Lauren Rowley BSc MSc

MOTIVATION-ENHANCING INTERVENTIONS FOR PEOPLE WITH EATING DISORDERS

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Firstly, thank you to all our participants. Your openness to this novel intervention will hopefully help others access much-needed support.

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Major Research Project Summaries

Section A: Mixed feelings towards recovery often inhibit eating disorder recovery. This has led to interventions aimed at increasing motivation towards change, however reviews consistently conclude their effectiveness to be limited. The current review took a novel approach in distilling motivation enhancing interventions into their individual practice elements and comparing the common elements across effective and ineffective interventions. The findings identified relative homogeneity across interventions, with motivational interviewing dominating as the main approach to enhancing motivation over the past 20 years. The results are discussed in the context of relevant theory and advocate for the development of novel, evidence-based motivation-enhancing interventions.

Section B: This study investigated the mechanisms of change within a novel chairwork intervention aimed at supporting people with anorexia nervosa to resolve ambivalence through embodying future-self versions. Ten participants' pre- and post-intervention measures of motivation towards change were used to establish two high, two low, and two medium-change cases. Through qualitative analysis, comparison of these six cases informed the development of a model illustrating the change process required to 'resolve' ambivalence. Deepening emotions beyond "bad" underlying feelings to access adaptive emotions seemed important, together with de-centring from and integrating self-parts to guide future change. Study limitations and implications are discussed.

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Section A

Systematic review of common practice elements across motivation enhancing interventions for eating disorders

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Abstract

Recovery from eating disorders is often inhibited by ambivalence (mixed feelings) towards changing behaviour. Overcoming ambivalence through improving motivation is an important target area in the early phases of an eating disorder, as prognoses worsen over time. Interventions which aim to enhance motivation are often delivered before or in the early stages of treatment. However, there has been limited conclusive evidence for their effectiveness, particularly when compared with more complex established therapies such as cognitive behavioural therapy. By employing the first phase (distillation) of the distillation and matching model (DMM), this review aimed to identify common elements across motivation-enhancing interventions (MEIs). A systematic search of databases Assia, Embase, Medline, PsychInfo, and Web of Science identified 14 eligible studies involving MEIs for eating disorders. Partial DMM application enabled the creation of a practice element (PE) taxonomy and comparisons of individual PEs' inclusion across effective and ineffective interventions. The results reveal homogeneity across motivational approaches, with minimal progress in the last two decades. These findings inform discussion around the lack of development in this area and propose evidence-based recommendations for much-needed development. This review concluded change process research will be important in establishing innovative motivation enhancing interventions supported by theory and evidence.

Keywords: Eating disorders, motivation, motivational interviewing, distillation and matching model, taxonomy

Glossary of Terms

Abbreviation	Full term
AMI	Adapted motivational interviewing (in this context adapted for eating disorders)
AN	Anorexia nervosa
BED	Binge eating disorder
BMI	Body mass index
BN	Bulimia nervosa
CBT	Cognitive behavioural therapy
CPR	Change process research
DMM	Distillation and matching model (Chorpita et al., 2005)
DSM (IV/V)	Diagnostic and Statistical Manual of Mental Disorders (versions IV and/or V; APA, 1994; APA, 2013)
ED(s)	Eating disorder(s)
EFT	Emotion focused therapy (Greenberg, 2010)
JBI suite	Joanna Briggs Institute suite: of assessment tools used to appraise study quality (Joanna Briggs Institute, 2020)
MANTRA	Maudsley model of anorexia nervosa treatment for adults (Schmidt et al., 2014)
MEI	Motivation-enhancing intervention: umbrella term for various motivation-focused therapies
MET	Motivation enhancement therapy (Miller & Rollnick, 2013)
MFT	Motivation focused treatment (Allen et al., 2011)
MI	Motivational interviewing (Miller & Rollnick, 2013)
PE(s)	Practice element(s): umbrella term for various strategies, techniques and processes within a given intervention
PICOS	Participants, intervention, comparison, outcome, setting, study design (framework for determining review eligibility criteria (Moher et al., 2009)

Abbreviation	Full term
PRISMA	Preferred reporting items for systematic reviews and meta-analyses (Moher et al., 2009)
RCT	Randomised clinical/controlled trial
RMT	Readiness and motivation therapy (Geller et al., 2011)
RoB	Risk of bias
TAU	Treatment as usual
TTM	Trans-theoretical model of change (Prochaska et al., 1992)

Introduction

Eating disorders: Ambivalence and motivation to change

Improving treatments for people with eating disorders (EDs) remains a priority given their high mortality risk (Smink et al., 2012) and impact on relationships, health, fertility, and education (Maxwell et al., 2011). As illness duration can strengthen neural networks (McClelland et al., 2018; Steinglass & Walsh, 2016), removing barriers which impede recovery from EDs is vital.

Ambivalence (mixed feelings) towards change is a major barrier to recovery from EDs (Treasure & Schmidt, 2001). Vitousek and colleagues (1998) identify the egosyntonic nature of EDs as important in understanding ambivalence, wherein characteristics of AN align with a person's ideal values (e.g., thinness and retaining control). Other relevant factors include the impact of starvation on reasoning (Vitousek et al., 1998), the suppression of unwanted emotions (Oldershaw et al., 2019), and hopelessness associated with depression in EDs (Vitousek et al., 1998).

Theories about enhancing motivation have been applied to the problem of ambivalence in EDs. The trans-theoretical model of change (TTM; Prochaska et al., 1992) proposes five stages of change-readiness: pre-contemplation, contemplation, preparation, action, and maintenance. The TTM has been applied to other difficult change processes, such as smoking cessation (Prochaska & DiClemente, 1992) and alcohol reduction (Demmel et al., 2004). Evidence suggests stage of change could also impact ED treatment outcome (Dray & Wade, 2012) and as the 'matching hypothesis' suggests people are most ready to engage with therapy when in contemplation or action stages (Gregertsen et al., 2017; Prochaska & DiClemente, 1982), several interventions have been developed to support movement into these later stages before commencing ED therapy (Geller, 2002).

Motivational interviewing (MI) approaches align with TTM principles (Miller & Rollnick, 2013). MI focuses on unwavering interventionist empathy and facilitating client 'change talk' versus 'sustain talk' in exploring ambivalence (Miller & Rose, 2009). By leading with client ideas about change, MI also aims to promote autonomous rather than controlled motivation, which according to self-determination theory, is necessary for achieving change (Ryan & Deci, 2000). MI was later developed into motivation enhancement therapy (MET) which also includes specific, structured assessment feedback (Miller & Rollnick, 2013). Like the TTM, MI approaches have been utilised within addiction and EDs to enhance motivation by allowing clients' values and goals to motivate change (Treasure & Ward, 1997).

What is the evidence for motivation enhancing interventions?

Motivation-enhancing interventions (MEIs) for EDs, based largely on the TTM and MI, have been researched extensively, with several reviews exploring their effectiveness. Macdonald et al. (2012) reviewed 13 studies utilising MI and MET for patients and carers, either as standalone interventions or combined with cognitive behavioural therapy (CBT). They concluded MI has potential within EDs, particularly in increasing readiness for change, but it may be most helpful as a precursor to further ED treatment.

Two further reviews (Bonder & Mantler, 2015; Knowles et al., 2013) found similar results through assessing literature across various MI-based subtypes, including adapted MI for EDs (AMI; Cassin et al., 2008), readiness and motivation therapy (RMT; Geller et al., 2011) and motivation focused treatment (MFT; Allen et al., 2011). These identified a continuum of similar interventions, ranging from one-off sessions to MI principles embedded within more extensive therapy designs. Both reviews found minimal evidence to suggest MEIs are more effective than other psychotherapies, with support for anorexia nervosa (AN) and bulimia nervosa (BN) particularly lacking compared with binge eating disorder (BED).

Interestingly, Bonder and Mantler (2015) performed a sub-analysis to investigate differences between MEI subtypes, however, the findings were inconsistent, and no conclusions were drawn regarding their relative efficacy.

More recent reviews have compared standalone MEIs with other therapies, such as CBT, inpatient programmes, psychoeducation, and the Maudsley model of anorexia nervosa treatment for adults (MANTRA; Schmidt et al., 2014). Denison-Day and colleagues (2018) compared MEIs with active or treatment as usual (TAU) control groups by examining pre-post changes in motivation outcomes. They found brief, single session MEIs improved motivation significantly more than non-motivational controls. However, these results have not been replicated in trials comparing MEIs with more complex therapies such as CBT or MANTRA given, for instance, MANTRA's first phase specifically focuses on increasing motivation (Schmidt et al., 2014). Fetahi and colleagues (2022) performed the first meta-analysis in this area. Due to gaps in reporting, they were able to calculate effect sizes for motivation-related outcomes in only three of the 13 included studies, two of which compared a single session of MI or AMI alongside a self-help manual with a self-help manual alone (Cassin et al., 2008; Vella-Zarb et al., 2015), with the third study comparing up to four sessions of MI alongside TAU with TAU alone (Wade et al., 2009). The meta-analysis established a near-zero overall pooled effect, suggesting the MEIs produced minimal additional value. Effects were consistent across other measured outcomes including various eating-related difficulties and body mass index (BMI), affirming findings from previous reviews: that there is a lack of definitive evidence regarding the effectiveness of currently available MEIs for EDs, particularly when compared with existing interventions.

The lack of clear conclusions casts doubt on why the same questions continue to be asked of this literature base. Fetahi and colleagues (2022) cited methodological issues as a major barrier; they recommended future research increases homogeneity across interventions

and designs, and measure outcomes using validated instruments over longer periods. However, there is little suggestion of how these recommendations might be implemented within overstretched clinical services wherein exact processes and protocols are challenging to adhere to (Shean, 2014). Thus, a feasibility gap remains between the research base and clinical reality (Kazdin et al., 2017).

It may therefore be time to ask different questions of the literature base and consider which, if any, elements of MEIs are helpful for EDs: considering processes through which they might promote change, rather than seeking to establish global classifications of their effectiveness.

Change process research

Change process research (CPR) is concerned with the processes by which psychotherapeutic interventions produce change: assessing 'how' rather than 'how much' change occurs (Elliott, 2010). Elliott asserts CPR is a necessary adjunct to randomised clinical trials (RCTs) and defines four approaches: predicting outcomes according to adjustable in-therapy process variables (process-outcome); qualitatively describing helpful factors according to interviews with clients (helpful factors); analysing the micro-level sequences of client and therapist responses (microanalytic sequential process); and combining the previous three strategies to identify 'significant events'.

CPR could be useful in advancing MEIs for EDs, by considering which in-therapy variables predict outcome, or what service users consider to be helpful factors within MEIs. The helpful factors design has been the most frequently utilised approach within CPR literature. For instance, Venturo-Conerly et al. (2020) interviewed 13 participants about what they considered helpful in promoting motivation during recovery, identifying several potential targets for treatment including building hope, removing triggers, and involvement in meaningful causes. Although useful, their investigation did not focus on the mechanisms of

change within a particular intervention. Without such research, the various mechanisms of psychological change across different ED treatments remain unclear (Wollburg et al., 2013), making it challenging to compare seemingly effective therapies or to know how to improve their efficacy. Although there are ethical considerations around experimentally manipulating in-therapy variables (e.g., empathy) and feasibility issues given the time-consuming nature of these approaches (Elliott, 2010), better utilising CPR could enable necessary progress in this area.

Introduction to the distillation and matching model

The distillation and matching model (DMM; Chorpita et al., 2005) provides a methodology for reviewing multiple interventions and aligns with CPR principles by focusing on understanding how effective interventions may function. The DMM first involves distilling (breaking down) groups of similar interventions into their composite parts by identifying and coding the specific strategies, techniques, and processes (practice elements) included in their protocols. Establishing and comparing the frequency with which individual practice elements (PEs) appear across groups of similar interventions identifies the common PEs which appear important. Targeted utilisation of PEs could improve interventions' efficiency, effectiveness, and implementation within a particular field (Chorpita et al., 2011).

The DMM has proved useful in establishing common PEs which can be applied flexibly across interventions for young people, for instance in treatment engagement (Lindsey et al., 2014), trauma interventions (du mello Kenyon & Schirmer, 2020), and out of school-time academic interventions (Engell et al., 2020). Identifying common PEs alone should not directly influence hypotheses about their relative effectiveness. However, some studies have compared common PEs across effective and ineffective interventions to also drive hypotheses

about which elements might be particularly useful (du mello Kenyon & Schirmer, 2020; Engell et al., 2020).

Despite the heterogeneity between study designs and analyses across MEIs for EDs (Denison-Day et al., 2018), the MEIs themselves likely share many of the same characteristics, given many involve adapted forms of MI (Bonder & Mantler, 2015). However, it is unclear exactly what their common elements are, which are considered important for effectiveness, or how much overlap exists across interventions. Indeed, MacDonald and colleagues (2012) presented a taxonomy of behaviour change techniques across MEIs and suggested it may be more useful to establish the common elements amongst effective MEIs than to compare various therapy 'brands' within which we cannot be sure if individual elements have been appropriately delivered. The DMM's framework for distilling a group of similar interventions into their individual elements may provide a useful approach in determining possibilities for development and refinement of MEIs for EDs (Chorpita et al., 2005). Establishing which are the helpful PEs across MEIs for EDs could also address whether there are particular benefits to standalone MEIs outside of wider therapy programmes (e.g., CBT, MANTRA) as has been questioned, but not conclusively answered, by previous reviews (Denison-Day et al., 2018, Fetahi et al., 2022).

