

ORIGINAL ARTICLE

Employee well-being outcomes from individual-level mental health interventions: Cross-sectional evidence from the United Kingdom

William J. Fleming 

Wellbeing Research Centre, University of Oxford, Oxford, UK

Correspondence

William J. Fleming

Email: william.fleming@hmc.ox.ac.uk

Funding information

ESRC and RAND Europe,

Grant/Award Number: ES/J500033/1;

NIHR Oxford Health Biomedical

Research Centre, Grant/Award Number:

NIHR203316

Abstract

Initiatives that promote mental well-being are formally recommended for all British workers, with many practices targeting change in individual workers' resources. While the existing evidence is generally positive about these interventions, disagreement is increasing because of concerns that individual-level interventions do not engage with working conditions. Contributing to the debate, this article uses survey data ($N = 46,336$ workers in 233 organisations) to compare participants and nonparticipants in a range of common individual-level well-being interventions, including resilience training, mindfulness and well-being apps. Across multiple subjective well-being indicators, participants appear no better off. Results are interpreted through the job demands–resources theory and selection bias in cross-sectional results is interrogated. Overall, results suggest interventions are not providing additional or appropriate resources in response to job demands.

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2023 The Authors. *Industrial Relations Journal* published by Brian Towers (BRITOW) and John Wiley & Sons Ltd.

1 | INTRODUCTION

The promotion of workers' well-being is commonplace in the contemporary British workplace. The best estimates for the prevalence of corporate action on well-being come from the Chartered Institute of Personnel and Development (CIPD, 2022) who survey all employers annually. Their most recent data shows over half of UK employers report a 'formal wellbeing strategy', with another third providing at least ad hoc support. These counts rose steadily over the past decade, and it now seems safe to assume that a majority of British workers have some exposure to health and well-being narratives and policies.¹ Black's (2008) independent review, *Working for a healthier tomorrow*, is said to have 'galvanised' this now widespread concern for workers' well-being in the United Kingdom (Kowalski & Loretto, 2017, p. 2230), with Stevenson and Farmer's (2017) more recent review narrowing the policy focus on the psychological aspects of well-being.

Specific mental well-being interventions either seek change in the individual or in the organisation (LaMontagne et al., 2007). Despite formal recommendations (National Institute for Health and Care Excellence [NICE], 2022) and evidence supporting the effectiveness of organisational change and work redesign on improving worker well-being (Fox et al., 2022; Lovejoy et al., 2021), interventions that target the individual worker are most common. The most popular practices include employee assistance programmes (EAPs), counselling, resilience and stress management training and the promotion of healthy lifestyles (CIPD, 2022). This list of initiatives shows that interventions can either be ameliorative in managing specific problems, such as in the case of counselling and EAPs, or promotional and preventative (LaMontagne et al., 2014). This article focuses on the latter type: practices that promote generally positive psychological functioning and prevent deterioration of workers' well-being.

The benefits of individual-level approaches have been extensively researched, as well as increasingly debated. There is a large scholarship of experimental work testing the effects of participation in initiatives, with systematic reviews of controlled trials for stress management (e.g., LaMontagne et al., 2007), resilience training (Joyce et al., 2018), mindfulness (Michaelsen et al., 2023) and more. Despite the apparent scale, there are continual calls for more evidence from practitioners and academic researchers, led in part by technical, methodological limitations, but also a desire for more realist evaluation (Kowalski & Loretto, 2017; Nielsen & Miraglia, 2017). Disagreement has risen around the effectiveness of individual-level strategies when compared with organisational change, with suggestions that individual-level interventions are just easier to evaluate, misguided if they do not address working conditions and then take positive change for granted. Alongside these empirical concerns is a strategic and normative critique from sociologists and industrial relations scholars, with many criticisms levelled at such practices' propagation of, in the words of trade unions (Trade Union Congress, 2018), 'changing the worker, and not the workplace'. Others go further, arguing individualised well-being initiatives are more interested in social control than with improving well-being (Foster, 2018; Murphy & MacMahon, 2022), with qualitative organisational research substantiating some of these fears (Holmqvist & Maravelias, 2011; Islam et al., 2022; Zoller, 2004). While a management strategy could be a tool of social control and yet still improve subjective well-being outcomes, these criticisms highlight that evaluations are political, not only technical.

¹The CIPD surveys on Health and well-being at Work sample both CIPD member and nonmember employers (see pp. 32–34), but these estimates for well-being offerings are likely to be inflated by responders being more likely to engage in these initiatives.

I take up these two provocations—debate over the optimal approach to improving well-being and the political critique of well-being practices—contributing to the literature in three ways by analysing novel survey data. First, I evaluate individual-level interventions over many organisational contexts and analyse group-level differences. Second, I address limitations of the existing experimental literature by including a larger sample, cases where fidelity will not be assured and through an explicit discussion of selection bias in the sample. Third, I contribute theoretical discussion on the mechanisms of mental well-being interventions, discussing results through the job demands-resources (JD-R) model.

This article presents results from an evaluation of a range of individual-level mental well-being interventions, including mindfulness, resilience and stress management training, time management, well-being apps and volunteering opportunities. I conducted clustered propensity score analysis (PSA) to compare participants and nonparticipants in these programmes, estimating cross-sectional ‘treatment effects’ on workers’ subjective well-being outcomes and subjective accounts of the work environment. The straightforward research question asks: *do participants in individual-level mental well-being interventions at work have higher well-being?* Tying these interventions to the psychological resources they are designed to improve, I also ask whether participants report more positive perspectives on their psychosocial work environment. Next, by exploring organisation variance and group-level effects for gender, ethnicity, income and prior stress, I include expanded analysis on the question of ‘what works for whom and in which circumstances?’ (Nielsen & Miraglia, 2017) to understand whether results are different depending on the characteristics of workers. These research questions prompt three hypotheses to be tested:

H₁: Individual-level mental well-being interventions improve subjective well-being outcomes.

H₂: Interventions improve subjective accounts of the work environment.

H₃: Effects of the interventions vary between social demographics and organisations.

Against much of the extant literature, results are counter to all three hypotheses. No difference is detected between participants and nonparticipants across a range of well-being outcomes, subjective work environment measures, organisations and social groups. Using the job demands-resources model, I go beyond ‘did it work?’ and on to ‘why did it (not) work?’ (Biron et al., 2012). I also discuss the obvious limitations of this cross-sectional analysis, presenting one piece of the evidence puzzle, supplementary to the required experimental research. By presenting null results, the central contribution of this article is to challenge the utility of individual-level interventions for improving workers’ well-being and their place in policy recommendations.

2 | WORKER MENTAL WELL-BEING AND INTERVENTION MECHANISMS

Work well-being is best conceptualised as a holistic construct of how good (and bad) someone’s working life is for them, and I adopt a subjective approach that analyses accounts of how workers feel about their (working) life (De Neve & Ward, 2023; Warr, 2007). This definition is

developed as a domain-specific definition for work, adapted from the philosophical definition of all-things-considered well-being defined as ‘how good someone’s life is for that person’ (Hausman, 2015, p. 60). Throughout, my interest is mental well-being, a catch-all term for the mental states component of work well-being, made up of mental health and mental illness, which are constitutive components of the broader construct of well-being (Haybron, 2008). Mental health and illness are constructs on holistic dual continua, with the former representing psychological wellness, and mental illness representing a collection of specific, often negative, symptoms and conditions (e.g., depression) (Follmer & Jones, 2018; Keyes, 2005; Rosado-Solomon et al., 2023). To reiterate an important distinction often lacking in the extant literature (Follmer & Jones, 2018; Kelloway et al., 2023; Rosado-Solomon et al., 2023), the target of this article is workplace interventions promoting the more positive mental health, good psychological functioning, rather than practices such as EAPs and counselling which address subclinical mental illness.

