address them.

The aim of this study was to explore people's ideas about inward directed attention as mindfulness and the FBRs associated with mindfulness, and to develop a new scale to measure these constructs. Exploring for and identifying FBRs could be important to anticipate and address, especially in moving mindfulness training into different areas such as schools and businesses. Hence, this study generated a set of questions to tap potential FBRs and explore the psychometric properties (internal consistency, validity and temporal stability) of the new scale. We also wanted to explore these "mindfulness" FBRs with FBRs for compassion, the tendency to be self-critical, depression, anxiety, stress, and the different facets of mindfulness.

Method

Participants

British Recruitment

University of Derby students were asked to complete the questionnaires either online or in paper form. From the 195 students who participated in the study, 32 had only partially completed the study or were identified statistically as outliers in more than one variable, and were removed from the dataset ($n = 163$). The final sample consisted of 115 females and 48 males with ages ranging from 18 to 63 years ($M = 27.58$, $SD = 10.7$).

To examine the test–retest reliability of the scales, another smaller sample of University of Derby students were asked to complete the scales initially and after 2 weeks. The final sample consisted of 29 participants (25 females and 4 males), with ages ranging from 19 to 56 years ($M = 29.31$, $SD = 11.33$).

Australian Recruitment

Participants were recruited online via a survey platform website, Prolific (www.prolific.co), and paid upon study completion. This produced an SPSS data output file downloaded by the researchers upon the completion of data collection. Eight were identified statistically as outliers in more than one variable, or were incomplete responses, and were removed from the dataset ($n = 199$). The final sample consisted of 95 females, 102 males and 2 participants who had selected "prefer to self-define" with ages ranging from 18 to 68 years ($M = 30.31$, $SD = 10.09$).

Portuguese Recruitment

This sample included 166 University of Coimbra students. Six were identified statistically as outliers in more than one variable, or had only partially completed the study, and were removed from the dataset ($n = 160$). The final sample consisted of 97 females, 61 males and 2 participants who had selected "prefer not to share", with ages ranging from 18 to 62 years ($M = 29.72$, $SD = 12.55$).

All participants were recruited via online tools (www.qualtrics.com; Qualtrics, Provo, UT), which produced the SPSS data output file downloaded by the researchers upon the completion of data collection.

Procedure

All procedures received approval by the Psychology Research Ethics Committee at the University of Derby. The Portuguese research team translated the scales for use in the Portuguese sample, and the back translations were examined by a bilingual researcher to assess accuracy and fidelity of the original scales. All measures were completed either on paper or online via Qualtrics (Qualtrics, Provo, UT). The only demographic data collected were gender and age. All research participants who wished to participate were provided an information sheet with an explanation of what the study involved, provided their consent, and were given as much time as they required to fill in the questionnaires. All participants were then provided with a debriefing sheet at the end of the study.

Measures

Fears and Resistances to Mindfulness

The Fears and Resistances to Mindfulness scale was developed to measure people's potential FBRs to mindfulness and

mindfulness practice. In developing our scale, we chose to follow the same basic processes for our research in the fields of compassion where a distinction can be made between a fear, a block, and a resistance (Gilbert et al., 2011; Kirby et al., 2019). We started with a simple approach of one of the authors, PG, noting common concerns from his own clinical practice, and from running mindful compassion retreats with Choden, a Buddhist monk (Gilbert & Choden, 2013). Secondly, we gathered reflections from other mindfulness trainers (PG is a patron of the mindfulness association UK, https://www.mindfulnessassociation.net, and has a number of colleagues in that association). Anecdotally, and without any systematic effort at classification, they seemed to be around: (1) just sitting and paying attention to (say) the breath and what arises; (2) becoming aware of the contents of their mind, which were sometimes difficult emotions and memories, and (3) becoming "non-judgmental observers" of their mind. Individuals can become self-critical if they feel they are "not doing it right".

From the items generated, a total of 31 items were selected. Participants were given the outline as:

We can often experience our minds as full of different thoughts, feelings, desires, wants and wishes. One thought can lead to another and we can get caught up in loops of thoughts and feelings. To help us not get so caught up in these "loops", it can be useful to help the mind to settle just by paying attention, becoming observant and noticing what is in our minds, without following or reacting to these thoughts, feelings or desires. This is sometimes called mindfulness or being mindful. We

Table 1 The original Fears and Resistance to Mindfulness scale which was administered to participants

