The initial design and programme theory for a new work-focused psychotherapeutic intervention to treat moderate-severe recurrent depression and enhance job retention

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Abstract

Purpose – *Here, this study aims to report a case study of the initial design and programme theory of an interdisciplinary work-focused relational group cognitive behaviour therapy (CBT) treatment programme for moderate-severe depression using realist methods.*

Design/methodology/approach – *This case study shows how the authors designed the intervention using component analysis of existing literature and focus groups of frontline practitioners and former service users and mind-mapping analysis to establish its operational logic and evaluated the theory underpinning the intervention using realist synthesis and evaluation to establish its conceptual logic.*

Findings – *An iterative hybrid approach of literature review, component analysis, focus group discussion and realist methods established the initial design and programme theory for the new intervention. The intervention focused on three areas of therapy, three inter-dependent outcomes, in a group format, with opportunities created for peer interaction. The main theoretical principles most likely to promote efficacy were to accelerate and optimise activation of one or more of six hypothesised mechanisms: realise, reflect, regulate, resolve, relate and retain/resume in the context of skilfully facilitated group psychotherapy.*

Social implications – *This study outlines a methodological approach based on the layered ontology of critical realist philosophy, applied to a successful example, which will be useful during the early stages of the design and development of new group-based psychotherapeutic interventions.*

Originality/value – *By adopting the critical realist approach, the authors identified underlying mechanisms of change in relational group CBT. The theoretically integrated approach involving service users and practitioners from different professional backgrounds was unique and meant that the treatment programme was multi-modal rather than informed by a single therapeutic or theoretical approach.*

Keywords *Depression, Occupational therapy, Critical realism, Job retention, Group cognitive behavioural therapy, Work-focused psychotherapeutic intervention*

Paper type *Case study*

Introduction

Approximately 15% of the UK working population have symptoms of mental health disorders, and diagnoses of depression and anxiety continue to rise (McManus *et al.*, 2016). People with depression are at greater risk of losing work (Hakulinen *et al.*, 2021) and 2%–4% of unemployment can be attributed to depression (Porru *et al.*, 2019). In Europe, 20%–55% of depressed employees are absent through sickness every year (Evans-Lacko and Knapp, 2014). Moreover, employees with depression often struggle with return-to-work

processes after prolonged absences because functional recovery does not necessarily follow symptomatic recovery (Vemer *et al.*, 2013). Although some employees return to work quickly, they then take more time off sick in the future and those that return to work slowly must often reduce their working hours (Hellström *et al.*, 2021). Difficulties sustaining employment and low rates of labour market participation mean that if employees with depression are sacked, resign or retire early, some may never work again (Bubonya *et al.*, 2019). Once unemployed for over six months, people are three times more likely to be depressed than those in work, with an increasing effect the longer they are out of work (Koenig *et al.*, 2014). They are at greater risk of worsening depression and a cluster of comorbid conditions (Manning and Jackson, 2013) linked to the stress of unemployment, poverty, social exclusion and health inequality (Marmot, 2005; World Health Organization, 2014).

Interventions are therefore clearly required to keep employees with depression at work. However, for employees with depression, interventions that aim to relieve symptoms are not necessarily effective for vocational rehabilitation (Waddell *et al.*, 2008). For successful prevention, both work-focused treatment and workplace accommodations are necessary due to their interdependency, and work-focused psychotherapeutic interventions for depression should ideally be based on sound conceptual frameworks (Bond *et al.*, 2019). The resolution foundation found that interventions specifically designed to enhance job retention in employees with disabilities are under-investigated, and any support offered is often too little, too late (Gardiner and Gaffney, 2016). Historically, the emphasis has generally been on return to work and reducing the cost of absenteeism and welfare benefits rather than reducing health-related employment exit.

To address this gap, we recently tested the feasibility of a new, interdisciplinary work-focused relational group Cognitive Behaviour Therapy (CBT) treatment programme for moderate-severe depression administered in the clinical setting (Walker *et al.*, 2021). The new programme showed promising immediate positive outcomes in terms of depressive symptoms, interpersonal difficulties and job retention. Given the promising pilot, we redesigned this group-based psychotherapeutic intervention to be delivered in the workplace by peer facilitators, thereby improving acceptability and accessibility (Walker and Dobbing, 2021). Here, we report the initial intervention design and programme theory underpinning the original Relational Group CBT Treatment Programme. We adopted realist methods to attempt to find out not just "What works?" but "What works for whom in what circumstances in what respects, and how?" because a convincing programme theory needs to be based on the layered ontology of critical realist philosophy whereby mechanisms in the "real" domain (e.g. an employee deciding to disclose mental health problems) are activated in certain contexts (e.g. during treatment for depression) to generate events and actions in the "actual" domain (e.g. an employee's line manager offering emotional support), potentially leading to experiences and perceptions in the "empirical" domain that can be observed and measured (e.g. an employee going off sick less often). In doing so, we aim to help other practitioners seeking to design similar programmes and provide a methodology for practitioners developing new group-based psychotherapeutic interventions to follow during the early stages of design and development.

Methods

Study design and ethical statement

To develop a new work-focused psychotherapeutic intervention to treat moderate-severe recurrent depression and enhance job retention in help-seeking employed people, we:

- designed the intervention using component analysis of existing literature to establish *what* the intervention does and *how*, i.e. its operational logic; and

- evaluated the theory underpinning the intervention using realist synthesis and evaluation to establish *why* the intervention works, i.e. its conceptual logic (Astbury and Leeuw, 2010).

Focus groups were used as stakeholder consultation during the design phase, with mind mapping used to analyse the data.

The University of Derby Research Ethics Committee, the National Health Service (NHS) Local Research Ethics Committee (LREC) via IRAS (NHS LREC Ref: 12/YH/0303 approval granted 30.05.2012), and the NHS Trust's Research and Innovation department approved the study protocol. The study conformed to the Declaration of Helsinki (World Medical Association, 1996) and Good Clinical Practice (Medicines and Healthcare products Regulatory Agency, 2012). All focus group participants provided written informed consent, and measures were taken to mitigate the risks of participating in focus groups (Linhorst, 2002), e.g. asking participants to agree to a set of ground rules similar to that used in CBT group psychotherapy.

Literature review

Databases (e.g. PubMed, Cinahl and PsycInfo) were searched in 2012 for randomised or cluster randomised controlled trials (RCTs) reporting face-to-face psychotherapeutic interventions that aimed to improve job retention or return to work in employed people with moderate-severe recurrent depression or with long-standing depression plus a high degree of chronicity, complexity and comorbidity causing work dysfunction. Interventions were included if they were delivered in a 1:1 or group format as primary, secondary or tertiary preventative programmes specifically for depression. Only studies that reported both outcomes related to:

- work status e.g. rates of job retention or sickness absence; and
- clinical status e.g. symptoms of depression or psychological distress, were included.

A more stringent search for studies evaluating the effectiveness of work-focused CBT interventions for depression was undertaken in July 2021.

The literature review excluded quasi-experimental, pilot or case-control studies and interventions not based on an explicit psychological theory and practice, such as occupational therapy or individual placement and support. Interventions based on exercise, massage, relaxation, yoga, meditation, tai chi or mindfulness and interventions that focussed only on unemployed people or those on long-term sick were excluded. Each paper was appraised, and relevant data was extracted and tabulated (Appendix Table A1).

Component analysis for intervention design

To develop the intervention, it was first necessary to understand exactly what interventions did and how they did it. A comprehensive descriptive analysis of relevant and potentially relevant psychotherapeutic interventions identified in the literature review was undertaken to establish each intervention's form (or "operational logic") (Astbury and Leeuw, 2010). A data extraction form, specifically designed for this study, was used to tabulate the details using the intervention component analysis (ICA) approach (Sutcliffe *et al.*, 2015).