The JD-R model is the dominant model for theorising how workers’ mental well-being is produced, and its success stems in part from its appropriateness for interpreting workplace interventions (Bakker et al., 2023; Hartmann et al., 2020; Tetrick & Winslow, 2015). JD-R posits that workers’ well-being is the product of two distinct categories and their dynamic. At one end are job demands—‘the physical, psychological, social, or organizational aspects of the job that require sustained physical, cognitive, and/or emotional effort’ (Bakker et al., 2023, p. 32); at the other, job resources—‘the physical, psychological, social, or organizational aspects of the job that have motivating potential, that are functional in achieving work goals, that regulate the impact of job demands, and that stimulate learning and personal growth’ (Bakker et al., 2023). Interventions either target demands, resources or both; either striving to alter job requirements, expected workloads, time pressures or task complexity; or alternatively, interventions aim to enhance job resources through, for example, training, peer or supervisor support, or new technologies.

The interventions I evaluate here aim to improve individuals’ psychological capacities, personal management practices and social resources. For example, mindfulness and resilience training aim to develop workers’ capacity for coping with pressure (Hartmann et al., 2020; Tetrick & Winslow, 2015). Relaxation-based interventions, in contrast, allow recovery periods or psychological training to mitigate the effects of ongoing demands (Holman et al., 2018). Time management training develops workers’ skills in workload management (Claessens et al., 2007), and financial well-being programmes aim to develop skills for personal finance management (Brüggen et al., 2017). Volunteering opportunities initially appear distinct from the other interventions, but are found to improve workers’ well-being through increased sense of purpose, accomplishment, social resources and recovery (Rodell et al., 2016). JD-R then offers an interactional theory for how these popular initiatives aim to improve mental well-being, embedding these mechanisms within working conditions.

3 | EXISTING EVIDENCE BASE

JD-R interprets how individual-level interventions may benefit workers, but what current evidence is there that they produce their intended effect? On first glance, there is optimistic consensus in the work psychology literature, with recent narrative reviews especially positive that these practices do make a difference, whether by improving mental well-being directly, or through a reduction in stress, burnout or general improvement in job resources (e.g.,

Demerouti et al., 2021; Holman et al., 2018; Sutcliffe et al., 2016; Tetrick & Winslow, 2015). Kelloway et al. (2023) are also positive when reviewing the literature, but remain sceptical of whether individual-level strategies are really optimal.

There is a similar picture within systematic reviews that pull together results from many randomised controlled trials. Moderate positive effects for mental well-being are found across Maricuțoiu et al. (2016), Richardson and Rothstein (2008), Robertson et al. (2015) and van der Klink et al.'s (2001) reviews. Richardson and Rothstein's (2008) find that interventions aiming to develop cognitive-behavioural skills are the most effective strategy for promoting mental well-being, more so than organisational interventions. Their review updates van der Klink et al.'s (2001), who similarly find various types of individual-level interventions to be consistently effective, but their conclusions point towards relaxation initiatives as more effective than psychological skill-building. Robertson et al. (2015) specifically review resilience training for employees, finding that it can improve resilience and mental health. Elsewhere, Joyce et al. (2018) also review the resilience training literature, but most of the interventions they include are actually of mindfulness. Their conclusions also support small to moderate benefits, concurring with other systematic reviews of workplace mindfulness (Bartlett et al., 2019; Janssen et al., 2018; Virgili, 2015; Vonderlin et al., 2020). NICE (2022) also find enough high-quality evidence to recommend universal access to mindfulness for all British workers. While the agreement among these reviewers and subsequent policy recommendations speaks to some consensus, others have urged caution when embracing mindfulness due to underappreciated heterogeneity in effects and various biases across the literature (Lomas et al., 2019; Michaelsen et al., 2023). Finally, LaMontagne et al. (2007) are less optimistic about individual-level interventions for stress. They state that they can be effective, but more often are not, with benefits quickly disappearing. Along with other reviewers, they instead support organisation-level initiatives such as improvements in scheduling change, management practices, staff resources or tailored job design (Fox et al., 2022; Lovejoy et al., 2021; Nielsen, 2017).

The raft of systematic reviews offers helpful overview for the generally positive evidence supporting individual-level interventions. However, across all of these studies, authors share consistent concerns with multiple methodological limitations, including heterogenous effects, temporality, publication bias, attrition, outcomes and fidelity (e.g., Fikretoglu et al., 2022; Jamieson & Tuckey, 2017; Janssen et al., 2018; Michaelsen et al., 2023). Three further limitations are relevant and provoke this analysis to supplement the experimental controlled trials already cited: recruitment, sample size and external validity. For recruitment, the sample selection bias in trials threatens the external validity of evaluations, with participants in psychological training such as mindfulness more likely to be already engaged in these practices (Janssen et al., 2018; Tetrick & Winslow, 2015). The extant experimental literature also suffers from small samples (see contents of systematic reviews, e.g., Janssen et al., 2018; Joyce et al., 2018; Michaelsen et al., 2023) and primarily covers some specific job roles more so than others, for example, in healthcare or emergency services. A wider net is, therefore, required to understand the effects of participation in well-being interventions across a variety of organisational, industrial and personal contexts, as well as social characteristics.

The same data is used in two prior studies covering similar research questions—Daniels et al. (2021) and Fida et al. (2022).² Both examine the effects of participation in physical and mental well-being initiatives included in the Britain's Healthiest Workplace (BHW), finding positives from participation (directly in Daniels et al. and indirectly in Fida et al.).

²Pfeffer et al. (2022) also specifically analyse volunteering opportunities with BHW.

Unfortunately, both studies group all interventions in the survey together: Daniels et al. using principle component analysis and Fida et al. using an ordinal indicator of whether workers were aware of and participated in any programme. For mental well-being practices, this group's interventions aimed at promoting mental health (e.g., resource building) and responding to subclinical mental illness (e.g., counselling) which will produce incomparable and unidentifiable results for interventions. This present study is, therefore, required to make use of the data for understanding the effects of different initiatives.

4 | DATA AND METHODS

4.1 | Data

For this analysis, I used the 2017 and 2018 waves of the BHW survey. BHW is a multilevel repeated cross-sectional survey, with data collected at both employee and organisation levels. At the employee level, individual workers provide information on their lifestyles, health behaviours and physical and mental well-being. For organisations, a senior manager or HR representative provides information on the general characteristics of the organisation, internal strategies for well-being and perceptions of performance and well-being. BHW offers a unique opportunity to evaluate the effects of interventions across multiple organisations, with no other large-scale individual-level survey of the UK's workplace well-being landscape existing.

For the pooled sample, $N = 46,336$ individuals; 233 organisations. Repeated survey waves were collected between 2014 and 2018, but outcomes, interventions and predictors changed continuously between each wave, limiting the potential for pooling. Where only the 2018 wave can be used, it is noted alongside results ($N = 27,919$ individuals; 143 organisations). To ensure case independence, if organisations featured in both 2017 and 2018, only the latter were included. Only organisations with 10 or more respondents were included for statistical reliability (Hox & McNeish, 2020). There is a small panel sample in BHW (<3000 —Fida et al., 2022), but it is not made available to independent researchers by the commercial data owners. As an annual panel, it also would not solve issues of selection bias with any satisfactory sample.

BHW does suffer from various selection biases at both levels. Participating organisations are not randomly sampled and must opt in, while I also assume that those organisations that do opt in are those with an existing corporate interest in well-being. Financial and insurance services are slightly over-represented in the survey coverage. Employee respondents are also all voluntary, and I make the similar assumption that those who complete the survey are those most engaged in well-being discourses and practices. Internal response rates vary by organisation size, with larger employers having lower response rates on average. At the individual level, women, younger workers, those on mid-to-high incomes, and white workers are all overrepresented. Despite these selection biases, no additional weighting was required because BHW grants access to a target population narrower than the entire British workforce, covering a large sample of workers who are exposed to various well-being practices.

4.1.1 | Interventions

Table 1 presents the interventions evaluated in this study, including participation rates for each. The BHW survey includes a list of approximately 90 well-being interventions. I classified

TABLE 1 Availability and participation rates for mental health promotion programmes.

