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ARTICLE

Employee experiences of digital workplace well-being programmes: A qualitative meta-synthesis

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Abstract: This meta-synthesis sought to understand employee experiences of digital workplace well-being programmes to inform their future design, implementation, and research. Twenty-nine publications were identified by database searches (Scopus, MEDLINE, PsycINFO, and ProQuest Dissertations & Theses Global). Five themes were developed: 'valuable', 'usability', 'shame and stigma', 'contextual factors', and 'inadequate and counterproductive'. Findings reflect the domains of the Technology Acceptance Model, and we suggest ways to enhance engagement in programmes. Given the low quality of existing primary studies, future research should focus on methodological rigour and transparent reporting of methodology.

Practitioner Points:

- Digital well-being programmes are valued by employees for their usefulness, accessibility, and ability to support self-awareness.
- Successful uptake depends on ease of use, as well as addressing barriers such as time constraints, perceived organisational support of use, and stigma.
- Irrelevant content can reduce engagement and may even be counterproductive.
- Employers can support engagement by providing employees with time and appropriate environments to use the programmes, and involving employees in programme selection to ensure relevance and fit.

Keywords: digital health; intervention; mental health; qualitative meta-synthesis; review; workplace well-being

1. Introduction

Digital programmes to support employee psychological well-being have become a common feature of the modern workplace. Since the COVID-19 pandemic, digital communication platforms have been well-socialised with the general public. Digital products are increasingly used to facilitate well-being programmes in automated or semi-automated formats that were once delivered in person. Given the practical limitations of hands-on or face-to-face interventions and the limited availability of qualified professionals, digital interventions offer greater reach and lower workplace costs (Peeters et al., 2024). Employers have a sophisticated and growing array of choices, including website-based platforms, mobile applications, and health monitoring devices.

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Workplaces may choose to implement wellness programmes to attract, support and retain staff (Hammerback et al., 2023). Well-being-related education and support can help manage the effects of increasing workloads and new challenges related to hybrid and remote working (Agolli & Holtz, 2023). Demand for well-being programmes has also surged since guidelines and government-mandated health and safety regulations have changed, for instance, the release of the ISO 45003 global standard (International Organization for Standardization, 2021) and the Queensland Code of Practice for psychosocial hazards at work (Safe Work Australia, 2022).

Previous, largely quantitative, reviews have supported the efficacy of digital workplace well-being programmes (Amirabdolahian et al., 2025; Carolan et al., 2017; Howarth et al., 2018; Peláez Zuberbuhler et al., 2025; Phillips et al., 2019). While literature and policy generally support using digital programmes for psychological well-being, workplaces report poor engagement from employees despite the sometimes high financial investment from employers (Egger et al., 2023; Valencia, 2021). This means the programmes are recognised as having great potential, but employers can incur a high cost for limited gain when employee engagement is low.

Understanding employees' experiences of digital workplace well-being programmes is essential to inform programme design and offer insights for employers to increase engagement and return on investment. Researchers have called for a better understanding of the active ingredients of these programmes and how they can be used to improve staff well-being (Carolan et al., 2017; Daniels et al., 2021; Ryan et al., 2021). Previous qualitative reviews of workplace well-being interventions (e.g. Gray et al. 2019; Yarker et al., 2022) have not evaluated user experiences and perceptions of digital programmes. The lack of focus on digital programmes in the literature is surprising, given the trends in the market and the unique challenges that implementing such programmes in workplaces presents. The present study addresses a gap by undertaking a qualitative meta-synthesis examining employees' experiences and perceptions of using digital well-being programs in the workplace. In a comprehensive search of the literature, no previous qualitative meta-synthesis was identified. Common themes and learnings from a meta-synthesis will widen the real-world impact and return on investment for workplaces implementing these programmes, and help to inform future development, evaluation and research efforts.

1.1 Review objectives

This qualitative meta-synthesis aims to understand employee experiences and perceptions of digital workplace well-being programmes to improve psychological well-being. The qualitative meta-synthesis approach appreciates the depth of human experience, drawing together qualitative research findings to develop new knowledge that a single qualitative study may not (Tong et al., 2012). The review question was: "What are employee experiences and perceptions of digital workplace well-being programmes for psychological well-being?"

2. Method

2.1 Design

We conducted a qualitative meta-synthesis informed by the interpretive approach of Noblit and Hare (1988), applying systematic literature search and quality appraisal guidelines from the Joanna Briggs Institute (JBI; Aromataris et al., 2024). Noblit and Hare's (1988) stepped approach informed searches, through interpretive engagement with the data, to synthesis findings. The meta-synthesis was reported according to the framework of Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ; Tong et al., 2012). The protocol was prospectively

registered with PROSPERO (CRD42023473009). Any reviewer conflicts were resolved through discussion at each screening stage, extraction and analysis.

2.2 Reflexivity and bias

The multidisciplinary review team for the current meta-synthesis was made up of a combination of practising clinical psychologists (LC & MS), nurses (KA, MS, & RJ), and a health service librarian (MN-B), including two researchers with significant experience in qualitative research and analysis (MS & RJ). The concept for this study was derived from the professional experience of two review members providing clinical consultancy to workplaces (LC & MS). Therefore, the current researchers drew from their prior experiential knowledge while analysing and interpreting the data. The research team met and explored pre-conceived expectations and evolving interpretations as the research progressed from conception to reporting, discussing and agreeing on final interpretations.

2.3 Ethical considerations

Ethical approval was not required for this meta-synthesis.

2.4 Inclusion and exclusion criteria

Studies were included that reported adult employee experiences or perceptions of digital products to enhance psychological well-being, or multi-component programmes for psychological well-being that involved a digital element (see Table 1).

Table 1. PICo search structure and inclusion criteria

	Population	**Interest**	**Context**
Broad concept	Employees' Experiences Workplace	Well-being programmes	Online/digital
Inclusion criteria	Employees aged 16 years or older, from any workplace industry or sector, employed part or full-time, any job title/role	Any well-being product or programme provided by the workplace where improved mental well-being was an intended outcome	A digital intervention, for example a mobile application, online training modules, wearable device, or multi-component programme, used within or outside the workplace
Other inclusion criteria	Publication types: Published peer-reviewed journal articles and doctoral theses, available in searchable online databases, included ethics process Study design types: Qualitative or mixed methods design that included qualitative data collected by methods such as focus groups, interviews or responses to open-ended questionnaire items Language: Only studies reported and published in the English language No limiters on timeframe		

2.4.1 Participants

Studies were included if participants were adults employed in part- or full-time capacity by an organisation or business. Studies were excluded if participants were not employees, for instance, they reported retired workers or students, or if participants were under age 16.

2.4.2 Context

Studies were included if the employee intervention was provided by the workplace. The intervention could be used within or outside of the workplace, as long as the workplace intended to improve employee psychological well-being. Studies were excluded if the programmes were not provided by the employer, for example, an organisation external to the workplace. Studies were included where the interest involved an online application, online platform, wearable health technology, or multi-component programme, such as using a smartphone application and completing an online course. Similar to a previous review (Amirabdolahian et al., 2025), we excluded studies if the only digital component of the intervention was an online but synchronous human interaction, such as a telehealth counselling session, or a live educational webinar. Studies were excluded if they did not include an asynchronous digital component.

2.4.3 Interest

Studies were included where the outcome was mental ill-being or well-being, for example, stress, depression, or life satisfaction. Studies were included if they reported experiences or perceptions of employees who had used the digital programme. Experiences were the views of employees based on their personal and direct use of the digital programme. Perceptions were the views expressed by employees after being shown the digital programme, such as a prototype or demonstration. Studies were excluded if they did not report psychological or mental well-being as an outcome or only reported a physical health outcome, for example weight loss, or if they sought an employee's opinion generally rather than for a specific programme that they had used or reviewed.

2.4.4 Document type

We included qualitative or mixed-methods design studies that were full-text, peer-reviewed journal articles, dissertations or theses and available on searchable online databases in English. Dissertations and theses were limited to PhD/Doctoral level. Conference papers were excluded. Publications were excluded if the authors did not report original research, for example, a review paper; evidence of an ethics approval process was not provided; the study was only quantitative; qualitative data was unrelated to participants' experiences or perceptions; the publication was unavailable in full text and/or English; the methods, intervention and/or results were so sparsely described that extraction would not have been possible.

2.5 Search strategy

Search strategies to identify relevant publications were developed by a medical librarian (MN-B) after consulting with members of the review team (LC, MS, RJ). A systematic search was conducted across four databases on 16 January 2024: Ovid MEDLINE, PsycINFO (Ovid), Scopus (Elsevier) and ProQuest Dissertations & Theses Global. A modified PICo [Patient/population, Interest, Context] formulated the question and informed the search. The PICo question was: Population = Employees' workplace experiences; Interest = Well-being programmes; Context = Online/digital (see Table 1).

A combination of subject headings and relevant keywords were adopted for each concept and an initial search was created in MEDLINE before translation to other databases. MEDLINE and PsycINFO strategies were peer-reviewed by a second librarian (EH) using the Peer Review of Electronic Search Strategies (PRESS) checklist (McGowan et al., 2016). The Canadian Agency for Drugs and Technologies in Health [CADTH] qualitative search filters were used across all databases (CADTH, 2020a, b, 2023). For reproducibility, the final strategies and search terms for each bibliographic database, including the platform and details regarding the qualitative filters, are available (Appendix 1).

Search results were exported to EndNote 20 (Clarivate Analytics, PA, USA) and then imported into Covidence (Veritas Health Innovation, Melbourne, Australia) for de-duplication and screening. During the full-text screening phase, citation searching was performed on all full-text papers, and any additional identified publications were added.

2.6 Study selection

The first screening phase involved two independent reviewers (LC, KA, MS, or RJ) screening titles and abstracts against the inclusion criteria. Potentially relevant records were then retrieved as full text, and two independent reviewers (LC, MS, or RJ) screened the full text against inclusion criteria, including any identified from citation searches.

2.7 Quality appraisal

Two reviewers (LC, MS or RJ) independently undertook a critical appraisal of all included publications by populating the risk of bias fields in Covidence using the JBI critical appraisal tool for qualitative studies (Aromataris et al., 2024). The Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018) was used as a supplementary appraisal tool for mixed methods studies. For the present study, the quality and risk of bias appraisal of the included studies informed the description of the existing evidence base. As the first qualitative meta-synthesis, all studies, irrespective of quality, were included and synthesised.

2.8 Data abstraction

The final included studies were read and localised by three authors (MS, LC, and RJ) to gain an overview of themes and the experiences or perceptions that employees reported. Data was then independently extracted from full texts of the final included studies by two researchers (LC, MS or RJ) according to predetermined extraction fields: 1) study characteristics, for example, date, location, population, research design, research objectives, and 2) study findings, for example, population demographics, author themes and participant quotes. To understand the interventions, predetermined extraction fields also included 3) the template for intervention description and replication (TIDieR) checklist items (Hoffmann et al., 2014). For multi-component programmes that included digital and non-digital elements, extraction focused on overall experiences or perceptions, and experiences or perceptions related to the digital intervention. Extracted themes and participant quotes were then exported from Covidence and organised by one of the reviewers (LC) in Microsoft Excel™.

2.9 Data synthesis

The relationships between studies were explored, and themes were developed, through an interactive process informed by the inductive and interpretive approach of Malterud (2019) and Noblit and Hare (1988). Initially, themes reported by authors of the primary studies were read

and summarised (LC, MS, or RJ). Participant quotes reported in the primary research studies were then explored by three researchers (LC and MS or RJ) and organised within Microsoft Excel™. Through interpretive engagement with these data, themes were constructed, then refined, as a new understanding of employees' perceptions and experiences of digital workplace well-being programmes. Final named themes were reached via further refinements and synthesis over several iterations, and discussion and consensus were reached by three of the reviewers (LC, MS & RJ). Examples of this process are illustrated in Appendix 2.

3. Results

3.1 Search outcome

Study searches were completed in January 2024. Database searches identified 18924 articles, with 11326 after removing duplicates and adding four studies from manual searches. Following the abstract screening, 91 full-text articles were screened, of which 29 met the selection criteria. Figure 1 (below) illustrates the search and screening process.

At the full-text screening stage, studies were primarily excluded due to not reporting experiences or perceptions, not having employees as the target population, and the digital intervention being synchronous only, such as talking therapy simply delivered by a therapist live over video call. Inter-rater reliability was 97% for title and abstract screening and 91% for full-text screening.

3.2 Study characteristics

Study characteristics are summarised in Table 2 (below).

Despite no date restrictions, all included studies were from 2014 onwards, and except for one doctoral thesis (Yuan, 2015), all were journal articles. Of the included studies, 21 employed mixed methods and most did not report a named methodology or detail the study design, including the qualitative approach. Thematic analysis was the most common qualitative analysis method.

Most of the studies were conducted in European countries (*n*=18), with sample sizes ranging from three to 1244 participants. Except for one study focusing on clinical depression (Schneider et al., 2014), all used non-clinical samples. Study populations were usually majority female (*n*=19) and convenience volunteers recruited via their employer (*n*=22). Healthcare was the most common industry (*n*=13), with other industries spanning education, construction, manufacturing, information technology, and public administration or government services.

Regarding the interventions, 26 studies focused on a specific programme or product, while three examined digital interventions more generally (Manning et al., 2020; Nwaogu et al., 2021; Yoon et al., 2021). Interventions included mobile applications (*n*=13), website platforms (*n*=14), wearables (*n*=4), digital documents (*n*=2), and virtual reality (*n*=1), with over half being multi-component programmes. Ten interventions included human support, and three included synchronous online sessions. A TIDieR checklist summary of interventions is available (Appendix 3).

3.3 Quality appraisal

Quality appraisal findings are reported in Table 3 (below).