Focus group discussions and analysis

Eight focus groups were convened at the pre-intervention planning stage generating approximately 16 h of discussion: four pre-intervention planning focus groups for frontline practitioners and managers and four pre-intervention planning focus groups for former service-users. Former service users were recruited to the focus groups by post, and

Table 1 Four broad explanatory theories underpinning psychotherapeutic interventions

1. Occupational stress theories	Effort-reward imbalance model
	Person-environment fit model
	High demands-low control-low support model
	Demand-support-constraint model
	Job strain model
	Over-commitment model
	Burnout model
	Organisation injustice models
2. Psychological theories	Cognitive and behavioural
	Affect regulation
	Psychodynamic
	Positive psychology
3. Social/interpersonal theories	Social cognitive theory
	Interpersonal theory of depression
	Social problem-solving
4. Biomedical theories	Physiology of stress

frontline practitioners and managers were recruited by email or word-of-mouth. All participants had either experience of receiving/providing group CBT in secondary mental health care or experience of receiving/providing job retention interventions within the preceding two years. Study information was provided in written form and explained face-to-face or by telephone before obtaining written consent.

The focus groups had a semi-structured format and used open-ended questions to stimulate discussion. The main questions were written on a flip chart to ensure each topic was considered (Appendix Methods A1). Discussions lasted approximately 2 h, with a break in the middle. All sessions were digitally video and audio recorded to aid transcription and capture non-verbal behaviour. The author used a flip chart to record ideas as they emerged and to summarise the discussion in collaboration with participants. Field notes were made immediately after each meeting, and the author checked these by reviewing the video- and audio-recording in a single uninterrupted sitting.

Mind-mapping was chosen for data analysis as a robust yet rapid format for analysing qualitative data and the ability to represent complex ideas in a non-linear format that reflects natural thinking patterns (Meier, 2007; Burgess-Allen and Owen-Smith, 2010). After each focus group, a mind map was constructed using field notes and flip charts from the discussion. The mind map was circulated to participants by email, asking them for amendments, clarifications, corrections and/or further thoughts. Mind-mapping was undertaken sequentially so that each subsequent discussion guide could be updated such that initial groups allowed for a thorough exploration of the topic and subsequent groups for the development of broader themes. In this way, a stakeholder consultation was dynamic and recursive.

Realist synthesis for programme theory analysis

A theoretical integration of the explanatory frameworks informing relevant and potentially relevant psychotherapeutic interventions identified in the literature search was undertaken to establish each intervention's function (or "conceptual logic") (Astbury, 2018). A realist synthesis methodology was used to explore secondary source data derived from the studies identified in the literature review and to reveal plausible mechanisms of change (Pawson and Tilley, 2004). Realist synthesis focuses on the choices that individuals make influenced by their "reasoning", their "reactions" and the "resources" available to them (Lacouture *et al.*, 2015).

The process began by reading, re-reading, annotating, collating and mapping descriptions of interventions provided in each article and in any foundational texts cited that explained *why* the intervention was supposed to work (Pawson, 2006). Even when explicit explanations were spelled out, it was often necessary to further mine the document to elucidate implicit assumptions about human behaviour, informing *what* they did, *how* they did it and *why*.

There were several elicitation cycles. Candidate mechanisms were revealed by looking for plausible mechanisms of change. Four broad explanatory frameworks were identified, which comprised several mid-range theories (Table 1). Each theory, and how it was applied in practice was interrogated to find out what programme designers believed might influence employees' choices about whether to stay at work or return to work, particularly in terms of reasoning, reactions and resources. This process culminated in an initial coding framework.

Data extraction forms partially populated during the component analysis process were used to help locate, integrate, compare and contrast empirical evidence relating to the theoretical concepts underpinning the design of the intervention being evaluated (Pawson *et al*., 2004) (Appendix Table A2).

Realist evaluation

To refine the programme theory, a realist evaluation approach was used to explore primary source data derived from the eight focus group discussions. Realist evaluation uses "a case-based (i.e. configurational) and not a variable-based [i.e. correlational] orientation" (Van Belle *et al*., 2016). The realist evaluation used the initial coding framework developed through exploration of existing theories, and the programme theory for the new intervention was refined according to the following steps (Crinson, 2001):

Transcription. Audio recordings were transcribed by a qualified administrator, and transcripts were annotated with observational data.

Indexing. Significant excerpts of verbatim transcription were coded if they appeared to show why, with whom and in which circumstances a new intervention might work (Lacey and Luff, 2009). A note was made of the attributes of the individual respondent so that group aggregated findings could be reported in relation to major sub-groups of service-user (e.g. occupational status) or service provider (e.g. professional role). Incidence and intensity data were logged with excerpts to preserve context (e.g. if a response was repeatedly given by one participant or by many, whether responses were particularly emotional etc.). The data were managed and organised using Microsoft Word and Excel. Multiple coding cycles were ongoing to rearrange, recombine, reconstruct and reconceptualise the data.

Interpretation. Deductive reasoning was used to interpret empirical data in the light of the first-order codes derived from realist synthesis. Inductive reasoning was used to generate a set of second-order codes when empirical data were not explained by current conceptual frameworks.

Theorisation. Themes included those related to intervention design (operational logic) and those related to programme theory (conceptual logic). Participants' words were coded as a mechanism of change or as an enabling or disabling context. Causality was explored using the "if[...]then[...]because" format (Astbury, 2018) (see examples in Table 2).

Abduction. The resulting themes were collapsed into six mechanisms through a deep analysis of the data using different forms of abstract reasoning. Abductive reasoning requires creative and imaginative thinking that goes *above*, *beyond* and *away from* current theories to discern relationships, connections and themes. This was achieved through visual displays such as coherence tables, pie charts, bullet points and flow diagrams to reveal previously imperceptible patterns.

Table 2 Generating programme theory

Programme theory: Example 1	
CONTEXT	*IF* group therapists facilitate peer interaction using a structured-directive leadership style to set up opportunities for peer learning, peer feedback and peer support,
OUTCOME	*THEN* clients are likely to experience an increase in self-reported self-efficacy and a decrease in self-reported interpersonal problems,
MECHANISM	*BECAUSE* clients learn how to become their own therapist by interacting with each other for the explicit purpose of cognitive restructuring, behavioural activation, emotional regulation, or problem-solving for example
Programme theory: Example 2	
CONTEXT	*IF* group therapists encourage clients to participate fully in group therapy sessions and engage in between-session assignments
OUTCOME	*THEN* clients are likely to report less emotional distress and to maintain their employment
MECHANISM	*BECAUSE* they have acquired, consolidated and applied one or more basic CBT concepts and skills

Retroduction In realist research, retroductive reasoning is used to identify the underlying mechanisms. Retroduction made sense of the new ideas generated through abduction, *moving backwards* in confronting existing theory with new ideas (Danermark *et al.*, 2019). A range of strategies were used as described in (Danermark *et al.*, 2019). For example, transfactual argumentation or counter-factual thinking involved asking questions such as:

Q1. In which circumstances would an employee never return to work after sickness absence due to depression?

Q2. What might happen if there is no intervention?

Q3. What would not happen if the intervention did not work?

Q4. How is sickness absence even possible?