Intervention	Not available Count (%)	No Count (%)	Yes Count (%)
Any mental well-being intervention	22,636 (48.9)	13,863 (29.9)	9837 (21.2)
Volunteering or charity work	32,821 (70.8)	8903 (19.2)	4612 (10.0)
Mindfulness classes or programmes	37,376 (80.7)	6544 (14.1)	2416 (5.2)
Resilience, energy or stress management classes or programmes	39,379 (85.0)	5117 (11.0)	1840 (4.0)
Well-being app on broad range of physical health, mental health and lifestyle issues	42,834 (92.5)	2381 (5.1)	1121 (2.4)
Massage or relaxation classes or programmes	40,067 (86.5)	4620 (10.0)	1649 (3.5)
Workload or time management training	39,025 (84.2)	6116 (13.2)	1195 (2.6)
Coaching (one-on-one sessions on mental health and well-being)	42,166 (91.0)	3385 (7.3)	785 (1.7)
Financial well-being programmes ^a	42,458 (91.6)	3455 (7.5)	423 (0.9)
Events promoting healthy sleep	44,844 (96.8)	1091 (2.4)	401 (0.8)
Apps/programmes promoting healthy sleep	44,977 (97)	997 (2.2)	362 (0.8)
Online coaching	44,834 (96.8)	1232 (2.7)	270 (0.6)

Note: *N* = 46,336.

^aOnly included in 2018.

these options through a qualitative typology process designed around dimensions of level of care, intervention target, how the intervention engages with that target and outcome. All the interventions promote good mental well-being, target individual change, require employees' active participation and directly relate to mental health rather than physical health. They are all 'interventions' in that they seek changes in individual workers' behaviours, mindsets and psychological resources (Kelloway et al., 2023). As noted above when discussing mechanisms, volunteering does not immediately appear comparable with the other interventions. However, volunteering satisfies many of the classificatory questions: it is generally promoting of a good life, it involves individual behaviour and active participation and is linked to well-being

through psychological improvements. The survey suffers from issue bias (Parkhurst, 2016), with its coverage of interventions almost entirely at the individual level.

4.1.2 | Participation measures

Participation in the interventions was measured by employee self-report and coded into a binary variable for the participant or not. Survey respondents are faced with lists of common well-being initiatives and are required to answer yes/no to whether their employer offers a programme and whether they have participated in the previous 12 months.

4.1.3 | Predictors of participation

To achieve balance in the sample through propensity scores, I included many predictors of treatment assignment. Individual-level variables were gender, age, ethnicity, job level, carer status, marital status, existing mental health condition, contract, work shifts, working hours, work environment, commute, tenure, participation in well-being monitoring, feeling respected, whether health is important for company success and whether a supervisor is concerned with well-being. Organisation-level predictors were union recognition, organisation size, industry and whether incentives for participation are offered. Regression coefficients for the estimated effect on participation for each variable is included in Supporting Information S1: Appendix. I do not include income at the balancing stage because of missing data, but I have included it as an interaction in the later analysis. An extra predictor of prior mental well-being was used to model treatment selection bias: 'during the last 12 months have you felt unwell as a result of work-related stress?', with answers of 'no', 'yes, to some extent' and 'yes, definitely'. While of course suboptimal, this measure of historic stress was used as an indicator of intervention tailoring, with less analytical weight on what the negative repercussions of that stress are, be they mental or physical.

4.1.4 | Outcomes

I used multiple standardised outcomes to understand the direct and indirect effect on individual-level well-being. The Short Warwick-Edinburgh Mental Well-Being Scale (SWEMWBS) (seven-item scale, $\alpha = 0.889$) was used as a measure of mental health as it most closely adheres to the positive dimension of worker mental well-being addressed by these interventions, and I used this measure in the further analysis section. A five-point Likert scale for self-reported mental health measure was also used, as was the Utrecht work engagement scale-9 as it is regularly used for measuring burnout ($\alpha = 0.928$). Despite the focus on mental health, Kessler Psychological Distress Scores were analysed as a measure of mental illness ($\alpha = 0.915$), with higher results corresponding to poorer mental well-being. Evaluative subjective well-being was included through the measure of life satisfaction and job satisfaction for domain-specific evaluative subjective well-being.

To better consider the mechanisms enacted within these interventions, I also evaluated subjective accounts of work environment: 'there is good collaboration between staff'; 'relationships at work are strained'; 'I have the training and tools I need to do my job well';

'I feel like I belong here'; 'I have unrealistic time pressures' and 'my organisation supports me to manage stress at work'. This selection is not comprehensive, limited in being derived from the secondary data, but does expand results beyond direct well-being measures to consider possible effects on psychological resources through perceptions of psychosocial work environments. These measures were selected for their relation to job demands, for example, time pressures and required skills, and resources, for example, social support and psychological sense of fit through belonging. All items were five-point ordinal variables, and for strained relationships and time pressures, higher values are negative. I refer to these measures as indirect well-being outcomes.

4.2 | Analytic strategy

To determine the effect of the interventions on mental well-being, I conducted clustered Bayesian PSA. Traditional PSA was designed to infer a causal 'treatment effect' when handling cross-sectional observational data (Rubin, 1997). PSA provides a reduced sample that allows a cross-sectional sample to better resemble a randomised experiment, modelling treatment selection effects to an extent. PSA operates in two stages: design and analysis. For the design stage, predictors are selected on the basis that they will theoretically affect treatment assignment and the outcome; with a regression model then fitted estimating the propensity score. The score is then used in a process of matching, where cases are paired to provide a sample with balanced treatment groups. In the analysis stage, effects are estimated by comparing treatment group outcomes.

Adopting a Bayesian estimation approach is beneficial because of its applicability for estimating hierarchical models with variable group sizes (Zhang et al., 2016). Bayesian PSA is still in a developmental stage with ongoing epistemic and empirical debates meaning no procedure is established.³ I used Kaplan and Chen's (2012) two-step Bayesian PSA ('BPSA-2'). Using Markov chain Monte Carlo (MCMC) estimation means all coefficients are posterior means with 95% highest density credible intervals.⁴

To pair individuals with another in their organisation, I augmented the process using within-cluster matching. Ideally, there would be an understanding of different selection biases in different clusters, meaning a combination of within and across cluster matching would be possible, but this is not possible with BHW and within-cluster matching is superior to ignoring firm grouping.

There are two methodological problems with PSA that are relevant here: unobservables and causal direction. First, matching can only be conducted on observed variables, therefore, likely missing important contextual features. I included a comprehensive range of confounders in the design model, but this limitation likely persists. The second problem with PSA is the remaining potential for reverse causality due to cross-sectional data. This is the major limitation of this analysis, with well-being outcomes likely predicting the participation in interventions resulting in remaining treatment selection bias. For example, a worker or a team who are overstressed

³An optimal Bayesian matching method would match using the curve of propensity score predictions from the MCMC chain. Such an approach has not yet been developed in methodology literature.

⁴MCMC chain lengths were 25,000 iterations for the design stage, 5000 iterations for the analysis stage as per Raftery–Lewis diagnostics. Bayesian regression requires using prior values for estimates and I used priors from standard frequentist likelihood regression.

may be given access to a mindfulness course for support. To model this selection bias, I used interaction terms with the ordinal work-stress measure to estimate whether their participation in the intervention was driven by their prior well-being. While this extended modelling does act as a robustness check to an extent, the potential for reverse causation remains, seriously undermining all causal claims. I discuss all results with consideration of the remaining bias.