Figure 2. Flowchart illustrating the search and screening process

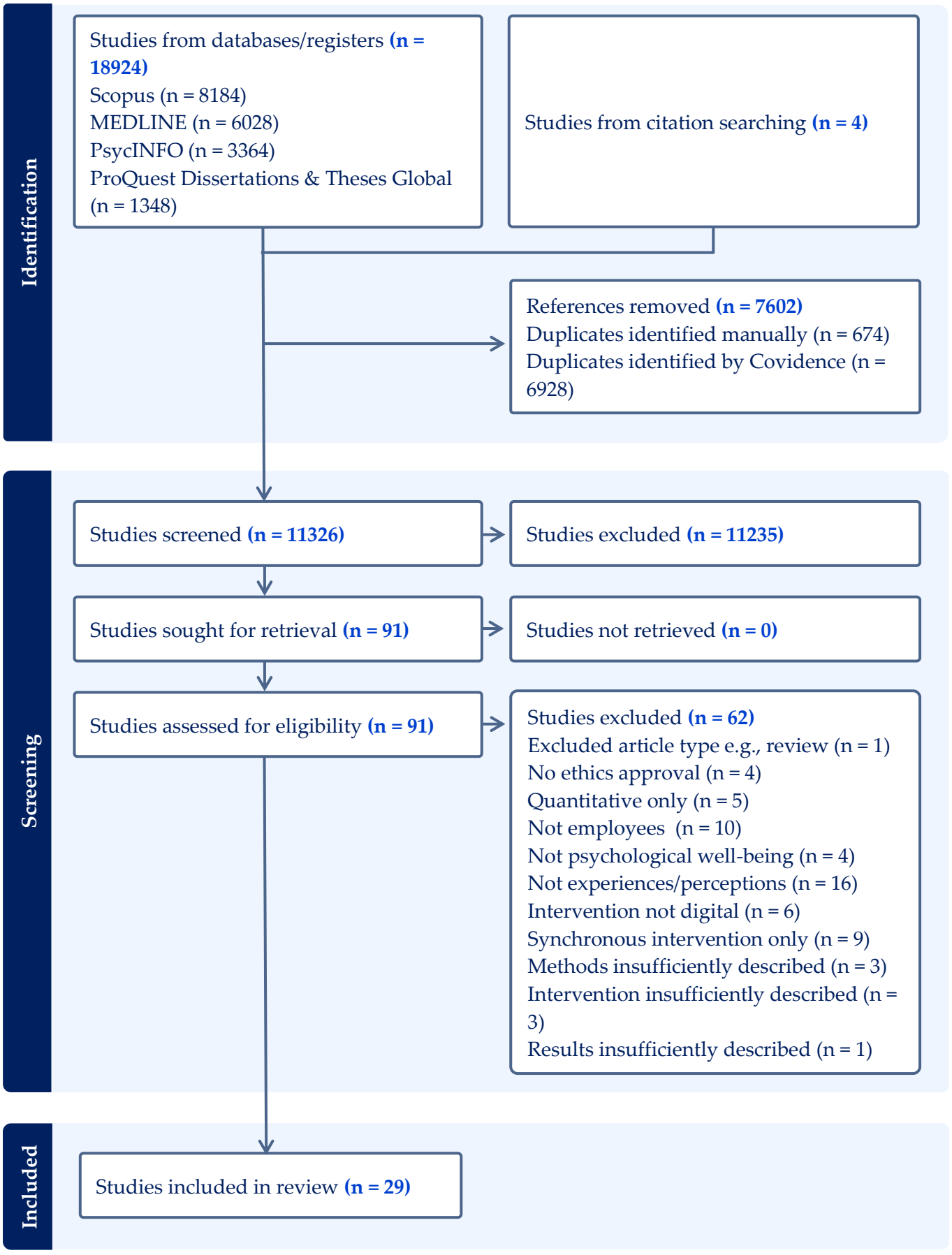


Table 2. Study characteristics

First author (year) Publication type	Study objectives	Country Sector Recruitment method	Year data collected	Intervention type Sample size & characteristics	Methodology Study Design Analysis (reference)
Argyriadis (2023) Journal article	Develop and implement short mindfulness practices for emergency department nurses to reduce stress and burnout	Greece Healthcare Convenience sample via employer/s	2022	Mobile application and smartwatch 14 emergency department nurses 86% female non-clinical sample	Not reported Mixed methods; Qualitative design not reported Thematic content analysis (reference not reported)
Behrendt (2023) Journal article	Investigate the feasibility of newly developed resilience intervention	Germany† Not reported Convenience sample via employer/s	2018 & 2019	Mobile application, website platform, and email support 30 employees 73% female non-clinical sample	Not reported Mixed methods; Qualitative design not reported Thematic analysis (Braun & Clarke, 2006)
Brown (2020) Journal article	Examine the feasibility, acceptability, and effects of an Acceptance and Commitment therapy website intervention	UK Healthcare Convenience sample via employer/s	2019	Website platform 124 health board or hospital employees 88% female non-clinical sample	Not reported Mixed methods; Qualitative design not reported Thematic analysis (Braun & Clarke, 2006)
Bureau (2021) Journal article	Evaluate the feasibility and acceptability of the beta-versions of an internet-based Cognitive Behaviour Therapy intervention during the COVID-19 endemic	France Healthcare Convenience sample via employer/s	2020	Website platform 10 hospital employees 90% female non-clinical sample	Not reported Qualitative (further details not reported) Thematic analysis (Braun & Clarke, 2006)
Carolan (2018) Journal article	Understand the facilitators and barriers of engagement with workplace digital mental health interventions	UK Mixed Convenience sample	2017	Website platform with email support 18 employees 78% female non-clinical sample	Not reported Qualitative (further details not reported) Thematic analysis (Braun & Clarke, 2006)

First author (year) Publication type	Study objectives	Country Sector Recruitment method	Year data collected	Intervention type Sample size & characteristics	Methodology Study Design Analysis (reference)
Espinola (2024) Journal article	Investigate the feasibility of (1) using a virtual reality scenario and educational video to examine moral distress among health care employees during the COVID-19 pandemic; (2) using a mobile application for longitudinal monitoring after the intervention	Canada Healthcare Convenience sample via employer/s	2021	15 hospital employees 73% female non-clinical sample Virtual reality and mobile application	Not reported Mixed methods; Qualitative design not reported Content analysis (White & Marsh, 2006)
Finucane (2023) Journal article	To develop, and feasibility test, an online Acceptance and Commitment Therapy intervention to improve the well-being of palliative care staff	UK Healthcare Convenience sample via employer/s	2021	28 healthcare employees 93% female non-clinical sample Website platform, online workshops, and digital document	Not reported Mixed methods; Qualitative design not reported Framework analysis (reference not reported)
Ghasemi (2023) Journal article	Assess the feasibility of a self-guided Acceptance and Commitment Therapy based program to improve the psychological well-being of English as foreign language teachers during the COVID-19 pandemic	Iran Education Convenience sample via employer/s	Not reported	80 English as a foreign language school teachers 15% female non-clinical sample Mobile application with text support	Not reported Mixed methods; Qualitative design not reported Content analysis (Weber, 1990)
Haile (2020) Journal article	Pilot test a nudge-based digital intervention (Welbot) to reduce sedentary behaviour and improve physical and mental well-being in the workplace	UK Education Convenience sample via employer/s	Not reported	41 university employees 83% female non-clinical sample Mobile application	Not reported Mixed methods; Qualitative design not reported Thematic analysis (Braun & Clarke, 2006)

First author (year) Publication type	Study objectives	Country Sector Recruitment method	Year data collected	Intervention type Sample size & characteristics	Methodology Study Design Analysis (reference)
Heikkila (2021) Journal article	Understand factory employees' experience and long-term usage of a mobile feedback dashboard; Study the perceived benefits and possible concerns of the intervention	Finland† Manufacturing Not reported	Not reported	10 metal industry machine operators 30% female non-clinical sample Mobile application, smartwatch, and email or phone support	Not reported Mixed methods; Qualitative design not reported Analysis not reported
Jetelina (2022) Journal article	Test the acceptability of implementing a brief, smartwatch intervention to alleviate stress among law enforcement officers	USA Public administration & government Convenience sample via employer/s	2020	22 law enforcement officers 14% female non-clinical sample Smartwatch, mobile application, and digital document	Not reported Mixed methods; Qualitative design not reported Analysis not reported
Keightley (2023) Journal article	Assess and explore the feasibility and acceptability of a prototype interactive e-document intervention among normally office-based employees working from home	UK Mixed Convenience sample via employer/s	2021	42 employees working from home during the COVID-19 pandemic 62% female non-clinical sample Digital document	Not reported Mixed methods; Qualitative design not reported Immersion-crystallization and thematic analysis (Borkan, 1999)
Kerr (2019) Journal article	Assess participant engagement in a web-based mindfulness intervention for 9-1-1 telecommunicators	USA & Canada Healthcare Convenience sample via employer/s	Not reported	149 emergency service telecommunicators 85% female non-clinical sample Website platform, email support, online sessions, and moderated discussion board	Quantitative positivist and qualitative interpretivist Mixed methods; Interpretive Thematic analysis (Cresswell, 2012)

First author (year) Publication type	Study objectives	Country Sector Recruitment method	Year data collected	Intervention type Sample size & characteristics	Methodology Study Design Analysis (reference)
Kowalski (2024) Journal article	Understand factors promoting engagement and adherence with organisational mobile health interventions	Sweden Healthcare Convenience sample via employer/s	2020 & 2021	1244 healthcare employees 78% female non-clinical sample Mobile application	Not reported Mixed methods; Qualitative design not reported Thematic (Braun & Clarke, 2006)
Lehto (2018) Journal article	Evaluate the perceived benefits, challenges, and recommendations from participation in a workplace mobile application and email-based meditation research program	USA Healthcare Convenience sample	2018	11 healthcare employees 91% female non-clinical sample Mobile application with email support	Social constructivism Qualitative (further details not reported) Framework analysis (Krueger & Casey, 2000)
Lentferink (2023) Journal article	Examine the perceived effectiveness of self-reflection guidance offered by an automated e-Coach; Gain insights into the usefulness of e-Coach design elements	Netherlands Information technology Convenience sample via employer/s	2018 & 2019	28 software company employees 25% female non-clinical sample Mobile application and earlobe sensor	Not reported Mixed methods; Qualitative design not reported Analysis not reported
Manning (2020) Journal article	Investigate the constraints on stress management and prevention among teachers in the school environment and how this shapes the use of digitally enabled stress management tools	UK Education Convenience sample via employer/s	Not reported	14 schoolteachers 71% female non-clinical sample Non-specific intervention	Not reported Qualitative (further details not reported) Thematic analysis (Braun & Clarke, 2023)

First author (year) Publication type	**Study objectives**	**Country Sector Recruitment method**	**Year data collected**	**Intervention type Sample size & characteristics**	**Methodology Study Design Analysis (reference)**
McCann (2023) Journal article	Evaluate a mental health intervention delivered online (Time for You) focussing on frontline employees during the COVID-19 pandemic	UK Healthcare Convenience sample	2021	246 COVID-19 frontline workers % female not reported non-clinical sample Website platform with text or video call support	Not reported Qualitative (further details not reported) Framework and thematic analysis (Clarke, Braun, & Hayfield, 2015)
McKenzie (2021) Journal article	Examine the feasibility and acceptability of an online self-help platform for defence personnel	UK Public administration & government Convenience sample via employer/s	2020	815 military civil servants 22% female non-clinical sample Website platform	Not reported Mixed methods; Qualitative design not reported Framework analysis (Ritchie & Lewis, 2003)
Muuraiskangas (2016) Journal article	Evaluate the adoption process and effects of an individual unguided digital mental health intervention in organisations	Multiple† Information technology Convenience sample via employer/s	2013 & 2014	43 information & communication technology employees 67% female non-clinical sample Mobile application and website platform	Not reported Mixed methods; Qualitative design not reported Content analysis & self-determination theory (Ryan & Deci, 2000)
Nwaogu (2021) Journal article	Determine the use of digital mental health interventions among construction personnel in Nigeria; Explore factors that facilitate or impede use	Nigeria Construction Convenience sample via employer/s	2018 & 2019	62 supervisors & project managers 10% female non-clinical sample Non-specific intervention	Not reported Qualitative (further details not reported) Content and thematic analysis (reference not reported)

First author (year) Publication type	Study objectives	Country Sector Recruitment method	Year data collected	Intervention type Sample size & characteristics	Methodology Study Design Analysis (reference)
Ravalier (2020) Journal article	Co-develop, implement, and evaluate a series of smartphone-based mental health initiatives with UK social workers	UK[+] Healthcare Convenience sample via employer/s	2019 & 2020	503 social workers % female not reported non-clinical sample Mobile application with support (details not reported)	Not reported Mixed methods; Participatory action research Thematic analysis (Braun & Clarke, 2006; 2013)
Schneider (2014) Journal article	Examine participants' views about the process of online interventions to guide future design and evaluation	UK Mixed Convenience sample via employer/s	Not reported	637 telecommunication, transport & health staff 48% female experiencing clinical depression Website platform with support (details not reported)	Grounded Theory Mixed Methods; Grounded Theory Grounded Theory (Glaser, 2002)
Singh (2021) Journal article	Pilot a digitalised intervention for health care staff during a pandemic; Explore the ability to improve intrusive traumatic memories and related symptoms; Explore the feasibility and acceptability	Sweden Healthcare Convenience sample	2020	Three intensive care or ambulance nurses 100% female non-clinical sample Website platform, online workshops, and text, phone or email support	Not reported Mixed methods; Qualitative design not reported Content analysis (Bengtsson, 2016)
Tsantila (2023) Journal article	Contribute to the evidence base for workplace mental health intervention recruitment, engagement and implementation strategies	Multiple Mixed Convenience sample via employer/s	2021	209 construction, health or information technology employees % female not reported non-clinical sample Website platform	Not reported Mixed methods; Qualitative design not reported Thematic analysis (Braun & Clarke, 2012)

First author (year) Publication type	Study objectives	Country Sector Recruitment method	Year data collected	Intervention type Sample size & characteristics	Methodology Study Design Analysis (reference)
Wakelin (2023) Journal article	Investigate the feasibility of an online compassion focussed therapy intervention for veterinarians	UK† Mixed Convenience sample	Not reported	128 veterinarians 81% female non-clinical sample Website platform	Not reported Mixed methods; Qualitative design not reported Content analysis (Carley, 1993; Hayes, 2000)
Xu (2021) Journal article	Understand emergency department staff experiences of practicing mindfulness using a smartphone application	Australia Healthcare Convenience sample	2019 & 2020	24 emergency department employees 79% female non-clinical sample Mobile application	Not reported Qualitative (further details not reported) Content analysis (reference not reported)
Yoon (2021) Journal article	Explore frontline workers' perceptions of the usefulness of mobile health applications for promoting well-being; Identify factors that could influence uptake and retention	Singapore Healthcare Convenience sample via employer/s	2020	42 COVID-19 frontline workers 76% female non-clinical sample Non-specific intervention	Grounded theory Grounded theory Thematic analysis (Glaser & Strauss, 2017)
Yuan (2015) Thesis	Test the effectiveness of a web-based psychological capital development programme; Explore participation and attrition reasons; Identify key design features	Hong Kong Mixed Convenience sample via employer/s	Not reported	321 employees 76% female non-clinical sample Website platform	Not reported Mixed methods; Qualitative design not reported Thematic analysis (reference not reported)

Note. † = not explicitly reported by original authors but assumed from information given.