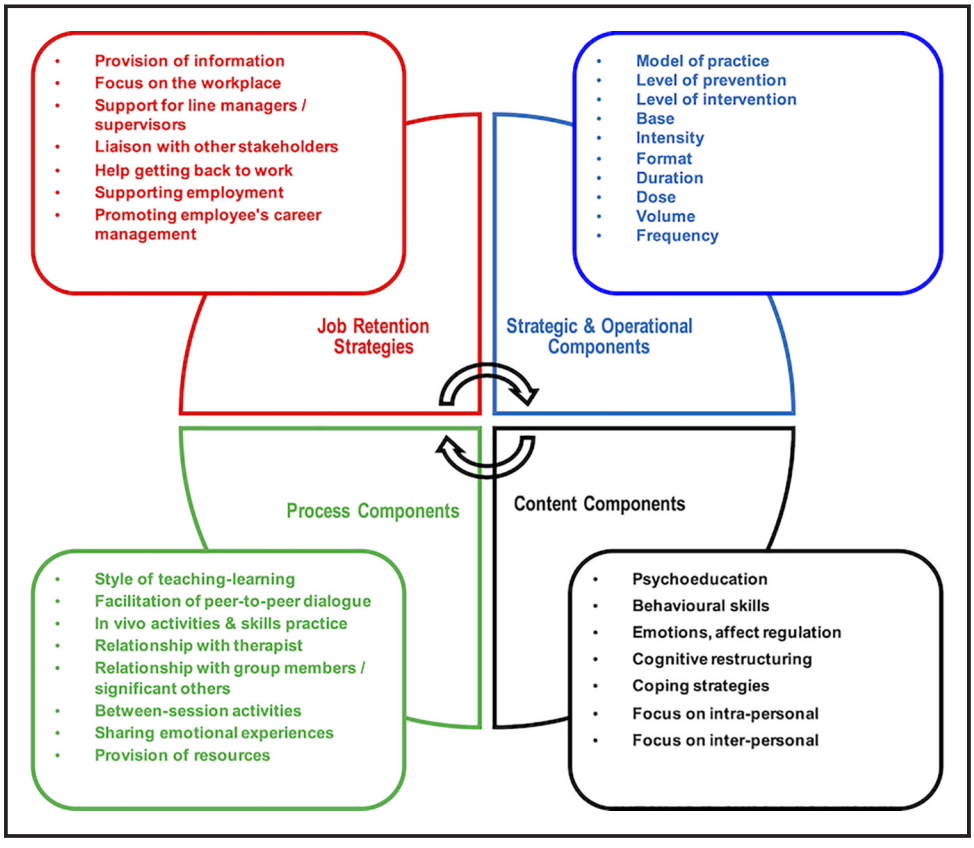
Results

Literature review and component analysis – the first design iteration of the intervention

Only five studies describing seven *relevant* psychotherapeutic interventions fully met the criteria for inclusion in a narrative review of effectiveness. A further 19 studies that partially met the criteria in terms of targeting mild-moderate mental health problems, stress, distress or burnout (22 *potentially relevant* psychotherapeutic interventions) were included in the component analysis and theoretical integration processes (Appendix Table A1), to give a total of 29 relevant or potentially relevant psychotherapeutic interventions for analysis. The review exposed a gap in knowledge and practice regarding psychotherapeutic interventions, especially work-focused psychotherapeutic interventions that might enhance job retention in employees with moderate-severe recurrent depression. The updated, more stringent search for work-focused CBT interventions for depression in 2021 found no other studies meeting the inclusion criteria.

ICA (Sutcliffe *et al.*, 2015) culminated in a checklist of intervention components (Appendix Table A3). The first iteration of the intervention design, i.e. the work-focused CBT treatment programme, was based on several core components identified through component analysis and included strategic and operational, content, process and job retention components (Figure 1).

Figure 1 Core components of the new work-focused CBT treatment programme identified through literature review and analysis (first design iteration)



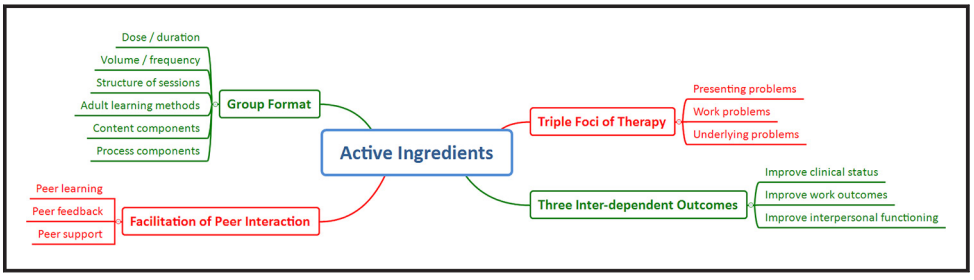
Focus group discussions and mind mapping – the second design iteration of the intervention

Developing new interventions requires consideration of various stakeholder perspectives to identify possible mechanisms of change and their relevant contexts (Pawson and Tilley, 2004). Therefore, focus groups were used to ascertain not just *what* users thought would be helpful but *how* it would be done (operational logic) and *why* (conceptual logic) to inform intervention design and programme theory, respectively.

The focus groups included 13 former service users (8 female, 5 male) and 15 frontline practitioners and managers (5 male, 10 female). Most participants were White British: only one practitioner was from a Black, Asian and Minority Ethnic community. The practitioners included six occupational therapists working for the NHS or a third sector vocational rehabilitation service, six psychologists/psychotherapists and one service-user representative working for an NHS Trust and two occupational health nurses working for an independent provider. Purposive sampling ensured participants had appropriate knowledge and experience and could participate in lively and thought-provoking discourse, and overall, the composition of the focus groups provided the necessary heterogeneity and demographic diversity of participants to prompt a cross-section of opinions.

The second iteration of the work-focused group-CBT treatment programme was based on four active ingredients identified through mind-mapping of sequential focus group discussions (Figure 2):

Figure 2 Active ingredients of the new work-focused CBT treatment programme identified through focus group discussions and mind mapping (second design iteration)



Triple foci of therapy. The consensus amongst former service-users was that the new intervention should focus on:

- presenting problems (e.g. symptoms of depression);
- work issues (e.g. occupational stress); and
- underlying issues (e.g. trauma).

Three inter-dependent outcomes Taken as a whole, former service-users thought the new intervention needed clear objectives related to three inter-dependent outcomes:

1. improvement in depression;
2. continued employment; and
3. enhanced relationships at home and at work.

The main goal should be to help someone with recurrent depression recover fully, with staying at work or returning to work contributing to recovery.

Group format. Most former service-users thought the new intervention should use a closed-group, fixed-term and group format. It should run as 12 full-day sessions with regular breaks, during term-time from 10 a.m. to 3 p.m., with no more than eight clients and two co-facilitators. They suggested that each session should have a "loose structure" and valued different-sized groupings. There was broad support for light refreshment and for lunchtime to be unstructured to allow participants to get to know one another. Former service-users also thought clients could be invited to discuss specific difficult situations and interpersonal incidents so that other members of the group could suggest new perspectives and strategies. They approved of enactive techniques such as role-play and chairwork to rehearse and practise new skills.

Facilitation of peer interaction. Overall, former service-users thought the new intervention should create opportunities for peers to interact, recognising the added value of peer learning, peer feedback and peer support and felt the group process should be both enjoyable and therapeutic. They valued being able to take on the role of "therapist" to each other, allowing them to learn basic CBT concepts and skills as help-givers, which they could then apply to themselves. Finally, one frontline practitioner suggested that an occupational therapist should be involved in co-facilitating the group and could provide employment support and low-key liaison with the workplace using the person-environment-occupation (PEO) model (Law *et al.*, 1996).

Realist synthesis – the first iteration of the programme theory

The first iteration of the programme theory for the new intervention was based on integrating different theories underpinning the relevant and potentially relevant psychotherapeutic interventions identified in the literature review. The realist synthesis approach suggested

that the new psychotherapeutic intervention should promote change at three levels (Figure 3): work-focused, psychological and relationship-focused.

Work-focused changes, both individual and organisational, included work-related changes in self and the work environment. With respect to changes in self, it was found that employees needed to change by adjusting to organisational changes and other career setbacks, appreciating the benefits of lifelong learning in the workplace, feeling that they belong and having a fulfilling job and a work-life balance. The work environment needed to change by involving employees in improving their working environment, allowing employees to have more control over their work and the demands made upon them, being clear about what employees are expected to do, providing the necessary resources for them to do their jobs effectively, promoting supportive relationships in the workplace and providing fair and consistent leadership.