In summary, I present results from clustered Bayesian PSA. I used random intercept binomial logistic regression models to calculate the propensity score for each intervention. I then matched on the propensity score within organisations. The matched sample was then used to predict the average coefficient for a series of outcome variables to test both H_1 and H_2 . H_1 results are shown in Figure 1 for subjective well-being, and the subjective work environment

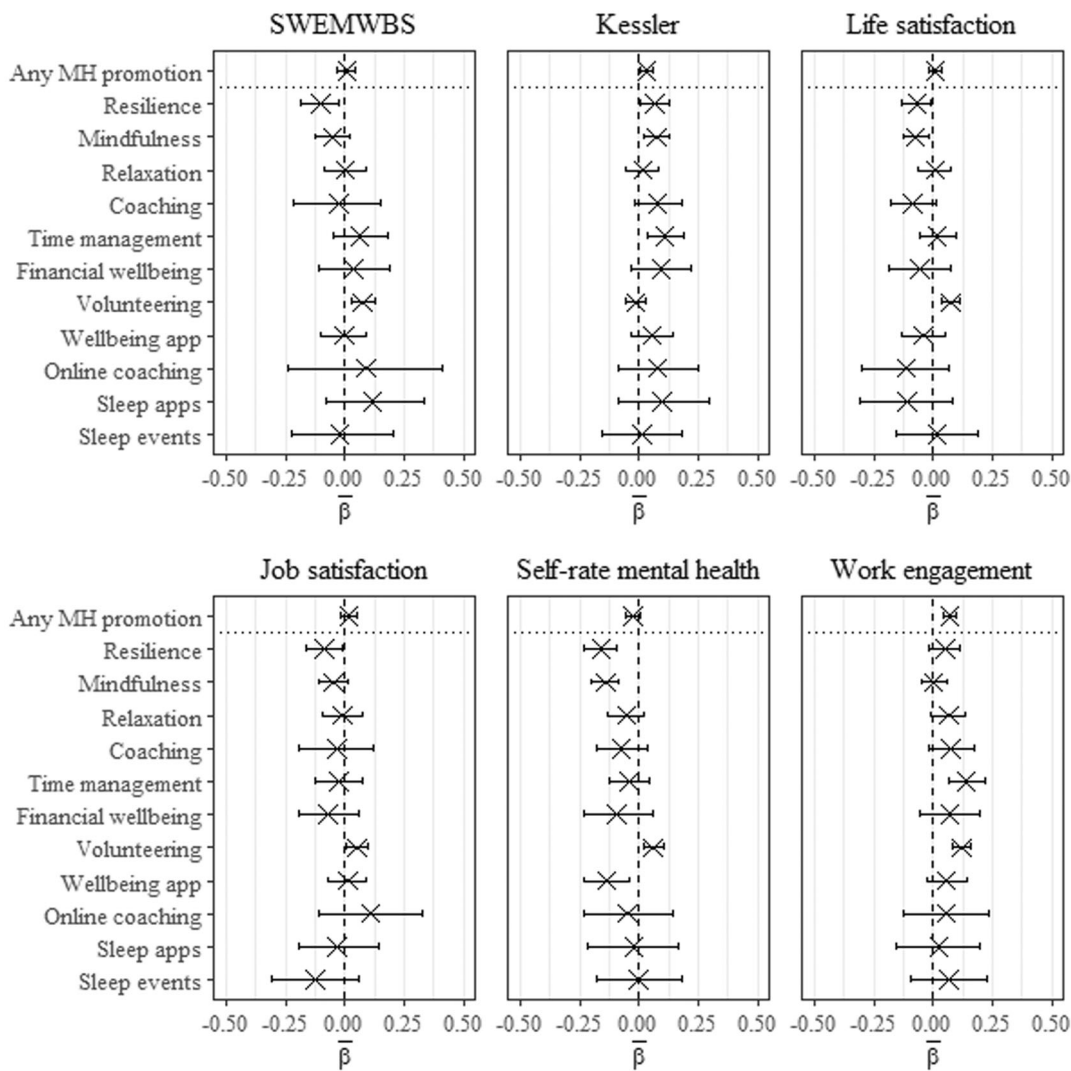


FIGURE 1 Mental well-being estimates. All standardised. β Coefficient estimates are posterior means from MCMC chains with length 5000; whiskers 95% highest density credible intervals. SWEMWBS and job satisfaction and all financial well-being estimates include only the 2018 sample wave. Top row includes any of the mental health (MH) interventions. MCMC, Markov chain Monte Carlo; SWEMWBS, Short Warwick–Edinburgh Mental Well-Being Scale.

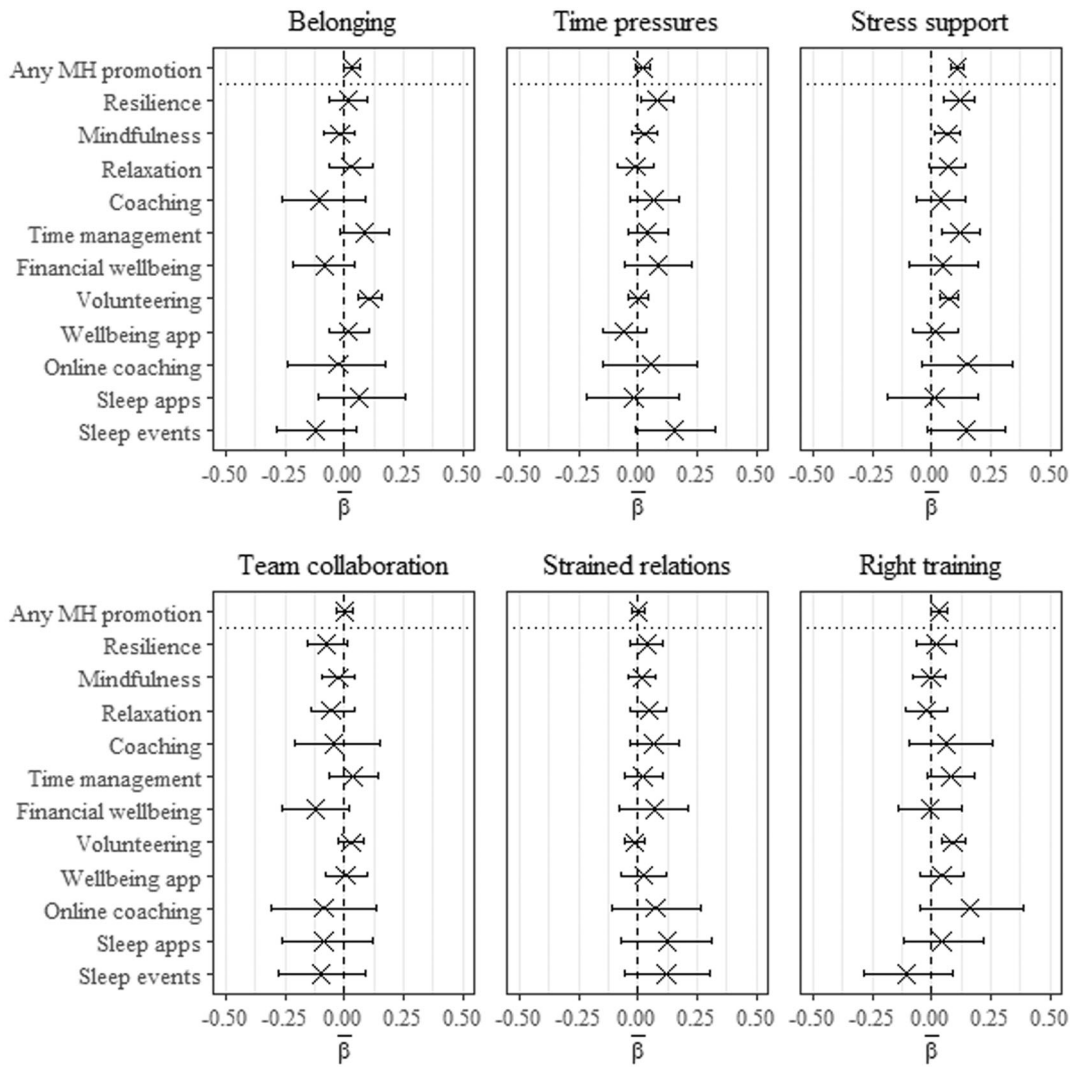


FIGURE 2 Subjective work environment outcomes. Same as Figure 1. Belonging, training and team collaboration include only the 2018 sample, as well as financial well-being. Top row includes any of the mental health (MH) interventions.

results in Figure 2 test H_2 , designed to examine whether there are improvements in psychological resources. Random intercepts incorporated organisation-level variance, with these results presented in Figures 1 and 2. To test H_3 , I also provide grouped treatment effects estimated through interactions for gender, ethnicity and income, selected because of sociologically interesting differences in participation rates and experiences of well-being. I grouped interventions by effect direction with models for positive, negative and null effects. Different models were estimated for each interaction term and for each directional set (negative, null, positive). I also estimated random slope models to explore differences between organisations (Supporting Information S1: Appendix).