Table 3. Quality appraisal of included publications using qualitative appraisal tool

First author (year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total "Yes" votes/10
Argyriadis (2023)	NR	NR	NR	NR	NR	No	No	Unclear†	Yes	No	1
Behrendt (2023)	NR	NR	NR	NR	NR	No	No	No	Yes	No	1
Brown (2020)	NR	NR	NR	NR	NR	No	No	Unclear†	Yes	No	1
Bureau (2021)	NR	NR	NR	NR	NR	No	No	Unclear†	Yes	Yes	2
Carolan (2018)	NR	NR	NR	NR	NR	No	No	Unclear	Yes	Yes	2
Espinola (2024)	NR	NR	NR	NR	NR	No	No	No	Yes	Yes	2
Finucane (2023)	NR	NR	NR	NR	NR	No	No	Yes	Yes	Yes	3
Ghasemi (2023)	NR	NR	NR	NR	NR	No	No	No	Yes	Unclear‡	1
Haile (2020)	NR	NR	NR	NR	NR	No	No	Unclear†	Yes	Yes	2
Heikkila (2021)	NR	NR	NR	NR	NR	No	No	Yes	Yes	Unclear‡	2
Jetelina (2022)	NR	NR	NR	NR	NR	No	No	No	Yes	Yes	2
Keightley (2023)	NR	NR	NR	NR	NR	No	No	Yes	Yes	Yes	3
Kerr (2019)	Yes	Yes	Yes	Yes	Yes	No	No	Unclear†	Yes	Yes	7
Kowalski (2024)	NR	NR	NR	NR	NR	No	No	Unclear†	Yes	Yes	2
Lehto (2018)	NR	NR	NR	NR	NR	Yes	No	Unclear†	Yes	Yes	3
Lentferink (2023)	NR	NR	NR	NR	NR	No	No	Yes	Yes	Yes	3
Manning (2020)	NR	NR	NR	NR	NR	Yes	No	Yes	Yes	Yes	4
McCann (2023)	NR	NR	NR	NR	NR	No	No	Yes	Yes	Yes	3

First author (year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total "Yes" votes/10
McKenzie (2021)	NR	NR	NR	NR	NR	No	No	Yes	No [a]	Yes	2
Muuraiskangas (2016)	NR	NR	NR	NR	NR	No	No	No	Yes	Unclear‡	1
Nwaogu (2021)	NR	NR	NR	NR	NR	No	No	No	Yes	Yes	2
Ravalier (2020)	NR	NR	NR	NR	NR	No	No	No	Yes	Yes	2
Schneider (2014)	NR	Yes	No	No	No	No	No	Unclear†	Yes	Yes	3
Singh (2021)	NR	NR	NR	NR	NR	No	No	No	Yes	Yes	2
Tsantila (2023)	NR	NR	NR	NR	NR	No	No	No	Yes	Yes	2
Wakelin (2023)	NR	NR	NR	NR	NR	No	No	No	Yes	Yes	2
Xu (2021)	NR	NR	NR	NR	NR	No	No	Yes	Yes	Yes	3
Yoon (2021)	NR	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	7
Yuan (2015)	NR	NR	NR	NR	NR	No	No	Yes	Yes	Yes	3
Total "Yes" votes/29	1	3	2	2	2	2	0	10	28	23	

Note.

† Quotes were not identified, e.g., "p1", so it was unclear whether these represented a spread across participants

‡ Analysis not well described

[a] Authors report: *"Ethical review and approval were waived for this study following the King's College London guidelines as ethical approval is not necessary for service evaluations. The study fulfils the criteria of a service evaluation"* (p.13)

The number of quality appraisal items met by the included studies ranged from one to seven out of the ten total items. Most (*n*=18) of the studies met only one or two items, with details such as philosophical perspective, methodology, and analysis often not reported or poorly described. No study reported author reflexivity. The second most frequently met criteria related to conclusions being aligned with the analysis and results. Mixed methods appraisal findings are also available (Appendix 4).

One study (Argyriadis et al., 2023) did not progress to meta-synthesis because the authors had not reported themes or quotes. Seven studies were excluded from the first stage only because the authors did not report themes (Finucane et al., 2023; Ghasemi et al., 2023; Heikkilä et al., 2021; Jetelina et al., 2022; Lentferink et al., 2023; Muuraiskangas et al., 2016; Ravalier et al., 2020), and three were excluded from the second stage because the authors did not provide quotes (Behrendt et al., 2023; Espinola et al., 2024; Tsantila et al., 2023).

3.4 Primary study authors' themes

Of the included studies, 21 reported themes. These themes related to six key areas: (1) positive impact, (2) positive features, (3) internal enablers or barriers, (4) external enablers or barriers, (5) suggested improvements and (6) technical problems.

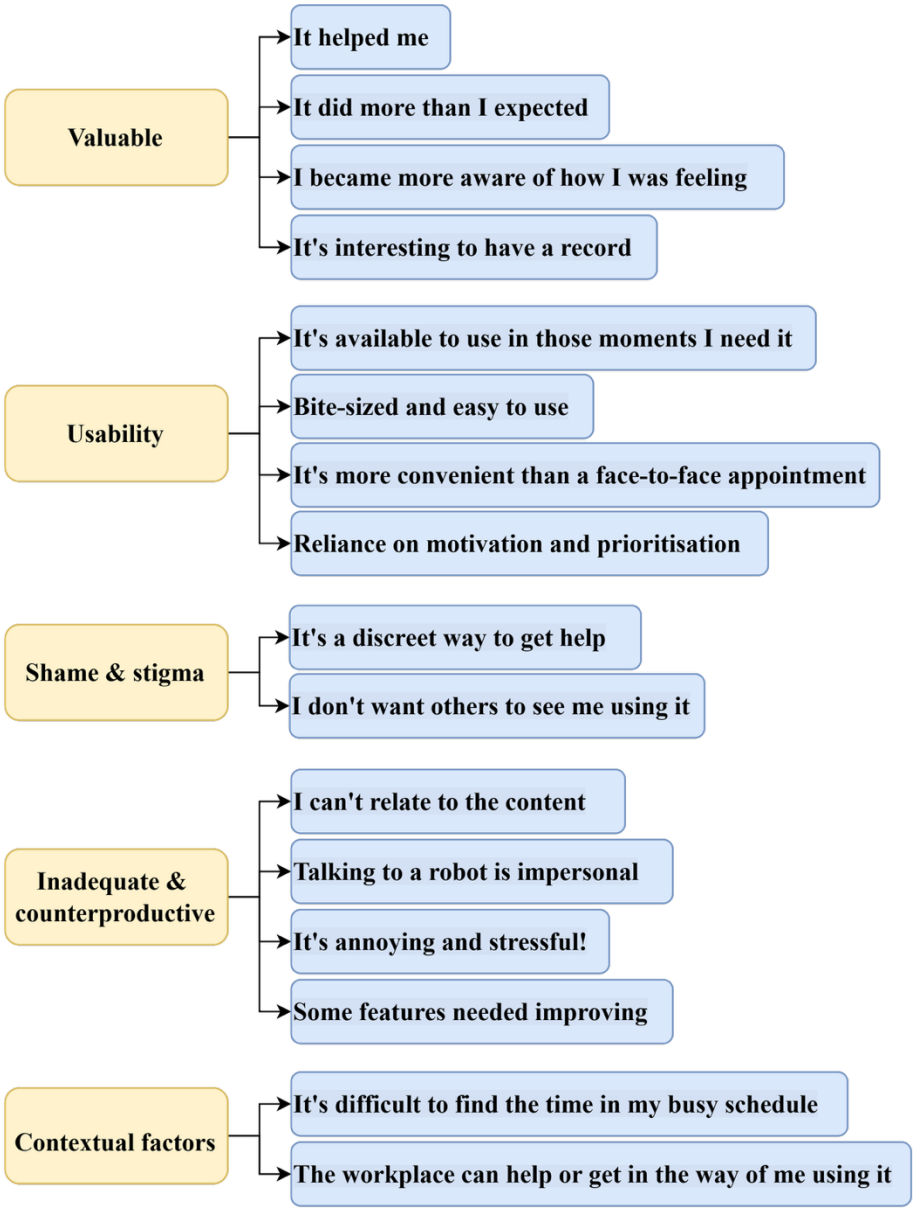
Positive impact reflected the individual benefits that participants reported from using the programme, including improved general well-being, reduced stress, and greater self-awareness (Behrendt et al., 2023; Bureau et al., 2021; Haile et al., 2020; Kerr et al., 2019; Manning et al., 2020; McCann et al., 2023; Xu et al., 2021). Positive features and suggested improvements reflected the desirable components of the programmes that, depending on the intervention, were either appreciated or considered missing. This included an individual having the ability to personalise their experience (Bureau et al., 2021; Espinola et al., 2024; Haile et al., 2020; McKenzie et al., 2021; Yoon et al., 2021), brief content (Bureau et al., 2021; Kerr et al., 2019), straightforward content that was easy to navigate (Keightley et al., 2023; McCann et al., 2023; McKenzie et al., 2021; Nwaogu et al., 2021), and effective synchronisation with other technology (Haile et al., 2020; Nwaogu et al., 2021). Technical issues, such as data inaccuracies and problems logging into the platform, was a theme across several included studies (Bureau et al., 2021; Espinola et al., 2024; Keightley et al., 2023; Kowalski et al., 2024; Lehto et al., 2018; Nwaogu et al., 2021; Schneider et al., 2014; Singh et al., 2021; Yuan, 2015).

Internal enablers or barriers consistently related to the need for an individual to feel motivated and that they had the time to use the programme (Behrendt et al., 2023; Carolan & Visser, 2018; Haile et al., 2020; Kerr et al., 2019; Kowalski et al., 2024; Nwaogu et al., 2021; Schneider et al., 2014; Xu et al., 2021; Yoon et al., 2021; Yuan, 2015). Some also indicated shame or embarrassment about using the intervention (Carolan & Visser, 2018; Haile et al., 2020; Manning et al., 2020; Xu et al., 2021). External enablers or barriers included a need for programmes to be affordable (Nwaogu et al., 2021; Xu et al., 2021; Yoon et al., 2021), the workplace to promote and support programme engagement (Espinola et al., 2024; Manning et al., 2020; McCann et al., 2023; Tsantila et al., 2023), and the work environment to enable programme use at work (Keightley et al., 2023; Kerr et al., 2019; Manning et al., 2020; Xu et al., 2021).

3.5 Meta-synthesis of employee experiences and perceptions of digital workplace well-being programmes (Secondary analysis of participant quotes from primary studies)

Participant quotes of experiences and perceptions were reported in 25 included studies. These quotes were analysed, leading to the development of five main themes, each containing sub-themes (see Figure 2).

Figure 2. Themes and subthemes of employee experiences of digital workplace well-being programmes



The five themes were (1) valuable, (2) usability, (3) inadequate and counterproductive, (4) contextual factors, and (5) shame and stigma. Quotes that best represent each theme are reported.

3.5.1 Theme 1: Valuable

The theme of 'valuable' reflected the benefits participants got from using the interventions, including applying specific tools. The four sub-themes for 'valuable' were: it helped me, it did

more than I expected, I became more aware of how I was feeling, and it's interesting to have a record.

It helped me. Employees found a range of helpful impacts from using the interventions. For one participant, this related to a moment of panic, "*It definitely helped me cool down the catastrophes in life ... helping that moment of panic to pass*" (Xu et al., 2021, p. 3). Most frequently, participants shared how the digital tools provided practical strategies for their well-being, such as helping them to feel calmer and less vulnerable to stress, overthinking, or overreacting. One participant shared, "*... I got angry at somebody, and I was able to catch myself. I was able to take a big deep breath and start doing some breathing ...*" (Lehto et al., 2018, p. 385).

It did more than I expected. Some employees were surprised at the impact of the well-being technology. One said, "*incredibly impressed by how such a simple thing could make such a huge difference*" (Singh et al., 2021, p. 3) and another shared, *"At first, I was not sure about how it will work for me, but when I tried ... I felt it had a great potential"* (Ghasemi et al., 2023, p.241).