		Not at all like me				Extremely like me
1	I am happy observing my mind*	1	2	3	4	5
2	I feel uncomfortable if there is nothing for me to think about	1	2	3	4	5
3	I try to keep my mind active	1	2	3	4	5
4	I get fidgety and restless when I try and settle my mind	1	2	3	4	5
5	I'm often trying to escape from my thoughts	1	2	3	4	5
6	I like having times when I'm silent and can let my mind settle*	1	2	3	4	5
7	I get anxious if I don't have anything to occupy my mind	1	2	3	4	5
8	I have better things to do than sitting trying to settle my mind	1	2	3	4	5
9	I don't want to think about what goes on in my mind	1	2	3	4	5
10	There are things that I try not to think about	1	2	3	4	5
11	Slowing and quietening my mind is something I would like to practice more*	1	2	3	4	5
12	Meditating to settle one's mind is a waste of time	1	2	3	4	5
13	People spend too much time trying to calm themselves down rather than getting on with life	1	2	3	4	5
14	I'm fearful of slowing down my mind	1	2	3	4	5
15	I worry that if I slow my mind down worrying thoughts will come up	1	2	3	4	5
16	I don't like there being nothing to think about	1	2	3	4	5
17	Settling my mind is too difficult to even try	1	2	3	4	5
18	Paying attention to what goes on in my mind is very helpful*	1	2	3	4	5
19	Stilling my mind is just not me	1	2	3	4	5
20	Slowing and quieting my mind will mean I will be less productive	1	2	3	4	5
21	When I try and settle my mind I become anxious	1	2	3	4	5
22	I don't want to quieten or settle my mind	1	2	3	4	5
23	Trying to be mindful is a waste of time when I could be doing something else	1	2	3	4	5
24	Settling my mind is something that brings relief*	1	2	3	4	5
25	I fear if I focus on settling my mind I will be more selfish	1	2	3	4	5
26	Settling my mind is self-indulgent	1	2	3	4	5
27	A settled mind for me is a healthy mind*	1	2	3	4	5
28	A silent mind is a weakness	1	2	3	4	5
29	The voice in my mind is too hostile to try settling it	1	2	3	4	5
30	Nothing good comes of looking too deeply into one's mind	1	2	3	4	5
31	We might all be better off if people took a little time to settle their mind and became more mindful of themselves and others*	1	2	3	4	5

*Reverse-scored filler items which were removed in the analysis

are interested in how people experience times when they let their minds settle by being mindful—just observing the flow of one's thoughts or feelings. Some people try to have experiences like this, letting their mind settle and becoming stiller, whereas other people do not like having something to focus on or being less active. We are just interested in your experiences. There are no right or wrong answers.

From the 31 items, there were 7 items were reverse-scored and used as filler items; these were removed prior to analysis. The responses were rated on a 5-point Likert scale (ranging from 1 = *not at all like me*, to 5 = *extremely like me*). The 31-item scale and the response format are shown in Table 1.

Fears of Compassion Scale

The Fears of Compassion scale (Gilbert et al., 2011) measures three compassion-related fears: fear of compassion for self (compassion we have for ourselves when we make mistakes or things go wrong in our lives); fear of compassion from others (the compassion we experience from others); and fear of compassion for others (compassion we feel for others related to our sensitivity to other people's thoughts and feelings). Fears of compassion for Self is composed of 13 items (e.g. "I worry that if I start to develop compassion for myself I will become dependent on it"), Fears of compassion from Others includes 15 items (e.g. "I try to keep my distance from others even if I know they are kind"), and Fears of compassion for Others includes 13 items (e.g. "Being too compassionate makes people soft and easy to take advantage of"). The items are rated on a 5-point Likert scale (0 = *Don't agree at all*, 4 = *Completely agree*). Cronbach alphas were 0.85 for fears of compassion for self, 0.87 for fears of compassion from others, and 0.78 for fears of compassion for others (Gilbert et al., 2011).

The Forms of Self-Criticising/Attacking and Self-Reassuring Scale (FSCRS)

The FSCRS (Gilbert et al., 2004) was developed to measure self attacking forms of criticism and the ability to self-reassure. It is a 22-item scale, which measures different ways people think and feel about themselves when things go wrong for them. The items make up three components. Two of these are self-attacking forms of self-criticalness: inadequate self, which focuses on a sense of personal inadequacy ("I am easily disappointed with myself"), and hated self, which measures the desire to hurt or persecute the self ("I have become so angry with myself that I want to hurt or injure myself"). The third component taps into one's ability to self-reassure, called reassured self ("I am able to remind myself of positive things about myself"). The responses are given on a 5-point Likert scale (ranging from 0 = *not at all like me*, to 4 = *extremely like me*). Cronbach's alphas were 0.90 for inadequate self and 0.86 for hated self and reassured self, respectively.

Five Facet Mindfulness Questionnaire (FFMQ)

The FFMQ is a 39-item scale (Baer et al., 2006) that measures five aspects of mindfulness: Observation, which refers to observing inner experiences (e.g., "I pay attention to sensations, such as the wind in my hair or sun on my face"); Description (of experiences, e.g., "I can easily put my beliefs, opinions and expectations into words"); Aware Actions, referring to acting with awareness (e.g., "I find it difficult to stay focused on what's happening in the present"); Nonjudgement (of inner thoughts; e.g., "I make judgments about whether my thoughts are good or bad"); and Non-reactivity (to inner experience; e.g., "I perceive my feelings and emotions without having to react to them"). Items are rated on a 5-point Likert scale ranging from 1 (*Never true*) to 5 (*Always true*). The FFMQ has been found to have adequate to good reliability, with alpha coefficients ranging from 0.75 to 0.91 for the subscales (Baer et al., 2006).

Depression Anxiety Stress Scales–Short Form (DASS-21)

The DASS-21 (Lovibond & Lovibond, 1995) is a shortened version of the Depression Anxiety Stress Scales (DASS-42) and consists of 3 subscales measuring Depression (e.g., "I felt downhearted and blue"), Anxiety (e.g., "I was aware of dryness in my mouth"), and Stress (e.g., "I found it difficult to relax"). Participants are asked to rate how much each statement applied to them over the past week, on a 4-point Likert scale ranging from 0 (*Does not apply to me at all*) to 3 (*Applied to me very much, or most of the time*). The DASS-21 subscales have Cronbach's alphas of 0.94 for depression, 0.87 for anxiety, and 0.91 for stress (Antony et al., 1998).