5 | RESULTS

5.1 | Well-being outcome

Figure 1 shows the estimated coefficients for intervention participation on subjective well-being outcomes that tested H_1 . The primary finding is that there is no reliable difference in mental well-being across the various outcomes. For the following specific types of interventions, estimates indicate no difference between participants and nonparticipants: relaxation practices, time management, coaching, financial well-being programmes, well-being apps, online coaching, sleep apps and sleep events. Volunteering is the only type of intervention to suggest benefits for workers' well-being. A negative estimate was calculated for resilience and stress management across all well-being outcomes (except work engagement) and for mindfulness on Kessler, self-rated mental health and life satisfaction. Time management also shows a relationship with the Kessler scores for mental illness. Larger credible intervals correspond with smaller sample sizes, indicating more volatility in these results.

Results do appear somewhat different for work engagement. All interventions combined are estimated to have a positive association, with this result likely driven by positive estimates for volunteering and time management. Results for resilience, relaxation, coaching, financial well-being and well-being apps are all tending towards positive but with intervals overlapping zero. Overall, results provide no or little support for H_1 , except for volunteering initiatives.

5.2 | Indirect outcomes

Testing H_2 , results for the indirect outcomes are related to the JDR model, subjective accounts of the work environment and are consistent with many of the results for the well-being outcomes (Figure 2). Corresponding with the null results from Figure 1, across team collaboration, having sufficient training and strained relationships, no difference is found between participants and nonparticipants for almost all interventions. For volunteering, the positive estimates for well-being are echoed by higher reports of belonging for participants.

Notable differences are found in the results for unrealistic time pressures and feeling supported in stress. Participants in resilience and stress management training are more likely to report unrealistic time pressures. Conversely, participants in these interventions are more likely to report that their organisation supports work stress. Participants in mindfulness, time management and volunteering programmes all report higher average levels of stress support. Results generally do not support H_3 , but there is some support for feeling like managers support stress and volunteering programmes supporting a sense of belonging. More frequent reporting of unrealistic time pressures is inverse to the association proposed in H_2 .

5.3 | Gender, ethnicity and income

Figure 3 shows the predicted mental well-being scores for the interaction term models for the 'null effect interventions', resilience interventions and volunteering interventions, respectively. Examining gender and ethnicity, the null interventions again show no notable differences between participants and nonparticipants, indicating no support for H_3 . Predictions for income levels do suggest a possible association: for high-earners (greater than £40,000) who do

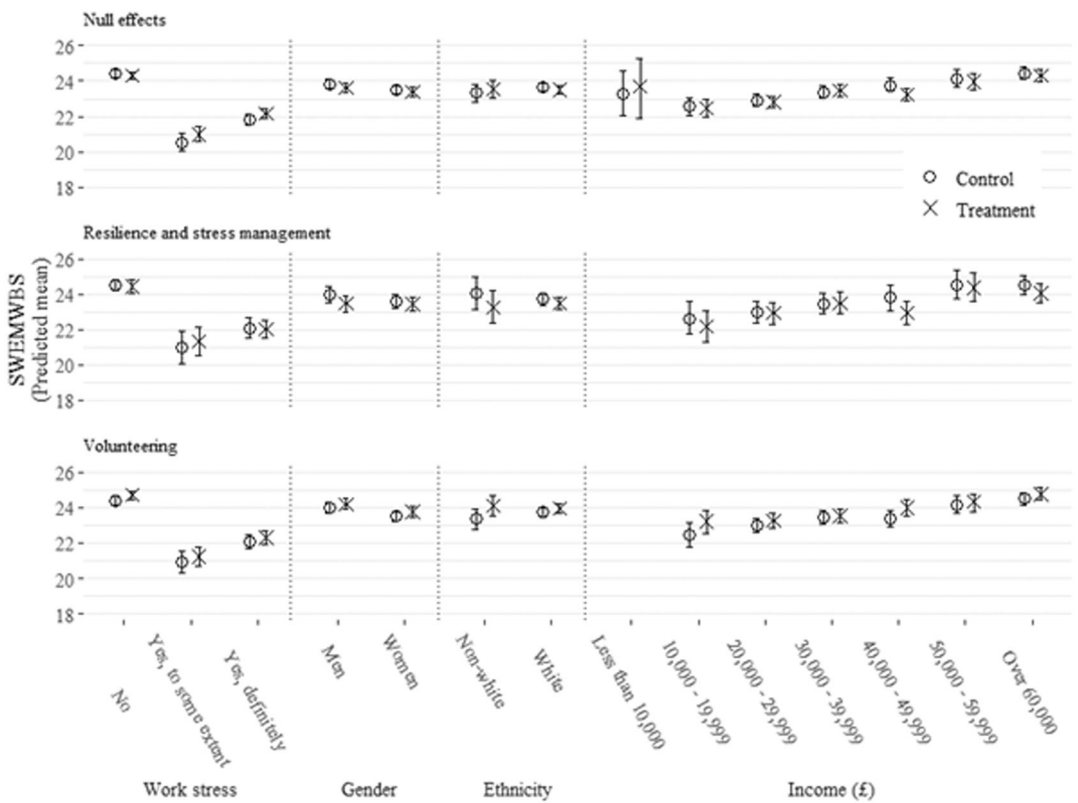


FIGURE 3 Predicted SWEMWBS from interaction estimates. ‘Null effects’ includes: mindfulness, relaxation, coaching, time management, financial well-being, well-being app, online coaching, sleep apps and sleep events. Whiskers show 95% highest density credible intervals. ‘Less than 10,000’ category excluded due to small group sample size. SWEMWBS, Short Warwick–Edinburgh Mental Well-Being Scale.

participate, predicted well-being is lower than nonparticipants; whereas for lower earners, there is again no directional relationship.

Results are similar for both resilience and volunteering interventions, with no notable group-level differences in the predictions for gender and ethnicity. Among higher earners who do participate in resilience programmes, there is some suggestion of a similar relationship to the null effects interventions, where participants have slightly lower predicted well-being than nonparticipants. However, intervals overlap and any difference appears only small.

5.4 | Work–stress for selection effects

To model treatment selection bias caused by prior levels of well-being, I included whether an individual suffered from work-related stress as an interaction. For the null effect interventions (Top row, Figure 3), the predicted values for participants show no differences within the stress groups. For those who answer ‘no’ to suffering from work–stress, the additional null results give some confidence to the overall results in Figure 1. This is because it allows an exclusion of those with poorer mental well-being who bring in the selection bias, indicating that there are

no benefits for those with existing good mental well-being. Results from those who answer 'yes, to some extent' also reiterate null effects. However, results for 'yes, definitely' are less clear, and while credible intervals do overlap, participant predictions appear slightly higher, suggesting that those definitely suffering from work-stress who participate have slightly higher mental well-being. This may suggest some positive for stressed workers, but it may also indicate further selection effects within this group.

Interpreting the work-stress predictor for resilience (Middle row, Figure 3) and volunteering programmes (Bottom row, Figure 3) also reveals similar null effects for participants. For resilience training there are no clear differences within the stress-level groups. For volunteering, the interaction term for work stress does not model the selection bias because the bias for the positive effect would theoretically be in the opposite direction, with happier workers more likely to participate. However, the previous stress interaction term does offer group predictions for estimating whether there is distinct benefit for those who suffer from stress. These results no longer demonstrate the positive association for participants, suggesting that any overall effect is small and that when sample size is reduced through grouping, the overall positive effect from the primary analysis can no longer be determined.