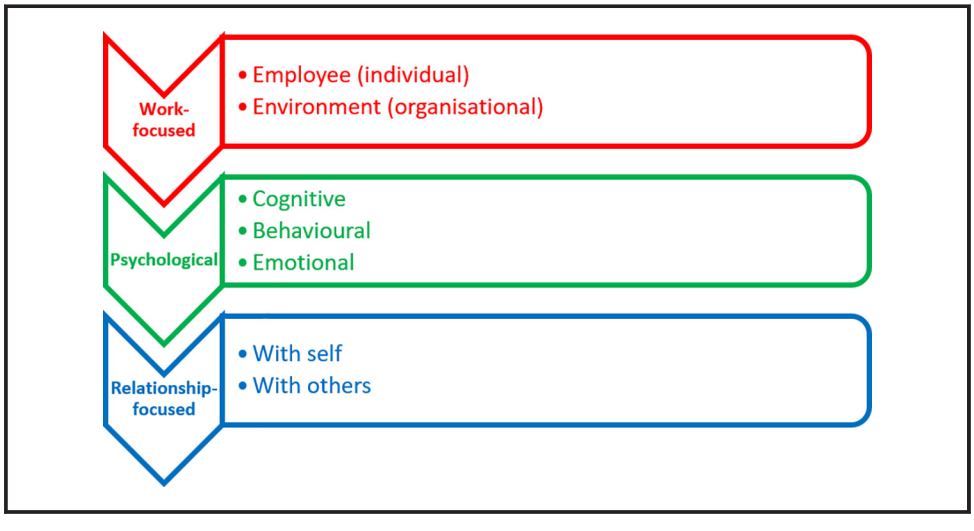
Psychological changes were behavioural, cognitive and emotional. With respect to behavioural changes, employees need to develop more helpful behavioural patterns, have better-coping skills and be able to set their own goals. Cognitive changes included the need to develop more helpful thinking patterns, have more knowledge about stress/trauma/depression and be able to reframe stressful events and problems as challenges to be overcome. Finally, emotional changes included the need for relief from symptoms of stress/trauma/depression, to feel physically calm and psychologically safe and to be able to express and manage their emotions effectively.

Relationship-focused changes were with self and with others. With respect to self, employees need more self-awareness (insight); to appreciate their strengths, personal qualities, life experience and wisdom; to see themselves as resourceful, resilient and responsible; and to believe that they are in charge of their lives. With respect to others, employees needed more interpersonal awareness (outsight); to understand how past relationships affect present relationships; to relate positively and to experience supportive relationships in therapy.

Realist evaluation – the second iteration of the programme theory

The second iteration of the programme theory for the new intervention was based on 24 sub-themes merged into 12 themes and subsequently collapsed into 6 mechanisms

Figure 3 Change processes identified through realist synthesis of the literature review (first iteration of the programme theory)



requiring the acquisition, consolidation and application of basic CBT concepts and skills: the new group-based psychotherapeutic intervention should promote the ability to realise, reflect, regulate, resolve, relate and retain/resume. These mechanisms – based on empirical evidence, supported by the literature and logically consistent (Maxwell, 2012) – were mapped onto the initial coding framework (Figure 4).

- *Realise:* Recognising depression, work-related stress or interpersonal problems. As in physical illness, mental illness may have few overt signs. A "light bulb moment" allowing a client to see problems more clearly.
- *Reflect:* Observing thoughts, feelings and behaviours from a meta-position. The process whereby a client gains insight or outsight. A more profound process of illumination allows a client to see the underlying causes of their problems or symptoms and those of others.
- *Regulate:* Tolerating feelings (e.g. emotions, sensations and impulses) triggered by autonomic hyper- and hypo-arousal so that a client can stabilise their mood. A more adaptive form of coping is by dealing directly with a problem.
- *Resolve:* Making decisions and taking action. Dealing with interpersonal conflict through positive competition, collaboration and cooperation. Working through ambivalence so that a client can commit to new behaviours.
- *Relate:* Getting along better with oneself and others. Learning to trust when clients who have experienced interpersonal trauma perceive relationships as a source of threat rather than as a source of support.
- *Retain/Resume:* Being able to stay at work whilst experiencing some symptoms of depression. Being able to return to work after being off sick with depression.

The work-focused relational group-CBT treatment programme

The new intervention, the interdisciplinary work-focused relational group CBT treatment programme for moderate-severe depression (Walker *et al.*, 2021), assumes that it is possible to accelerate and optimise activation of one or more of the six hypothesised mechanisms in the context of group psychotherapy via the skilful facilitation of peer

Figure 4 Mechanisms of change (second iteration of the programme theory)

Seeing myself differently Seeing others differently Seeing my problems differently Seeing others' problems differently	a) Shift in perception: people b) Shift in perception: problem	1. REALISE
Speaking about my experience Listening to others' experience Understanding myself (insight) Understanding others (outsight)	a) Learning from each other b) Understanding each other	2. REFLECT
Self-regulating Co-regulating Active coping Passive coping	a) Managing my mood b) Coping strategies	3. REGULATE
Practising skills Goal-setting Saying what I want and finding a shared solution Hearing what others want and finding a shared solution	a) Managing my behaviour b) Working with conflict	4. RESOLVE
Giving feedback Receiving feedback Helping myself Helping others	a) Two-way feedback b) Helping each other	5. RELATE
Disclosing mental health problems or work-related stress Negotiating reasonable adjustments Negotiating phased return Negotiating on-going support	a) Staying-at-work b) Returning-to-work	6. RETAIN

Notes: RED = work-focused mechanisms GREEN = psychological mechanisms
BLUE = relatiosnhip-focused mechanisms

interaction. This requires the leader to set up opportunities for peer learning, peer feedback and peer support to produce the desired outcomes. One context-intervention-mechanism-outcomes configuration represents the overall programme theory, as shown in Figure 5.

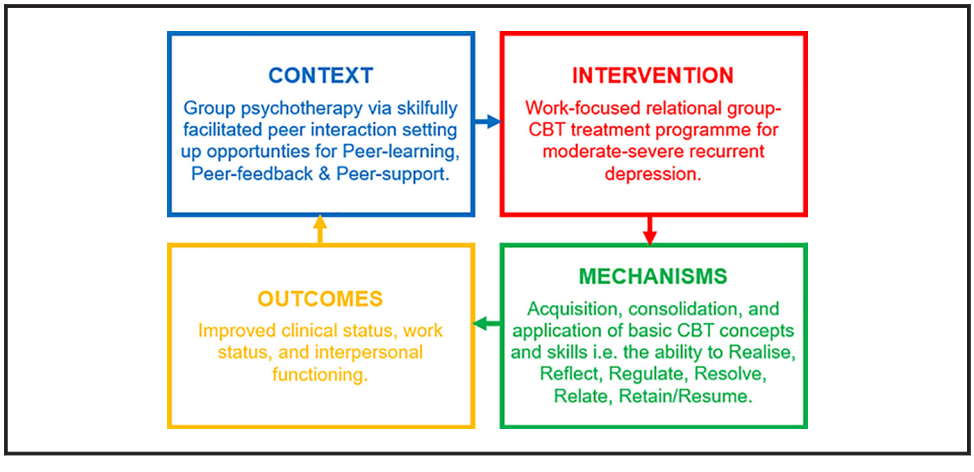
Discussion

Here, we describe the development and operational and conceptual logic of a new group-based psychotherapeutic intervention, the work-focused relational group-CBT treatment programme for moderate-severe recurrent depression (Walker *et al.*, 2021). The programme, which was piloted in the clinical setting, showed promising immediate positive outcomes in terms of depressive symptoms, interpersonal difficulties and job retention (Walker *et al.*, 2021). The programme underwent a second phase of development to improve its acceptability and accessibility by delivering it at work through peer facilitators (Walker and Dobbing, 2021). Here, we present the process used to develop the structure and theory of the programme to help other practitioners develop similar complex interventions.