Data Analyses

All analyses were conducted using SPSS version 26. The data were checked for outliers using *z*-scores, and visual inspection of scatter and box plots. The normality of the variables was evaluated by the skewness (sk) and kurtosis (ku) values. All values were within the cut-off points of 2 for skewness and 7 for kurtosis (West et al., 1996). We conducted an exploratory factor analysis (EFA) using maximum likelihood extraction with Direct Oblimin rotation in the British university sample. Kaiser–Meyer–Olkin (KMO) in all analyses indicated the sample sizes were adequate for factor analysis.

The structure identified in the EFA was a 2-factor model which was confirmed through a confirmatory factor analysis (CFA) with maximum likelihood as the estimation method, using the combined Portuguese and Australian data. These analyses were conducted using SPSS AMOS version 26 (IBM Corp.).

A maximum likelihood (ML) parameter estimation was chosen over other estimation methods because this has been found to be relatively robust (e.g. to violations of the multivariate normality assumption; Iacobucci, 2010; Kline, 2005) and because it is one of most frequently used estimation methods in this statistical procedure (Brown, 2006). Data were tested for univariate and multivariate normality, and all items showed acceptable values of asymmetry and univariate and multivariate kurtosis in both samples (S <|3| and K <|10|; Finney & DiStefano, 2013; Kline, 2005). To inspect for possible outliers, Mahalanobis distance squared (MD^2) were used. The following statistics and recommended cut-off points (Marôco, 2010) were used to evaluate overall model fit: Normed Chi-square (χ^2/df), with 2 to 5 indicating good fit; Comparative Fit Index (CFI) and Tucker-Lewis index (TLI), with values above 0.80 suggesting good fit, and root mean square error of approximation (RMSEA), with values between 0.05 to 0.08 indicating reasonable error and acceptable fit. Standardised Root Mean Square Residual (SRMR) was also used to evaluate model fit with a recommended cut-off point of 0.08 (Hu & Bentler, 1999).

Cronbach's alpha (α) and McDonald's omega (Ω) values were calculated in order to assess internal consistency. Intraclass correlation coefficients were calculated to assess temporal stability of the scale between two time points (with a 2-week interval). Pearson product-moment correlation coefficients and multiple regressions were calculated to explore the relationships between the FBRs of mindfulness scales and other study variables, and to assess convergent and divergent validity with established measures.

Results

Exploratory Factor Analysis

An EFA using Oblimin rotation with Kaiser Normalization was conducted (excluding the reverse-scored items) with

Table 2 Factor loadings and communalities values for each item removed from the scale

Removed item	Factor 1	Factor 2	Communalities (<0.40)
I feel uncomfortable if there is nothing for me to think about (item 2)	0.55	−0.37	0.31
I try to keep my mind active (item 3)	0.21	−0.17	0.05
I don't like there being nothing to think about (item 16)	0.58	−0.48	0.39
I fear if I focus on settling my mind I will be more selfish (item 25)	0.48	−0.47	0.31
Settling my mind is self-indulgent (item 26)	0.32	−0.42	0.19

Table 3 Items, factor loadings and total variance explained (%) for each factor

Item number	Item	Factor		Corrected item-total correlations
		1	2	
21	When I try and settle my mind, I become anxious	**0.807**	0.380	0.80
15	I worry that if I slow my mind down worrying thoughts will come up	**0.799**	0.298	0.73
29	The voice in my mind is too hostile to try settling it	**0.714**	0.448	0.69
5	I'm often trying to escape from my thoughts	**0.684**	0.210	0.65
14	I'm fearful of slowing down my mind	**0.677**	0.474	0.62
17	Settling my mind is too difficult to even try	**0.671**	0.521	0.69
4	I get fidgety and restless when I try and settle my mind	**0.634**	0.293	0.64
9	I don't want to think about what goes on in my mind	**0.615**	0.488	0.59
7	I get anxious if I don't have anything to occupy my mind	**0.611**	0.331	0.62
10	There are things that I try not to think about	**0.582**	0.205	0.62
	Variance	40.68%		
12	Meditating to settle one's mind is a waste of time	0.285	**0.766**	0.68
23	Trying to be mindful is a waste of time when I could be doing something else	0.319	**0.757**	0.79
20	Slowing and quieting my mind will mean I will be less productive	0.439	**0.752**	0.70
22	I don't want to quieten or settle my mind	0.308	**0.735**	0.75
13	People spend too much time trying to calm themselves down rather than getting on with life	0.302	**0.706**	0.74
19	Stilling my mind is just not me	0.384	**0.688**	0.64
8	I have better things to do than sitting trying to settle my mind	0.289	**0.660**	0.61
30	Nothing good comes of looking too deeply into one's mind	0.547	**0.634**	0.65
28	A silent mind is a weakness	0.356	**0.585**	0.66
	Variance		13.88%	

a cut-off point of 0.40 for the inclusion of an item in the interpretation of a factor using the British sample. Oblimin rotation was chosen because the underlying components were hypothesized to be related. Although the initial analysis suggested a 4-factor solution, examination of the scree plot and previous literature suggested 2 factors; therefore, a 2-factor solution was specified. Table 2 shows the five items that were removed due to low communalities or high loadings on both factors as recommended by Field (2013).