I became more aware of how I was feeling. Participants talked about how the programmes led to greater self-awareness, bringing their attention to previously underappreciated aspects of their well-being, one sharing, "*I didn't realise how tense or how much I was overthinking things until I actually listened to the app"* (Xu et al., 2021, p. 3). Developing an awareness of emotional states was reported by another employee, *"I found it interesting to consider my mood every day because usually I am bad at this. So I found it insightful to notice how I'm actually feeling"* (Kowalski et al., 2024, p. 6).

It's interesting to have a record. The ability to function as a well-being record was considered useful and expressed from a perspective of watchful curiosity, such as one participant who observed their sleep patterns, *"... I've been conscious that it comes up with a sleep pattern. Every morning, it's less than the desired amount of sleep... it's really interesting to see that on a regular basis ..."* (Manning et al., 2020, p. 13).

3.5.2 Theme 2: Usability

The theme of 'usability' reflected employees' impressions of the digital well-being programmes as accessible and convenient. However, this came with the disadvantage of relying on employees' motivation and prioritising day-to-day engagement. The four sub-themes for 'usability' were: it's available to use in those moments I need it, bite-sized and easy to use, it's more convenient than a face-to-face appointment, and reliance on motivation and prioritisation.

It's available to use in those moments I need it. The immediate availability of programmes, such as after stressful interactions, was seen as useful. One participant shared how receiving alerts combined with a practical strategy to apply was useful, *"Having something that tells you, hey, this is happening, and then gives you some way to mitigate it from there is helpful"* (Jetelina et al., 2022, p. 5). Employees shared how they were able to use the product when the need arose, such as one participant who used it for sleep:

> *I've been quite stressed about work and stressed about my next day at work that I haven't been able to sleep. So using the app kind of help, um, calm me before bed and kind of release of my days stress* (Xu et al., 2021, p. 3).

Bite-sized and easy to use. Short content that was simple for participants to navigate made the technology feel easy to use. One said, *"It was really easy to navigate ... in quite a clear and accessible way"* (Keightley et al., 2023, p. 10). Another appreciated the briefness of the intervention, *"It was only 10 minutes a shot. So I think . . . that was an aspect of convenience that actually drew me to it"* (Lehto et al., 2018, p. 385).

It's more convenient than a face-to-face appointment. The accessibility led participants to compare their experiences to face-to-face sessions, such as with a counsellor, which they perceived as more complicated and time-consuming. A participant shared, *"It's incredibly accessible ... rather than saying: 'Well you've got a session, it's at 2 o'clock on a Friday and that's it, that's your only window'..."* (Carolan & Visser, 2018, p. 4).

Reliance on motivation and prioritisation. Participants expressed that a downside of the flexibility was that employees had to rely on their motivation and prioritisation, which was a significant barrier to intended engagement, one participant stating, *"In order to do it you need to put aside time. And then I forgot and did not prioritise. That's why I didn't do it every day"* (Kowalski et al., 2024, p. 5).

3.5.3 Theme 3: Shame and stigma.

The theme of 'shame and stigma' was evident in participants' perceptions that privacy or anonymity offered by digital support options was less shameful or confronting than face-to-face support. Employees also expressed embarrassment about using the interventions in front of their colleagues. The two sub-themes for 'shame and stigma' were: It's a private way to get help, and I don't want others to see me using it.

It's a private way to get help. Some participants viewed a benefit of digital programmes as providing discreet support, allowing individuals to maintain privacy when feeling ashamed or unready to confront their well-being challenges. One employee shared how they felt comfortable and open using the programme, *"... I could share my feelings, experiences, and thoughts directly and privately ... I was comfortable sharing my thoughts without worrying about the time or place of the study and my privacy"* (Ghasemi et al., 2023, p. 241).

I don't want others to see me using it. Others felt embarrassed using well-being technology in front of others or did not want others to know they were using it. One participant described doing an exercise in front of colleagues, *"I was thinking everyone is going to be wondering what I'm doing standing up and doing these stretches. I felt a bit self-conscious"* (Haile et al., 2020, p. 8). Another shared how they hid their reasons for using the programme from their peers, *"I say it's for research purposes, but actually it's for me as well that I access these things"* (Manning et al., 2020, p. 5).

3.5.4 Theme 4: Contextual factors

The theme 'contextual factors' encompassed the aspects of employees' lives that they considered impacted their ability to engage in the programmes. In particular, participants reported that life demands dictated their availability and that they benefited from a workplace environment that supported use. The two sub-themes for 'contextual factors' were: It's difficult to find the time in my busy schedule, and the workplace can help or get in the way of me using it.

It's difficult to find the time in my busy schedule. Employees shared that they felt pressure or chaos in their lives, making them feel they had little space to use the programmes. One participant shared, *"Telling myself 'I am going to take 25 min now to watch or listen to this' seems impossible"* (Bureau et al., 2021, p. 5). Periods when life demands were lower were seen as opportunities for engagement, one employee sharing, *"... my headspace altered from being in quite a clear place of I've got loads of time on my hands to do this work, to life been quite chaotic ..."* (McCann et al., 2023, p. 10).

The workplace can help or get in the way of me using it. Employees felt they engaged more readily when their workplace, including management, expressed support for the programme and provided an environment that practically enabled use. One employee shared about their employer's assistance, *"We were very much supported by the senior (profession) team to take part in*

this, on the day making sure that the service is covered, allowing us to get to sessions." (Finucane et al., 2023, p. 252). Others reported barriers, such as the practical limitations shared by this employee, *"It's a difficult training to get done in our center due to shared computers and busy shifts. It's not possible to do the segments without interruption and I think this causes it not to be as effective."* (Kerr et al., 2019, p. 9). This employee felt management support was the next step, *"... if it's rolled out I would really like my bosses to be talking about it and be part of the conversation. I think it would be really important ..."* (McKenzie et al., 2021, p. 11).

3.5.5 Theme 5: Inadequate and counterproductive

The theme of 'inadequate and counterproductive' reflected how some employees' experiences or perceptions of digital well-being programmes fell short of their needs or expectations. Specifically, employees shared how the content felt irrelevant, inadequately impersonal, and could cause frustration or unwelcome pressure. The three sub-themes for 'inadequate and counter-productive' were: I can't relate to the content, talking to a robot is impersonal, and it's annoying and stressful!

I can't relate to the content. Some participants found that the digital content did not make sense or seem a good fit. One employee shared how the content felt mismatched, *"... the 'Drive' aspect I think usually we don't have a problem seeing people lacking drive. It's usually that they drive themselves too hard ..."* (McKenzie et al., 2021, p. 10) Another abandoned the programme after receiving an irrelevant response:

> *... it asked questions about stress and how my sleep was. I answered by typing how unrested I feel when I wake, and it said I understand, followed by, that is, a lot of questions. The reply was off point. It put me off. I stopped using it immediately.* (Nwaogu et al., 2021, p. 7)

Others felt there was no point in using the programme when they were feeling well, such as one participant who said, *"I might not use the app routinely, as I have been coping well..."* (Yoon et al., 2021, p. 8).

Talking to a robot is impersonal. Some expressed suspicion or viewed digital interventions for mental well-being as a farce, sharing a perception that the programmes were inappropriately robotic or that the content should only be covered by a human. One person shared, *"...most issues relating to anxiety, depression, and stress at work are relational in nature and therefore best dealt with in relation to at least another person instead of a piece of machinery!!"* (Schneider et al., 2014, p. 10).

It's annoying and stressful! Several employees found the technology became a nuisance, causing additional pressure or stress. One participant shared how receiving reminders became a source of pressure, *"At first, I thought they were helpful. But later I thought they were like a bill collector who kept reminding me that I owed money. It was like, OK, you've got to make sure you do this"* (Lehto et al., 2018, p. 385). Another exclaimed frustration at prompts that felt inappropriately timed, *"I found it asked me an awful lot about how many drinks of water I have had... it would ask me at 10 am and I've only been awake a few hours so I haven't had all my glasses yet!"* (Haile et al., 2020, p. 8).

To summarise the five themes, employees experienced workplace digital well-being products as user-friendly and convenient for learning about and improving their well-being. Employees also appreciated the greater acceptability of digital approaches compared to face-to-face interventions. However, others perceived the products as impersonal, irrelevant, or annoying. Participant experiences revealed internal drivers and barriers to use, including internalised stigma and the need for motivation and prioritisation in their busy lives. They highlighted how

external factors, such as life demands, could hinder their intended use of the programmes and emphasised the importance of workplace support for engagement.

4. Discussion

This meta-synthesis sought to understand employee experiences and perceptions of digital workplace well-being programmes. The meta-synthesis yielded five themes: 'valuable', 'usability', 'shame and stigma', 'contextual factors' and 'inadequate and counterproductive'. These findings conveyed various user experiences that provided support as well as critique of digital workplace well-being programmes.

There are several potential frameworks through which the themes produced by this meta-synthesis could be further explored, for example a realist evaluation approach (Pawson & Tilley, 1997). Given the aim of this review was to investigate user perceptions and experiences, results will be discussed through the lens of the Technology Acceptance Model (Davis, 1989) which positions user perceptions as key drivers of technology acceptance and use.

Firstly, 'valuable' and 'usability' were themes formed from the meta-synthesis, indicating that employees viewed digital well-being programmes favourably. These positive outcomes extend previous quantitative review findings that support the efficacy of digital workplace well-being programmes (Carolan et al., 2017; Howarth et al., 2018; Phillips et al., 2019). These are also important findings when considering the Technology Acceptance Model. The Technology Acceptance Model is a theory of technology acceptance that depends on two user experiences – 'perceived usefulness' and 'perceived ease-of-use' (Davis, 1989). Perceived usefulness was defined by Davis (1989) as *"the degree to which a person believes that using a particular system would enhance their job performance"* (p. 320). Whereas perceived ease of use is *"the degree to which a person believes that using a particular system would be free from effort"* (Davis, 1989, p. 319). The two positive outcomes of this study translate well into perceived usefulness (valuable) and perceived ease-of-use (usability). In the context of the Technology Acceptance Model, these two themes show that, in principle, digital workplace well-being programmes should be accepted by employees and effectively improve their psychological well-being. However, adherence to workplace programmes is low, indicating that challenges are impacting both value and usability (Carolan et al., 2017).

The 'valuable' theme described what employees gained from the digital workplace well-being programmes. The four subthemes reflected a positive and, at times, emotional experience. Notably, employees were often surprised by the positive impact of relatively brief or low intensity digital interventions. Participants reported increased self-awareness, alongside a sense of positive curiosity about the personal psychological well-being data record they gained through programme use. The difference in how employees experienced themselves post-engagement with the programme is consistent with qualitative research by Opozda et al. (2024), who found that men experiencing depression or anxiety reported increased self-awareness of their inner experiences after using digital well-being programmes. These findings suggest employers and programme developers could benefit from communicating the potential personal value of digital well-being programmes, particularly in relation to self-understanding rather than symptom reduction alone. Highlighting opportunities for reflection and insight, even within brief interventions, may support employee uptake and sustained engagement. Within the Technology Acceptance Model, the findings indicate high perceived usefulness among participants.

The theme 'shame and stigma' reflected both positive and negative perceptions of programme usefulness. Employees described how digital workplace well-being programmes could reduce stigma associated with seeking psychological support by providing privacy and

anonymity, aligning with research on digital well-being programmes outside of work contexts (Opozda et al., 2024; Patel et al., 2020). However, the current meta-synthesis also highlights a contrasting experience, whereby employees reported feelings of shame and stigma when using digital well-being technologies in visible workplace settings, underscoring the perceived need for a supportive work environment. Similarly, within the theme 'contextual factors', the role of leadership in supporting and promoting programme use was highlighted, extending existing knowledge regarding the influence of leadership support on employee well-being initiatives (Amirabdolahian et al., 2025). To reduce stigma and enhance engagement, employers may therefore benefit from actively promoting programmes, framing their use as proactive self-care, and ensuring leaders role-model programme use. Additionally, providing opportunities for employees to engage with digital well-being programmes privately and during work hours may help address stigma-related concerns and practical barriers to use, mirroring findings from non-digital intervention research (Yarker et al., 2022).

The 'inadequate and counterproductive' theme captured definitively negative emotional experiences of workplace digital well-being programmes. Notably, the subthemes reflected employees' inability to relate to the programme, where the technology was perceived as impersonal, intrusive, or the well-being content itself as irrelevant. In these instances, employees did not experience the programmes as valuable and reported low perceived usefulness. This finding supports previous suggestions that the irrelevance of content negatively impacts programme outcomes (Peláez Zuberbuhler et al., 2025). Furthermore, Jones et al. (2022) identified the importance of integrating newly learned strategies into everyday life, without which interventions may be experienced as inadequate or counterproductive. The current meta-synthesis provides further context to previous reviews by highlighting the importance of individual tailoring, suggesting that both the programme content and functional features should be adaptable to employee preferences (Amirabdolahian et al., 2025; Carolan et al., 2017). For example, features such as notifications were experienced variably, functioning as either supportive reminders or unwanted pressure. This indicates a need for flexibility in programme design, and how such features could be tailored to individual preferences is a future research opportunity.