Rationale and aims

Questions continue to be asked about the effectiveness of MEIs for EDs, however, previous methodological approaches have prevented clear conclusions and progression in this area. Therefore, exploring how various MEIs promote change may provide new insights into what is necessary for inclusion and what could be omitted, improving intervention feasibility and effectiveness in clinical practice. The DMM offers a novel methodology for identifying the common PEs across MEIs for EDs, and the relative importance of individual elements. Specifically, this review aims to:

1. Explore the degree of commonality amongst PEs across different MEI subtypes for EDs.
2. Identify common PEs across effective and ineffective interventions to inform the development and refinement of MEIs for EDs.

Methods

Eligibility criteria

The PICOS framework (participants, intervention, comparison, outcome, study design; Moher et al., 2009) was used to determine eligibility criteria, guided by the aims of this review and previous reviews on the topic (Denison-Day et al, 2018; Fetahi et al, 2022; Knowles et al, 2013). Study participants needed to be patients (not carers) with a diagnosable ED according to the Diagnostic and Statistical Manual of Mental Disorders ([DSM]-IV or DSM-5) (American Psychiatric Association [APA], 1994; APA, 2013) or receiving treatment via specialist ED services. Interventions were considered eligible if they were intended for ED patients (not carers or families) and when increasing motivation towards change was their primary aim. This excluded interventions such as CBT or MANTRA which have motivational elements (Fairburn, 2008; Schmidt et al., 2014), but for which increasing motivation is not their primary aim. MEIs could be standalone or embedded within a wider treatment programme, for instance a brief MEI before CBT, providing the MEI was distinguishable from other therapies within the design. To include as many interventions as possible, studies could be included with or without control groups of various forms. Eligible outcomes related to any measure of motivation or readiness towards change (terms used interchangeably), assessed and reported pre- and post-MEI to establish change promoted by the MEI. Consistent with previous reviews, no study designs were excluded due to the heterogeneity of designs in this area (Denison-Day et al., 2018). Additional eligibility criteria

included published, empirical studies, to safeguard quality, and English language availability due to feasibility.

Search strategy

A systematic search was conducted on 6th August 2022 of the following databases: Assia Applied Social Sciences Index and Abstracts, Embase, Medline, PsychInfo, and Web of Science. Search terms were identified from previous reviews in this area and ED literature terminology. The following terms were used to search titles and abstracts:

(Eating Disorder* OR Anorexi* OR Bulimi* OR anorexia nervosa OR bulimia nervosa OR eating disorder not otherwise specified OR EDNOS OR binge eating OR BED OR other* specified feeding or eating disorder OR OSFED)

AND

(Motivation* intervention OR motivation* OR motivational assessment OR motivational interviewing OR MI OR motivation enhancing OR motivational counsel* OR behavio* change counsel* OR motivational therapy OR motivation enhancement therapy OR Readiness to change OR intention to change OR motivation* change).

The reference lists of available reviews in this area, literature into motivation in eating disorders (e.g., Waller, 2012), and included studies were hand searched for potentially eligible research.

Duplicates were removed manually via Legacy RefWorks, following which titles and abstracts were reviewed according to the inclusion criteria before full texts of remaining studies were screened. As recognised by the preferred reporting items for systematic reviews and meta-analyses (PRISMA) statement (Moher et al., 2009), the eligibility screening process was iterative; for instance, the decision to include all study designs was decided after running the search, based on the breadth and quality of the papers retrieved. Where eligibility was

unclear, study authors were contacted with relevant queries. If no further information was retrieved, studies were excluded for the reason under question.

Quality appraisal

Study quality was appraised using the Joanna Briggs Institute (JBI) assessment tools (Joanna Briggs Institute [JBI], 2020). Although the Cochrane Risk of Bias (RoB) tool (Higgins et al, 2011) is considered the gold standard for assessing bias in RCTs (Farrah et al., 2019), there is no agreement regarding the most appropriate RoB tool for non-randomised studies; instead, it is recommended to select tools according to the included study designs (Quigley et al., 2019). Due to heterogeneity across this topic area (Denison-Day et al., 2018), the JBI suite was considered appropriate in offering a consistent approach to quality appraisal across multiple designs. Moreover, JBI tools produce quality scores which support comparison across studies.

Quality was appraised both at the levels of the individual study and the outcome of interest, as RoB across outcomes within the same study can differ according to relative methods of outcome-assessment (Moher et al., 2009). This potential issue is particularly pertinent to this review as sometimes MEIs are offered within the first phase of a wider RCT (e.g., Allen et al., 2011, Treasure et al., 1999); therefore, exclusively appraising quality at the overall study-level may not account for issues of validity during the MEI phase, such as a lack of control group.

Using JBI checklists, items were scored 1 point for ‘yes/met’, 0.5 for ‘partially met’, and 0 for ‘unclear’ or ‘no’, with higher scores indicating higher quality. Items irrelevant to a particular study were not included in the total available score for that study. For instance, if two of the nine checklist items were irrelevant, the total maximum score would be seven. To compare quality across all studies, scores were categorised into ‘very low’, ‘low’, ‘medium’ or ‘high’ quality according to a quartile calculation. For instance, five out of seven would be

calculated as 71.4%, thus scoring in the third quartile (51-75%) and classified as medium quality.

Data analysis

Data extraction

The data relevant to this review were extracted from included papers. As existing reviews have recently reported on the overall effectiveness of MEIs (Denison-Day et al., 2018, Fetahi et al., 2022), data extraction focused on information relevant to the aims of this review, specifically: identifying study information; participant characteristics; types of EDs included in the study; setting; study design; MEI intervention; control condition; assessment time points for motivation outcome(s); measure(s) of motivation/readiness; and motivation/readiness outcomes.

Classifying effectiveness

Several factors were considered in classifying the effectiveness of individual studies, as necessary for the aims of this review. The outcomes used were those assessed closest in time to the MEI ending, as later follow-up timepoints (e.g., 3 or 6 months post intervention) relate more to assessing effectiveness over time, for which it would be difficult to distinguish between the MEI's effects and those of subsequent interventions within a study's design such as CBT (Allen et al., 2011).

Previous reviews which have used the DMM to compare PEs across effective and ineffective interventions have performed meta-analyses: calculating effect sizes to inform classifications of effectiveness (e.g., du Mello Kenyon & Schirmer, 2020). However, meta-analytic approaches within the MEI for ED literature have proved challenging due to heterogeneity across study designs and analyses (Denison-Day et al., 2018). Indeed, there has only been one meta-analysis of this type (Fetahi et al., 2022) wherein only three of the review's 13 studies were eligible for inclusion in the meta-analysis. Meta-analysis was

therefore deemed inappropriate for the current review, as it would have excluded a substantial amount of potentially valuable intervention data.

Engell et al. (2020) used a different approach to classify effectiveness using the DMM. They labelled studies as effective if at least one effect measure on a primary or secondary outcome was statistically significant at the $p<.05$ level in the direction suggesting improvement. Studies which did not meet these criteria were classified as ineffective or harmful. This approach was considered more appropriate for the current review, with some adaptations to support the different types of analyses typically performed and reported in the MEI for ED literature. Studies within this field typically provide analyses of differences between groups (main effect of group), analyses of differences within each group over time (main effect of time), and analyses of interactions between groups over time (interaction effect of group X time). The analyses performed depend on the study's design and analysis plan. For instance, trials without control groups tend to report effects over time whereas trials with control groups tend to report main effects of group and group-time interaction effects. However, this is not always the case, with some studies omitting interaction effects despite comparing two groups over time, presumably as there were no significant interactions (e.g., Cardi et al., 2019). Such omission impacts conclusions drawn about effectiveness; for instance, a MEI could be considered successful if it improves motivation over time, even if the control group also does. However, it might be considered more successful if it improves motivation over time and out-performs the control. Therefore, to recognise the relative weight of studies with control groups which reported group-time interaction effects, this review identified three types of classification: effectiveness not sufficiently established; effectiveness partially established; and effectiveness established, according to the criteria presented in Table 1.

Table 1

Classification of effectiveness for motivation to change outcome(s) according to study design

	In outcomes with a control group	**In outcomes without a control group**
No statistically significant main effect of time or interaction (group X time) effect	Effectiveness not established	Effectiveness not established
Statistically significant difference between groups (main effect of group) in direction suggesting increase in motivation **OR** **Statistically significant pre to post change (main effect of time) in direction suggesting increase in motivation** **(*no interaction effect*)**	Effectiveness partially established	Effectiveness partially established
Statistically significant interaction effect of group X time in direction suggesting increase in motivation	Effectiveness established	Not applicable (not possible to calculate)

Statistical significance indicated by $p<.05$

Studies in this area often use multiple measures to assess motivation towards change. Even within individual measures (e.g., RMI, ANSOCQ, URICA), outcomes are often separated into subscale scores according to the TTM's stages of change (Prochaska et al., 1992) rather than provided as overall composite scores. Likert scales are also used sometimes as an adjunct or substitute for these measures (e.g., Feld et al., 2001, Cassin et al., 2013). Cochrane provides basic guidelines for outcome selection, recognising this requires predefined thought (McKenzie et al., 2022). However, there is limited guidance around defining overall outcomes when individual outcome measures consist of multiple elements; it is suggested authors should predefine what is considered "acceptable" and provide a rationale. Therefore, this review sought to take a more conservative approach to that of Engell et al (2020), who considered any statistically significant primary or secondary outcome as effective, and pre-defined that effectiveness would be determined by significant change (according to Table 1) occurring in more than 50% of the composite parts of the motivation to change outcome(s) as this indicated an overall outcome's composite parts were significantly impacted more often than they were not.

Coding

Coding followed the initial stage of the DMM process proposed by Chorpita and colleagues (2005), specifically the 'distillation' phase which breaks interventions down into their individual PEs. The DMM's later, 'matching' phase, where various intervention and participant factors are introduced into the analysis to determine what might work best for whom, was beyond the scope of this review. Coding decisions were made *a priori*, as recommended (Chorpita et al, 2005). Coding sought to identify all PEs present within interventions, rather than only pre-defined/coded elements, to capture potentially novel PEs which occur less frequently. Due to feasibility, PEs were coded based on clinical content,

meaning factors such as sequencing and duration were not separately acknowledged and were aggregated within the codes, which is considered acceptable (Chorpita et al., 2005).

Coding initially requires the creation of a taxonomy of anticipated PEs and their definitions. Abraham and Michie (2008) created a non-ED specific taxonomy of behaviour change techniques with corresponding definitions. Macdonald and colleagues (2012) expanded this for MEIs in ED but did not define the additional elements. Therefore, this review combined these two taxonomies as a baseline and added definitions for the additional techniques identified by MacDonald and colleagues (2012). The *a priori* coding framework consisted of 41 items ranging from providing information about EDs' consequences to using mindfulness techniques to address mood intolerance (see Appendix A).

The *a priori* coding framework provided the foundations for coding; however, the process was iterative, such that when elements could not be categorised within the existing coding framework, new codes were created (e.g., letter writing exercises) and defined, some of which were new, and some of which subsumed or expanded existing codes, which were removed and replaced by the superordinate new codes.

As much detail as possible was sought about the included MEIs' protocols, for instance through contacting researchers and searching online for more detailed publications (e.g., dissertation versions with protocols in appendices). The most detailed available protocols were screened and coded according to the coding framework. To consider any impact of variation in levels of protocol-description between studies, two papers (Cassin et al., (2008; Wade et al., 2009) were coded first according to the MEI protocol in the published article, then re-coded with a more detailed available protocol. There were no additional PEs identified through the second coding process for either paper, therefore coding was considered acceptable even when only a summarised protocol was available.

To establish the frequency with which each PE appeared across MEIs, to address this study's aims and research questions, four possible frequency counts (FCs) were assigned to each PE according to:

1. How many times it appeared across all studies
2. How many times it appeared across effective studies
3. How many times it appeared across partially effective studies
4. How many times it appeared across ineffective studies

These FCs were used to compare PEs' inclusion across interventions of varying effectiveness and to inform frequency graphs.