The KMO measure of sampling adequacy statistic was 0.94. The solution produced two factors explaining 54.56% of the variance: fears of mindfulness (Factor 1) and resistance to mindfulness (Factor 2). Items and item loadings are presented in Table 3.

Confirmatory Factor Analysis

We conducted a CFA using a maximum likelihood estimator to confirm the proposed structure by combining the Portuguese and Australian samples. Fit indices for the initial 2-factor model as specified by the exploratory factor analysis suggested a poor fit to the data, $\chi^2/df = 3.478$, $p < 0.001$; TLI = 0.867; CFI = 0.884; RMSEA = 0.083, $p < 0.001$, SRMR = 0.082. This model is shown in Fig. 1.

We conducted model modifications to the original hypothesized model. The improvement of model fit was based on Modification Indices (MI; values greater than 11). Upon reviewing the MI, results suggested that some items' errors should correlate (Items 4 and 21; 5 and 10; 10 and 15; 19 and 22) and for that reason a model in which we correlated the errors associated with those items was conducted. To avoid purely statistically driven post-hoc model fitting, only error covariances deemed both theoretically and statistically justified were used to respecify the model.

The respecified model, with four pairs of error terms correlated, showed rather good fit to the data, $\chi^2/df = 3.11$, $p < 0.001$; TLI = 0.887; CFI = 0.903; RMSEA = 0.077, $p < 0.001$, SRMR = 0.076 (Fig. 2).

Internal Consistency

Both subscales demonstrated excellent internal consistency within each individual population. For fears of mindfulness (Factor 1), McDonald's omega

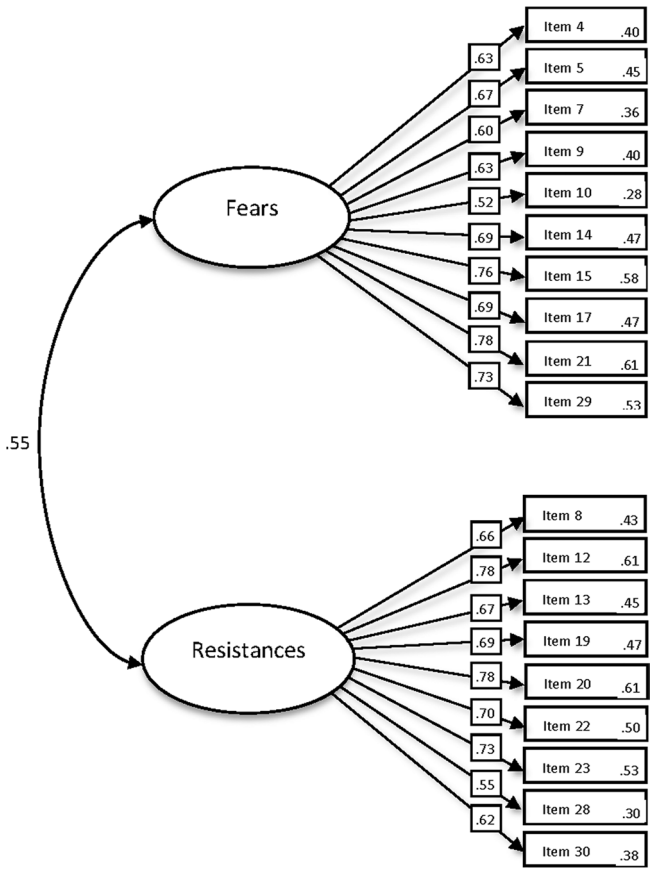

Fig. 1 Original CFA model for the Fears and Resistances to Mindfulness scale

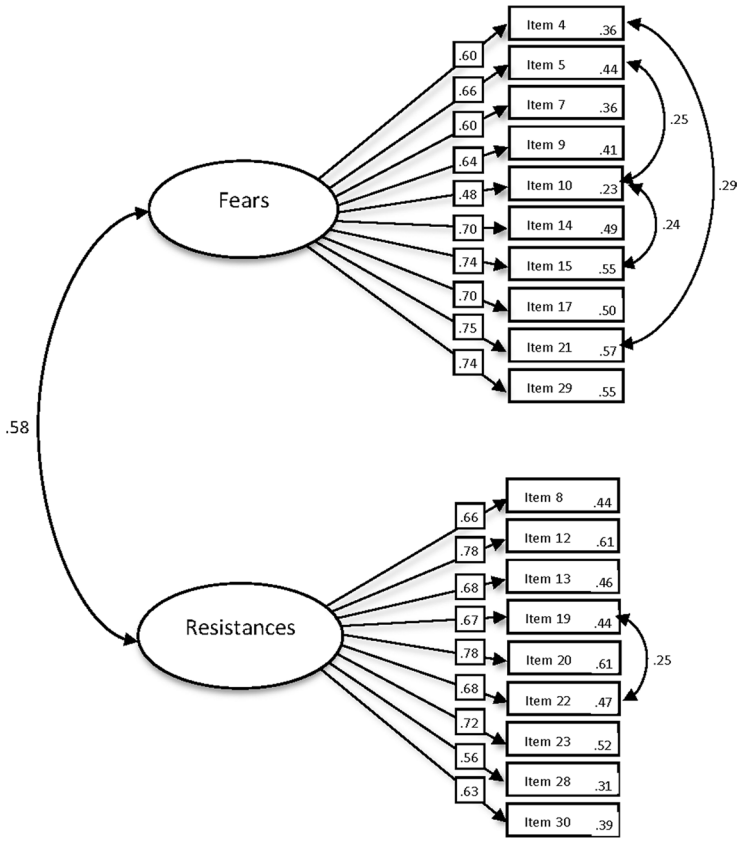

Fig. 2 The respecified CFA model with four pairs of error terms correlated

and Cronbach's alpha values ranged between 0.87 and 0.91. For resistances to mindfulness (Factor 2), they ranged from 0.89 to 0.91. No item deletion would improve the Cronbach's alpha or McDonald's omega values.