When considering the perceived 'ease-to-use' factor in the Technology Acceptance Model (Davis, 1989), the themes again reflected mixed experiences. Alongside 'usability', both the 'contextual factors' and 'inadequate and counterproductive' themes captured employee perceptions of 'ease-to-use'. Employees reported digital workplace well-being programmes as accessible, convenient, and easy to navigate, with the immediate availability of brief and simple content contributing to a sense of 'usability'. However, experiences of poor 'ease-to-use' were also evident, particularly where contextual constraints limited engagement. Employees reported difficulty prioritising programme use amidst competing work and life demands, as well as practical workplace barriers such as limited breaks or lack of access to appropriate environments to use the programmes. The 'inadequate and counterproductive' theme further reflected how these barriers contributed to disengagement. Evidence from a workplace programme targeting physical well-being suggests that incorporating a social component may reduce attrition by shifting the context from distracting to inclusive and socially supportive (Balk-Møller et al., 2017). This finding points to a potential strategy for employers to support engagement, while future research could explore whether social components similarly enhance perceived ease-to-use for digital programmes aimed to improve psychological well-being, particularly in the context of competing work and life demands.

According to the Technology Acceptance Model, the strength of usefulness and ease-of-use perceptions combined inform the user's attitude toward the new technology and, therefore, their engagement (Davis, 1989). Even if employees found the technology easy to use, they are unlikely to form a positive attitude if the content seemed 'inadequate and counterproductive' or triggered 'shame and stigma'. Incongruence between perceived usefulness and ease-of-use is essential for employers to attend to when assessing and planning engagement with digital well-being programmes (Sandham et al., 2023).

4.1 Strengths and limitations

This study addresses a critical gap in research by examining employee experiences and perceptions of digital workplace well-being programmes. Digital well-being products are a fast-growing industry, with interventions such as online health platforms and mobile applications becoming commonplace in the modern workplace. This meta-synthesis provides timely, valuable insights to support future research and the application of these programmes in practice. The study is strengthened by its systematic approach and the involvement of a multidisciplinary team.

A limitation of this meta-synthesis is that findings need to be considered in the context of the limitations of included studies. Lower-quality studies were included, which provided insufficient details about their methodology, given the limited research on employee experiences or perceptions, and the need for information in this rapidly evolving area. However, future primary research should prioritise methodological rigour, clearly position the researcher, follow established study designs, and report on these aspects. Another limitation is that most included studies used a convenience sample of volunteer participants, often recruited through employers. This could have led to selection bias, with participants more likely to view workplace digital well-being products positively and less likely to raise concerns about privacy and confidentiality. Additionally, many of the included studies focussed on investigating the barriers and enablers of programme use, which may have skewed the meta-synthesis themes towards these topics. Finally, limiting the review to English-language studies may have excluded non-English publications documenting employee experiences or perceptions.

4.2 Conclusion

This meta-synthesis sought to understand employee experiences and perceptions of digital workplace well-being programmes. Database searches identified twenty-nine publications. From this first quality appraisal, the authors noted that the quality of existing research was low. As such, future research should focus on methodological rigour and transparent reporting of methodology. Meta-synthesis findings were reviewed through the Technology Acceptance Model and 'perceived usefulness' and 'perceived ease-of-use' (Davis, 1989). Findings showed that digital workplace well-being programmes were 'valuable' and had 'usability' in the meta-synthesis. There were, however, barriers indicated by the 'inadequate and counterproductive' and 'contextual factors' themes, which linked to issues with the digital nature of the programme. The theme 'stigma and shame' also provided unique insight into the relevance for digital workplace well-being interventions to reduce feelings of shame or stigma, or conversely cause these negative feelings when interventions are used in an unsupportive workplace, which goes beyond what previous reviews have reported. Currently, the uptake of these programmes is low. Based on the themes developed in this study, we suggest that employers can enhance uptake by promoting engagement to employees, providing employees time and privacy within the workday to engage in the programme, selecting programmes that allow individual employees to

tailor how they use the programme and functions such as notifications to suit their needs and preferences, and including a social component. These findings could help employers to understand barriers to uptake and plan for better investment in employee well-being.

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Conflict of interest statement

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Data availability statement

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

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Appendices

Appendix A

Search strategies: Further details including filters search terms

A1. Ovid MEDLINE database search
Ovid MEDLINE(R) ALL <1946 to January 12, 2024>
Final search run Tues 16 Jan 2024
Search filter: Qualitative Studies – MEDLINE: https://searchfilters.cadth.ca/link/40

Table A1. Ovid MEDLINE database search results

#	**Query**	**Results from 15 Jan 2024**
1	exp Workplace/	30,421
2	(work or worker or workers or workplace or workplaces).ti,ab,kf.	1,564,422
3	employee*.ti,ab,kf.	59,145
4	personnel*.ti,ab,kf.	98,324
5	staff*.ti,ab,kf.	215,376
6	professional*.ti,ab,kf.	416,294
7	or/1-6	2,145,603
8	Mental Health/	64,777
9	Mindfulness/	6,592
10	exp Occupational Stress/	21,097
11	Resilience, Psychological/	8,716
12	stress, psychological/ or burnout, psychological/	136,608
13	Psychosocial Intervention/	1,054
14	Adaptation, Psychological/	105,090
15	((wellbeing or well being or wellness or mental health or health or psychosocial or psychological or burnout or stress* or resilien* or mindfulness) adj8 (program* or intervention* or strategy or strategies)).ti,ab,kf.	334,838
16	or/8-15	599,603
17	mobile applications/	12,086
18	cell phone/ or smartphone/	19,650
19	internet-based intervention/	1,189
20	(phone or phones).ti,ab,kf.	41,125
21	internet based.ti,ab,kf.	11,359
22	(app or apps or application*).ti,ab,kf.	1,702,254
23	online.ti,ab,kf.	231,627
24	digital.ti,ab,kf.	192,383
25	web based.ti,ab,kf.	45,440

#	Query	Results from 15 Jan 2024
26	(mobile or mobiles).ti,ab,kf.	136,881
27	mhealth.ti,ab,kf.	10,042
28	ehealth.ti,ab,kf.	7,517
29	or/17-28	2,234,162
30	exp Empirical Research/ or Interviews as Topic/ or Personal Narratives as Topic/ or Focus Groups/ or exp Narration/ or Nursing Methodology Research/ or Narrative Medicine/	184,145
31	(Interview or Personal Narrative).pt.	37,098
32	interview*.ti,ab,kf.	471,167
33	qualitative.ti,ab,kf,jw.	344,407
34	(theme* or thematic).ti,ab,kf.	179,798
35	ethnological research.ti,ab,kf.	8
36	ethnograph*.ti,ab,kf.	14,461
37	ethnomedicine.ti,ab,kf.	1,045
38	ethnonursing.ti,ab,kf.	129
39	phenomenol*.ti,ab,kf.	35,395
40	(grounded adj (theor* or study or studies or research or analys?s)).ti,ab,kf.	15,900
41	life stor*.ti,ab,kf.	1,618
42	(emic or etic or hermeneutic* or heuristic* or semiotic*).ti,ab,kf.	22,954
43	(data adj1 saturat$).ti,ab,kf.	2,259
44	participant observ*.ti,ab,kf.	5,676
45	(social construct* or postmodern* or post-structural* or post structural* or poststructural* or post modern* or post-modern*).ti,ab,kf.	4,436
46	(action research or cooperative inquir* or co operative inquir* or co-operative inquir*).ti,ab,kf.	5,950
47	(humanistic or existential or experiential or paradigm*).ti,ab,kf.	201,037
48	(field adj (study or studies or research or work)).ti,ab,kf.	22,020
49	(human science or social science).ti,ab,kf.	7,168
50	biographical method.ti,ab,kf.	24
51	theoretical sampl*.ti,ab,kf.	957
52	((purpos* adj4 sampl*) or (focus adj group*)).ti,ab,kf.	89,014
53	(open-ended or narrative* or textual or texts or semi-structured).ti,ab,kf.	195,300
54	(life world* or life-world* or conversation analys?s or personal experience* or theoretical saturation).ti,ab,kf.	18,610
55	((lived or life) adj experience*).ti,ab,kf.	20,750
56	cluster sampl*.ti,ab,kf.	9,816
57	observational method*.ti,ab,kf.	1,018

#	Query	Results from 15 Jan 2024
58	content analysis.ti,ab,kf.	45,818
59	(constant adj (comparative or comparison)).ti,ab,kf.	6,207
60	((discourse* or discurs*) adj3 analys?s).ti,ab,kf.	3,405
61	(heidegger* or colaizzi* or spiegelberg* or merleau* or husserl* or foucault* or ricoeur or glaser*).ti,ab,kf.	5,025
62	(van adj manen*).ti,ab,kf.	575
63	(van adj kaam*).ti,ab,kf.	45
64	(corbin* adj2 strauss*).ti,ab,kf.	462
65	or/30-64	1,223,762
66	7 and 16 and 29 and 65	6,028

A2. PsycINFO (Ovid) database search

APA PsycInfo <1806 to January Week 2 2024>
Final search run Tues 16 Jan 2024
Search filter: Qualitative Studies – PsycINFO: https://searchfilters.cadth.ca/link/41

Table A2. Ovid MEDLINE database search results

#	Query	Results from 15 Jan 2024
1	workplace intervention/	1,701
2	personnel/	12,139
3	(work or worker or workers or workplace or workplaces).ti,ab.	647,353
4	employee*.ti,ab.	79,837
5	personnel*.ti,ab.	41,322
6	staff*.ti,ab.	97,414
7	professional*.ti,ab.	283,294
8	1 or 2 or 3 or 4 or 5 or 6 or 7	968,112
9	Mental Health/	93,723
10	mindfulness/	13,151
11	occupational stress/	25,472
12	"resilience (psychological)"/	22,674
13	psychological stress/	9,844
14	burnout/	1,719
15	psychosocial interventions/	1,914
16	adjustment/ or emotional adjustment/ or occupational adjustment/ or social adjustment/	46,433
17	well being/ or employee well being/	63,071
18	digital mental health resources/	65
19	((wellbeing or well being or wellness or mental health or health or psychosocial or psychological or burnout or stress* or resilien* or	156,830

	mindfulness) adj8 (program* or intervention* or strategy or strategies)).ti,ab.	
20	9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19	373,061
21	mobile applications/ or computer applications/	14,615
22	smartphones/ or mobile phones/	8,027
23	digital interventions/	1,739
24	mobile health/	2,326
25	(phone or phones).ti,ab.	15,704
26	internet based.ti,ab.	6,145
27	(app or apps or application*).ti,ab.	205,464
28	online.ti,ab.	129,060
29	digital.ti,ab.	35,837
30	web based.ti,ab.	16,307
31	(mobile or mobiles).ti,ab.	22,891
32	mhealth.ti,ab.	1,257
33	ehealth.ti,ab.	1,103
34	21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33	398,366
35	Empirical Methods/ or exp Qualitative Methods/ or exp Interviews/ or Interviewing/ or Narratives/ or Storytelling/	74,619
36	interview*.ti,ab,id.	401,469
37	qualitative.ti,ab,jx,id.	231,523
38	(theme* or thematic).ti,ab,id.	177,326
39	ethnological research.ti,ab,id.	13
40	ethnograph*.ti,ab,id.	33,759
41	ethnomedicine.ti,ab,id.	61
42	ethnonursing.ti,ab,id.	75
43	phenomenol*.ti,ab,id.	55,002
44	(grounded adj (theor* or study or studies or research or analys?s)).ti,ab,id.	20,572
45	life stor*.ti,ab,id.	4,331
46	(emic or etic or hermeneutic* or heuristic* or semiotic*).ti,ab,id.	31,664
47	(data adj1 saturat$).ti,ab,id.	579
48	participant observ*.ti,ab,id.	10,139
49	(social construct* or postmodern* or post-structural* or post structural* or poststructural* or post modern* or post-modern*).ti,ab,id.	20,335
50	(action research or cooperative inquir* or co operative inquir* or co-operative inquir*).ti,ab,id.	10,689
51	(humanistic or existential or experiential or paradigm*).ti,ab,id.	155,678
52	(field adj (study or studies or research or work)).ti,ab,id.	12,818
53	(human science or social science).ti,ab,id.	13,900

54	biographical method.ti,ab,id.	64
55	theoretical sampl*.ti,ab,id.	716
56	((purpos* adj4 sampl*) or (focus adj group*)).ti,ab,id.	60,026
57	(open-ended or narrative* or textual or texts or semi-structured).ti,ab,id.	190,054
58	(life world* or life-world* or conversation analys?s or personal experience* or theoretical saturation).ti,ab,id.	17,994
59	((lived or life) adj experience*).ti,ab,id.	38,289
60	cluster sampl*.ti,ab,id.	2,138
61	observational method*.ti,ab,id.	1,235
62	content analysis.ti,ab,id.	33,493
63	(constant adj (comparative or comparison)).ti,ab,id.	5,813
64	((discourse* or discurs*) adj3 analys?s).ti,ab,id.	11,153
65	(heidegger* or colaizzi* or spiegelberg* or merleau* or husserl* or foucault* or ricoeur or glaser*).ti,ab,id.	9,653
66	(van adj manen*).ti,ab,id.	657
67	(van adj kaam*).ti,ab,id.	555
68	(corbin* adj2 strauss*).ti,ab,id.	787
69	or/35-68	971,329
70	8 and 20 and 34 and 69	3,364

A3. Scopus database search

Scopus (Elsevier) = 8,184 as of 16/01/2024

Use Advanced Search

Search filter: Qualitative Studies – Scopus: https://searchfilters.cadth.ca/link/94