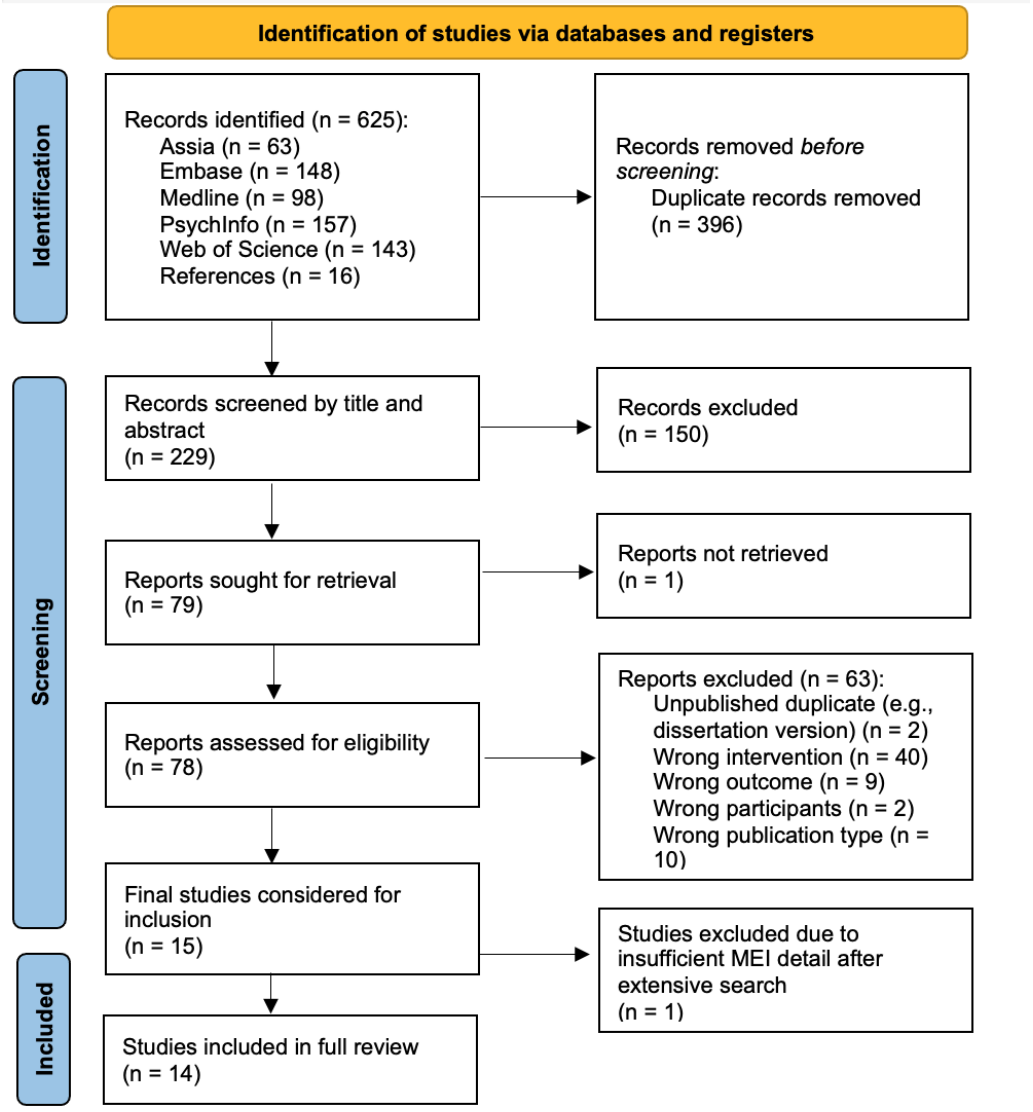
Results

Search results

The PRISMA flow diagram in Figure 1 illustrates the systematic search process. Six hundred and twenty-five records were identified through database searching and screening reference lists of relevant reviews and papers. After duplicate removal, 229 records were screened by title and abstract, with 150 excluded mostly due to not relating to motivation towards change. Full texts (78) were assessed for eligibility following one being un-retrievable and 63 records were excluded at this stage, most frequently because the intervention was not specifically intended to enhance motivation towards change; for instance, a CBT intervention without a specific motivation-enhancing element (Algars et al., 2015). Fifteen final papers were initially identified. However, a further iteration was made to the eligibility criteria to enable the coding of PEs: that MEIs needed to be adequately detailed in the study, appendices, or an available manual. This resulted in the exclusion of one study (George et al., 2004) as, despite extensive searching (including contacting authors), no detailed information regarding the schema-focused MEI was available. Therefore, 14 papers met full eligibility criteria for inclusion in this review.

Figure 1

PRISMA flow diagram



Summary of study characteristics

Table 2 provides an overview of included studies and their characteristics. Comprehensive descriptions of MEI characteristics have been reported in recent reviews (e.g., Fetahi et al, 2022) therefore only brief characteristics are reported here to contextualise the results.

Study publication dates ranged from 1999 to 2021, and included a mixture of different ED subtypes, including AN, BN, BED, and EDNOS. Most participants were adults, apart

from the adolescent sample in Gowers and Smyth (2004). Studies predominantly took place across inpatient and outpatient treatment programmes, although three studies involved community samples (Cassin et al., 2008, Dunn et al., 2006, Vella-Zarb et al., 2015).

All studies involved some form of MEI. The most common intervention type was MI (sometimes referred to as 'adapted' MI [AMI] for ED), which took the forms of a one-off MI assessment interview (Cassin et al., 2008, Gowers & Smyth, 2004; Vella-Zarb et al., 2015); a one-off MI interview followed by four weeks of follow-up text messages (Shingleton et al., 2016); or four sessions of MI (Wade et al., 2009, Weiss et al., 2013). Four studies used MET, two of which were delivered in a group format over four sessions (Dean et al., 2008, Feld et al., 2001); one as individual therapy over four sessions (Treasure et al., 1999); and one as a single session (Dunn et al., 2006). Allen and colleagues (2011) referred to their MEI as motivation focused therapy (MFT), delivered as four individual sessions, however on further investigation the protocol was synonymous with MET. Three studies utilised more novel MEIs: readiness and motivation therapy (a five-week individual therapy; Geller et al., 2011); MANNA (a 10-week motivation-focused individual psychotherapy; Ziser et al., 2021) and RecoveryMANTRA (a six-week guided self-help intervention adapted from MANTRA; Cardi et al., 2019). Most MEIs were delivered face to face, however, two of the studies used technology via an online platform (Cardi et al., 2019) and text messaging (Shingleton et al., 2016).

Nine of the studies were RCTs, and the remaining five quasi-experimental designs, typically due to feasibility of recruitment and ethical constraints. Three studies did not include control groups (Allen et al., 2011, Feld et al., 2001, and Gowers & Smyth, 2004). Control groups consisted of treatment as usual (TAU), alternative therapies (e.g., CBT or self-help handbooks), and waiting lists (see Table 2).

Table 2

Study characteristics

Authors (year of publication), Country	Participant Characteristics: Total number/completed (Females/Males) Mean age	Eating Disorder(s) Subtypes	Setting	Study Design	MEI Intervention	Control Condition
1. Allen et al. (2011), Australia	95/43 (Gender NR) 26.5 years	AN, BN, EDNOS	Adult outpatient service in Western Australia	Sequential trial	4 x weekly individual face-to-face sessions of MFT followed by course of CBT-E program	Study control was CBT without preceding MFT. No control group used for MFT phase
2. Cardi et al. (2019), United Kingdom (UK)	187/NR (181 females/6 males) 27.8 years old	AN, Atypical AN	22 adult outpatient ED services across the UK.	RCT	A 6 week, online, individual guided self-help intervention (RecoveryMANTRA) augmenting TAU	TAU (outpatient care involving psychoeducation, symptom monitoring, and psychotherapy)
3. Cassin et al. (2008), Canada	108/94 (108 female) 42.5 years old	BED	Community sample - session took place in university-based research laboratory	RCT	1 x individual face-to-face AMI session augmenting a self-help handbook without any MI strategies	Self-help handbook with no MI strategies

4. Dean et al. (2008), Australia	42/35 (42 female) 22.6 years old	AN, BN, EDNOS	Specialist inpatient ED service	Sequential trial	4 x weekly group face-to-face MET sessions augmenting TAU	TAU (routine hospital care)
5. Dunn et al. (2006), United States of America (US)	90/59 (79 female/11 male) 19 years old	BN, BED, EDNOS	Community sample	RCT	1 x individual face-to-face MET session augmenting a self-help manual	Self-help manual
6. Feld et al. (2001), Canada	38/19 (Gender NR) 26.5 years old	AN, BN, EDNOS	The Toronto Hospital Program for EDs	Pilot study (no control group)	4 x weekly group face-to-face MET sessions	No control group
7. Geller et al. (2011), Canada	175/113 (Gender NR) "Completers": 28.4	AN, BN, EDNOS	Tertiary care Canadian ED Program	RCT	5 x individual face-to-face weekly RMT sessions + TAU (access to general service treatments)	Wait-list control + TAU (access to general service treatments)
8. Gowers & Smyth (2004), UK	42/33 (however 41 completed motivation outcome) (41 female/1 male) 16.1 years old	AN, Atypical AN	Outpatient ED service for adolescents in Northwest England	Pilot study (no control group)	1 x individual face-to-face motivational assessment interview	No control group

9. Shingleton et al. (2016), US	12/12 (10 female/2 male) 21.5 years old	AN, Atypical AN, BN with high dietary restriction	US outpatient ED program	Replicated single-case alternating treatment design	1 x individual face-to-face motivational interview and 4 (semi-randomised) weeks of subsequent motivational text messages (sent before mealtimes) as an adjunct to CBT (TAU)	1 face-to-face motivational interview and 4 (semi-randomised) weeks of no motivational text messages as an adjunct to CBT (TAU)
10. Treasure et al. (1999), UK	125/87 (All female) 28.7 years old	BN	UK based ED unit (inpatient and outpatient)	RCT	4 x weekly individual face-to-face MET sessions	4 x weekly CBT sessions
11. Vella-Zarb et al. (2015), Canada	45/35 (43 female/2 male) 24.9 years old	BED, BN (non-purging subtype)	Community and university sample	RCT	1 x individual face-to-face motivational interview followed by self-help manual	1 face-to-face session of psychoeducation followed by self-help manual
12. Wade et al. (2009), Australia	47/39 (45 female/2 male) 21.9 years old	AN	Inpatients in a specialist weight disorder service in Adelaide, Australia	RCT	4 x weekly individual face-to-face sessions of MI (over 2 weeks) as an adjunct to TAU	TAU (multi-disciplinary inpatient treatment)

13. Weiss et al. (2013), Canada	39/32 (of 32 'completers': 30 female/2 male) 28 years old	AN, BN, EDNOS	Recruited from waiting lists for inpatient and day hospital in ED units in Toronto, Canada	RCT	4 x face-to-face individual sessions of MI before entrance to treatment program	TAU (wait-list for treatment program)
14. Ziser et al. (2021), Germany	22 (All female) 31.7 years old	AN	2 university hospital study sites in Germany for specialised inpatient treatment	RCT	10-week, face-to-face individual psychotherapy programme (MANNA)	TAU

AMI = Adapted Motivational Interviewing; AN = Anorexia Nervosa; BED = Binge Eating Disorder; BN = Bulimia Nervosa; CBT = Cognitive Behavioural Therapy; CBT-E = Enhanced Cognitive Behavioural Therapy; ED = Eating Disorder; EDNOS = Eating Disorder Not Otherwise Specified; MANTRA = Maudsley Model of Anorexia Nervosa Treatment for Adults; MEI = Motivation Enhancing Intervention; MET = Motivation Enhancement Therapy; MFT = Motivation Focused Therapy; MI = Motivational Interviewing; NR = Not Reported in Study; RCT = Randomised controlled trial; RMT = Readiness and Motivation Therapy; TAU = Treatment as Usual

Effectiveness classification results

Table 3 details the relevant motivation outcome(s) and overall effectiveness classifications for each of the included studies. Of the 14 included studies, only one (Vella-Zarb et al., 2015) was considered effective according to this review's criteria. This study compared a single MI session with a single psychoeducation session within a community sample of people meeting diagnostic criteria for BED or BN and found readiness towards change increased significantly more pre-post MI than psychoeducation.

Effectiveness was partially established in four further studies (Dunn et al., 2006, Feld et al., 2001, Geller et al., 2011, Gowers & Smyth, 2004). Dunn and colleagues (2006) compared a single session of MET augmenting a self-help manual to a self-help manual alone in a community sample of people with BED, BN and EDNOS. They found the MET session increased motivation towards changing bingeing and compensatory behaviours; however, pre-post MET session differences did not occur significantly more than for self-help alone. This suggests the MET session was effective, but not more so than self-help, hence the classification of partial effectiveness. Feld and colleagues (2001) and Gowers and Smyth (2004) assessed the impact of four sessions of group MET for people with AN, BN and EDNOS, and one MI session for AN respectively. Both studies found significant pre-post intervention increases in motivation towards change. However, neither included a control group, therefore it is impossible to determine whether these MEIs were more successful than other existing interventions. Geller and colleagues (2011) assessed the impact of a novel, five-session 'readiness and motivation therapy' (RMT), built on MI principles and incorporating research-based hypotheses around enhancing change according to levels of precontemplation, contemplation and action. They compared RMT for inpatients with AN, BN and EDNOS with TAU (e.g., other psychotherapy, psychiatry). Their outcomes suggested significant increases in readiness to change restriction behaviours in the RMT group,

however this was not significantly more than for the comparison group, suggesting RMT was not more effective than other treatments.

The nine remaining studies' outcomes did not sufficiently establish effectiveness, as the MEI conditions did not significantly improve readiness to change pre-post intervention, nor did they achieve more change than control groups where applicable.