Test–Retest Reliability

The test-retest reliability of the scales was examined in a sample of the British population ($n = 29$). Intra-class correlation coefficients specifying a two-way mixed model with absolute agreement were calculated to estimate the stability of the scales' scores over a 2-week period. The relationship between the first and second administration was 0.84 for both subscales, indicating good reliability.

Gender Differences

Independent samples *t*-tests (Table 4) revealed no significant differences between males and females in the fears of mindfulness scale ($p > 0.05$) in the UK, Australian and Portuguese samples. For the resistance to mindfulness

Table 4 Gender differences for the fears and resistances to mindfulness scales

Scale	Country	Male		Female		*t*	*p*
		M	*SD*	*M*	*SD*		
Fears of mindfulness	UK	24.65	8.13	24.04	9.77	*n.s*	
	Australia	23.53	8.63	24.39	9.19	*n.s*	
	Portugal	22.84	7.89	21.48	7.53	*n.s*	
Resistance to mindfulness	UK	19.44	8.38	16.82	7.33	*n.s*	
	Australia	19.09	8.56	16.17	5.86	2.78	< 0.001
	Portugal	19.57	7.60	16.30	6.79	*n.s*	

Table 5 Descriptive and reliability statistics for individual samples

Scale	UK	Australia	Portugal
Fears of mindfulness	24.08 (9.16) $\alpha = 0.91$ $\boldsymbol{\Omega = 0.90}$	23.86 (8.89) $\alpha = 0.90$ $\boldsymbol{\Omega = 0.90}$	22.03 (7.68) $\alpha = 0.88$ $\boldsymbol{\Omega = 0.87}$
Resistance to mindfulness	17.54 (7.72) $\alpha = 0.91$ $\boldsymbol{\Omega = 0.91}$	17.61 (7.50) $\alpha = 0.89$ $\boldsymbol{\Omega = 0.89}$	17.68 (7.30) $\alpha = 0.89$ $\boldsymbol{\Omega = 0.89}$
Fears of compassion for others	18.01 (7.47) $\alpha = 0.85$ $\boldsymbol{\Omega = 0.85}$	19.65 (8.87) $\alpha = 0.89$ $\boldsymbol{\Omega = 0.89}$	
Fears of compassion from others	16.64 (10.27) $\alpha = 0.91$ $\boldsymbol{\Omega = 0.91}$	18.84 (10.85) $\alpha = 0.91$ $\boldsymbol{\Omega = 0.91}$	
Fears of compassion for self	16.58 (12.39) $\alpha = 0.94$ $\boldsymbol{\Omega = 0.94}$	18.09 (13.08) $\alpha = 0.93$ $\boldsymbol{\Omega = 0.93}$	
Inadequate self	20.06 (8.42) $\alpha = 0.91$ $\boldsymbol{\Omega = 0.91}$	19.93 (8.85) $\alpha = 0.92$ $\boldsymbol{\Omega = 0.92}$	
Reassured self	18.40 (6.30) $\alpha = 0.85$ $\boldsymbol{\Omega = 0.85}$	16.03 (7.26) $\alpha = 0.91$ $\boldsymbol{\Omega = 0.91}$	
Hated self	4.54 (4.84) $\alpha = 0.85$ $\boldsymbol{\Omega = 0.86}$	5.53 (5.13) $\alpha = 0.86$ $\boldsymbol{\Omega = 0.87}$	
Depression	6.45 (5.05) $\alpha = 0.89$ $\boldsymbol{\Omega = 0.89}$	7.31 (5.69) $\alpha = 0.92$ $\boldsymbol{\Omega = 0.92}$	4.23 (4.13) $\alpha = 0.86$ $\boldsymbol{\Omega = 0.86}$
Anxiety	5.63 (4.73) $\alpha = 0.84$ $\boldsymbol{\Omega = 0.84}$	4.88 (4.20) $\alpha = 0.80$ $\boldsymbol{\Omega = 0.81}$	3.59 (4.07) $\alpha = 0.84$ $\boldsymbol{\Omega = 0.84}$
Stress	8.55 (5.02) $\alpha = 0.86$ $\boldsymbol{\Omega = 0.87}$	7.76 (4.69) $\alpha = 0.85$ $\boldsymbol{\Omega = 0.85}$	6.84 (4.51) $\alpha = 0.87$ $\boldsymbol{\Omega = 0.87}$
Mindfulness – observation	24.38 (5.96) $\alpha = 0.82$ $\boldsymbol{\Omega = 0.82}$	24.33 (5.67) $\alpha = 0.81$ $\boldsymbol{\Omega = 0.80}$	
Mindfulness – description	24.94 (6.51) $\alpha = 0.87$ $\boldsymbol{\Omega = 0.87}$	24.64 (6.82) $\alpha = 0.92$ $\boldsymbol{\Omega = 0.91}$	
Mindfulness – aware actions	24.50 (6.17) $\alpha = 0.87$ $\boldsymbol{\Omega = 0.86}$	24.29 (6.23) $\alpha = 0.89$ $\boldsymbol{\Omega = 0.89}$	
Mindfulness – nonreactivity	19.02 (4.62) $\alpha = 0.78$ $\boldsymbol{\Omega = 0.77}$	19.50 (4.59) $\alpha = 0.81$ $\boldsymbol{\Omega = 0.81}$	
Mindfulness – nonjudgement	25.27 (6.94) $\alpha = 0.89$ $\boldsymbol{\Omega = 0.89}$	23.92 (7.06) $\alpha = 0.92$ $\boldsymbol{\Omega = 0.92}$	