6 | DISCUSSION

6.1 | Interpreting results with selection bias

Before a theoretical discussion of the results can be undertaken, results must be acknowledged with respect to the limitations of the cross-sectional data. The strength of the PSA approach is in allowing for a more comparative sample between participants and nonparticipants, limiting bias at the individual level across a range of observables. However, selection bias remains because the outcome, well-being, also predicts participation in these initiatives. For the directional relationships in resilience and volunteering programmes, it cannot be assured that the reverse causal direction is not more realistic. To recall, those with poorer mental well-being may be more likely to participate in resilience and stress management training, and happier workers may be more likely to take up volunteering. Multiple interpretations of different results offers a mitigating path.

For the interventions with null effects, there are two options: (1) no selection bias and no effect or (2) selection bias, with those more in need of support more likely to participate, and a positive effect that improves well-being up to the level of nonparticipants. Option (2) implies no effect from participation for those with existing high well-being, in that a positive effect for those with poorer prior well-being allows them to catch up with their happier co-workers. However, considering the effect only among workers affected by work-related stress, it seems that there is no discernible effect from participation, giving weight to option (1). Regardless of which of the two possible explanations is most accurate, there would be no benefit to a universal adoption of these practices, as they would not help the already well-off. These strategies may develop psychological resource in anticipation of future stress, in which case any benefit would only be detected long term or may never be required, but this position would assume the unlikely scenario that these additional employee resources had not yet been required across the whole sample.

For the negative estimates for resilience and stress management training, there are three possible explanations: (1) a negative effect from participating; (2) no effect and the negative

coefficient reveals selection bias or (3) a positive effect, but that it is small and not ameliorative enough to improve mental well-being up to the level of the control group. Options (1) and (2) would suggest that these programmes are not beneficial for workers at all and should not be implemented by employers. Explanation (3) would suggest some benefit for workers, but that as interventions they do not enhance resources enough to compensate for poor mental well-being, implying that alternative strategies may be more appropriate or also required. Considering the interaction predictions in Figure 3, where no differences are found for those suffering from work-stress, explanation (2) appears to be most likely. Option (2) remains a possibility, but all three explanations challenge the value of resilience and stress management training.

For the positive effect of volunteering, there are also three options: (1) a positive effect; (2) no effect, with the positive estimate revealing selection bias or (3) a positive effect that suffers from selection bias, making the true treatment effect smaller than estimated. Options (1) and (3) indicate benefits for workers, and option (2), while not benefiting the worker directly, has the positive externality of 'doing good'. All three options therefore indicate volunteering opportunities may be beneficial for workers. Volunteering also has the highest participation rates of all the programmes (Table 1), suggesting a willingness from workers to engage.

6.2 | Summary and explanation

Results show that those who participate in individual-level interventions have the same levels of mental well-being as those who do not. The large multiorganisational sample reveals that this is consistent across multiple organisational contexts. Ultimately, there is no support from this analysis to support H_1 that these interventions are beneficial for workers' subjective well-being, instead indicating a null hypothesis is more appropriate. While these findings do not entirely discount positive effects for some individual workers, any such effect may be averaged out by a negative effect elsewhere. However, the lack of any notable differences across gender, ethnicity and income groups offers no support to H_3 , indicating the null results are maintained between social demographics and organisations. These primary findings are counter to much of the existing narrative in empirical literature and policy discourse (Bartlett et al., 2019; van der Klink et al., 2001; NICE, 2022; Robertson et al., 2015; Richardson & Rothstein, 2008; etc.). While these results oppose much of the existing literature, they do echo others who found low-level interventions such as these to be ineffective for mental well-being unless linked to preventative structural change (Daniels et al., 2022; LaMontagne et al., 2007), or where no effect, accompanied by treatment selection bias, is found in wellness programmes (Jones et al., 2019; Song & Baicker, 2019). The pertinent questions now are what explains these results; and why do they differ from positive results found in many trials?

JD-R theory offers explanation for the null and negative results found for resilience training and mindfulness. The intention behind these interventions is that workers can be taught to consciously develop their coping mechanisms, and in turn, better manage experienced job demands. Null and negative results suggest that these initiatives are either failing to develop these psychological resources as intended, not adequate for balancing job demands, or not relevant to contextual job demands. This explanation would hold regardless of whether workers are receiving this training to promote positive mental health, for a specific job role, or targeted to them as individuals. In an alternative explanation less related to JD-R, critics of individual-level interventions suggest that they can produce the converse 'toxic side effect' of causing

feelings of stress by implying it is an individual problem and self-imposed (Frayne, 2019, p. 12; Lovejoy et al., 2021). This is a less convincing argument as the results in Figure 3 suggest selection bias is at least partial explanation for the negative estimates.

Results from the indirect effects add further context for resilience and mindfulness. Figure 2 shows that participants are more likely to report that their organisation supports their stress, providing some evidence for H_2 . These results indicate one positive outcome from these initiatives, with perceived organisational support thought by some to be central to worker well-being. However, the assumption is undermined by the null and negative well-being predictions. A discrepancy suggests that while workers may report feeling supported in their stress, this is not matched in subjective well-being. Relatedly and more cynically, the survey item places peculiar emphasis on the individual ('... supports *me* to manage stress at work', italics added), leaving space for an interpretation that they are supported as individuals, but that the employer does not play its role. Another possible explanation that links the organisational support result to the well-being outcomes, is that workers are affected by spillover effects from other life domains that drag well-being down. While this would be consistent with the results, it seems highly unlikely to be persistent and homogenous across such a large sample.

Participants in these initiatives are also more likely to report unrealistic time pressures. There are two possible explanations. First, this may be a selection effect, with a sense of unrealistic time pressure motivating participation. Such an explanation would again suggest a failure of these interventions to develop appropriate or adequate psychological resources consistent with job demands. The second possible explanation offers bad news for managers hoping these initiatives will help workers better manage their demands, with results suggesting that interventions may make workers more aware of unrealistic time pressures, without being given the psychological tools to cope with them. These training programmes would then enhance workers' skills in identifying job demands, without enhancing their ability to psychologically manage those demands. This distinction should be analysed in future research.

The positive estimates for volunteering opportunities are the exception to the overall findings, offering some evidence in support of H_1 and H_2 . The possible benefit is estimated to be small, especially considering that the positive effect is no longer clear when grouped treatment effects are predicted. Nevertheless, results indicate that there are benefits. While there is also remaining selection bias, the positive estimates found on the indirect outcomes, such as sense of belonging, reiterate this potential benefit. The positive association with belonging and with having appropriate training speaks to two theoretical mechanisms. First, that volunteering can contribute to a sense of purpose and belonging, as well as provide additional skills (Rodell et al., 2016). More interestingly for the JDR model, that the volunteering results are counter to those for the psychological resource-based interventions suggests that enhancing social resources, rather than psychological skills, may be more effective for improving workers' well-being. Analysis of well-being interventions that seek to enhance social resources instead of personal psychological resources are 'remarkably' scant (Bakker, 2023, p. 41).

For why these results differ from much of the extant empirical literature on resilience and mindfulness training (e.g., Bartlett et al., 2019; Joyce 2018; Robertson et al., 2015), research design offers explanation. The high-level survey approach gives access to a multitude of organisational contexts, across which there will be heterogenous organisations, workforces and practices. Notably, this will entail variable fidelity in interventions, with RCTs implemented in one or few contexts and with high-quality intervention design and implementation. Such trials might be successful for improving mental well-being in the experimental context, but when rolled out to various workplaces with variable implementation process, they might then be

ineffective (Nielsen & Miraglia, 2017). By evaluating these types of initiatives out of research context, implemented in the messy realities of organisational life, any benefits appear to be smaller. Such discrepancies emphasise the need for policy recommendations to evaluate evidence of workplace well-being initiatives in situ as well as 'in vitro'.