Table 3

Outcomes across included studies

Authors (year of publication)	Measure(s) of motivation	Summary of motivation outcomes (post intervention)	Classification of effectiveness of MEI
1. Allen, K. L., Fursland, A., Raykos, B., Stelle, A., Watson, H. & Byrne, S.M. (2011)	3 self-rated "readiness to change" semi-structured questions assessing levels of action, contemplation and precontemplation towards overall change and dietary restriction (overall change outcomes used for this review's analysis)	. Pre-contemplation levels significantly decreased between pre and post MFT for readiness to change overall . No statistically significant* differences in contemplation levels pre-post MFT . Non-significant trend towards increased action levels pre-post MFT	**Effectiveness not sufficiently established** due to significant differences pre-post MFT in only one of the three sub-groups (pre-contemplation, contemplation, action)
2. Cardi, V., Albano, G., Ambwani, S., Cao, L., Crosby, R.D., Macdonald, P., Schmidt, U. & Treasure, J. (2019)	2 self-rated visual analogue scales measuring: . Confidence in one's ability to change . Importance to change.	Confidence in ability to change improved significantly more pre-post intervention in the RecoveryMANTRA group compared with the TAU group There was a non-significant trend towards increasing Importance to change pre-post intervention in the RecoveryMANTRA group compared with a trend towards reducing importance to change in the TAU group	**Effectiveness not sufficiently established** due to only 50% of the overall measure of motivation showing a statistically significant change across groups. No group X time interactions reported
3. Cassin, S.E., von Ranson, K.M., Heng, K., Brar, J., & Wojtowicz, A.E. (2008)	3 self-rated visual analogue scales measuring: . Importance to change . Readiness for change . Confidence towards change	Confidence for change was significantly higher in the AMI group compared with the control group post-intervention. There were no statistically significant differences between groups for importance or readiness towards change. No effects of time reported	**Effectiveness not sufficiently established** due to significant differences between groups in only one of the three analogue scales. No time effects reported for either group
4. Dean, H.Y., Touyz, S.W.,	ANSOCQ (adapted versions for BN and EDNOS) - a self-	There were no statistically significant differences between groups for ANSOCQ	**Effectiveness not sufficiently established** due to no

Authors (year of publication)	Measure(s) of motivation	Summary of motivation outcomes (post intervention)	Classification of effectiveness of MEI
Rieger, E. & Thornton, E. (2008)	rated measure which provides an overall score indicating motivation to change.	score pre-post intervention. Both groups increased in motivation to change according to ANSOCQ scores pre-post interventions, however no statistically significant effects of time in either group	significant effect of time (pre-post intervention) and no significant group differences on the ANSOCQ overall score
5. Dunn, E.C., Neighbors, C., & Larimer, M.E. (2006)	URICA (a self-rated measure with 3 subscales: precontemplation, contemplation, and action) - adapted to create 2 versions which separately asked about readiness to change bingeing and compensatory behaviours	**Bingeing**: Scores for contemplation and action towards changing bingeing increased significantly pre-post MET group, both increased significantly more than in the control group. No significant differences in precontemplation towards bingeing according to time or group. **Compensatory behaviours**: Scores for precontemplation towards compensatory behaviours decreased significantly pre-post MET group, however difference was not significantly more than for control group. Also, significant increase in contemplation towards compensatory behaviours pre-post MET, but difference not significantly more than for control. No significant differences in action towards compensatory behaviours according to time or group	**Effectiveness partially established** due to 4 out of 6 components of total 'readiness to change' outcome showing statistically significant changes over time in MET group. Effectiveness not fully established due to group X time interactions only established in 2 out of 6 components of the total 'readiness to change' outcome
6. Feld, R., Woodside, D.B., Kaplan, A.S., Olmsted, M.P., & Carter, J.C. (2001)	URICA (a self-rated measure with 3 subscales: precontemplation, contemplation, and action) + 3 Likert scales measuring . Motivation for change . Readiness for change . Confidence towards change	Statistically significant increase in the action subscale of the URICA, not in the other 2 subscales. Each of the 3 Likert scales showed statistically significant increases from sessions 1-4	**Effectiveness partially established** due to 4 out of 6 components of total 'readiness to change' outcome showing statistically significant change pre-post intervention. No control group so group x time interaction not applicable
7. Geller, J., Brown, K.E., & Srikameswaran, S. (2011)	RMI - a semi-structured interview assessing readiness to change ED symptoms across 4 domains: restriction, cognitive, bingeing and compensatory behaviours. Readiness/motivation to change outcome was changes in restriction domain for: . Precontemplation . Contemplation . Action	Statistically significant decreases in restriction precontemplation levels pre-post in both the intervention and control groups. Statistically significant increase in restriction action levels pre-post across both groups. No significant pre-post change in restriction contemplation scores across either group. No significant group X time interactions	**Effectiveness partially established** due to 2 out of 3 components of outcome showing statistically significant change pre-post intervention in the RMT group. Effectiveness not fully established due to no significant group X time interactions

Authors (year of publication)	Measure(s) of motivation	Summary of motivation outcomes (post intervention)	Classification of effectiveness of MEI
8. Gowers, S.G. & Smyth, B. (2004)	6 self-report questions devised by study team covering readiness, conviction and confidence towards change - provides overall score for motivation	Statistically significant increase in motivation scores pre-post motivational assessment interview	**Effectiveness partially established** due to statistically significant change pre-post intervention. No control group so effects of group or group x time interaction not applicable
9. Shingleton, R.M., Pratt, E.M., Gorman, B., Barlow, D.H., Palfai, T.P., & Thompson-Brenner, H. (2016)	RMI scores from the restriction domain - broken down into precontemplation and action	Decrease in precontemplation (indicating increased readiness to change) towards restriction occurred significantly more in the non-text message phase. Increase in action towards restriction (indicating increased readiness to change) occurred significantly more in the text message phase than the non-text message phase. Overall sample significantly decreased precontemplation and increased action towards restriction pre-post, however analyses of effect of time for text messaging phase not possible due to study design, so unable to separate effects from those of control (CBT/TAU)	**Effectiveness not sufficiently established** due to only 50% of the overall measure of motivation to change showing a statistically significant difference between groups
10. Treasure, J.L., Katzman, M., Schmidt., U., Troop, N., Todd, G., & de Silva, P. (1999)	URICA - self-report measure with three subscales: precontemplation, contemplation, and action. Overall 'stage' also provided (precontemplation, contemplation or action).	Statistically significant increase in action scores occurred pre-post both MET and CBT. No significant pre-post intervention changes in precontemplation or contemplation groups. Statistically significant group X time interaction in favour of the CBT group (more participants moving into action)	**Effectiveness not sufficiently established** due to change over time in only 1 out of 3 domains of 'readiness to change' and due to more desired change occurring in CBT than MET group
11. Vella-Zarb, R.A., Mills, J.S., Westra, H.A., Carter, J.C., & Keating, L. (2015)	URICA - self-report measure with three subscales: precontemplation, contemplation, and action. Overall composite score calculated	Statistically significant group X time interaction: MI group increased significantly more than psychoeducation in readiness to change pre-post MI session	**Effectiveness established** due to 'readiness to change' outcome showing statistically significant change pre-post MI session which was significantly more than psychoeducation condition
12. Wade, T.D., Frayne, A., Edwards, S-A., Robertson, T., & Gilchrist, P. (2009)	ANSOCQ - self-report measure assessing stage of change across various AN symptoms. Mean scores were calculated to provide overall readiness to change score. Also dichotomised the ANSOCQ scores to indicate	Statistically significant increases pre-post intervention (across MI group and control) for 2 of the 6 self-report questions: importance of recovering from ED and importance of eating normally and gaining weight. However, no time X group interactions for these questions. No statistically significant time, group or time	**Effectiveness not sufficiently established** due to change over time in only 2 out of 7 parts of the overall measure of motivation-change and due to no effects of group or group x time effects

Authors (year of publication)	Measure(s) of motivation	Summary of motivation outcomes (post intervention)	Classification of effectiveness of MEI
	high and low readiness to change + 6 self-report questions assessing motivation to change ED and return to eating normally/gaining weight	X group interactions found across the other 4 self-report questions or the ANSOCQ	
13. Weiss, C., Mills, J.S., Westra, H.A., Carter, J.C. (2013)	9 Likert scales measuring . Importance for change . Readiness for change . Confidence towards change across each of the three areas: . Eating . Restriction . Weight/shape	Of the 9 Likert scales, 2 statistically significant changes occurred as follows: . Group X time interaction: MI group decreased confidence in their ability to stop being preoccupied with weight and shape, whereas TAU group increased confidence pre-post intervention. . Both groups increased confidence towards eating pre-post intervention (no group X time interaction)	**Effectiveness not sufficiently established** due to change over time in only 1 out of 9 parts of the overall measure of motivation-change and a group x time interaction found in only 1 out of 9 of the overall measure (in favour of TAU)
14. Ziser, K., Rheindorf, N., Keifenheim, K., Becker, S., Resmark, G., Giel, K.E., Skoda, E-M., Teufel, M., Zipfel, S., & Junne, F. (2021)	URICA-S (shortened version of the URICA) - a self-report measure which can compute 4 subscales which represent: precontemplation, contemplation, action, and maintenance	No significant differences between intervention and control for any of the URICA-S subscales at any of the time points. No effect of time (pre-post intervention) was reported	**Effectiveness not sufficiently established** due to no statistically significant differences between groups and no effect of time reported

ANSOCQ = Anorexia Nervosa Stages of Change Questionnaire (Rieger et al., 2000); RMI = Readiness and Motivation Interview (Geller et al., 2001); URICA = University of Rhode Island Change Assessment scale (McConnaughy, 1981); URICA-S = Shortened version of the URICA (Mander et al., 2012)

Statistical significance indicated by $p<.05$

Red text indicates effectiveness not established according to criteria of this review; orange text indicates effectiveness partially established; green text indicates effectiveness established

Quality of included studies

Quality across the included studies was generally medium-low, consistent with previous reviews (Fetahi et al., 2022). Tables 4 and 5 provide summaries of quality assessments and overall ratings for each study (at the levels of study and outcome), according to study design, with separate JBI checklists used for RCTs and quasi-experimental designs

(for detailed quality appraisal, see Appendix B). Appraising quality at both the study and outcome levels identified minor variations in quality score, for instance when the motivation to change outcome was assessed via non-standardised measures, however, this only changed the study's overall quality rating in one instance (Allen et al., 2011), wherein motivation to change pre-post MEI intervention was examined without a control group within a sequential trial design which only later included a CBT control.

Although most studies were RCTs, which is considered the gold standard design for enhancing methodological quality (Akobeng, 2005), there remained consistent issues with methodological quality. There was generally a lack of blinding across various study levels. Only one study reported on concealment techniques used when allocating participants to groups (Cassin et al., 2008), with the rest of the RCTs either not providing information about concealment or confirming its absence. None of the interventionists in the included RCTs were blind to treatment assignments, and only Cassin and colleagues (2008) ensured participants were blind to treatment group. Lack of blinding and group concealment may have introduced bias, such as interventionists unintentionally altering intervention delivery across groups (Viera & Bangdiwala, 2007), potentially influencing outcomes.

In the two lowest scoring RCTs (Weiss et al., 2013; Ziser et al., 2021) there were significant participant differences between groups at baseline which may have impacted responses to treatment. There were also problems with control groups receiving different treatment (via psychotherapy, psychiatry etc.; Weiss et al., 2013) or no available information regarding the TAU in the control group (Ziser et al., 2021). Furthermore, there were issues with loss to follow up, which was explained but not accounted for in the analysis (Weiss et al., 2013) or not explained at all (Ziser et al., 2021).

The two lowest scoring quasi-experimental studies (Feld et al., 2001, Gowers & Smyth, 2004) were both pilot studies without control groups. This inhibited control of factors

which may have influenced motivation to change outside of the intervention, for instance time, thus potentially inflating the impact of the MEI. Further, Feld and colleagues (2001) did not account for loss to follow up in their analysis, despite acknowledging unequal attrition across groups, which may also have over-estimated the MEI's effectiveness.

A quality issue across both RCTs and quasi-experimental designs related to outcome measurement. All included studies relied upon self-report measures, which can introduce bias, for instance through shifts in respondents' understanding of concepts pre-post intervention (Rosenman et al., 2011) and may be particularly applicable to MEIs which involve introspective questions about attitudes toward behaviours (Miller & Rollnick, 2013). Some studies used only standardised measures (Dean et al., 2008, Dunn et al., 2006, Geller et al., 2011, Shingleton et al., 2016, Treasure et al., 1999, Vella-Zarb et al., 2015, Ziser et al., 2021), which increases confidence regarding the reliability and validity of outcome measurement. However, the remaining studies included unstandardised Likert scales either as the only motivation outcome, or in addition to standardised measures, such that outcomes may not offer a true measure of motivation to change, and comparison across studies is more difficult.

Although the overall quality of included studies was lower than is often expected for reviews (Shea et al., 2007), low-quality studies were not excluded due to the low number of total studies which met inclusion criteria, in line with previous reviews in this field (Denison-Day et al., 2018). Although bias can inflate intervention effects, the lack of studies classified as effective (only one met full effectiveness criteria) suggests outcomes were not substantially over-estimated.

Table 4

Quality review based on JBI (2020) quasi-experimental studies checklist

Paper	Study Design	Overall quality score (%): classification	Outcome-level quality score (%): classification
Allen et al. (2011)	Sequential trial	7.5/9 (83%): High quality	4/6 (67%): Medium quality
Dean et al. (2008)	Sequential trial	6.5/9 (72%): Medium quality	6.5/9 (72%): Medium quality
Feld et al. (2001)	Pilot without control	3/6 (50%): Low quality	3/6 (50%): Low quality
Gowers & Smyth (2004)	Pilot without control	2.5/6 (42%): Low quality	3/6 (50%): Low quality
Shingleton et al. (2016)	Replicated single case alternating treatment design	7.5/9 (83%): High quality	8/9 (89%): High quality

Table 5

Quality review based on JBI (2020) randomised controlled trials checklist

Paper	Overall quality score (%): classification	Outcome-level quality score (%): classification
Cardi et al. (2019)	7.5/13 (58%) Medium quality	7/13 (54%) Medium quality
Cassin et al. (2008)	10.5/13 (81%) High quality	10.5/13 (81%) High quality
Dunn et al. (2006)	8/13 (62%) Medium quality	8/13 (62%) Medium quality
Geller et al. (2011)	8/13 (62%) Medium quality	8/13 (62%) Medium quality
Treasure et al. (1999)	8.5/13 (65%) Medium quality	8.5/13 (65%) Medium quality
Vella-Zarb et al. (2015)	8/13 (62%) Medium quality	8/13 (62%) Medium quality
Wade et al. (2009)	8/13 (62%) Medium quality	7.5/13 (58%) Medium quality
Weiss et al. (2013)	6/13 (46%) Low quality	5.5/13 (42%) Low quality
Ziser et al. (2021)	6/13 (46%) Low quality	5.5/13 (42%) Low quality

Research question 1: What are the common PEs across MEIs?

Coding the 14 included MEIs established a total of 40 PEs as shown in Table 6. From the *a priori* coding framework (appendix A), 12 PEs were not found to be present in any MEI, for instance *mindfulness techniques* and *time management*, therefore were removed from the final taxonomy (Table 6). Eleven unanticipated PEs were iteratively generated and defined during the coding process, for instance *looking back and forwards* and *motivational messages sent*. For a list of final PEs with definitions, see Appendix C.