scale, there were no significant gender differences in the UK or Portuguese samples ($p > 0.05$); however, there was a significant difference in the Australian sample for this scale ($p < 0.001$) with males presenting higher scores in comparison to females. *T*-test results are shown in Table 4.

Relationships Between Fears and Resistances to Mindfulness and Study Variables

The purpose of this analysis was to assess the validity of the scales by comparing them with other fears-based measures, self-criticism, and depression, anxiety and stress.

Table 6 Means, standard deviation and internal reliability statistics of all study variables

Scale	Number of participants *(n)*	*M* (*SD*)	α	*Ω*	*f; df*	*p*	η^2	post hoc
Fears of mindfulness	522	23.37 (8.65)	0.90	0.90	2.818; 2	0.06		
Resistance to mindfulness	522	17.61 (7.49)	0.89	0.90	0.014; 2	0.99		
Fears of compassion for others	362	18.91 (8.30)	0.88	0.88	3.53; 1	0.06		
Fears of compassion from others	362	17.85 (10.63)	0.91	0.91	3.87; 1	0.05		
Fears of compassion for self	360	17.42 (12.78)	0.94	0.94	1.24; 1	0.27		
Inadequate self	362	19.99 (8.65)	0.91	0.92	0.019; 1	0.89		
Reassured self	362	17.10 (6.94)	0.89	0.89	10.79; 1	< 0.01	0.03	
Hated self	362	5.09 (5.02)	0.86	0.86	3.53; 1	0.06		
Depression	522	6.10 (5.21)	0.90	0.90	17.05; 2	< 0.001	0.06	UK and Portugal < 0.001; Australia and Portugal < 0.001
Anxiety	522	4.72 (4.40)	0.83	0.83	9.16; 2	< 0.001	0.03	UK and Portugal < 0.001; Australia and Portugal 0.016
Stress	522	7.72 (4.78)	0.86	0.86	5.25; 2	< 0.01	0.02	UK and Portugal < 0.01
Mindfulness—observation	362	24.35 (5.80)	0.81	0.81	0.01; 1	0.93		
Mindfulness—description	362	24.78 (6.67)	0.90	0.89	0.19; 1	0.66		
Mindfulness—aware actions	362	24.38 (6.20)	0.88	0.88	0.10; 1	0.75		
Mindfulness—nonreactivity	362	19.28 (4.60)	0.80	0.80	0.97; 1	0.33		
Mindfulness—nonjudgement	362	24.53 (7.03)	0.91	0.91	3.31; 1	0.07		

Means, standard deviations, and internal reliability statistics for all variables in each individual sample (British, Australian, and Portuguese) are presented in Table 5. In terms of reliability, McDonald's omega and Cronbach's alpha indicated very good internal consistency for all scales. For this analysis, we combined all samples. As the data collected from the Portuguese sample was part of a separate study, only the common variables (fears and resistances to mindfulness and DASS-21 questionnaires) are reported. Means, standard deviations, McDonald's omega and Cronbach's alpha values of all variables in the combined sample ($n = 360–522$) are presented in Table 6. Comparison of the variables between groups was examined through ANOVA procedures and post-hoc comparisons (Bonferroni). Effect sizes are reported using eta squared (η^2), with $\eta^2 = 0.01$ indicating a small effect size, 0.06 a medium effect size, and 0.14 a large effect size (Tabachnick et al., 2013).

To explore how fears and resistance to mindfulness relate to each other and other study variables, a Pearson product-moment correlation analysis was conducted. Correlations are shown in Tables 7 and 8.

Table 7 Correlations between the fears and resistances to mindfulness and fears of compassion (for others, from others, and to self), forms of self-criticising/attacking (inadequate, reassured and hated self), and mental health measures (depression, anxiety, and stress)

	Fears of mindfulness	Resistance to mindfulness
Fears of mindfulness	-	0.52**
Resistance to mindfulness	0.52**	-
Fears of compassion for others	0.21**	0.32**
Fears of compassion from others	0.51**	0.37**
Fears of compassion for self	0.56**	0.44**
Inadequate self	0.63**	0.19**
Hated self	0.58**	0.24**
Reassured self	−0.42**	−0.13*
Depression	0.53**	0.20**
Anxiety	0.53**	0.27**
Stress	0.56**	0.20**

Table 8 Correlations between fears and resistances to mindfulness with the five facets of mindfulness

	Fears of mindfulness	*Resistance to mindfulness*
Mindfulness – observation	0.02	−0.12*
Mindfulness – description	−0.28**	−0.12*
Mindfulness – awareness	−0.41**	−0.13*
Mindfulness – nonreactivity	−0.24**	0.04
Mindfulness – nonjudgement	−0.60**	−0.16**

Fears of mindfulness were strongly correlated with resistance to mindfulness, fears of receiving compassion from others, fears of compassion for self, forms of self-criticising and attacking (inadequate self; hated self), depression, anxiety, and stress (and significantly inversely correlated with reassured self). Resistance to mindfulness was also significantly correlated with these variables, to a lesser degree, with the strongest associations shown between resistances to mindfulness and fears of compassion, which suggests some degree of convergent validity.