6.3 | Strengths and further limitations

The scale of the survey data in this article is its main strength and ensures an empirical contribution to the literature, despite causal limitations. I analysed a sample of British workers larger than any prior evaluation of mental well-being interventions, with workers clustered in over 200 organisations. This sample allows for the inclusion of group and industry-level variance to statistical and theoretical models, as well as the evaluation of multiple, specific interventions. While experimental studies do provide compelling causal evidence, their scale is limited practically. Further, in examining multiple interventions across multiple organisations, this analysis will include varying degrees of fidelity in interventions; a pressing need in the existing literature and relevant to the future implementation of well-being interventions (Fikretoglu et al., 2022). It seems reasonable to suggest that examining a range of organisations with observational data likely includes initiatives that are not so well implemented, offering another possible explanation for the null results. Analysing these contexts is as important as experimental contexts with high-quality intervention design. If the benefits of individual-level interventions are only to be found when implementation quality is very high, as in RCTs, then these initiatives should only be offered where high fidelity and adherence can be achieved.

There are further limitations to this analysis beyond the obvious methodological problems of cross-sectional data. I have only evaluated the interventions in isolation, meaning that, although the organisation context and some organisational-level variables are controlled for, participation is not considered within the wider structures that are important for evaluation (Daniels et al., 2022). Likewise, these individual-level interventions may be one component of an integrated approach to well-being. Little information on the interventions is provided in the survey data; there will be heterogeneity in practices. This is especially relevant for the estimates of volunteering opportunities, as options may be explicit community initiatives or may be pro-bono professional work. Finally, information on why people have participated would allow for a more complete modelling of selection bias. Greater survey coverage is required to address most of these limitations.

To build on both these strengths and weaknesses, further longitudinal and experimental studies should be undertaken to better establish potential positive and negative effects. To enhance external validity, these studies must be large-scale and in multiple contexts. Both of these suggestions for further research can be met by more experimental intervention studies undertaken in the spirit of realist analysis (Nielsen & Miraglia, 2017). When research evaluates individual-level interventions, it ought to analyse the types of resources that are being developed and whether these are appropriate for the specific job demands. Finally, further research into labour relations and workers' experience of mental well-being interventions is required to understand any coercive adoption of these strategies (Islam et al., 2022; Murphy & MacMahon, 2022, etc.). There is much discursive work in critical accounts, but there remains a need for qualitative evaluation and the inclusion of worker voice in discussions (Watson et al., 2023).

7 | CONCLUSION

The results in this article pose a challenge to the popularity and legitimacy of individual-level mental well-being interventions like mindfulness, resilience and stress management, relaxation classes and well-being apps. I find little evidence in support of any benefits from these interventions with even some small indication of harm that would confirm fears from critics (e.g., Frayne, 2019; Lovejoy et al., 2021). Employee volunteering opportunities do offer one possible exception, but the estimated effects are small, probably selection-biased and these initiatives would not engage with the job demands and resources central to theoretical and empirical understandings of work well-being. Finally, this article also contributes, at a high level through survey data, to the study of 'what works', as well as expanding this question to consider 'for whom and in what circumstances' (Nielsen & Miraglia, 2017). Future research ought to evaluate if individual-level interventions are effective alongside organisational change, or whether improvements in working conditions are a superior alternative (Bakker et al., 2023; Kelloway et al., 2023; Lovejoy et al., 2021). A combination of approaches could benefit workers by, if implemented well, enhancing job resources whilst also mitigating job demands.

Beyond research, this article also has important repercussions for policy on workers' well-being. As it stands, it seems premature to recommend individual-level interventions to all workers (e.g. NICE, 2022). I concur with reviewers of the field that organisational interventions, such as changes to scheduling, management practices, staff resources, performance review or job design (Fox et al., 2022), appear more beneficial for improving well-being (Lovejoy et al., 2021). Recommendations from the likes of NICE (2022) and Stevenson and Farmer (2017) do acknowledge the importance of working conditions, but more emphasis must be placed on the greater benefits of organisational rather than individual change, as well as on the importance of high-quality intervention implementation.

ACKNOWLEDGEMENTS

I would like to thank Adam Coutts, Brendan Burchell, Chris van Stolk, Diane Coyle, Maria Iacovou and Tarani Chandola for their feedback. Thank you to RAND Europe and VitalityHealth for making the data available and the University of Cambridge Contracts Team for support with the license agreement. The research was funded by the ESRC and RAND Europe (Reference: ES/J500033/1), with writing up partially supported by NIHR Oxford Health Biomedical Research Centre (ref: NIHR203316). The views expressed are those of the author and not those of NIHR or the Department of Health and Social Care.

DATA AVAILABILITY STATEMENT

Data were made available through license agreement with VitalityHealth.

ETHICS STATEMENT

Research uses secondary data that is anonymised with no individuals identifiable. Participation in data collection was all voluntarily.

ORCID

William J. Fleming  <http://orcid.org/0000-0002-4724-9837>

REFERENCES

- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. (2023). Job demands-resources theory: Ten years later. *Annual Review of Organizational Psychology and Organizational Behavior*, 10, 25–53.
- Bartlett, L., Martin, A., Neil, A. L., Memish, K., Otahal, P., Kilpatrick, M., & Sanderson, K. (2019). A systematic review and meta-analysis of workplace mindfulness training randomized controlled trials. *Journal of Occupational Health Psychology*, 24(1), 108–126.
- Biron, C., Karanika-Murray, M., & Cooper, C. L. (Eds.). (2012). *Improving organizational interventions for stress and well-being: Addressing process and context*. Routledge.
- Black, C. (2008). *Working for a healthier tomorrow*. Department for Work and Pensions; Department of Health.
- Brüggen, E. C., Hogreve, J., Holmlund, M., Kabadayi, S., & Löfgren, M. (2017). Financial well-being: A conceptualization and research agenda. *Journal of Business Research*, 79, 228–237.
- Chartered Institute of Personnel and Development (CIPD). (2022). *Health and Wellbeing at Work 2022*.
- Claessens, B. J. C., van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review*, 36(2), 255–276.
- Daniels, K., Fida, R., Stepanek, M., & Gendronneau, C. (2021). Do multicomponent workplace health and wellbeing programs predict changes in health and wellbeing? *International Journal of Environmental Research and Public Health*, 18(17), 8964.
- Daniels, K., Tregaskis, O., Nayani, R., & Watson, D. (2022). *Achieving sustainable workplace wellbeing*. Springer.
- Demerouti, E., Bakker, A. B., Peeters, M. C. W., & Breevaart, K. (2021). New directions in burnout research. *European Journal of Work and Organizational Psychology*, 30(5), 686–691.
- Fida, R., Game, A., Stepanek, M., & Gendronneau, C. (2022). Longitudinal effects of engagement with workplace health programmes on employee outcomes: A relational perspective. *British Journal of Management*, 33(4), 1905–1923.
- Fikretoglu, D., Easterbrook, B., & Nazarov, A. (2022). Fidelity in workplace mental health intervention research: A narrative review. *Work & Stress*, 36(1), 6–29.
- Follmer, K. B., & Jones, K. S. (2018). Mental illness in the workplace: An interdisciplinary review and organizational research agenda. *Journal of Management*, 44(1), 325–351.
- Foster, D. (2018). The health and well-being at work agenda: Good news for (disabled) workers or just a capital idea? *Work, Employment and Society*, 32(1), 186–197.
- Fox, K. E., Johnson, S. T., Berkman, L. F., Sianoja, M., Soh, Y., Kubzansky, L. D., & Kelly, E. L. (2022). Organisational- and group-level workplace interventions and their effect on multiple domains of worker well-being: A systematic review. *Work & Stress*, 36(1), 30–59.
- Frayne, D. (Ed.). (2019). *The work cure: Critical essays on work and wellness*. PCCS Books.
- Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the workplace: A multilevel review and synthesis. *Applied Psychology*, 69(3), 913–959.
- Hausman, D. M. (2015). *Valuing health: Well-being, freedom, and suffering*. Oxford University Press.
- Haybron, D. M. (2008). *The pursuit of unhappiness: The elusive psychology of well-being*. Oxford University Press.
- Holman, D., Johnson, S., & O'Connor, E. (2018). Stress management interventions: Improving subjective psychological well-being in the workplace. In E. Diener, S. Oishi & L. Tay (Eds.), *Handbook of well-being*. DEF.
- Holmqvist, M., & Maravelias, C. (2011). *Managing healthy organizations: Worksite health promotion and the new self-management paradigm*. Routledge.
- Hox, J., & McNeish, D. (2020). Small samples in multilevel modeling. In R. van de Schoot & M. Miočević (Eds.), *Small sample size solutions: A guide for applied researchers and practitioners* (pp. 215–225). Routledge.
- Islam, G., Holm, M., & Karjalainen, M. (2022). Sign of the times: Workplace mindfulness as an empty signifier. *Organization*, 29(1), 3–29.
- Jamieson, S. D., & Tuckey, M. R. (2017). Mindfulness interventions in the workplace: A critique of the current state of the literature. *Journal of Occupational Health Psychology*, 22(2), 180–193.
- Janssen, M., Heerkens, Y., Kuijer, W., van der Heijden, B., & Engels, J. (2018). Effects of mindfulness-based stress reduction on employees' mental health: A systematic review. *PLoS One*, 13(1), e0191332.