Table 6 also displays the frequency with which each PE occurred across the MEIs. As there is no established definition for what constitutes 'common' within this type of frequency analysis (Engell et al., 2020), this review considered PEs which appeared in more than 50% of MEIs as 'commonly' appearing, as they were present more often than they were absent. Therefore, common PEs were identified as *interventionist MI stance; exploration of ambivalence; exploration of readiness towards change; exploration of dissonance with values; devise a change plan; and prompt barrier identification*. The most frequently included PE was a newly defined code: *interventionist MI stance*, which was developed to encompass the multiple related elements encompassed within the therapist's general stance and approach. This PE subsumed the *a priori* codes *interventionist empathy, provide general encouragement*, and *use of reflective listening* because they are described as related concepts in the MI handbook (Miller & Rollnick, 2013), and were present across all included MEIs. The third most common PE, *exploration of readiness towards change* was also a new code identified by this review, which encompassed non-judgemental discussion of the person's overall readiness towards changing ED behaviours, including their sense of confidence and its importance (Rollnick, 1998).

Table 6

Practice elements across MEIs

Practice Element	Frequency of inclusion across all included MEIs (Total N=14)
Interventionist MI stance	**14**
Exploration of ambivalence	**11**
Exploration of readiness towards change	**10**
Exploration of dissonance with values	**9**
Devise a change plan	**8**
Prompt barrier identification	**8**
Looking back and forwards	7
Provide information about [ED]-health link	7
Provide information on consequences [of ED]	7
Bolster self-efficacy	6
Discussion of trans-theoretical model of change and/or brief assessment of participant's stage of change	6
ED-specific letter writing exercises	6
Elicit concerns about eating behaviours	6
Elicit ideas for possible behavioural alternatives to current ED behaviour	6

Practice Element	Frequency of inclusion across all included MEIs (Total N=14)
Written decisional balance	6
Complete "plans for change" worksheet	5
Plan social support or social change	5
Prompt intention formation	4
Prompt specific goal setting	4
Emotion management and regulation	2
Exploration of interpersonal difficulties	2
Externalising/separating the ED from the person	2
Motivational messages sent	2
Prompt self-talk	2
Provide information about others' approval	2
Provide opportunities for social comparison	2
Recognising quality of life improvements	2
Relapse prevention	2
Weight gain monitoring	2
Working with maladaptive cognitions	2

Practice Element	**Frequency of inclusion across all included MEIs (Total N=14)**
Additional personalised peer support provided	1
Addressing concurrent unhelpful behaviours: e.g., laxatives, diuretic use, and excessive exercise	1
Building self-compassion	1
Family work	1
Model or demonstrate the behaviour	1
Prompt review of behavioural goals	1
Prompt self-monitoring of behaviour	1
Provide instruction	1
Stress and/or anxiety management	1
Using chairwork	1

Bold text indicates PEs identified as common across MEIs. Italicised text indicates PEs which were created and defined by this review.

Research question 2: What are the common PEs across effective and ineffective MEIs?

According to this review's criteria, nine of the studies were classified as ineffective, four studies as partially effective, and one as effective. Due to the low numbers of effective and partially effective studies, these two groups were combined to become five 'effective' interventions which were compared with nine 'ineffective' interventions for the second research question.

Figure 2 provides a comparison of the proportional inclusion of each PE across effective and ineffective MEIs. Proportions were calculated to account for the imbalance in the number of studies within each group. In general, the most common PEs overall also remained the most frequently included PEs across both the effective and ineffective MEIs. However, *providing information about the consequences of EDs* and *providing information about the ED-health link* appeared slightly more in effective interventions than *prompting barrier identification* and *devising a change plan*, which were overall more commonly appearing MEIs, suggesting the former were potentially more helpful. Most PEs occurred more in ineffective than effective MEIs, with a few exceptions; notably, *recognising quality of life improvements*, which referred to recognising changes made to quality of life and addressing any fears about 'normal life' challenges (Macdonald et al., 2012) and *family work* were only present in effective MEIs, although these numbers were small (two and one studies respectively). In contrast, 18 PEs were only present in ineffective interventions, suggesting they had little positive impact towards increasing motivation.

Figure 2

Proportional representation of the inclusion of each PE across effective and ineffective MEIs

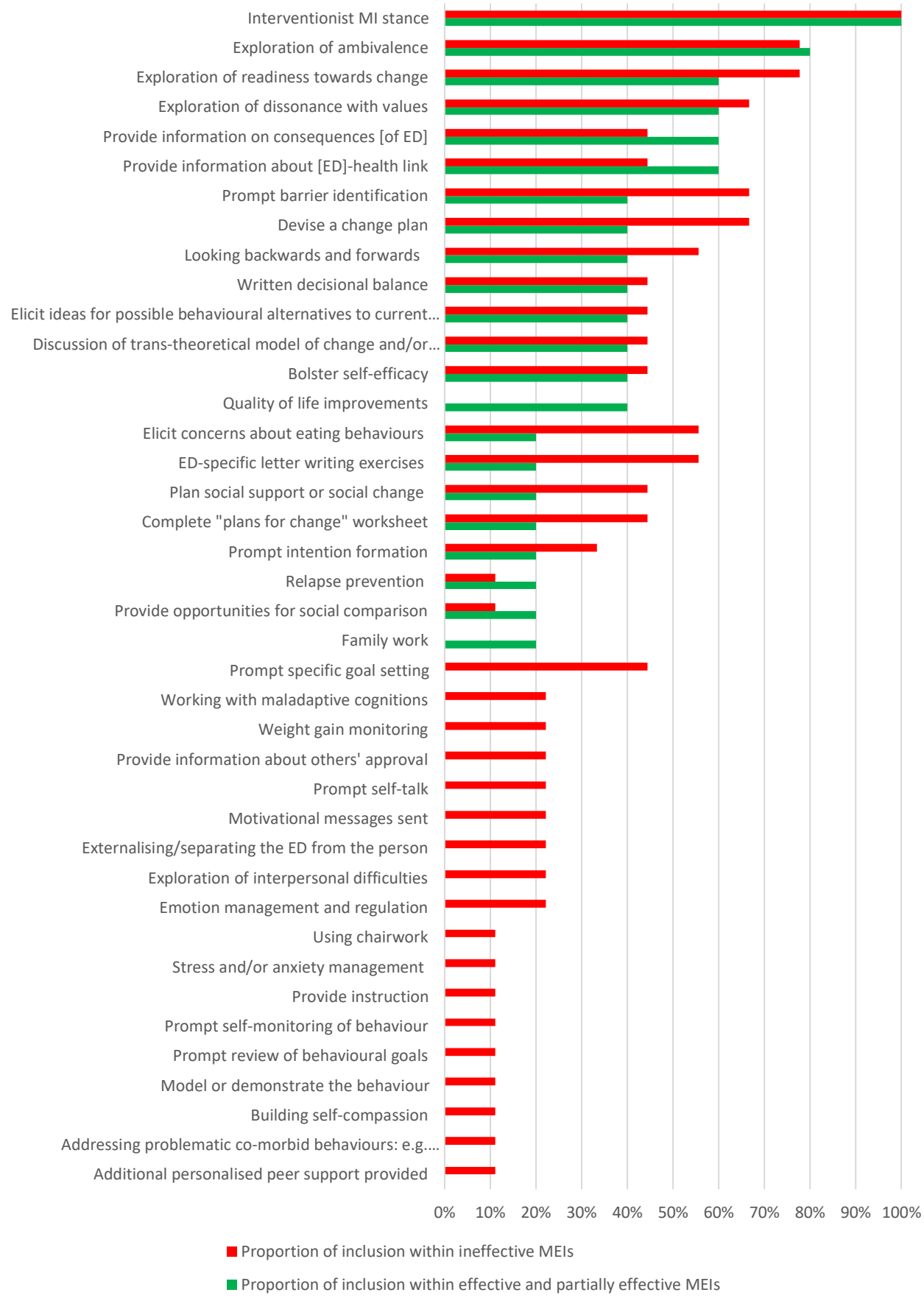
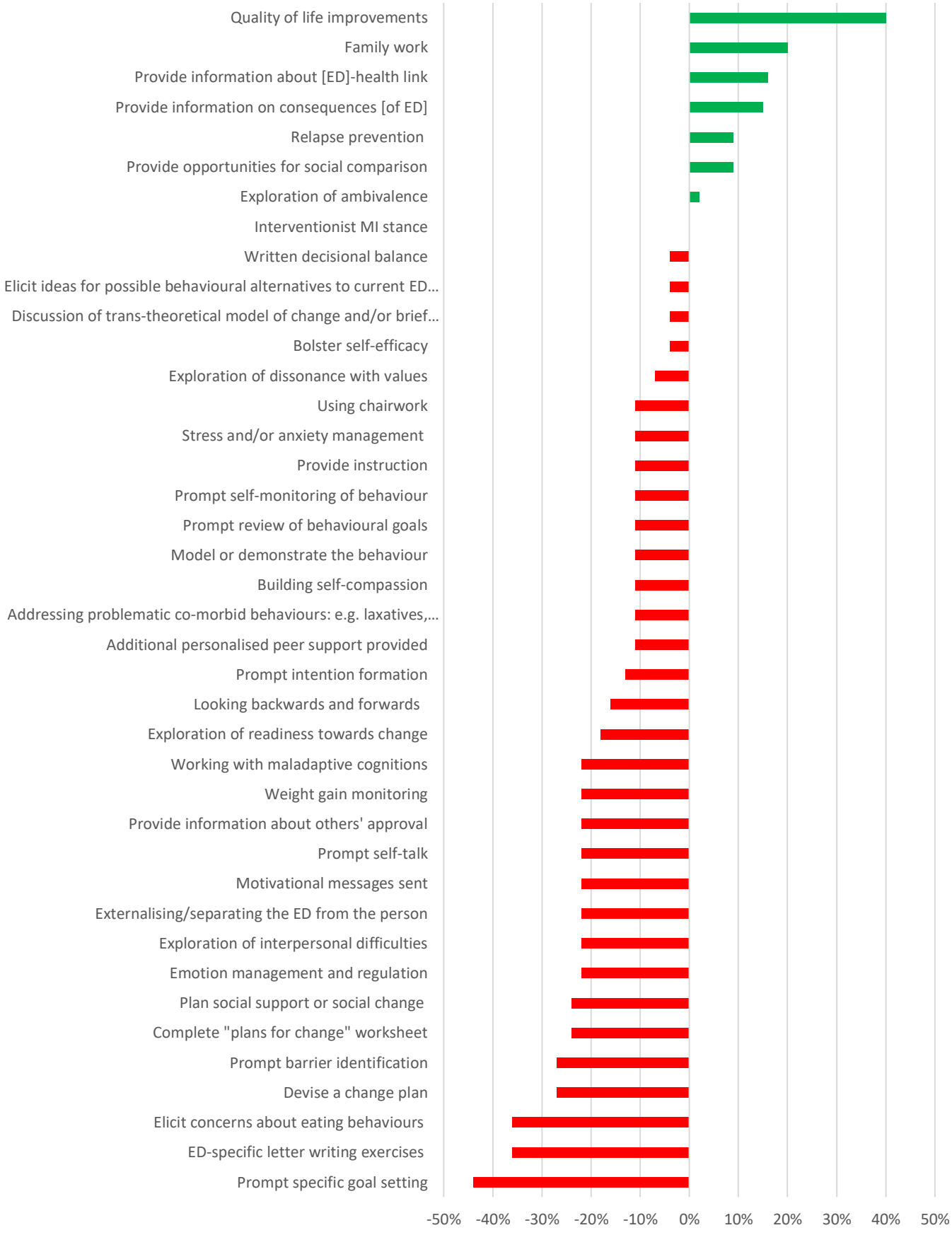


Figure 3 offers a visual representation of the proportional differences between effective and ineffective interventions that each PE appeared in. Green bars indicate PEs which occurred in a higher proportion of effective MEIs than ineffective, and red bars indicate those which appeared proportionally more in ineffective MEIs.

Figure 3

Comparison of the proportional differences for each PE's inclusion across effective and ineffective MEIs



Discussion

The first aim of this review was to identify common PEs across MEIs for EDs. Accordingly, an updated taxonomy of 40 PEs was established. The most common PEs were *interventionist MI stance; exploration of ambivalence; exploration of readiness towards change; exploration of dissonance with values; devise a change plan; and prompt barrier identification.* Four of these PEs had been established previously as specific behaviour change techniques (Abraham & Michie, 2008, Macdonald et al., 2012), and align with MI techniques (Miller & Rollnick, 2013). The remaining two (*interventionist MI stance* and *exploration of readiness to change*) were defined by this review, however, also refer to specific MI techniques, confirming MI is the most frequently used framework underpinning MEIs for EDs. Irrespective of further analysis, this updated taxonomy provides a list of PEs which can be utilised in future research seeking to distil motivation-focused interventions.

The second aim was to explore patterns of PEs across effective and ineffective MEIs. Overall, around half of the identified PEs were included at least once in both effective and ineffective interventions, suggesting relative homogeneity across the interventions. However, there were several interesting findings which may benefit from further exploration. Eighteen PEs only appeared in ineffective MEIs, suggesting their inclusion may not impact motivation towards change. Only two PEs appeared exclusively in effective MEIs: *family work* (including family in interventions) and *recognising quality of life improvements*. Although these were only present in one and two interventions respectively, they may have something particularly useful regarding motivation enhancement.

MI often focuses on the individual, as including close others who also have relationships to the concerning behaviour(s) can promote defensiveness and sustain talk (Miller & Rollnick, 2013). However, this review suggests the inclusion of family work in MEIs may be a more important component than previously thought. The family's role is

likely to be especially important when people are in the action stage of change and therefore behaving differently outside of therapy settings, for which social reinforcement and encouragement is extremely important (Treasure & Ward, 1997).