In regard to the facets of mindfulness, the correlations were mostly significant but small, suggesting the scales have adequate divergent validity. With regard to specific facets of mindfulness, fears of mindfulness was strongly inversely correlated with "nonjudgement of inner experiences" and "acting with awareness".

Multiple Regression

Multiple regression analyses were conducted with fears of compassion for self, fears of compassion from others, fears of compassion for others, reassured self, inadequate self, and hated self to predict fears of mindfulness. In another model, fears of compassion for self, fears of compassion from others, fears of compassion to others, inadequate self, and hated self were used to predict resistance to mindfulness. In a third model, fears of mindfulness, fears of compassion for self, fears of compassion from others, fears of compassion to others, reassured self, inadequate self, and hated self were used to predict depression.

For fears of mindfulness, the model accounted for 48% of the variance ($F = 53.53$, $p < 0.001$). Inadequate-self emerged as the most powerful predictor ($\beta = 0.36$; $p < 0.001$), followed by fears of compassion for self ($\beta = 0.18$; $p < 0.005$) and hated self $\beta = 0.17$; $p < 0.005$). Fears of compassion from others was not a predictor although approached significance ($p = 0.61$). Fears of compassion for others and reassured-self did not emerge as predictors.

Regarding resistance to mindfulness, fears of compassion for self ($\beta = 0.40$; $p < 0.001$) and for others ($\beta = 0.17$; $p < 0.005$) were significant predictors, with the model accounting for 23% of the variance ($F = 20.56$, $p < 0.001$). Fears of compassion from others, inadequate self and hated-self were not significant predictors.

In the third analysis regarding depression, the model accounted for 61% of the variance ($F = 79.85$, $p < 0.001$). Hated self ($\beta = 0.35$; $p < 0.001$), reassured self ($\beta = -0.25$; $p < 0.001$), fears of compassion from others ($\beta = 0.16$; $p < 0.01$), fears of mindfulness ($\beta = 0.12$; $p < 0.01$), and inadequate self ($\beta = 0.11$; $p < 0.05$) were significant predictors. Fears of compassion for others and fears of compassion for self did not emerge as predictors.

Discussion

As noted in the introduction, there are many psychological processes such as desires, emotions and thoughts that people can be fearful of and resistant to engaging with. Indeed, experiential avoidance is one of the core difficulties for many people with mental health problems (Hayes et al., 1996). Also, as noted in the introduction, our research team has been interested in the fears, blocks and resistances to processes such as emotions (Gilbert et al., 2014a), happiness (Gilbert et al., 2014a, b, c), and compassion (Gilbert et al., 2011, 2014b; Kirby et al., 2019). Although there are many established measures of mindfulness (Baer et al., 2004, 2006; Bergomi et al., 2014; Brown & Ryan, 2003; Feldman et al., 2007; Walach et al., 2006), and an awareness that many people can struggle with mindfulness, to date (Baer et al., 2021) there is no current measure of the specific FBRs to mindfulness that can facilitate assessment and research into how to address them.

We began our research by inviting individuals with some experience of mindfulness to reflect on issues that people can find difficult. From this, we generated a pool of 31 items. These were reduced to 19 items when reversed (filler) items and items with low communalities and those which were cross-loading were removed. Exploratory and confirmatory factor analyses revealed 2 main factors. We labelled these as (1) "fears of mindfulness" relating to fear of what might (and can) arise into awareness, and (2) "resistance to mindfulness" relating to dismissing the value of being mindful, for example seeing it as a waste of time. On reflection, although our intention was to measure fears, blocks and resistances, our scale did not pick up on blocks which would involve themes of: wanting to be mindful but not finding the time, or not knowing how, or just forgetting. Although these are unlikely to be problematic in the way that fears and resistances are, subsequent research could explore reasons for not being mindful that are not linked to either fears or resistances. Hence, we refer to the scale as FRs of mindfulness (FRM).

No cultural differences were observed in the fears and resistances to mindfulness. We found a significant gender difference in the Australian sample where men were more resistant to mindfulness than women. In all other samples, there were no differences. Although non-significant, males showed a clear tendency to be more resistant to mindfulness

than females across all three groups. Samples were combined to provide a more robust population for subsequent confirmatory factor analysis (Australia and Portugal) and other explorations (UK, Australia, and Portugal). The scale shows very good internal consistency and good test–retest reliability over 2 weeks.