Although the efficacy of any intervention measured in RCTs is obviously important, here, we chose realist methods to develop a new programme because aggregated data from meta-analyses based on mean scores from RCTs do not provide enough information to personalise treatment with precision. Outcome-focused studies claim that interventions are effective if most participants show evidence of significant improvement in the outcome of interest. Change is assumed to take place linearly with the intervention without considering how patients interact with interventions and without considering complex contextual factors that might account for a differential response. Furthermore, humans do not necessarily change their behaviour because of *causes*; they do so for *reasons* (Bhaskar, 2020), because humans are capable of rational decision-making. We, therefore, adopted the realist perspective when designing our new programme, namely, that it is people who make interventions work rather than the interventions themselves. We informed our intervention through an understanding of what influences employees' decisions to carry on working or not and through consultation with stakeholders and people with "lived experience".

In doing so, we adopted the overarching critical realist perspective to integrate service-user expertise into design in focus groups because doing so provides a richer and more accurate understanding of the phenomena under investigation. The focus groups included

Figure 5 Overarching context-intervention-mechanism-outcome configuration of the new interdisciplinary work-focused relational group CBT treatment programme for moderate-severe depression



several occupational therapists or occupational health nurses and psychologists/psychotherapists specialising in different approaches. This collaboration across professional boundaries was particularly important because the development of a programme theory relies on the researcher being "an intellectual generalist rather than a super-specialist" (Pawson *et al.*, 2004) and the generation of cross-disciplinary understanding (Danermark, 2019). However, although the Medical Research Council framework for the development and evaluation of complex interventions encourages conceptual eclecticism (Wells *et al.*, 2012), it warns about the risk of confusion for clients when models and methods are unintegrated. The theoretically integrated approach involving practitioners from different professional backgrounds in the design of the new intervention was unique and meant that the treatment programme was multi-modal rather than mono-modal, i.e. informed by a single therapeutic or theoretical approach.

The intervention design of a work-focused relational group-CBT treatment programme targeted presenting, work and underlying problems and aimed to produce three inter-dependent outcomes: improved clinical status, work status and interpersonal functioning. Our feasibility study of the intervention showed that Beck Depression Inventory-II depression scores significantly decreased after therapy, there were significant improvements in clinically relevant psychological distress, coping self-efficacy, health-related quality of life and interpersonal difficulties after therapy and all clients in work at the start of therapy remained in work at the end of therapy, thereby successfully meeting the three outcome goals (Walker *et al.*, 2021). Although there have been four RCTs of work-based CBT, including workers off sick with mild symptoms of common mental disorders (CMDs), work-related stress, or burnout (Dalgaard *et al.*, 2017; Lagerveld *et al.* (2022), Noordik *et al.*, 2013; Reme *et al.*, 2015), our programme remains the first to focus on triple foci of therapy, reported on all three outcomes and involved service-users, occupational therapists or occupational health nurses in intervention design.

Realist evaluation allowed deeper analysis of stakeholders' views, highlighting the *resources* they felt were necessary as part of the new intervention and what *reasoning process* needed to be stimulated for clients to recover. Consequently, the programme theory was based on six hypothesised mechanisms of change. Training employees in basic CBT concepts and skills through psychoeducational content and the relational group CBT process aims to activate one or more mechanism to produce the desired outcomes. Activation of change can be optimised in the context of group psychotherapy via the skilful facilitation of peer interaction, requiring the leader to set up opportunities for peer learning, peer feedback and peer support using a structured-directive leadership style. Furthermore, taking on the role of peer facilitator was appealing to some former service-users who wanted to use their experiences to help others as *de facto* therapists (Whitfield, 2010).

The programme theory partially aligns with a conceptual framework of the explanatory mechanisms of group-based behaviour change interventions (Borek and Abraham, 2018), which identified processes that elucidate what might happen in a group of people with a common problem (e.g. risk of Type 2 diabetes) and further developed in the "Mechanisms of Action in Group-based Interventions" (MAGI) framework (Borek *et al.*, 2019). Similar to our programme, the production of outcomes in MAGI relies on skilful facilitation of peer interaction to promote interpersonal and intrapersonal change processes. Peer interaction activates these mechanisms via social comparison and social validation and cognitive dissonance and self-efficacy, respectively. However, whilst this behavioural change model is probably therapeutic, it is not a specific treatment programme for moderate-severe recurrent depression. The authors did, however, analyse transcripts of group sessions to identify group processes and facilitation techniques for the model, which might represent a good way to reveal how the hypothesised mechanisms might produce the desired outcomes.

Former service users emphasised the importance of peers in recovery. Peers can often be a more credible source of learning, feedback and support because they share the experience of trying to maintain employment while depressed. Likewise, peers are often resourceful with valuable life experience, personal qualities and strengths that can be brought into play in group-based interventions. Peer interaction is the core group-specific therapeutic factor in relational group-CBT and includes *in vivo* practice of skills such as "the art of good conversation", exploratory activities, experiential exercises and groupings of different sizes. Only one recent group-based work-focused psychotherapeutic intervention makes purposeful use of peer processes like facilitated group discussion and role-play (Niedermoser *et al.*, 2020).

Encouraging people to help each other is supported by research into the comparative effectiveness of depression outcomes of peer-led interventions delivered by volunteers or paid lay people, which shows that they can be as effective as interventions delivered by paraprofessionals (Bellamy *et al.*, 2017; Fuhr *et al.*, 2014; Parmenter *et al.*, 2015; Vally and Abrahams, 2016) and qualified psychologists or psychotherapists (Bryan and Arkowitz, 2015). Peer support interventions can reduce depressive symptoms more than care-as-usual and is comparable to group CBT (Bryan and Arkowitz, 2015; Pfeiffer *et al.*, 2011). Indeed, our second iteration of the programme, the training (and staff support) programme (TSSP), further exploited the value of peers through simplification for delivery by peer facilitators at the worksite as an intervention for all employees rather than an indicated/targeted intervention for only those with symptoms/risk of depression (Walker and Dobbing, 2021). In this way, the worksite TSSP provides a democratic learning space and empowers employees to stay at work by self-managing their symptoms and by challenging the interpersonal dynamics and organisational structures that might precipitate and perpetuate depression (Walker and Dobbing, 2021).

Limitations

Firstly, the focus groups comprised a convenience sample, which means their views may not be typical or representative, and it is unlikely that anyone who had previously found group CBT to be unhelpful would volunteer to take part. Likewise, the emphasis was on what had been "helpful" rather than what had been "unhelpful" in their experience of psychotherapy, which may have biased the overall discussion. Furthermore, some participants' contributions may have been influenced by knowing the researchers as colleagues or therapists, with the possibility of a social desirability bias.

Secondly, former service-users were participants in the research and not involved as partners, which means the research was not coproduced. Nevertheless, engagement of former service-users in stakeholder consultation was not a "rubber stamping exercise" because they provided the much-needed "insider perspective" (McConnell *et al.*, 2018). In addition, these participants had extra protection due to ethical and research governance processes, which compensated for some of the concerns and weaknesses of the coproduction approach (Watson, 2020).

Conclusion

Here, we report the initial intervention design and programme theory underpinning a new relational group CBT treatment programme. By adopting an iterative hybrid approach of literature review, component analysis, focus group discussion and realist methods, we established not only the optimal design format for the new programme (triple foci of therapy, three inter-dependent outcomes, group format, with facilitation of peer interaction) but also the main theoretical underpinnings most likely to promote efficacy (accelerate and optimise activation of the one or more of the six hypothesised mechanisms in the context of group psychotherapy via the skilful facilitation of peer interaction). Our work provides a methodology

for practitioners developing new group-based psychotherapeutic interventions to follow during the early stages of design and development based on the layered ontology of critical realist philosophy.