This review suggests the potential helpfulness of *recognising quality of life improvements* may have been overlooked within existing MEIs. Although perceived 'pros' of EDs, such as their ability to provide control (Vitousek et al., 1998), may be addressed through *exploration of ambivalence* (which occurred across both effective and ineffective MEIs), there may be benefit in more extensively considering how EDs impact quality of life, both for the better and worse. Indeed, Pettersen et al. (2012) described the importance from patients' perspectives of accepting the inevitable losses to their lives through recovery, suggesting this may need to be attended to with more depth and specificity than achieved through generally exploring ambivalence to achieve greater shifts in motivation towards change.

This review's findings may be useful in understanding the mixed conclusions of previous reviews, namely that it is difficult to disentangle MEIs' effects from those of more complex therapies such as CBT or MANTRA (Denison-Day et al., 2018). Comparing the updated taxonomy of PEs with elements within other therapies could identify overlap and differences between approaches. For instance, comparison with a CBT intervention which significantly increased readiness to change (Algars et al., 2015) reveals *psychoeducation about the consequences of EDs*, *exploration of ambivalence*, and *barrier identification* all were present across the CBT intervention, in at least 50% of the reviewed MEIs, and within two or more effective MEIs. Extrapolating this example suggests mixed conclusions regarding the effectiveness of MEIs compared with other established treatments may relate to homogeneity across their PEs.

Although this review did not explicitly code for process elements, there were general themes apparent across the included MEIs. Of the five effective and partially effective MEIs, three were single-session MI assessments (Dunn et al., 2006; Gowers & Smyth, 2004; Vella-Zarb et al., 2015). As only four of the 14 included MEIs were single sessions, multiple sessions may not be necessary to establish positive change. Secondly, technology use within MEIs did not seem especially impactful, despite preliminary meta-analytic evidence promoting enhanced communicative support via technology (Haderlein, 2019). Two included studies utilised an online guided self-help programme and personalised motivational text messages respectively (Cardi et al., 2010; Shingleton et al., 2016). Although both found improvements in motivation to change, neither met the effectiveness criteria for this review and both revealed complex patterns across findings such as motivational text messages seeming more beneficial for people with higher BMIs (Shingleton et al., 2016). These results perhaps speak to the complexity of motivation in ED as a concept (Waller, 2012) and how there may not be one intervention, or even one PE, which benefits all people alike.

The relative homogeneity across the types of MEI in this review suggests a distinct lack of treatment progression in this area. The included studies span over 20 years, yet all drew upon MI principles; all studies, whether effective or not, utilised an interventionist MI stance, and all the most common PEs were established MI techniques. This raises questions around why novel approaches and ideas have not been introduced over time, particularly given the lack of established effectiveness across MI-based MEIs (Fetahi et al., 2022, Denison-Day et al., 2018). One potential explanation for this lack of progression is that many of the identified PEs outside of traditional MI techniques, such as *externalising the ED* or *building self-compassion,* were not present in any effective MEIs, suggesting they are limited in increasing motivation. However, without explicit assessment of change, it remains unclear whether those interventions were successful in building self-compassion or externalising the

ED as intended. Indeed, this uncertainty over whether the interventions successfully achieved change in their targets of interest remains unclear and limits the conclusions that can be drawn about useful PEs. It may be that without alternative effective techniques, MI remains the treatment of choice given its evidence-based efficacy for working with other difficulties where ambivalence towards change is high, such as substance misuse and gambling (Lundahl & Burke, 2009). However, Pugh & Salter (2018) highlight the lack of psychological theory underpinning the use of MI in EDs. Given the lack of overall effectiveness associated with MEIs for EDs, affirmed by this review, and the continued problem of ambivalence in EDs, it seems time to consider new ways of working in this area.

Limitations

Most included studies were either of medium or low quality, therefore, caution should be applied when interpreting this reviews' results. Attempts were made to manage bias related to over-estimation of MEIs' effects by ensuring effectiveness was classified conservatively. Furthermore, potential biases should be considered within the context of this topic area. Measuring the efficacy of interventions for EDs, which are typically severe and enduring (Steinhausen, 2009), can be difficult to achieve within the clinically impractical constraints of RCT designs, thus making it challenging to determine clinical efficacy whilst minimising bias (Shean, 2014).

Due to heterogeneity amongst study designs and outcome measures, it was challenging to establish a suitable cut-off for study effectiveness. Using pre- and post-intervention measures of motivation towards change to establish the immediate effectiveness (or lack thereof) across MEIs enabled consistency in comparison, however, may have neglected the complexity of motivation as a construct, which might have been better measured via behavioural outcomes such as weight gain over time (Waller, 2012). It may be

interesting for future reviews to replicate this review's approach, focusing on different measures of MEI effectiveness.

Grouping different ED sub-types may have obscured interesting differences between MEIs' relative effectiveness for different ED types. For instance, Allen et al. (2011) performed a sub-group analysis comparing readiness to change pre- and post-MFT across participants with AN and BN. They found differences in outcome according to ED subtype such as significant increases in action towards reducing restriction only for people with BN, suggesting the MEI may have been less suitable for people with AN in reducing restriction. Although grouping EDs in this review meant potential nuances between subtypes were not accounted for, the results hopefully still hold relevance given findings from network analyses suggest a core group of related difficulties exists across ED subtypes (Forrest et al., 2018) and the move towards transdiagnostic treatments for EDs (Fairburn, 2008).

There were several constraints inherent to the production of this review which may have impacted its quality. Firstly, the coding was completed by one author, therefore no estimate of inter-rater reliability was produced to assess the reliability of the coding framework, although this was developed from previously established taxonomies (Abraham & Michie, 2008; MacDonald et al., 2012). Furthermore, there was a range of information available regarding the MEI protocols for included studies. Most protocols were eventually established via contacting authors and extensive online searching; however, six of the 14 protocols were coded based only on the information available in the published article. Even when full protocols were available, only five of the included studies reported on adherence of the interventionist to the MEI. Consequently, it was impossible to determine whether the nine remaining studies included all PEs as stated in the available protocol descriptions. For these reasons, some PEs may have been over or under-included due to coding processes.

Research implications: A move towards change process methodologies

Taking a full DMM approach, whereby the later 'matching' stages seek to investigate which PEs work best for particular people, could establish more personalised interventions which benefit people with different characteristics. For instance, particular PEs may be more or less effective when participants are in various stages of precontemplation, contemplation or action according to the TTM (Prochaska et al., 1992). Furthermore, this approach could capture some of the potential nuances overlooked in the current review, by clarifying whether people with different ED subtypes benefit from different PEs.

This review's findings support the development of new, innovative approaches to MEIs for EDs. Whilst results should be interpreted tentatively, as the DMM is not intended to directly inform the 'building' of new interventions according to the inclusion or exclusion of individual PEs (Chorpita et al., 2005), identifying potentially effective PEs may support the formation of new hypotheses which can be examined further through CPR. For instance, the quantitative process-outcome design (Elliott, 2010) may be interesting to employ in establishing the impact of *family work* or *recognising quality of life improvements* (identified as potentially effective by this review) by manipulating these elements within MEIs: using their presence and frequency to predict motivation to change outcomes.

Given the lack of MEI development over the past 20 years, it will be important for future research into motivation enhancement in MEIs to go beyond MI approaches. For instance, many existing MEIs neglect the importance of emotion (Pugh & Salter, 2018); indeed, *emotion management and regulation* appeared in only two of this review's 14 included studies. CPR will be particularly useful in testing new MEIs in establishing the theoretical underpinnings missing from current approaches. As stated by Wollburg and colleagues (2013), CPR has the potential "to generate novel hypotheses that can then be scrutinized empirically" (p.763), providing much needed advances in this field.

Clinical implications

This review found MEIs are largely informed by MI principles. Although this finding should be considered in the context of the medium-low quality of included studies and the potential over or under-estimation of PEs' inclusion, given difficulties establishing the effectiveness of this approach within ED populations, this review advocates for the development of new, evidence-based approaches to motivation enhancement. Development in this area could lead to further confirmation of helpful PEs, both in general and for people with particular characteristics, which could support non-specialist services such as primary care services, which frequently manage ED cases given pressures on specialist services (Demmler et al., 2020). For example, guidance could be developed to help primary care services provide motivation-enhancing strategies and techniques to people in the early stages of EDs before the ED becomes entrenched over time (Walsh, 2013).

In the meantime, as starting treatment with higher motivation enhances treatment outcomes (Clausen et al., 2013, Vall & Wade, 2015), it may be useful to ensure PEs associated with effective MEIs (e.g., *psychoeducation about the consequences of EDs* and *exploration of ambivalence)* are present in the early phases of all interventions, regardless of theoretical orientation.

Conclusions

Using a novel methodology, this review distilled a range of motivational interventions to create an updated taxonomy of the practices underpinning them. Common PEs were identified across these interventions, revealing minimal progression over the past 20 years, with MI remaining the dominant approach despite limited theory or evidence regarding its efficacy in EDs. This review also explored the frequency of individual PEs' inclusion across effective and ineffective interventions, to generate hypotheses about key PEs within interventions which may benefit from further exploration. Innovative approaches informed by

CPR are needed to better enhance motivation in EDs and develop the theory-practice knowledge base in this area.

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Section B

Task analysis of the future-selves chairwork intervention: A preliminary model for resolving ambivalence in people with anorexia nervosa

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Abstract

Objective: The future selves chairwork intervention (FSCI) is a novel, experiential intervention which involves embodying future self-versions (recovered and non-recovered) to explore ambivalence towards recovery in anorexia nervosa (AN). This study aimed to elucidate the FSCI's mechanisms of change using task analysis methodology.

Method: Ten participants with AN or atypical AN completed the readiness and motivation questionnaire (RMQ) pre-post FSCI. Changes in RMQ scores identified two high-, two low-, and two medium-change 'cases'. Recorded FSCI sessions for these six cases were analysed using descriptive interpretive qualitative analysis, focused on process description. Comparison of client process similarities and differences informed development of a model representing the necessary change steps for 'resolving' ambivalence during the FSCI.

Results: Task resolution seemed to occur through deepening emotions beyond "bad" feelings underlying the eating disorder and accessing 'primary adaptive' emotion, which more effectively guides current needs. Embodying different future-selves appeared to support de-centring from AN-related self-parts, to explore and integrate additional self-parts, guiding change in line with true values, thus increasing motivation.

Conclusion: Self-dialogical therapy models may be useful in improving motivation towards recovery within AN, with the FSCI offering an experiential means of achieving this. Further research should validate and refine this rational-empirical model.

Keywords: Anorexia nervosa, motivation, ambivalence, chairwork, change process research, task analysis

Introduction

Anorexia nervosa, ambivalence, and motivation

Anorexia nervosa (AN) is a serious illness characterised by persistent, intentional weight loss alongside an intense fear of weight gain, despite low body weight (Walsh, 2013), with a lifetime prevalence of 2-4% in women (National Institute for Health and Care Excellence [NICE], 2019). As shorter illness duration predicts positive outcome (Steinhausen, 2002), improving outcomes in AN's early stages is an important target.

One of the challenges in recovery from AN is ambivalence towards change. Difficulties committing to recovery, despite AN's detrimental physical and psychological effects, can be understood through recognising its valued effects such as the structure and mastery it provides, and socially reinforced feelings of attractiveness and success (Gregertsen et al., 2017; Schmidt & Treasure, 2006). Furthermore, starvation inhibits cognitive and physiological emotion processes, thereby suppressing unwanted emotions (Oldershaw et al., 2019b). Recovery requires addressing these ego-syntonic elements, which generates conflicting feelings towards change.

Increasing motivation towards change (how ready, willing, and able someone is to change; Miller & Rollnick, 2002), improves outcomes for people with AN (PwAN), whereas ambivalence contributes to treatment-refusal and therapy drop-out (Guarda, 2008). Furthermore, increased motivation is a positive predictor of outcome following specialist treatment for eating disorders (EDs; Sansfaçon et al., 2020; Vall & Wade, 2015). These findings underscore the need to increase motivation pre-treatment.

Enhancing pre-treatment motivation aligns with the trans-theoretical model of change principles (TTM; Prochaska et al., 1992) such that individuals may engage better in treatment when in the later stages of change (contemplation and action). Indeed, Dray and Wade (2012) found pre-treatment stage of change related to post-treatment outcomes for people with EDs.

Accordingly, motivation enhancing interventions (MEIs) aimed at increasing pre-treatment motivation have been developed for PwAN, largely based on motivational interviewing (MI) principles (Miller & Rollnick, 2013), wherein individuals' personal values and goals are used to drive change (Treasure & Ward, 1997). Unfortunately, existing MEIs appear no more effective at increasing motivation than more comprehensive therapies such as cognitive behavioural therapy (CBT) or the Maudsley Model of Anorexia Nervosa Treatment for Adults (MANTRA; Denison-Day et al., 2018). Given the generally low recovery rates across ED therapies (28.3%; Byrne et al., 2017) and the over-reliance of existing MEIs on MI principles (Rowley, 2023 (part A)), identifying and developing novel, impactful MEIs appears important in improving ED outcomes.

Motivational chairwork: A new opportunity?

Existing MEIs have been criticised for lacking connection between cognition and emotion. Oldershaw and colleagues (2019b) suggest PwAN can struggle to connect with their emotions, yet emotional connection with AN's 'cons' may be important for therapeutic change (Gregertsen et al., 2017). Indeed, service user (SU) ideas about helpful factors for enhancing motivation include involving personal feelings in treatment and achieving 'epiphanies' (Venturo-Conerly, et al., 2020). In considering how to increase MEIs' capacity for emotion activation, Pugh and Salter (2018) draw upon the interacting cognitive subsystems theory (ICS; Teasdale & Bernard, 1993), the theory of retrieval competition (Brewin, 2006), and evolutionary models of emotion (e.g., Gilbert, 2009), in suggesting resolving ambivalence may benefit from multisensory, memorable, and emotive interventions: qualities arguably lacking in existing MEIs.