Fears of mindfulness were moderately correlated with resistance suggesting overlap, but the factor analysis also suggests they are different issues. Fears of mindfulness showed significant correlations with the three flows of fears of compassion, particularly with fears of being self-compassionate and open to compassion from others. This suggests people who struggle with compassion also struggle with mindfulness. Part of this may be because compassion and mindfulness can also be related to negative self-evaluation, in particular self-criticism. In this study, for example, self-attacking self-criticism as measured by inadequate self was highly correlated with fears of mindfulness, as was hated self to a lesser degree. One of the items on the scale was "The voice in my mind is too hostile to try settling it." Hence, one specific problem for some people may be that they overly monitor their ability and become critical of themselves for feeling they are not being appropriately mindful— are getting it wrong. Our study cannot distinguish between individuals who are being self-attacking as they are doing mindfulness in contrast to experiencing unpleasant intrusions. Additionally, fears of mindfulness were significantly linked to difficulties in being self-reassuring. To explore the different contributions of the variables to fears of mindfulness, we conducted a multiple regression. We found that the self-attacking, self-critical variables were the most powerful predictors followed by fears of compassion for self. Self-reassurance did not add any extra predictive effect.

In regard to mental health measures, fears of mindfulness were significantly correlated with depression, anxiety and stress. Another indicator for this issue is that awareness and nonjudgement (subscales of the five facets of mindfulness scale) were particularly linked to fears of mindfulness. In general, taken together, the data suggests that individuals who struggle with compassion and who are self-attacking tend to be fearful of mindfulness, although whether this is linked to criticism of the actual act or trying to cope with the unpleasant intrusions needs further research.

From Table 7, the data suggests that individuals who are resistant to mindfulness also struggle with self-compassion and receiving compassion from others. This may imply that these individuals are emotionally avoidant and are using their attitude of dismissing the value of mindfulness as a form of defence.

To explore the different contributions of the variables to resistance to mindfulness, we conducted a multiple regression. The explained variance was relatively small at 23%, with the two main predictors being fear of compassion for self and for others. Resistance to mindfulness was also associated with the mental health variables of depression, anxiety and stress. In regard to the measures of mindfulness itself, the correlations were small (though significant), providing preliminary evidence of convergent and divergent validity. We wonder if individuals who are dismissive of mindfulness may have more narcissistic issues, a possible focus for future work.

We were also interested in the degree to which the study variables predicted depression. In this multiple regression, which accounted for 62% of the variance, the main predictors were hated self, fears of compassion from others, fears of mindfulness, inadequate self, and abilities to be self-reassuring.

As this study is exploratory, there is much to be learned about the causes of fears and resistances to mindfulness. We would therefore like to draw attention to some of the items that were removed in order to maintain integrity of the factor analysis. These items warrant further research in themselves, particularly ideas such as "I feel uncomfortable if there is nothing for me to think about"; "I try to keep my mind active"; "I don't like there being nothing to think about"; "I fear if I focus on settling my mind I will be more selfish" and "Settling my mind is self-indulgent". We were surprised that these items did not load more significantly - certainly, from conversations with colleagues, these are not uncommon in certain groups.

Clinical Applications

Given the popularity of mindfulness as a self-help and universal approach to help with mental health and well-being, it is important to explore the inhibitors for engaging and developing mindfulness. This study indicates that mindfulness teachers may want to explore and address the fears and resistances to developing mindfulness, possibly before engaging with practices or inviting individuals to consider the potential value of mindfulness. This could be particularly useful in situations where mindfulness is delivered to groups such as in schools or businesses. The items of this scale may offer useful questions in clinical settings. The scale may also be useful for measuring change with practice.

Limitations and Future Research

We sought to obtain data from a general population rather than from individuals who are interested in mindfulness or attending meditation training. It is therefore difficult to know how biased our population might be, although we have no reason to assume they are not typical of the population from which they were drawn from. A common problem with many of these types of

studies, that rely on voluntary engagement, is that individuals who are not that interested in mindfulness may not participate in the study in the first place. As noted, we were surprised that some of the items that were excluded did not load on the 2 factors, which warrants further research. At this stage, it is uncertain why this was the case and it may be that we did not have adequate variation in fears and resistances, which invites future study. In addition, another approach to this area would be with qualitative research. However, we think our scale could help here because it might identify individuals who have difficulties that can then be followed up with qualitative interviews.

The aim of this paper was to explore people's ideas about inward-directed attention as mindfulness, to develop a scale to measure the associated FBRs, and to examine the scale's psychometric properties. Given the huge surge in mindfulness-based approaches as an intervention in schools, places of work, leadership and clinical settings, research into the inhibitors of mindfulness, how to identify them quickly and how to work with them could be very valuable. This measure has shown robust differentiation between fears and resistances and also demonstrated that these processes are linked to forms of self-criticism and mental health difficulties. It may be that mindfulness training can dedicate more attention to the raising of, and how to address inhibitors when introducing mindfulness. It is an interesting question as to whether early identification of inhibitors and specific intervention for those with high FBRs improves outcomes and reduces dropouts.

Author Contribution PG contributed to the study conception. All authors contributed to study design and coordination. MM, JB, and PP conducted data analyses. All authors contributed to the article and approved the submitted version.

Data Availability The data that support the findings of this study are available from the corresponding author, PG, upon reasonable request.

Declarations

Ethics Approval This study was performed in line with the principles of the Declaration of Helsinki. Ethical approval was obtained from the University of Derby Ethics Committee (dated 20 July 2017; reference 60–1617-PG).

Informed Consent Participants were asked to read an information sheet containing details of the study, before being presented with a consent form. Participants could only proceed with the study after providing informed consent. All research participants provided consent in accordance with the Declaration of Helsinki (2013) Ethical Principles for Medical Research involving Human Subjects and its later amendments.

Conflict of Interest The authors declare no competing interests.

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