- Jones, D., Molitor, D., & Reif, J. (2019). What do workplace wellness programs do? Evidence from the Illinois workplace wellness study. *The Quarterly Journal of Economics*, 134(4), 1747–1791.
- Joyce, S., Shand, F., Tighe, J., Laurent, S. J., Bryant, R. A., & Harvey, S. B. (2018). Road to resilience: A systematic review and meta-analysis of resilience training programmes and interventions. *BMJ Open*, 8(6), e017858.
- Kaplan, D., & Chen, J. (2012). A two-step Bayesian approach for propensity score analysis: Simulations and case study. *Psychometrika*, 77, 581–609.
- Kelloway, E. K., Dimoff, J. K., & Gilbert, S. (2023). Mental health in the workplace. *Annual Review of Organizational Psychology and Organizational Behavior*, 10, 363–387.
- Keyes, C. L. M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, 73(3), 539–548.
- van der Klink, J. J., Blonk, R. W., Schene, A. H., & van Dijk, F. J. (2001). The benefits of interventions for work-related stress. *American Journal of Public Health*, 91(2), 270–276.
- Kowalski, T. H. P., & Loretto, W. (2017). Well-being and HRM in the changing workplace. *The International Journal of Human Resource Management*, 28(16), 2229–2255.
- LaMontagne, A. D., Keegel, T., Louie, A. M., Ostry, A., & Landsbergis, P. A. (2007). A systematic review of the job-stress intervention evaluation literature, 1990–2005. *International Journal of Occupational and Environmental Health*, 13(3), 268–280.
- LaMontagne, A. D., Martin, A., Page, K. M., Reavley, N. J., Noblet, A., Milner, A. J., Keegel, T., & Smith, P. M. (2014). Workplace mental health: Developing an integrated intervention approach. *BMC Psychiatry*, 14(1), 131. <https://doi.org/10.1186/1471-244X-14-131>
- Lomas, T., Medina, J. C., Ivtzan, I., Rupprecht, S., & Eiroa-Orosa, F. J. (2019). Mindfulness-based interventions in the workplace: An inclusive systematic review and meta-analysis of their impact upon wellbeing. *The Journal of Positive Psychology*, 14(5), 625–640.
- Lovejoy, M., Kelly, E. L., Kubzansky, L. D., & Berkman, L. F. (2021). Work redesign for the 21st century: Promising strategies for enhancing worker well-being. *American Journal of Public Health*, 111(10), 1787–1795.
- Maricuțoiu, L. P., Sava, F. A., & Butta, O. (2016). The effectiveness of controlled interventions on employees' burnout: A meta-analysis. *Journal of Occupational and Organizational Psychology*, 89(1), 1–27.
- Michaelsen, M. M., Graser, J., Onescheit, M., Tuma, M. P., Werdecker, L., Pieper, D., & Esch, T. (2023). Mindfulness-based and mindfulness-informed interventions at the workplace: A systematic review and meta-regression analysis of RCTs. *Mindfulness*, 14(6), 1271–1304.
- Murphy, C., & MacMahon, J. (2022). Employee resilience: A labour process perspective. *Work in the Global Economy*, 2(1), 109–131.
- National Institute for Health and Care Excellence (NICE). (2022). Mental wellbeing at work (*NICE Guideline NG212*).
- De Neve, J.-E., & Ward, G. (2023). *Measuring workplace wellbeing* (Working Paper 2303). University of Oxford Wellbeing Research Centre.
- Nielsen, K. (2017). Organizational occupational health interventions: What works for whom in which circumstances? *Occupational Medicine*, 67(6), 410–412.
- Nielsen, K., & Miraglia, M. (2017). What works for whom in which circumstances? On the need to move beyond the 'what works?' question in organizational intervention research. *Human Relations*, 70(1), 40–62.
- Parkhurst, J. O. (2016). Appeals to evidence for the resolution of wicked problems: The origins and mechanisms of evidentiary bias. *Policy sciences*, 49, 373–393.
- Pfeffer, J., Singer, S., & Stepanek, M. (2022). Volunteering improves employee health and organizational outcomes through bonding with coworkers and enhanced identification with employers. *Journal of Occupational and Environmental Medicine*, 64(5), 370–376.
- Richardson, K. M., & Rothstein, H. R. (2008). Effects of occupational stress management intervention programs: A meta-analysis. *Journal of Occupational Health Psychology*, 13(1), 69–93.
- Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, 88(3), 533–562.
- Rodell, J. B., Breitsohl, H., Schröder, M., & Keating, D. J. (2016). Employee Volunteering: A Review and Framework for Future Research. *Journal of Management*, 42(1), 55–84.

- Rosado-Solomon, E. H., Koopmann, J., Lee, W., & Cronin, M. A. (2023). Mental health and mental illness in organizations: A review, comparison, and extension. *Academy of Management Annals*, 17(2), 751–797.
- Rubin, D. B. (1997). Estimating causal effects from large data sets using propensity scores. *Annals of Internal Medicine*, 127(8), 757–763.
- Song, Z., & Baicker, K. (2019). Effect of a workplace wellness program on employee health and economic outcomes: A randomized clinical trial. *Journal of the American Medical Association*, 321(15), 1491–1501.
- Stevenson, D., & Farmer, P. (2017). *Thriving at work: The stevenson/farmer review of mental health and employers*. Department for Work and Pensions; Department of Health and Social Care.
- Sutcliffe, K. M., Vogus, T. J., & Dane, E. (2016). Mindfulness in organizations: A cross-level review. *Annual Review of Organizational Psychology and Organizational Behavior*, 3, 55–81.
- Tetrick, L. E., & Winslow, C. J. (2015). Workplace stress management interventions and health promotion. *Annual Review of Organizational Psychology and Organizational Behavior*, 2, 583–603.
- Trade Union Congress (TUC). (2018). *Mental health and the workplace*.
- Virgili, M. (2015). Mindfulness-based interventions reduce psychological distress in working adults: A meta-analysis of intervention studies. *Mindfulness*, 6(2), 326–337.
- Vonderlin, R., Biermann, M., Bohus, M., & Lyssenko, L. (2020). Mindfulness-based programs in the workplace: A meta-analysis of randomized controlled trials. *Mindfulness*, 11(7), 1579–1598.
- Warr, P. (2007). *Work, happiness, and unhappiness*. Lawrence Erlbaum Associates.
- Watson, D., Wallace, J., Land, C., & Patey, J. (2023). Re-organising wellbeing: Contexts, critiques and contestations of dominant wellbeing narratives. *Organization*, 30(3), 441–452.
- Zhang, Z., Parker, R. M. A., Charlton, C. M. J., Leckie, G., & Browne, W. J. (2016). R2MLwiN: A Package to Run MLwiN from within R. *Journal of Statistical Software*, 72(10), 1–43.
- Zoller, H. M. (2004). Manufacturing health: Employee perspectives on problematic outcomes in a workplace health promotion initiative. *Western Journal of Communication*, 68(3), 278–301.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Fleming, W. J. (2024). Employee well-being outcomes from individual-level mental health interventions: Cross-sectional evidence from the United Kingdom. *Industrial Relations Journal*, 55, 162–182. <https://doi.org/10.1111/irj.12418>