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Table A1 Results of the literature review

KEY	Relevant psychotherapeutic interventions	Potentially relevant psychotherapeutic Interventions		
Study details: Author/date/setting	Country	Level of intervention	Format	Type of prevention
1. *Eriksen, H. R., Ihlebaek, C., Mikkelsen, a, Grønningsaeter, H., Sandal, G. M., and Ursin, H.,* 2002. Improving subjective health at the worksite: a randomized controlled trial of stress management training, physical exercise and an integrated health programme. *Occupational medicine (Oxford, England)*, 52 (7), 383–391	Norway	Universal stress management training	Group	Primary
2. *Limm, H., Gundel, H., Heinmuller, M., Marten-Mittag, B., Nater, U. M., Siegrist, J., and Angerer, P.,* 2011. Stress management interventions in the workplace improve stress reactivity: a randomised controlled trial. *Occupational and Environmental Medicine* [online], 68 (2), 126–133	Germany	Universal stress management training	Group	Primary
3. *Takao, S., Tsutsumi, A., Nishiuchi, K., Mineyama, S., and Kawakami, N.,* 2006. Effects of the job stress education for supervisors on psychological distress and job performance among their immediate subordinates: A supervisor-based randomized controlled trial. *Journal of Occupational Health*, 48 (6), 494–503	Japan	Universal job stress education plus counselling skills for line managers	1:1	Primary
4. *Tsutsumi, A., Nagami, M., Yoshikawa, T., Kogi, K., and Kawakami, N.,* 2009a. Participatory Intervention for Workplace Improvements on Mental Health and Job Performance Among Blue-Collar Workers: A Cluster Randomized Controlled Trial. *Journal of Occupational and Environmental Medicine* [online], 51 (5), 554–563	Japan	Universal participatory team-based problem-solving intervention	Group	Primary
5. *Vuori, J., Toppinen-Tanner, S., and Mutanen, P.,* 2012. Effects of resource-building group intervention on career management and mental health in work organizations: Randomized controlled field trial. *Journal of Applied Psychology*, 97 (2), 273–286	Finland	Universal resource-building group intervention	Group	Primary
6. *Duijts, S. F.,* 2007. *Prediction and early intervention in employees at risk for sickness absence due to psychosocial health complaints*. Doctoral Thesis Maastricht University	Netherlands	Targeted coaching	1:1	Secondary
7. *Lexis, M. A. S., Jansen, N. W. H., Huibers, M. J. H., Van Amelsvoort, L. G. P. M., Berkouwer, A., Ton, G. T. A., Van Den Brandt, P. A., and Kant, Ij.,* 2011. Prevention of long-term sickness absence and major depression in high-risk employees: A randomised controlled trial. *Occupational and Environmental Medicine*, 68 (6), 400–407	Netherlands	Targeted psychotherapy with cognitive behavioural therapy and problem-solving	1:1	Secondary
8. *Van Rhenen, W., Blonk, R. W. B., Schaufeli, W. B., and van Dijk, F. J. H.,* 2007. Can sickness absence be reduced by stress reduction programs: On the effectiveness of two approaches. *International Archives of Occupational and Environmental Health*, 80 (6), 505–515	Netherlands	Targeted Stress Inoculation Training (SIT)	Group	Secondary
9. *Willert, M.V., Thulstrup, A.M. and Bonde, J. P.,* 2011. Effects of a stress management intervention on absenteeism and return to work-results from a randomized wait-list controlled trial. *Scandinavian journal of work, environment & health*, 37(3), pp.186–195	Denmark	Targeted stress management training	Group	Secondary
10. *Bakker, I. M., Terluin, B., van Marwijk, H. W. J., van der Windt, D. A. W. M., Rijmen, F., van Mechelen, W., and Stalman, W. A. B.,* 2007. A Cluster-Randomised Trial Evaluating an Intervention for Patients with Stress-Related Mental Disorders and Sick Leave in Primary Care. *PLoS Clinical Trials [online], 2 (6), e26*	Netherlands	Indicated Minimal Intervention for Stress-related mental disorders with Sick leave (MISS) based on Problem-Solving Therapy	1:1	Tertiary
11. *Blonk, R. W. B., Brenninkmeijer, V., Lagerveld, S. E., and Houtman, I. L. D.,* 2006. Return to work: A comparison of two cognitive behavioural interventions in cases of	Netherlands	Indicated combined intervention (CI) CBT techniques plus workplace assessment and adjustments versus CBT alone	1:1	Tertiary

(*continued*)

Table A1

KEY	Relevant psychotherapeutic interventions	Potentially relevant psychotherapeutic Interventions			
	Study details: Author/date/setting	*Country*	*Level of intervention*	*Format*	*Type of prevention*
	work-related psychological complaints among the self-employed. *Work & Stress [online], 20 (2), 129–144*				
12.	*Bonde, J. P., Rasmussen, M. S., Hjøllund, H., Svendsen, S. W., Kolstad, H. A., Jensen, L. D., and Wieclaw, J.,* 2005. Occupational disorders and return to work: A randomized controlled study. *Journal of Rehabilitation Medicine*, 37 (4), 230–235	Denmark	Indicated low cost rehabilitation support based on "systemic thinking theory" SFBT with workplace liaison plus CAU	1:1	Tertiary
13.	*Brouwers, E. P. M., Tiemens, B. G., Terluin, B., and Verhaak, P. F. M.,* 2006. Effectiveness of an intervention to reduce sickness absence in patients with emotional distress or minor mental disorders: a randomized controlled effectiveness trial. *General hospital psychiatry [online], 28 (3), 223–9*	Netherlands	Indicated problem-solving plus graded activity	1:1	Tertiary
14.	*Burnand, Y., Andreoli, A., Kolatte, E., Venturini, A. and Rosset, N.,* 2002. Psychodynamic Psychotherapy and Clomipramine in the Treatment of Major Depression. *Psychiatric Services*, 53 (5), pp.585–590	Switzerland	Indicated combined psychodynamic psychotherapy plus Clomipramine	1:1	Tertiary
15.	*De Vente, W., Kamphuis, J. H., Emmelkamp, P. M. G., and Blonk, R. W. B.,* 2008. Individual and group cognitive-behavioral treatment for work-related stress complaints and sickness absence: A randomized controlled trial. *Journal of Occupational Health Psychology* [online], 13 (3), 214–231	Netherlands	Indicated stress management training low intensity (1:1 format) versus high intensity (group format)	Group or 1:1	Tertiary
16.	*Knekt, P., Lindfors, O., Laaksonen, M. A., Raitasalo, R., Haaramo, P., and Järvikoski, A.,* 2008. Effectiveness of short-term and long-term psychotherapy on work ability and functional capacity - A randomized clinical trial on depressive and anxiety disorders. *Journal of Affective Disorders*, 107 (1–3), 95–106	Finland	Indicated long-term psychodynamic psychotherapy versus medium-term psychodynamic psychotherapy versus short-term Solution Focused Brief Therapy (SFBT	1:1	Tertiary
17.	*Nystuen, P. and Hagen, K. B.,* 2006. Solution-focused intervention for sick listed employees with psychological problems or muscle skeletal pain: a randomised controlled trial [ISRCTN39140363]. *BMC Public Health* [online], 6 (1), 69	Norway	Indicated Solution Focused Brief Therapy	Group	Tertiary
18.	*Rebergen, D.S., Bruinvels, D.J., Bezemer, P.D., van der Beek, A.J. and Van Mechelen, W.,* 2009. Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomized controlled trial. *Journal of occupational and environmental medicine,* 51(3), pp.305–312	Netherlands	Indicated guideline-based care (GBC) i.e. stress inoculation training plus graded activity	1:1	Tertiary
19.	*Schoenbaum, M., Unützer, J., McCaffrey, D., Duan, N., Sherbourne, C. and Wells, K. B.,* 2002. The effects of primary care depression treatment on patients' clinical status and employment. *Health Services Research,* 37(5), pp.1145–1158	Switzerland	Indicated Quality Improvement clinic: QI Therapy (CBT)	Group or 1:1	Tertiary
20.	*Stenlund, T., Ahlgren, C., Lindahl, B., Burell, G., Steinholtz, K., Edlund, C., Nilsson, L., Knutsson, A., and Slunga Birgander, L.,* 2009. Cognitively oriented behavioral rehabilitation in combination with qigong for patients on long-term sick leave because of burnout: REST-A randomized clinical trial. *International Journal of Behavioral Medicine*, 16 (3), 294–303	Sweden	Indicated CBT-informed rehabilitation programme plus qigong	Group	Tertiary
21.	*Van Der Klink, J. J. L., Blonk, R. W. B., Schene, A. H., and Van Der Klink, J. L.,* 2003. Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. *Occupational and environmental medicine, [online], 60(6), pp.429–437*	Netherlands	Indicated stress inoculation training	1:1	Tertiary