(TITLE-ABS-KEY (work OR worker OR workers OR workplace OR workplaces OR employee* OR personnel* OR staff* OR professional*)) AND (TITLE-ABS-KEY (wellbeing OR "well being" OR wellness OR "mental health" OR health OR psychosocial OR psychological OR burnout OR stress* OR resilien* OR mindfulness) W/7 (program* OR intervention* OR strategy OR strategies)) AND (TITLE-ABS-KEY (phone OR phones OR "internet based" OR app OR apps OR application* OR online OR digital OR "web based" OR mobile OR mobiles OR mhealth OR ehealth)) AND (TITLE-ABS-KEY ("Empirical Research" OR interview OR "Interviews as Topic" OR "Personal Narratives" OR "Focus Groups" OR narration OR "Nursing Methodology Research" OR "Narrative Medicine" OR interview* OR qualitative OR theme* OR thematic OR "ethnological research" OR ethnograph* OR ethnomedicine OR ethnonursing OR phenomenol* OR "grounded theor*" OR "grounded study" OR "grounded studies" OR "grounded research" OR "grounded analysis" OR "grounded analyses" OR "life stor*" OR emic OR etic OR hermeneutic* OR heuristic* OR semiotic* OR "data saturat*" OR "participant observ*" OR "social construct*" OR postmodern* OR post-structural* OR "post structural*" OR poststructural* OR "post modern*" OR post-modern* OR feminis* OR "action research" OR "cooperative inquir*" OR "co operative inquir*" OR humanistic OR existential OR experiential OR paradigm* OR "field study" OR "field studies" OR "field research" OR "field work" OR "human science" OR "social science" OR "biographical method" OR "theoretical sampl*" OR (purpos* W/3 sampl*) OR (focus W/3 group*) OR open-ended OR narrative* OR textual OR

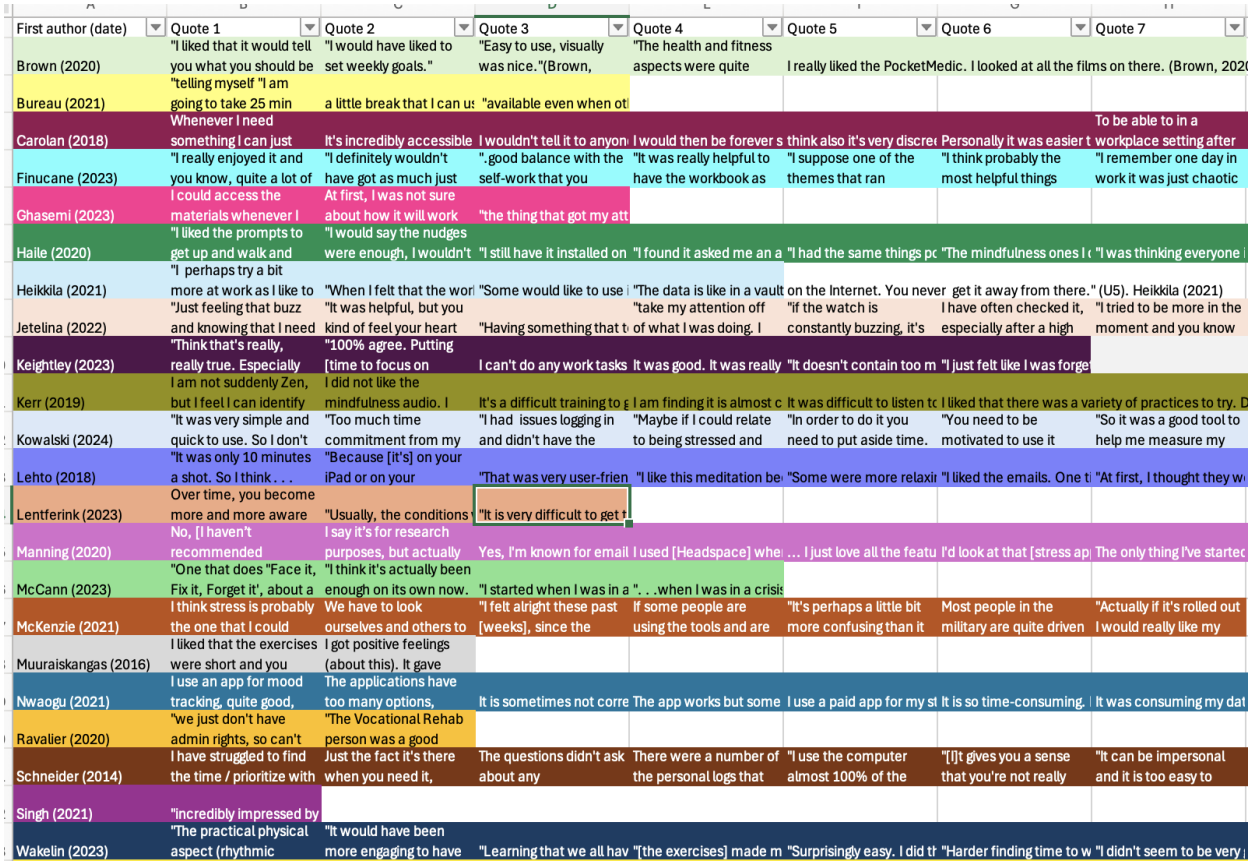
texts OR "semi-structured" OR "life world*" OR "life-world*" OR "conversation analysis" OR "personal experience*" OR "theoretical saturation" OR "conversation analyses" OR "lived experience" OR "life experience*" OR "cluster sampl*" OR "observational method*" OR "content analysis" OR "constant comparative" OR "constant comparison" OR (discourse* W/3 analysis) OR (discourse* W/3 analyses) OR (discurs* W/3 analysis) OR (discurs* W/3 analyses) OR heidegger* OR colaizzi* OR spiegelberg* OR merleau* OR husserl* OR foucault* OR ricoeur OR glaser* OR "van manen*" OR "van kaam*" OR (corbin* W/2 strauss*)))

A4. ProQuest Dissertations & Theses Global database search

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Advanced Search > Use Command Search
Search filter: Adapted the CADTH Qualitative Studies – Scopus filter for ProQuest
TITLE,ABSTRACT(work OR worker OR workers OR workplace OR workplaces OR employee* OR personnel* OR staff* OR professional*) AND TITLE,ABSTRACT((wellbeing OR "well being" OR wellness OR "mental health" OR health OR psychosocial OR psychological OR burnout OR stress* OR resilien* OR mindfulness) NEAR/7 (program* OR intervention* OR strategy OR strategies)) AND TITLE,ABSTRACT((phone OR phones OR "internet based" OR app OR apps OR application* OR online OR digital OR "web based" OR mobile OR mobiles OR mhealth OR ehealth)) AND TITLE,ABSTRACT(("Empirical Research" OR interview OR "Interviews as Topic" OR "Personal Narratives" OR "Focus Groups" OR narration OR "Nursing Methodology Research" OR "Narrative Medicine" OR interview* OR qualitative OR theme* OR thematic OR "ethnological research" OR ethnograph* OR ethnomedicine OR ethnonursing OR phenomenol* OR "grounded theor*" OR "grounded study" OR "grounded studies" OR "grounded research" OR "grounded analysis" OR "grounded analyses" OR "life stor*" OR emic OR etic OR hermeneutic* OR heuristic* OR semiotic* OR "data saturat*" OR "participant observ*" OR "social construct*" OR postmodern* OR post-structural* OR "post structural*" OR poststructural* OR "post modern*" OR post-modern* OR feminis* OR "action research" OR "cooperative inquir*" OR "co operative inquir*" OR humanistic OR existential OR experiential OR paradigm* OR "field study" OR "field studies" OR "field research" OR "field work" OR "human science" OR "social science" OR "biographical method" OR "theoretical sampl*" OR (purpos* W/3 sampl*) OR (focus W/3 group*) OR open-ended OR narrative* OR textual OR texts OR "semi-structured" OR "life world*" OR "life-world*" OR "conversation analysis" OR "personal experience*" OR "theoretical saturation" OR "conversation analyses" OR "lived experience" OR "life experience*" OR "cluster sampl*" OR "observational method*" OR "content analysis" OR "constant comparative" OR "constant comparison" OR (discourse* W/3 analysis) OR (discourse* W/3 analyses) OR (discurs* W/3 analysis) OR (discurs* W/3 analyses) OR heidegger* OR colaizzi* OR spiegelberg* OR merleau* OR husserl* OR foucault* OR ricoeur OR glaser* OR "van manen*" OR "van kaam*" OR (corbin* W/2 strauss*)))

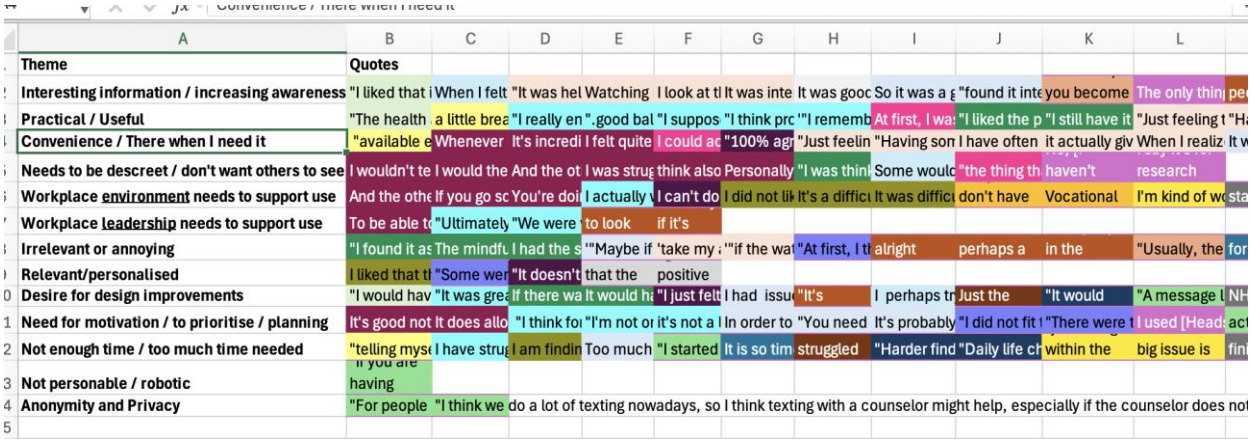
Appendix B
Theme extraction working examples

Figure B1. Example of extracted quotes organised by included primary studies.



First author (date)	Quote 1	Quote 2	Quote 3	Quote 4	Quote 5	Quote 6	Quote 7
Brown (2020)	"I liked that it would tell you what you should be	"I would have liked to set weekly goals."	"Easy to use, visually was nice."(Brown,	"The health and fitness aspects were quite	I really liked the PocketMedic. I looked at all the films on there. (Brown, 202		
Bureau (2021)	"telling myself "I am going to take 25 min	a little break that I can us	"available even when ot				
Carolan (2018)	Whenever I need something I can just	It's incredibly accessible	I wouldn't tell it to anyon	I would then be forever s	think also it's very discre	Personally it was easier t	To be able to in a workplace setting after
Finucane (2023)	"I really enjoyed it and you know, quite a lot of	"I definitely wouldn't have got as much just	".good balance with the self-work that you	"It was really helpful to have the workbook as	"I suppose one of the themes that ran	"I think probably the most helpful things	"I remember one day in work it was just chaotic
Ghasemi (2023)	I could access the materials whenever I	At first, I was not sure about how it will work	"the thing that got my att				
Haile (2020)	"I liked the prompts to get up and walk and	"I would say the nudges were enough, I wouldn't	"I still have it installed on	"I found it asked me an a	"I had the same things pc	"The mindfulness ones I	"I was thinking everyone
Heikkila (2021)	"I perhaps try a bit more at work as I like to	"When I felt that the wor	"Some would like to use	"The data is like in a vault	on the Internet. You never	get it away from there." (U5). Heikkila (2021)	
Jetelina (2022)	"Just feeling that buzz and knowing that I need	"It was helpful, but you kind of feel your heart	"Having something that t	"take my attention off of what I was doing. I	"if the watch is constantly buzzing, it's	I have often checked it, especially after a high	"I tried to be more in the moment and you know
Keightley (2023)	"Think that's really, really true. Especially	"100% agree. Putting [time to focus on	I can't do any work tasks	It was good. It was really	"It doesn't contain too m	"I just felt like I was forge	
Kerr (2019)	I am not suddenly Zen, but I feel I can identify	I did not like the mindfulness audio. I	It's a difficult training to g	I am finding it is almost c	It was difficult to listen tc	I liked that there was a variety of practices to try. D	
Kowalski (2024)	"It was very simple and quick to use. So I don't	"Too much time commitment from my	"I had issues logging in and didn't have the	"Maybe if I could relate to being stressed and	"In order to do it you need to put aside time.	"You need to be motivated to use it	"So it was a good tool to help me measure my
Lehto (2018)	"It was only 10 minutes a shot. So I think . . .	"Because [it's] on your iPad or on your	"That was very user-frien	"I like this meditation be	"Some were more relaxi	"I liked the emails. One t	"At first, I thought they w
Lentferink (2023)	Over time, you become more and more aware	"Usually, the conditions	"It is very difficult to get t				
Manning (2020)	No, [I haven't recommended	I say it's for research purposes, but actually	Yes, I'm known for email	I used [Headspace] whe	... I just love all the featu	I'd look at that [stress ap	The only thing I've started
McCann (2023)	"One that does "Face it, Fix it, Forget it', about a	"I think it's actually been enough on its own now.	"I started when I was in a ". . .when I was in a crisis				
McKenzie (2021)	I think stress is probably the one that I could	We have to look ourselves and others to	"I felt alright these past [weeks], since the	If some people are using the tools and are	"It's perhaps a little bit more confusing than it	Most people in the military are quite driven	"Actually if it's rolled out I would really like my
Muuraiskangas (2016)	I liked that the exercises were short and you	I got positive feelings (about this). It gave					
Nwaogu (2021)	I use an app for mood tracking, quite good,	The applications have too many options,	It is sometimes not corre	The app works but some	I use a paid app for my st	It is so time-consuming.	It was consuming my dat
Ravalier (2020)	"we just don't have admin rights, so can't	"The Vocational Rehab person was a good					
Schneider (2014)	I have struggled to find the time / prioritize with	Just the fact it's there when you need it,	The questions didn't ask about any	There were a number of the personal logs that	"I use the computer almost 100% of the	"[I]t gives you a sense that you're not really	"It can be impersonal and it is too easy to
Singh (2021)	"incredibly impressed by						
Wakelin (2023)	"The practical physical aspect (rhythmic	"It would have been more engaging to have	"Learning that we all hav	"[the exercises] made m	"Surprisingly easy. I did th	"Harder finding time to w	"I didn't seem to be very