One potential approach to achieving greater emotion activation is through chairwork: an experiential technique which uses chairs and their positions trans-therapeutically (Pugh, 2020). Early studies have found chairwork compares with empathic reflections and problem-

solving in reducing indecision (Greenberg & Dompierre, 1981; Clarke & Greenberg, 1986), and can successfully reduce relationship ambivalence (Trachsel et al., 2012), thus might usefully be applied to reducing ambivalence in PwAN.

Inspired by ideas from Gestalt therapy (Perls, 1969) and psychodrama (Moreno, 2019), the future-selves chairwork intervention (FSCI) aims to energise a motivational letter writing task commonly used in ED therapies (Schmidt et al., 2002) by integrating multisensory, memorable, and emotive qualities. The FSCI involves interviewing PwAN in different chairs where they embody 'recovered' and 'non-recovered' future versions of themselves to explore the impact of sustaining versus changing eating behaviours across valued life areas (Pugh & Salter, 2018). The task seeks to be memorable and evocative, to bypass defences commonly associated with AN (e.g., intellectualisation; Ripa di Meana, 1999). However, to date, the FSCI remains empirically untested.

A change process research approach

One of the problems with existing, MI-based MEIs may lie in their lack of attunement with theories of ambivalence specific to AN. MI was developed within substance misuse populations (Miller & Rose, 2009) and later applied to ED populations, where its effectiveness appeared mixed (Treasure et al., 1999). Consequently, the processes through which MI improve motivation specifically for PwAN remain unclear. This is pertinent given complexities of ambivalence in PwAN, wherein the associated moral honour and virtue seem unique to this group (Vitousek et al., 1998) and are often enhanced through pro-AN communities (Williams & Reid, 2010), further establishing AN's value.

Targeting the processes of resolving ambivalence specific to AN may increase MEIs' impact. Change process research (CPR) comprises methodologies concerned with assessing 'how' change occurs, rather than 'how much' (Elliott, 2010). CPR holds potential within psychotherapeutic research for EDs; for instance, establishing the mechanisms of change

across various ED treatments could help differentiate which therapy type works best for whom, and why.

CPR encompasses several methodological variants (Elliot, 2010) including task analysis (TA) which investigates the steps necessary for achieving change in a given 'task' within the 'environment' it occurs in. In doing so, TA first aims to develop a rational-empirical model of change (also referred to as the discovery phase; Greenberg, 2007). This is achieved via two stages:

- Stage 1 (rational): using clinical experiences and theory to establish a hypothesised model of change.
- Stage 2 (empirical): refining the rational model through real-life observations of the task in action.

As the FSCI has a clear 'task' of interest (resolution of ambivalence) and task 'environment' (the intervention itself), clearly describing the stage 1 rational model would position it for further empirical investigation.

FSCI task analysis: Discovery stage 1, rational model

Establishing a rational model involves combining clinical ideas about the task's change process and related theoretical literature (Elliott, 2010). As described, increasing the salience of various future-self representations may be an important mechanism of change within the FSCI. Brewin's (2006) theory of retrieval competition suggests dominant self-perceptions out-compete other possible self-representations stored in memory. Within the FSCI, imagining and embodying the 'cons' of AN is proposed to increase cons' salience such that they better compete with the perceived 'pros' of AN.

Salience of self-representations in the FSCI may be further promoted by concepts described in ICS theory (Teasdale & Barnard, 1993) which suggests expressing emotion towards the selves may promote connection between otherwise cognitive concepts of 'pros'

and ‘cons’ with the affective, ‘felt’ information processing stream, which is often neglected within MEIs (Pugh & Salter, 2018). Indeed, the theory underpinning the value of addressing emotion is highlighted in other psychotherapies such as emotion focused therapy (EFT; Elliot & Greenberg, 2021). EFT proposes deepening and differentiating emotions leads to accessing primary adaptive emotions: underlying feelings which provide useful information about corresponding needs (Elliott & Greenberg, 2021). In the FSCI, identifying primary emotions and associated needs through embodying the different future selves may reveal needs underlying the ED which can then be worked with in healthier alternative ways.

Assuming primary emotions and needs are identified, actioning these appropriately would also be important. MI theory, based around increasing valued action (Miller & Rollnick, 2013), suggests implementing learning from the FSCI may involve weighing up the (hopefully more salient) pros and cons of AN (Miller & Rose, 2015), using self-talk to encourage action (Abraham & Michie, 2008), and devising a change plan of manageable steps (Macdonald et al., 2012).

Table 1 combines these theoretical ideas with the FSCI instructions to illustrate a rational model of the FSCI’s change process.

Table 1

Provisional rational model of the FSCI

Chair position (version of self in experiencing chair)	Hypothesised change step
Part 1: Current self	Imagine and concretise a future non-recovered self Experience emotional reaction towards the non-recovered self
Part 1: Non-recovered future self	Embody negative consequences of the ED Experience primary emotion from within future non-recovered self which has an associated need Express identified need via providing advice to the current self, based on the primary emotions recognised earlier
Part 1: Current self	Hear and receive the advice and expression of need from the non-recovered self
Part 2: Current self	Imagine and concretise a future recovered self Experience emotional reaction towards the recovered self
Part 2: Recovered future self	Embody positive consequences of recovery Experience positive emotion associated with recovered future which has an associated need Express identified need via providing advice to the current self, based on the positive primary emotion
Part 2: Current self	Hear and receive the advice and expression of need from recovered self
Part 3: Current self	Establish how to put identified needs into action

The rational model combines hypothesised theoretical mechanisms of change within the FSCI. Subsequent analysis of real FSCI performances, to fulfil the empirical stage of the TA discovery phase, would further elucidate its mechanisms of change, to formalise this

novel MEI and offer additional insight into theories of resolving ambivalence towards change in AN.

Rationale and aims

The FSCI is a novel MEI which may provide an experiential approach suitable for resolving the problem of ambivalence in AN. Understanding further its mechanisms of change requires examining real observations of the task in action, with which the existing, rational model can be compared, adapted and refined. Therefore, this study aimed:

1. To elucidate the process of change which occurs during the FSCI, in terms of resolving ambivalence towards recovery from AN.
2. To develop a rational-empirical model illustrating this process.

These aims promote NHS values of 'commitment to the quality of care' and 'improving lives', by seeking to make MEIs more effective and promote recovery for PwAN.

Methods

Design

This study sought to abductively develop a rational-empirical model illustrating the mechanisms of change within the FSCI, by moving between imagined and observed client processes (Hansen, 1958; Kennedy, 2018). This was achieved through descriptive-interpretative qualitative analysis (DIQA; Elliot & Timulak, 2021) of session recordings representing various levels of 'resolution' of the 'task' of overcoming ambivalence towards recovery in AN. Although therapist talk-turns were also coded to capture therapists' supportive actions throughout the task, the analysis focused on client process; a more in-depth analysis of therapists' processes was outside the scope of this study and more in line with a microanalytic sequential process design (Elliot, 2009), which may be appropriate at later stages of model development.

Epistemologically, this study aligns with critical realism as it is concerned with mapping/modelling the experience of an observed change process, grounded in unobservable processes (Bhaskar & Hartwig, 2010).

This study constituted the first part of a two-part study investigating the FSCI; the second part (conducted by another trainee clinical psychologist (TCP 2)) was concerned with participants' ideas about the FSCI's change process.

Involving experts by experience

Experts by experience (EBEs) were consulted regarding the suitability and relevance of the topic area, study processes, and participant materials. The author of this paper (TCP 1) and TCP 2 consulted an EBE with a diagnosis of AN about the importance of increasing motivation (see Appendix D for abridged overview). This indicated the FSCI was worth researching, identified potential barriers to engagement, and provided suggestions for supporting participants. A different EBE, with a history of eating difficulties, provided feedback regarding clarity, accessibility, and language-use throughout participant materials.

Participants

Inclusion

Inclusion and exclusion criteria are presented in Table 2. SUs with BMI below 15 were excluded due to increased physical health risks, and because very low weight might have disrupted cognitive engagement (Russell et al., 2009; Hamatani et al., 2016). Clients engaged in NICE-recommended therapies were excluded to prevent potential confounding of motivation outcomes.

Table 2

Participant inclusion and exclusion criteria

Inclusion	Exclusion
Aged 18 or over	Aged under 18
Diagnosis of anorexia nervosa or atypical anorexia nervosa (including restrictive and binge-purge subtypes), according to the fifth edition of the Diagnostic and Statistical manual of mental disorders (American Psychiatric Association, 2013)	Any other eating disorder diagnosis
Accepted by the ED service and on the waiting list for psychological support	Engaged with any NICE recommended therapy as part of current treatment episode
Body mass index (BMI) over 15	BMI of 15 or lower
English speaking	Unable to engage with the intervention in English language

Measures

A range of measures were utilised to assess eating difficulties and motivation.

Eating Disorder Examination Questionnaire (EDE-Q)

The EDE-Q (Appendix E) consists of 28 self-report questions measuring the frequency and severity of ED-related difficulties over the past 28 days across four domains: restraint, eating concern, shape concern, and weight concern (Fairburn & Beglin, 1994). The EDE-Q has good convergent validity (Bardone-Cone & Agras, 2007) and good discriminative validity (Mond et al., 2008). Berg and colleagues (2012) found the EDE-Q to have good test-retest reliability and internal consistency across various samples.

A global score is calculatable, which this study used to assess each participant's overall symptom severity at study commencement. Global scores greater than 4 (maximum 6) indicate clinical significance (Fairburn & Beglin, 1994).

The Readiness and motivation questionnaire (RMQ)

The RMQ (Geller et al., 2013; Appendix F) measures motivation towards change across ED subtypes. It consists of 12 self-report sections, covering four symptom domains: restriction, bingeing, cognitive difficulties, and compensatory behaviours. This was considered suitable for assessing the range of difficulties related to AN and atypical AN. Respondents identify the frequency of each symptom over the last month, before rating over the last two weeks: their desire towards the symptom (pre-contemplation); their active work to overcome the symptom (action); how much of this was for them versus others (internality); and their confidence in reducing the symptom (confidence).

The RMQ has acceptable test-retest reliability across its subscales (r = .62 - .81; Geller et al., 2013), and good convergent, discriminant and criterion validity within this population when compared with established measures including the Readiness and Motivation Interview (Geller et al., 2001) and Eating Disorders Inventory (EDI; Garner & Olmsted, 1991; Geller et al., 2013).

The RMQ provides mean scores (encompassing the four symptom domains) for 'pre-contemplation', 'action', 'internality', and 'confidence'.

RMQ composite change score. Changes in RMQ scores pre-post task were used to determine how far participants had 'resolved' their ambivalence towards recovery following the FSCI. A composite score for motivational change was created for each participant as a sum of:

- Reduction in pre-contemplation score pre-post task (indicating an increase in readiness for action)

- Increases in action, internality, and confidence scores

Composite change scores, combining reductions in pre-contemplation and increases in action scores, have been used previously in assessing readiness towards change pre-post MEIs (Geller et al., 2011; Shingleton et al., 2016). Increases in internality and confidence were also included in this study to incorporate other factors believed to influence motivation including self-determination (internality; Vansteenkiste et al., 2005) and self-efficacy (confidence; Bandura, 1990).

Pros and cons of anorexia nervosa (P-CAN)

The P-CAN (Appendix G; Serpell et al., 2004) is a 50-item self-report questionnaire measuring perceived pros and cons of AN, the balance of which is considered important in informing motivation to change (Janis & Mann, 1977; Prochaska & DiClemente, 2005). It has 10 subscales, representing six perceived 'pros' and four perceived 'cons' (Serpell et al., 2004).

The P-CAN has acceptable test-retest reliability (r = .60 - .85; Serpell et al., 2004), and good convergent and divergent validity when compared with other scales including the EDI (Garner & Olmsted, 1991; Hötzel et al., 2013; Serpell et al., 2004).

The P-CAN provides scores for overall agreement with each of the 10 subscales. This study calculated two composite pre-post intervention scores measuring (1) changes in total perceived pros of ED and (2) changes in total perceived cons of ED. Composite pre-post intervention scores were used to validate the rational-empirical change model.

Intervention: FSCI

The FSCI is a single-session intervention consisting of five phases (Table 3) which was manualised for the study. For further details, see Pugh and Salter (2018).

Table 3

The five phases of the FSCI

Phase	Description
1. Letter writing homework	This takes place **pre-session** as a homework task. Clients write two letters: one from the perspective of themselves in 10 years' time not recovered from the ED, the other from the perspective of themselves in 10 years' time recovered from the ED. Letters describe what life is like with/without the ED across different life areas e.g., relationships, work, health. The letters should be written in the first person. Clients are asked to bring both letters to their next session.
2. Reviewing letters from the future	This takes place at the beginning of the intervention session. Clients can either read their letters aloud to the therapist or request the therapist read them out. Clients reflect on the process of writing the letters and therapists make note of important parts. Clients are invited to bring letters to life by engaging in a chairwork task wherein they move between different chairs and are interviewed in the different roles of their unrecovered and recovered future selves.
3. Interviewing the non-recovered future self	1. Clients imagine their non-recovered self in an empty chair. Therapists support them in imagining posture, expression, appearance, emotions, as well as their feelings towards the non-recovered self. 2. Clients move into the chair and embody their non-recovered self. The therapist acts as if they have bumped into each other 10 years in the future by chance. 3. Therapist interviews client in the role of their non-recovered future self, led by what the client brings to the role and their letters. The

Phase	Description
	interview is largely unstructured but can be based around key life areas if the client struggles to describe their life e.g., relationships, hobbies. 4. Therapist encourages the client to provide advice to their current self who is considering change and is asked to do so directly by speaking to the empty chair they originally occupied. 5. Client returns to their original chair (current self) and debriefs with the therapist about becoming their non-recovered future self.
4. Interviewing the recovered future self	The above interview process is repeated, but with the client moving into a chair on their other side which represents their recovered future self and embodying this version instead.
5. Agreeing next steps	Clients (back in the current self chair) are supported to debrief on the overall experience including key learning points and changes in attitudes towards recovery, and are encouraged to consider their next steps in moving towards recovery.