(*continued*)

Table A1

KEY	*Relevant psychotherapeutic interventions*	*Potentially relevant psychotherapeutic Interventions*		
Study details: Author/date/setting	*Country*	*Level of intervention*	*Format*	*Type of prevention*
22. *Van Oostrom, S. H., Heymans, M. W., de Vet, H. C. W., van Tulder, M. W., van Mechelen, W., and Anema, J. R.,* 2010. Economic evaluation of a workplace intervention for sick-listed employees with distress. *Occupational and Environmental Medicine* [online], 67 (9), 603–610	Netherlands	Indicated guideline-based care plus participatory workplace problem-solving intervention delivered by return-to-work coordinator	1:1	Tertiary
23. *Vlasveld, M. C., Van Der Feltz-Cornelis, C. M., Adèr, H. J., Anema, J. R., Hoedeman, R., Van Mechelen, W., and Beekman, A. T. F.,* 2012. Collaborative care for major depressive disorder in an occupational healthcare setting. *British Journal of Psychiatry*, 200 (6), 510–511	Netherlands	Indicated collaborative care based on problem solving therapy (PST)	1:1	Tertiary
24. *Wang, P. S., Simon, G. E., Avorn, J., Azocar, F., Ludman, E. J., McCulloch, J., Petukhova, M. Z., and Kessler, R. C.,* 2007. Telephone screening, outreach, and care management for depressed workers and impact on clinical and work productivity outcomes: A randomized controlled trial. *Journal of the American Medical Association*, 298 (12), 1401–1411	USA	Indicated multi-disciplinary team intervention involved enhanced depression care (i.e. anti-depressant medication plus targeted psychotherapy) plus independent case management with phone outreach and phone CBT for patients who declined in-person psychotherapy	1:1	Tertiary

Methods A1

Focus group a discussion guide

1. What format would be best for the pilot group? For example:
    a) shorter term (12 sessions or less)
    b) longer-term (12 sessions or more)
    c) once-weekly or less
    d) twice-weekly or more
    e) 1½ – 3-hour sessions (over 6-12 weeks)
    f) ½ – full day sessions (over 4-6 weeks)
2. When would be the best time to run the pilot group? For example:
    a) during the day
    b) in the evening
    c) at weekend
3. Where would be the best place to run the pilot group? For example:
    a) out-patient clinic
    b) hospital site
    c) community mental health team
    d) church hall
    e) library
4. How could the sessions be structured? For example:
    a) pair work
    b) small group work (trauma-focussed or schema-focussed etc)
    c) skills practice (coping-strategies or problem-solving, etc.)
    d) experiential learning (in vivo self-awareness exercises)
    e) goal-setting
    f) presentation of psycho-educational material
    g) reflective journal
    h) mindfulness
    i) negotiating self-help out-of-session plans and reviewing progress
    j) role play
    k) ice breakers
5. What form of evaluation could be used? Examples will be available to examine:
    a) CORE
    b) ARM-5
    c) CSES
    d) HSE
    e) IIP 32
    f) GAF
    g) HAM-D
    h) Weekly free text
6. What format would be best for assessment/preparation for the pilot group? For example:
    a) one × 1:1 session to complete screening assessment
    b) more than one × 1:1 session to complete full holistic assessment

c) use of assessment forms, worksheets and diaries
d) telephone screening
e) group information-giving session
f) use of group assessment, preparation and motivational enhancement groups

7. In terms of ground rules and group guidelines, what issues are non-negotiable? For example:

a) confidentiality
b) no offensive or insulting language
c) no physical or verbal aggression
d) no misuse of alcohol or illegal drugs before or during a session
e) no outside contact with other members of the group during the course of therapy
f) development of a crisis/relapse prevention plan
g) willingness to undertake out-of-session assignments
h) development of behavioural change goals from personal problem-target list
i) reliable attendance
j) peer support (expectation that group members will actively help each other in the session by listening, asking questions, giving feedback and constructive criticism, etc.)

8. If there is a conflict between members of the group or between member/s and the therapists, how should this be resolved? For example:

a) through group discussion
b) through separate meetings between those involved
c) contact with professionals and/or peer support workers not directly involved
d) use of complaints policy and/or PALS

9. What role could a peer support worker fulfil? For example:

a) screening ("telling my story" re work, etc.)
b) information-giving
c) helping with crisis/relapse-prevention planning
d) conflict resolution
e) sign-posting to community/online resources
f) sharing his/her own story of recovery
g) practical tasks (preparing handouts, setting up room, providing refreshments, etc.)
h) liaison with carers if appropriate

10. What would be the pros and cons of low-key liaison (i.e. by post or 'phone) with the service- employer and/or occupational health staff?
11. What would be the pros and cons of involving a carer?
12. How might the self-help manual be employed in the group? For example:

a) group members read specific chapters in-between sessions
b) group members bring self-selected sections of the book to discuss in the group
c) group members only use sections of the book that are relevant to their needs
d) group facilitators use the book to present specific therapeutic concepts
e) group facilitators split the group into two sub-groups to discuss different sections of the book

13. What strategies could be used to reduce dropouts?
14. How might rates of follow up be improved?

Focus group B discussion guide

1. In what ways would the current pathway enable the identification of potential recruits or not?
2. At what point following referral could PTS staff identify service-users where workplace stress may be negatively affecting depression and/or depression may be negatively affecting workplace performance?
3. How might PTS staff work with referrers to persuade them to provide information about employment problems or work-related stress?
4. How might the researcher persuade PTS staff to refer service-users who match the research criteria on initial assessment for screening re the pilot study?
5. How might the researcher work with professionals to provide baseline data (i.e. GAF & HAM-D scores)?
6. What are the potential pros and cons of PTS staff conducting baseline and end-of-treatment assessments for the pilot group?
7. How might PTS staff work with service-users to elicit information about employment problems or work-related stress?
8. How might PTS staff prioritise clinical needs where employment problems or work-related stress is only part of the initial presentation?
9. What are the pros and cons of all PTS staff being expected to offer therapy to participants in the "treatment-as-usual" group?
10. What are the potential pros and cons of prioritising occupational health over other issues?
11. What are the potential pros and cons of liaison with the service-user's employer either verbally (face-to-face, by 'phone) or in writing?
12. What are the potential pros and cons of liaison with the service-user's carer either verbally (face-to-face, by 'phone) or in writing?
13. What are the potential pros and cons of signposting the service-user to different organisations such as Job Centre Plus (e.g. disability employment advisors, Access to Work), trade unions, professional bodies, advocacy services, welfare rights providers, employment law specialists, etc.?
14. What ethical dilemmas might arise for PTS staff when focussing on the service-user's employment problems or work-related stress?