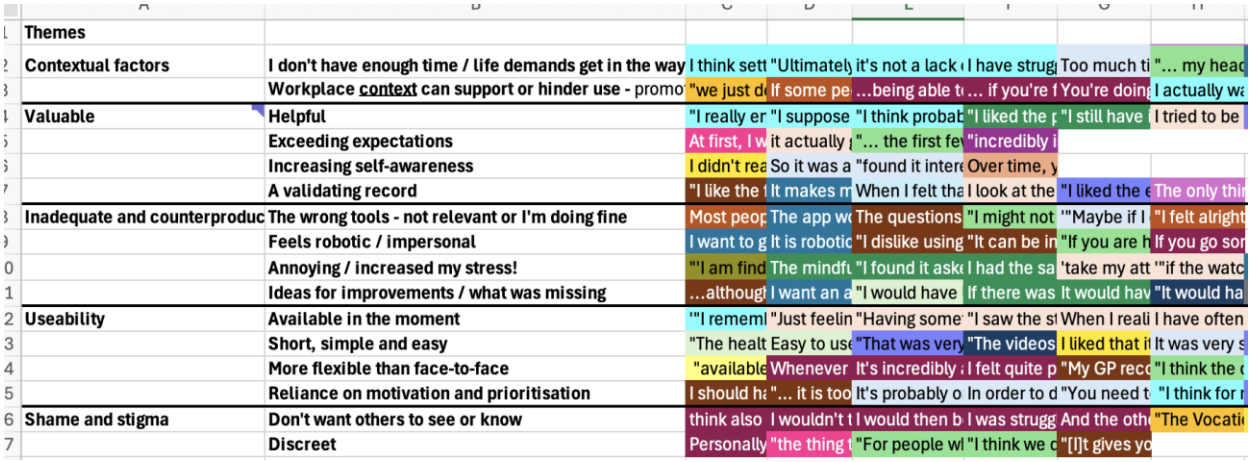
Figure B2. Example of beginning analysis and themes



	A	B	C	D	E	F	G	H	I	J	K	L
1	**Theme**	**Quotes**										
2	**Interesting information / increasing awareness**	"I liked that i	When I felt	"It was hel	Watching	I look at th	It was inte	It was gooc	So it was a g	"found it inte	you become	The only thin
3	**Practical / Useful**	"The health	a little brea	"I really en	".good bal	"I suppos	"I think pro	"I rememb	At first, I wa	"I liked the p	"I still have it	"Just feeling t
4	**Convenience / There when I need it**	"available e	Whenever	It's incredi	I felt quite	I could ac	"100% agr	"Just feelin	"Having son	I have often	it actually giv	When I realiz
5	**Needs to be descreet / don't want others to see**	I wouldn't te	I would the	And the ot	I was strug	think also	Personally	"I was thin	Some would	"the thing th	haven't	research
6	**Workplace environment needs to support use**	And the othe	If you go sc	You're doi	I actually v	I can't do	I did not lik	It's a diffici	It was diffici	don't have	Vocational	I'm kind of w
7	**Workplace leadership needs to support use**	To be able t	"Ultimately	"We were	to look	if it's						
8	**Irrelevant or annoying**	"I found it as	The mindfu	I had the s	'"Maybe if	'take my a	'"if the wat	"At first, I th	alright	perhaps a	in the	"Usually, the
9	**Relevant/personalised**	I liked that th	"Some wer	"It doesn't	that the	positive						
10	**Desire for design improvements**	"I would hav	"It was gre	If there wa	It would ha	"I just felt	I had issu	"It's	I perhaps tr	Just the	"It would	"A message l
11	**Need for motivation / to prioritise / planning**	It's good not	It does allo	"I think fo	"I'm not or	it's not a l	In order to	"You need	It's probably	"I did not fit t	"There were t	I used [Heads
12	**Not enough time / too much time needed**	"telling mys	I have strug	I am findin	Too much	"I started	It is so tim	struggled	"Harder find	"Daily life ch	within the	big issue is
13	**Not personable / robotic**	"If you are having										
14	**Anonymity and Privacy**	"For people	"I think we	do a lot of texting nowadays, so I think texting with a counselor might help, especially if the counselor does not								
15												

Note. Colours reflect individual studies as per Figure B1.

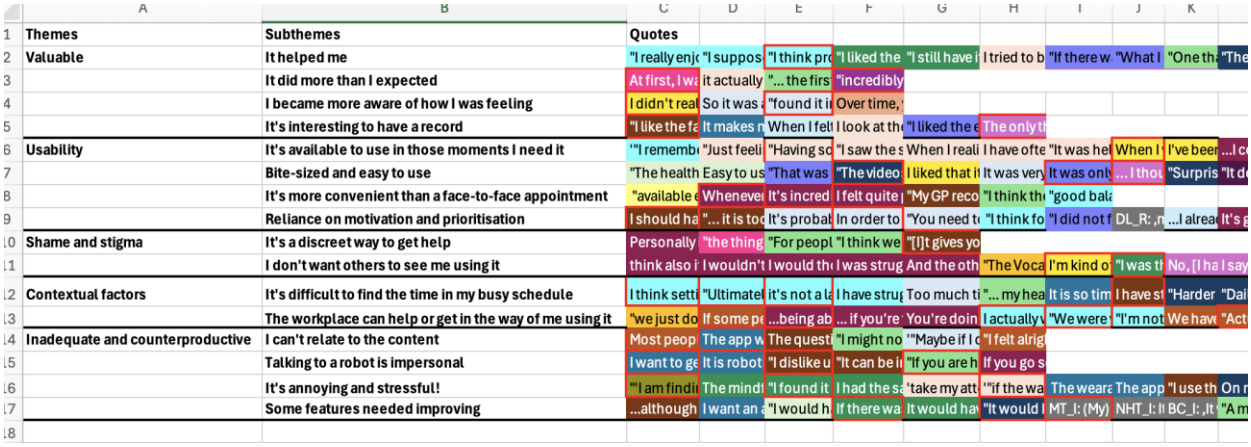
Figure B3. Example of developing analysis and themes



	A	B	C	D	E	F	G	H
1	Themes							
2	Contextual factors	I don't have enough time / life demands get in the way	I think sett	"Ultimately	it's not a lack	I have strug	Too much ti	"... my head
3		Workplace context can support or hinder use - promo	"we just de	If some pe	...being able t	... if you're f	You're doin	I actually wa
4	Valuable	Helpful	"I really er	I suppose	I think probab	"I liked the p	"I still have	I tried to be
5		Exceeding expectations	At first, I w	it actually	"... the first fe	"incredibly i		
6		Increasing self-awareness	I didn't rea	So it was a	"found it intere	Over time, y		
7		A validating record	"I like the f	It makes m	When I felt tha	I look at the	"I liked the e	The only thi
8	Inadequate and counterproduc	The wrong tools - not relevant or I'm doing fine	Most peop	The app w	The questions	"I might not	'"Maybe if I	"I felt alright
9		Feels robotic / impersonal	I want to g	It is robotic	"I dislike using	"It can be in	"If you are h	If you go sor
10		Annoying / increased my stress!	"'I am find	The mindfu	"I found it aske	I had the sa	'take my att	'"if the watc
11		Ideas for improvements / what was missing	...althoug	I want an a	"I would have	If there was	It would hav	"It would ha
12	Useability	Available in the moment	'"I rememl	"Just feelin	"Having some	"I saw the st	When I reali	I have often
13		Short, simple and easy	"The healt	Easy to use	"That was very	"The videos	I liked that it	It was very s
14		More flexible than face-to-face	"available	Whenever	It's incredibly a	I felt quite p	"My GP recc	"I think the c
15		Reliance on motivation and prioritisation	I should ha	"... it is too	It's probably o	In order to d	"You need t	"I think for r
16	Shame and stigma	Don't want others to see or know	think also	I wouldn't t	I would then b	I was strugg	And the oth	"The Vocati
17		Discreet	Personally	"the thing t	"For people wl	"I think we c	"[I]t gives yo	

Note. Colours reflect individual studies as per Figure B1.

Figure B4. Example of final analysis, themes and subthemes



	A	B	C	D	E	F	G	H	I	J	K
1	Themes	Subthemes	Quotes								
2	Valuable	It helped me	"I really enjo	"I suppos	"I think pro	"I liked the	"I still have i	I tried to b	"If there w	"What I	"One tha
3		It did more than I expected	At first, I wa	it actually	"... the firs	"incredibly					
4		I became more aware of how I was feeling	I didn't real	So it was a	"found it in	Over time, '					
5		It's interesting to have a record	"I like the fa	It makes m	When I felt	I look at the	"I liked the e	The only ti			
6	Usability	It's available to use in those moments I need it	'"I rememb	"Just feeli	"Having so	"I saw the s	When I reali	I have ofte	"It was hel	When I	I've beer
7		Bite-sized and easy to use	"The health	Easy to us	"That was	"The video	I liked that it	It was very	It was onl	... I thou	"Surpris
8		It's more convenient than a face-to-face appointment	"available e	Whenever	It's incred	I felt quite	"My GP reco	"I think th	"good bala		
9		Reliance on motivation and prioritisation	I should ha	"... it is too	It's probab	In order to	"You need t	"I think fo	"I did not f	DL_R: ,r	...I alrea
10	Shame and stigma	It's a discreet way to get help	Personally	"the thing	"For peopl	"I think we	"[I]t gives yo				
11		I don't want others to see me using it	think also i	I wouldn't	I would thi	I was strug	And the oth	"The Voca	I'm kind o	"I was t	No, [I ha I say
12	Contextual factors	It's difficult to find the time in my busy schedule	I think setti	"Ultimatel	it's not a la	I have strug	Too much ti	"... my hea	It is so tim	I have st	"Harder
13		The workplace can help or get in the way of me using it	"we just do	If some pe	...being ab	... if you're	You're doin	I actually v	"We were	"I'm not	We have
14	Inadequate and counterproductive	I can't relate to the content	Most peop	The app w	The questi	"I might no	'"Maybe if I c	"I felt alrig			
15		Talking to a robot is impersonal	I want to ge	It is robot	"I dislike u	"It can be in	"If you are h	If you go s			
16		It's annoying and stressful!	"'I am findi	The mindf	"I found it	I had the sa	'take my att	'"if the wa	The weara	The app	"I use th
17		Some features needed improving	...although	I want an a	"I would h	If there wa	It would hav	"It would l	MT_I: (My)	NHT_I: It	BC_I: ,It
18											

Note. Colours reflect individual studies as per Figure B1.

Appendix C
TIDieR checklist summary of interventions used by included studies

Table C1. TIDieR checklist summary of interventions used by included studies

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Argyriadis (2023)	MBSR programme for Emergency Department nurses (no name)	Mobile application; smartwatch	Mindfulness exercises; smartwatch tracking e.g., of blood pressure, heartbeats; set-up meeting run by "the researcher"; smartwatches worn consistently	10 days	Not reported	Not reported
Behrendt (2023)	RESIST Resilience intervention based on Positive Appraisal Style theory, strengths-based CBT, & PASTOR resilience framework	Mobile application; website platform; email support	Participants completed weekly 45-minute online training, daily exercises on mobile application, & qualified psychologist eCoach gave advice & answered questions	6 weeks	Items 9 & 10 not reported; adherence assessed by proportion who completed training sessions	60%
Brown (2020)	ACTivate your Well-being Cost effective ACT intervention, which has been associated with positive adherence	Website platform	A personalised dashboard to enrol in self-guided modules & track progress; participants accessed the programme freely and recommended to use 20 minutes per day, three times per week; item 7 not reported	12 weeks	Choice of modules & email prompts from researchers; motivational quotes & two gamification features to enhance adherence	Not reported

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Bureau (2021)	My Health Too CBT programme to promote resilience & reduce stress in healthcare workers	Website platform	Self-guided modules including videos, text, & audio exercises; content developed by clinical psychologists	1 week	Items 9 & 10 not reported; adherence assessed by proportion who watched least ≥3 out of 4 videos	86%
Carolan (2018)	WorkGuru Anonymous & accessible stress management intervention for workers based on CBT, positive psychology, mindfulness, & problem solving	Website platform; email support	Self-guided modular programme with emails from an e-coach; programme has seven core & three optional modules using text, a stress & thought diary, audio, & video animation; items 5 & 7 not reported	8 weeks	Choice of e-coach email support, motivational email prompt, & could customise automated reminders; items 10 & 11 not reported	Not reported
Espinola (2024)	Virtual reality moral injury programme to assess & monitor stress, moral distress & moral injury among healthcare workers (no name)	Virtual reality; physiological sensors; mobile application	Single session virtual reality simulation with physiological monitoring run by researchers, followed by educational video, & a post-session period of mobile application questionnaire monitoring; item 7 not reported	8 weeks	Items 9 & 10 not reported; push notifications to promote adherence, which was assessed by proportion who completed the intervention & any follow-up questionnaires	100% intervention; 47% follow-up questionnaires