Table A2 Worked example of realist synthesis data extraction form

Short reference: Lexis et al. *(2011)*
Theory area 2: Cognitive-behavioural mechanisms

Context	*Intervention*	*(Probable) Mechanism*	*Outcome*
Who? *(Client/patient/employee etc.)* Employees at risk of future sickness absence (banking company). Whom? *(High/low intensity practitioner etc.)* Delivered by clinical psychologists who had received 2 days of training plus 1-day booster session. Where? *(Setting/base, etc.)* At the worksite. When? *(Stage of illness/help-seeking, etc.)* Employees who were screened and at risk of sickness absence due to depression. Which circumstances? *(Socio-economic policy, etc.)* Concern about employees having undisclosed depressive symptoms which may lead to long-term sickness absence impacting negatively on productivity. Is this meaningful? These mechanisms may be crucial to job retention in employees with moderate-severe depression because depression is characterised by demotivation, procrastination, negatively biased cognitive processes, and other vicious cycles which perpetuate low mood. If activated, these mechanisms might produce positive clinical and work outcomes	What? *(Focus/format/duration/dose/volume/frequency/content etc.)* Secondary preventative individual-level intervention. Low volume/high intensity: an initial 7 × 45 min with the option of a further five sessions if necessary following review of progress delivered in a 1:1 format. How? *(Relationship with therapist and/or group members/between and within-session activities/provision of resources etc.)* Relationship with therapist, teaching problem-solving skills, using CBT principles, agreeing between-session assignments.	Why? *Which theory? (Explicit/implicit/test of theory/operationalisation/fidelity to model etc.)* The intervention aimed for more adaptive patterns of thinking and behaviour to change the employee's feelings (emotional/physiological). • Developing more helpful thinking patterns. • Developing more helpful behavioural patterns. • Developing more helpful coping skills • Being able to set my own goals. • Being able to reframe stressful events and problems as challenges to be overcome. • Feeling better with fewer symptoms of stress/depression.	Work status? *(What were the expected outcomes? What was achieved?)* Statistically significant shorter sickness absence duration compared to CAU over 12 months follow up. Clinical status? *(What were the expected outcomes? What was achieved?)* Statistically significant reduction in depressive symptoms compared to CAU over 12 months follow up

Table A3 The component checklist

Strategic components	
Models of practice	Cognitive behavioural therapy (CBT)
	Psychodynamic psychotherapy (PP)
	Problem-solving therapy (PST)
	Solution focused brief therapy/coaching (SFBT)
	Stress management or stress inoculation training (SMT/SIT)
	Staff support (SS)
Level of prevention	Tertiary preventative programmes
	Secondary preventative programmes
	Primary preventative programmes
Level of intervention	Individual or micro level
	Organisational or meso level
	Societal or macro level
	Interface level
Operational components	
Focus	Person-focused
	Work-focused
Base for intervention delivery	Clinic
	Worksite
	Social security offices
	Client's home
	Alternative community venues such as church halls, libraries, colleges or leisure centres
Intensity	High-intensity interventions are delivered by qualified and experienced psychologists or psychotherapists
	Low-intensity interventions are delivered by generic practitioners other than qualified and experienced psychologists or psychotherapists or non-clinical workers such as Human Resources personnel or peer support volunteers
Format	1:1 format
	Group format
	Blended
Duration	Short-term < 12 weeks
	Medium-term >12 weeks < 9 months
	Long-term> 9 months
Dose	Very low dose < 3 h
	Low dose >3 h < 8 h
	Medium dose > 8 h < 24 h
	High dose> 24 h < 32 h
	Very high dose > 32 h
Volume	Low volume interventions are when one practitioner provides the equivalent of one hour of treatment for one client.
	Medium volume interventions are when one practitioner provides the equivalent of one hour of treatment for between two to four clients.
	High volume interventions are when one practitioner provides the equivalent of one hour of treatment for between five to twelve clients.
	Very high-volume interventions are when one practitioner provides the equivalent of one hour of treatment for more than 12 clients.
Frequency	One-off session
	Daily
	2–3 times per week
	Once per week
	Every 2–3 weeks
	Monthly/bimonthly
Content components	
Psychoeducation	Fight-flight response, physiological symptoms
	Rationale for behavioural activation, exposure
	Info about how thoughts, feelings and behaviour interact
	Information about coping in general
	Info about stress, symptoms, causes of mental health problems
	Information about healthy lifestyle, self-care

(*continued*)

Table A3

Behavioural skills	Relaxation, mindfulness
	Behavioural activation, activity scheduling
	Graded exposure, de-sensitisation
	Crisis planning, relapse prevention
Emotions, affect regulation	Acceptance of distressing thoughts and feelings
	Expressing feelings appropriately
	Eliciting client's feelings in relation to self/others/therapist
Cognitive restructuring	Recognising faulty thinking, behavioural experiments
	Disputation
	Reappraisal, reattribution
	Positive reframing
	Highlighting solutions/imagining a future without the problem
Coping strategies	Active problem-solving (individual or team-based)
	Coping with internal stressors e.g. negative inner dialogue
	Coping with external stressors e.g. high workload
	Goal setting, decision-making
Focus on intra-personal	Insight, self-awareness
	Improving self-esteem
	Personal empowerment through assertiveness
Focus on inter-personal	Outsight, inter-personal awareness
	Coping with people
	Social diversion, social support, social connectedness
	Managing conflict
	Improving ways of communicating and interacting
Process components	
Style of teaching-learning	Didactic lectures/PowerPoint presentations
	Experiential exercises/active learning techniques
	Case studies
	Guided self-help
Facilitation of peer-to-peer dialogue	Group discussion, large group plenary, Q&A
	Working in pairs or triads
	Conversations in small groups
In vivo activities and skills practice	Behavioural rehearsal/role play/assertiveness
	Progressive muscular relaxation/mindfulness
	Video feedback/inter-personal process recall (IPR)
	Goal setting, problem-solving
	Physical exercise
Relationship with therapist	Directive therapeutic relationship (conscious material)
	Non-directive therapeutic relationship (unconscious material)
	Repairing ruptures, limited re-parenting, corrective emotional experience
	Advice-giving, offering support
	Motivational enhancement, "circular/miracle questions"
	Probing for exceptions, asking scaling questions
Relationship with group members/ significant others	Participatory teamwork
	Perspective-taking, "reality management"
	Sharing problems together, exchanging experiences
	Generating solutions and reviewing goals together
	Social support/helping others/validating others' emotions
	Inter-personal learning through peer feedback
	"Disconfirmation of the uniqueness of one's problems"
	Social contact before, during, after and between sessions
	Inviting spouse or partner to specific group sessions
Between-session activities	Homework assignments/challenges
	Keeping a journal/diary/self-monitoring/self-reflection
	Booster sessions following completion of programme
	Text reminders/email counselling/outreach by 'phone
Sharing emotional experiences	Listening to each other
	Working with transference, resistance, ambivalence, defences
	Confrontation, clarification and interpretation
	Expressing empathy towards each other

(*continued*)

Table A3

Provision of resources	Audio-recordings of relaxation/mindfulness training
	Written material, book chapter, handouts, participant workbook
Job retention strategies	
Provision of information	Information about occupational hazards
	Information about coping at work
	Information about organisational supports e.g. EAP counselling
Focus on the workplace	Stress surveillance/use of screening tools/job profiling
	Workplace assessment
	Environmental improvement action plans
	Regular monitoring of action plans
	Individualised supervision/appraisal, focus on stress/work
	Implementation of new solutions/coping strategies at work
Support for line managers/ supervisors	Advice on reducing psychosocial hazards in the workplace
	Info about how to deal with sources of occupational stress
	Training for managers in counselling skills
Liaison with other stakeholders	Facilitated dialogue with line manager, roundtables
	Provision of up-dates to and collaboration between stakeholders
Help getting back to work	Negotiation of workplace adjustments
	Agreed return-to-work/rehabilitation plan
	Conflict resolution/mediation
	Gradual exposure to work situation
	Phased work resumption/part-time hours
Supporting employment	Place-then-train approach
	Further on-the-job training/retraining
	Transfer to another job, redeployment
	Time- and task-management skills
	Endorsing work as a resource for wellbeing and self-esteem
Promoting employee's career management	Taking responsibility for one's own professional development
	Emphasising lifelong learning
	Being adaptable and flexible in a changing organisational context

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