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Finucane (2023)	RESTORE Flexible & scalable ACT-based mental health & well-being intervention for palliative care staff	Website platform; synchronous workshops; digital document	Weekly modules including three 90-minute workshops, five 30-minute self-directed modules, online chat & a workbook; content developed by research team available on ISRCTN registry https://doi.org/10.1186/ISRCTN14313559; workshops delivered by senior academic clinical psychologist & research psychologist; participants could choose time & place of use	8 weeks	Items 9 & 10 not reported; weekly reminders to support adherence, which was assessed by the proportion who completed the programme	92%
Ghasemi (2023)	ACT programme to improve teachers' psychological well-being (no name)	Mobile application; text support	Self-guided, three-part programme involving text content & support sent by facilitator via social media mobile application "Telegram"; program content adapted from a training manual; item 7 not reported	6 weeks	Personalised text prompts & reminders; item 10 not reported; adherence assessed by proportion who completed the programme	100%
Haile (2020)	Welbot Nudge-based intervention to reduce sedentary behaviour & improve physical & mental well-being at work	Mobile application	Notifications sent 12 times per day to prompt short activities including seated or standing exercises, relaxed breathing, screen breaks, mindfulness practices, & hydration tips; item 5 & 7 not reported	2 weeks	Not reported	Not reported

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Heikkila (2021)	Worker Feedback Dashboard Mobile dashboard to empower factory workers' well-being	Mobile application; smartwatch; email or phone support	Intervention offered graphs & charts about well-being & productivity via a Fitbit smartwatch & the machine production line; a set up session was run by researchers; phone or email support was available; the intervention could be used at work or home	2-3 months	Participants could choose which well-being related smartwatch data they enabled; adherence was incentivised - could keep the smartwatch; items 10 & 11 not reported	Not reported
Jetelina (2022)	Smartwatch-based stress intervention for law enforcement officers (no name)	Smartwatch; mobile application; digital document	The in-built heartrate & stress continuum monitor would notify users when it exceeded a predetermined threshold for more than 10 minutes & prompt a guided breathing exercise or exercises via the Calm mobile application; included a set-up session; participants were instructed to use consistently during shifts; item 5 not reported	30 days	Items 9 & 10 not reported; adherence assessed by self-report of intervention use	100%
Keightley (2023)	An interactive e-document to promote health & well-being behaviours for normally office-based workers when working from home (no name)	Digital document	PDF document including clickable sequential icons, offering research examples, quotations, & behaviour change tips; the content was developed by the research team; item 7 not reported	1 week	Not reported	Not reported

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Kerr (2019)	MBSR training for emergency service telecommunicators (no name)	Website platform; emails; online practice; discussion board	Seven weekly 20–30-minute self-guided lessons including video, text, & audio content, as well as a moderated discussion board, emails, & brief drop-in practices; lessons could be accessed any time; content developed by clinicians, researchers & stakeholder consultation	7 weeks	Items 9 & 10 not reported; adherence assessed by the proportion lessons completed	64% completed ≥5 lessons
Kowalski (2024)	DIARY Stress management intervention	Mobile application	Stress management information with daily reminders to self-monitor mood; content was developed by the research team; items 4 & 7 not reported	1 month	Items 9, 10 and 11 not reported	Not reported
Lehto (2018)	A yoga meditation programme to support palliative healthcare workers with stress management (no name)	Mobile application; email support	Weekly prompt and email support to engage in a 10-minute app meditation and recommended to practice daily; email content was guided by a clinical mind-body therapist; item 7 not reported	6 weeks	Items 9 and 10 not reported; adherence defined by number of uses	6 to 30 times
Lentferink (2023)	BringBalance Reflective coaching tool to reduce stress & strengthen resilience	Mobile application; earlobe heartrate sensor	A coaching programme with four sequential phases that included text, video, visual summaries & automated e-coach questions; content based on a face-to-face version https://www.demaar.nl/; daily use is intended; items 4, 5 & 7 not reported.	6 weeks	Could choose when to receive reminders; item 10 not reported; adherence determined by completion of a defined proportion of activities	None adhered to intended use

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
McCann (2023)	Time for You Intervention to provide frontline workers with quick access mental health support options	Website platform; other support from real person/s	Choice between default self-guided CBT-based modules, the addition of text support from a well-being practitioner, or synchronous online therapy with a trainee psychologist; content was designed by The Scottish Association for Mental Health Psychological Wellbeing Team & Glasgow Caledonian University Department of Psychology staff; item 7 not reported	Not reported	Items 9 and 11 not reported; modified to provide more well-being coaching than planned	Not reported
McKenzie (2021)	HeadFIT CBT & emotion regulation therapy tools & resources to support mental fitness among defence personnel	Website platform	Four self-guided modules, www.HeadFIT.org, including a briefing video; items 5 & 7 not reported	3 months	Not reported	Not reported
Muuraiskangas (2016)	ACT-based online training for stress management & mental well-being (no name)	Mobile application; website platform	Brief, self-guided lessons available in audio or text format including an introductory session with researchers; items 5 & 7 not reported	4-5 months	Items 9, 10 and 11 not reported	Not reported

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Ravalier (2020)	Healthier Outcomes at Work Social Work Project Psychoeducational intervention to support mental health & well-being of UK social workers	Mobile application; other support from real person/s	Unguided programme included motivational messages, stress psychoeducation, workplace events page, workplace suggestions feature & ability to request occupational therapist Vocational Rehabilitation Assistant support; included introductory session; content developed by social workers in each participating UK Local Authority; participants could choose when to use	6 months	Workplaces could tailor application content, such as events page; modified to include a storyboard feature & adjustments to visual design & interactivity; item 7 not reported	Not reported
Schneider (2014)	MoodGYM Inexpensive & accessible CBT programme for depression as alternative to face-to-face treatment	Website platform; other support from real person/s	Modular self-guided programme with weekly phone call support from Clinical Studies Officers of the UK Mental Health Research Network; content developed at Australia National University; item 7 not reported	5 weeks	Not reported	Not reported
Singh (2021)	Preventative behavioural intervention for healthcare workers exposed to potentially traumatic events during COVID-19 (no name)	Website platform; synchronous workshops; other support from real person/s	Participants watched three videos & attended a 1:1 session to learn how to use online mental rotation task (Tetris.com) to manage intrusive memories, then completed a digital diary & received support via text, email or phone; content adapted from the original face-to-face version; intervention delivered by trained researcher; item 7 not reported	1 week	Participants could choose additional support; Item 10 not reported; adherence assessed by proportion who completed the intervention	100%

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Tsantila (2023)	MENTUPP Intervention to support mental health & stigmatising attitudes in small to medium construction, healthcare & information and communication technology workplaces	Website platform	Self-guided psychoeducational materials, videos, audio & interactive exercises https://www.mentupphub.eu/en/; research officers supported workplaces to develop tailored implementation plans and ran introductory sessions; could be used in any location but encouraged use at work	6 months	Items 9 and 10 not reported; adherence assessed by average number of logins & average duration of use	3 logins; 42 minutes
Wakelin (2023)	Compassion-focussed therapy intervention for veterinarians with high levels of self-criticism (no name)	Website platform	Compassionate imagery course hosted on 'Teachable' platform with 14 sequential psychoeducational videos with guided exercises made available daily and then repeated in the final 6 days; intervention content adapted from in-person programme by trainee clinical psychologists in consultation with a clinical expert & veterinarians; item 7 not reported	2 weeks	Items 9 & 10 not reported; adherence assessed by proportion of videos watched	68%

First author (year)	Name & Aim of Intervention Item 1 & 2	Mode of Delivery Item 6	Materials & Procedures Items 3, 4, 5 & 7	Duration & Dose Item 8	Modifications, Tailoring & Efforts to Enhance Adherence Items 9, 10, & 11	Adherence (actual) Item 12
Xu (2021)	Headspace Flexible, time-efficient & cost-effective mindfulness-based stress management intervention for emergency department workers	Mobile application	Mindfulness training techniques including breathing, imagery & body scan exercises (not further reported); participants were asked to use daily for 10 minutes & at any convenient time	4 weeks.	Not reported	Not reported
Yuan (2015)	Happy@Work Intervention based on the positive psychology psychological capital model to improve mental well-being & work performance	Website platform	Sequential 15-30 minutes training lessons with animations covered psychological capital components of hope, efficacy, optimism, & resilience; participants were encouraged to complete homework exercises between-sessions; content developed in consultation with psychology experts, including original model developer and human resource managers; item 7 not reported	4 weeks	Items 9 & 10 not reported; adherence was encouraged via a timer countdown to complete each lesson, email reminders and follow-up prompts, 'happy coins' when questions were answered correctly or homework completed, a completion certificate, and cash coupon; adherend was assessed by number of sessions completed	39%

Note. ACT, Acceptance and Commitment Therapy; CBT, Cognitive Behavioural Therapy; MBSR, Mindfulness-Based Stress Reduction. Manning (2020), Nwaogu (2021) & Yoon (2021) are not described here because these studies did not focus on a specific intervention.

Appendix D

Mixed methods quality appraisal of included publications

Table D1. Mixed methods quality appraisal of included publications

First author (date)	Q S.1	Q S.2	Q 1.1	Q 1.2	Q 1.3	Q 1.4	Q 1.5	Q 2.1	Q 2.2	Q 2.3	Q 2.4	Q 2.5	Q 4.1	Q 4.2	Q 4.3	Q 4.4	Q 5.1	Q 5.2	Q 5.3	Q 5.4	Q 5.5
Argyriadis (2023)	Yes	?	?	?	?	?	No	?	?	?	No	?	-	-	-	-	No	No	?	NA‡	No
Behrendt (2023)	No	No†	No†	No†	?	?	?	Yes	Yes	No	No	No	-	-	-	-	No†	No†	No	?	No
Brown (2020)	No	No†	No†	No†	?	No	?	Yes	No	No	Yes	No	-	-	-	-	No†	No†	Yes	Yes	No
Espinola (2024)	No	No†	No†	No†	No	No	No	-	-	-	-	-	No†	?	Yes	No	No†	No†	?	Yes	No
Finucane (2023)	Yes	Yes	?	?	Yes	Yes	?	-	-	-	-	-	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No
Ghasemi (2023)	Yes	?	?	?	?	?	?	?	?	Yes	No	Yes	-	-	-	-	Yes	No	No	No	No
Haile (2020)	No	No†	No†	No†	?	Yes	?	-	-	-	-	-	No†	?	Yes	No	No†	No†	No	NA‡	No
Heikkila (2021)	Yes	Yes	?	?	Yes	Yes	?	-	-	-	-	-	No†	Yes	?	No	?	?	?	NA‡	No
Jetelina (2022)	No	No†	No†	No†	Yes	Yes	No	-	-	-	-	-	No†	?	Yes	No	No†	No†	Yes	NA‡	No
Keightley (2023)	No	No†	No†	No†	Yes	Yes	Yes	-	-	-	-	-	No†	?	Yes	No	No†	No†	Yes	NA‡	No
Kerr (2019)	No	No†	No†	No†	?	?	?	-	-	-	-	-	No†	No	Yes	No	No†	No†	Yes	Yes	No
Kowalski (2024)	Yes	No	?	Yes	Yes	Yes	Yes	-	-	-	-	-	Yes	?	Yes	No	Yes	Yes	Yes	Yes	No
Lentferink (2023)	Yes	Yes	Yes	Yes	?	?	?	-	-	-	-	-	No	?	Yes	No	Yes	Yes	Yes	Yes	No
McKenzie (2021)	No	No†	No†	No†	Yes	Yes	Yes	-	-	-	-	-	No†	No	No	No	No†	No†	Yes	NA‡	No
Muuraiskangas (2016)	No	No†	No†	No†	Yes	?	?	-	-	-	-	-	No†	?	Yes	No	No†	No†	?	NA‡	No
Ravalier (2020)	Yes	No	Yes	Yes	?	?	?	-	-	-	-	-	?	?	Yes	No	Yes	?	No	?	No
Schneider (2014)	No	No†	No†	No†	?	?	No	-	-	-	-	-	No†	?	Yes	No	No†	No†	No	NA‡	No
Singh (2021)	No	No†	No†	No†	?	?	?	-	-	-	-	-	No†	?	Yes	No	No†	No†	?	NA‡	No
Tsantila (2023)	Yes	Yes	?	?	?	?	?	-	-	-	-	-	Yes	?	Yes	No	Yes	Yes	Yes	Yes	No
Wakelin (2023)	Yes	Yes	?	Yes	Yes	Yes	Yes	-	-	-	-	-	Yes	Yes	Yes	No	Yes	?	?	NA‡	No
Yuan (2015)	No	No†	No†	No†	Yes	Yes	Yes	?	Yes	No	?	No	-	-	-	-	No†	No†	Yes	NA‡	No

Note.

† Research questions not reported

‡ No divergences/inconsistencies to be addressed were reported

Appraisal tool questions 3.1 to 3.5 are not included as these questions relate to non-randomised control trial studies and all included mixed methods publications were randomised control trials or descriptive studies.

Abbreviations: Q, Question; S.1 Are there clear research questions?; S.2 Do the collected data allow the researchers to address the research question/s?; 1.1 Is the qualitative approach appropriate to answer the research question/s?; 1.2 Are the qualitative data collection methods adequate to address the research question/s?; 1.3 Are the findings adequately derived from the data?; 1.4. Is the interpretation of results sufficiently substantiated by data?; 1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?; 2.1. Is randomisation appropriately performed? (randomised control trial studies only); 2.2. Are the groups comparable at baseline? (randomised control trial studies only); 2.3. Are there complete outcome data? (randomised control trial studies only); 2.4. Are outcome assessors blinded to the intervention provided? (randomised control trial studies only); 2.5 Did the participants adhere to the assigned intervention? (randomised control trial studies only); 4.1. Is the sampling strategy relevant to address the research question/s? (descriptive studies only); 4.2. Is the sample representative of the target population? (descriptive studies only); 4.3. Are the measurements appropriate? (descriptive studies only); 4.4. Is the risk of nonresponse bias low? (descriptive studies only); 5.1. Is there an adequate rationale for using a mixed methods design to address the research question/s?; 5.2. Are the different components of the study effectively integrated to answer the research question/s?; 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?; 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?; 5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?; ?, Unclear; NA, not applicable.