Interested ED service clinicians (CBT therapists and assistant psychologists (APs)) were trained to deliver the FSCI in a three-hour session delivered by the psychologist who developed the FSCI (MP) and the psychologist who supervised this study (AO), both of whom have extensive clinical and research experience. AO provided ongoing supervision to the trained therapists.

Procedure

Recruitment

Recruitment commenced in July 2022, via an outer-London ED service, using purposive sampling (Etikan et al., 2016) and was jointly undertaken by TCPs 1 and 2. SUs on

or entering the psychological therapies waiting list were invited to participate in the research following an initial assessment confirming clinically significant eating difficulties.

Clients were informed about the research by an AP or their healthcare professional (HCP). Interested clients consented for their contact details to be passed to TCPs 1 and 2, who followed up via phone and email to provide a participant information sheet (see Appendix H). Online consent appointments were arranged 48 hours later or more with either TCP 1 or 2 in which interested SUs signed the consent form (Appendix I), basic demographic information was collected, and consent was obtained to request further clinical information from the ED service. Participants were asked to complete the pre-intervention questionnaires (EDE-Q, RMQ and P-CAN) over the following days and return to TCP 1 via email.

The FSCI took place online or in person according to participant preference. Designated clinicians did not necessarily have a pre-existing therapeutic relationship with the participant. Sessions followed the protocol provided in Table 3 and were recorded for the analysis. Duration of the task ranged from 48 to 94 minutes (average duration 66 minutes). Most sessions were video (rather than audio) recorded (90%) and undertaken with therapists not previously known to the client (80%). The ratio of online versus face to face was evenly split (see Appendix J for full FSCI session characteristics).

Two weeks after the intervention, TCP 1 emailed participants requesting they re-complete the RMQ and P-CAN over the following week and return via email. Participants were also offered a post-session interview with TCP 2. Following this, participants remained on the waiting list for psychological therapy.

Data analysis

As TA is a relatively uncommon research methodology, key terminology (with applicability to current study) is provided in Table 4.

Case selection

The analysis required comparison of resolution and non-resolution cases, selected from a wider sample, large enough to identify 'extremes' (Pascual-Leone et al., 2009). The present study was inhibited by the project's timescale and service-related logistics. Therefore, recruitment closed once 10 participants had completed post-intervention questionnaires and TCP 1 consulted an expert with extensive experience with this methodology; Professor Elliott advised it is accepted practice at this stage of model development to analyse two 'resolution cases' to establish an initial change model based on their similarities, before analysing two 'non-resolution cases' and adapting the model accordingly (personal communication, February 2, 2023). Given the smaller sample range, he suggested analysing two medium-change cases to identify steps which only occurred in the highest-changing cases, which may therefore be unique to larger changes in motivation. Consequently, RMQ composite change scores were used to identify six cases from the wider sample representing various levels of task resolution: high (two cases with highest composite scores), low (two cases with lowest composite scores), and mid-change (two cases whose scores fell in the middle of the range).

The empirical model development

Greenberg (2007) described TA's empirical analysis as "a form of qualitative content analysis that describes a sequence of phenomena that unfold over time" (p. 19). This followed a DIQA approach (Elliot & Timulak, 2021): a generic qualitative analysis useful when methodologies do not clearly map onto one specific paradigm.

TCP 1 transcribed the six selected sessions verbatim then divided them into macro-categories which captured distinct phases of the chairwork intervention (e.g., interviewing the non-recovered self|). Macro-categories were delineated into meaning units representing the smallest level at which a complete thought or utterance could be understood independently (Elliot & Timulak, 2021; see Appendix K).

TCP 1 replayed session recordings recurrently whilst coding meaning units for their process descriptions, which attempted to capture "what [clients] are doing instead of what they are saying" (Elliot & Timulak, 2021, p.53). Stages three-five of the FSCI were coded as the initial letter-writing stages are already well established (Schmidt et al., 2002). Participant and therapist meaning units were coded, to account for the shared creation of sessions. Meaning unit codes were subsequently categorised into high-level process descriptions.

Process descriptions across the two highest-change cases were compared and combined by TCP 1 to create initial models of participant change and therapist supportive actions (see Appendix L for examples). The lowest-change case was then analysed, with process differences used to adapt the initial models, before repeating with the second-lowest change case (see Appendix M for examples). Finally, two mid-change cases were analysed, and the models were adapted further to indicate necessary versus optional change steps.

Table 4

TA terms and definitions in context

Term	**Definition (Greenberg, 2007)**	**Application in the current study**
The task	An affective-cognitive problem being targeted within the therapeutic encounter.	In this study, the task was overcoming ambivalence towards recovery from an ED. Ambivalence was represented by the participant's current eating difficulties and presentation to services for treatment.
The task environment	The intervention context in which the task is targeted.	In this study, the task environment was the FSCI, as described in Table 3. Specifically, as the letter writing element exists already as an established

Term	Definition (Greenberg, 2007)	Application in the current study
		therapeutic intervention (Waller et al., 2007), this study focused on the embodiment of the future selves via the use of chairwork: stages three-five of the chairwork intervention described in Table 3.
Task resolution	Achievement of therapeutic change or overcoming the affective-cognitive problem being targeted.	In this study, task resolution was quantified as an increase in motivation following the chairwork intervention. Motivational change was determined by the degree of change in participant RMQ scores pre-post task.
Resolution cases	Participants within a study who are considered to have resolved the task.	In this study, resolution cases were those participants who increased the most in motivation according to pre-post changes in RMQ score.
Non-resolution cases	Participants within a study who are not considered to have resolved the task.	In this study, non-resolution cases were those participants whose motivation decreased (or increased the least) according to pre-post changes in RMQ score.

Ethical considerations

This study received university approval (Appendix N), followed by NHS health research authority approval (Appendix O), and the NHS trust approval (Appendix P). Ethical amendments were obtained as appropriate (see Appendix Q).

All participants provided informed consent to take part in the study. The FSCI can be emotionally intensive (Pugh & Salter, 2018), however, is often experienced as hopeful and exciting, therefore potential distress was considered a reasonable risk. The research team and clinicians were skilled in working with people with EDs and distress was monitored closely, with specialist supervision available. All participants had regular (minimum monthly) contact with a named health care professional (HCP) as part of their involvement with the ED service. FSCI sessions were scheduled before 3pm to ensure additional support would be available to therapists and SUs should they require it, and HCPs were contacted by TCPs 1 and 2 (depending on availability) following the intervention, to check they check in with their SU. Participants were made aware they could contact the research team or their HCP to discuss any concerns. No significant events were reported during the study.

Privacy regarding video recordings was discussed during consent appointments with audio recording offered as an alternative.

Quality assurance and reflexivity

Quality assurance was guided by grounded theory recommendations, which shares methodological similarity with TA's discovery phase (Pascual-Leone et al., 2009). The validity of explanatory models depends on the quality of the interventions themselves (Charmaz & Thornbeg, 2020), which was ensured through specialist training and supervision. Researchers were trained in the task to determine whether sessions followed protocol; it was agreed those which did not would be excluded, however, all sessions were considered adherent.

Reliability, with regards to the suitability of research methodology (Collingridge & Gantt, 2008), was enhanced through guidance from an expert in TA (R. Elliott, personal communication, February 2, 2023).

The lead researcher (TCP 1) recognised several potential influences on their relationship to the data including clinical work in EDs, particularly using CBT, and training in EFT. With regards to reflexivity, the rational model provided a formal structure to support TCP 1 with 'bracketing' theoretical preconceptions (Greenberg, 2007) and they kept a reflective journal to slow thought processes and notice their impact (see appendix R). Process-descriptions and higher-level codes were discussed and amended with research supervisors throughout model development.

Results

Thirty-two clients were approached about the study, 17 of whom expressed interest, and 10 completed the study. Figure 1 illustrates client recruitment and study inclusion, whilst Table 5 provides a summary of all participant demographics and clinical variables.

Figure 1

Flowchart of participant recruitment and inclusion

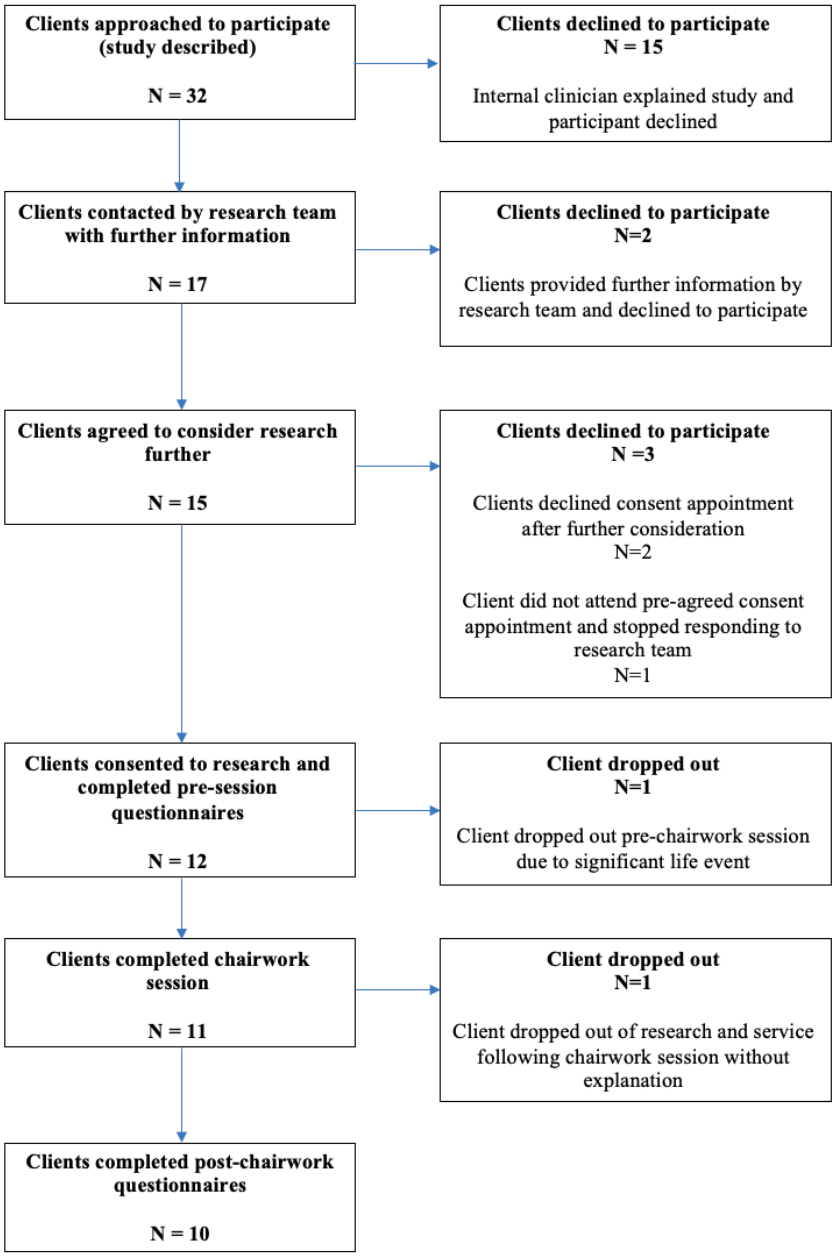


Table 5

Participant demographics

Pseudonym	Gender	Age	Ethnicity	Diagnosis	Body mass index (BMI)	Additional diagnoses	Approximate duration of current eating difficulties	EDE-Q score: mean (SD)
Jade	Cisgender female	23	White British	Anorexia nervosa: binge-purge subtype	17.35 kg/m^2	Not applicable	30 months	3.68 (0.39)
Helen	Cisgender female	32	White British	Atypical anorexia nervosa	20.1 kg/m^2	Not applicable	22 months	3.31 (0.50)
Carrie	Cisgender female	21	White British	Atypical anorexia nervosa	22.4 kg/m^2	Not applicable	24 months	4.99 (0.61)
Danielle	Cisgender female	35	White British	Atypical anorexia nervosa	26.7 kg/m^2	Not applicable	24 months	5.04 (0.64)
Kate	Cisgender female	24	White British	Anorexia nervosa	18.14 kg/m^2	Not applicable	144 months	4.08 (0.41)
Ali	Non-binary	26	White British	Atypical anorexia nervosa	22.7 kg/m^2	Not applicable	36 months	5.34 (0.65)
Grace	Cisgender female	22	White British	Anorexia nervosa	16.6 kg/m^2	ASC	23 months	5.51 (0.26)

Pseudonym	Gender	Age	Ethnicity	Diagnosis	Body mass index (BMI)	Additional diagnoses	Approximate duration of current eating difficulties	EDE-Q score: mean (SD)
Emily	Cisgender female	41	White British	Anorexia nervosa	19.9 kg/m^2	Not applicable	288 months	4.13 (1.26)
Sammie	Non-binary	25	Mixed race: South Asian and British	Anorexia nervosa	18.2 kg/m^2	Not applicable	60 months	4.90 (0.93)
Robin	Cisgender male	21	White British	Atypical anorexia nervosa	26.5 kg/m^2	ASC; ADHD	24 months	4.35 (0.85)

ASC = Autism spectrum condition; ADHD = Attention deficit hyperactivity disorder

Participants were aged between 21 and 41. Seven participants identified as female, one as male, and two as non-binary. The sample included a mixture of ED subtypes including AN, AN: binge-purge subtype, and atypical AN. BMI ranged from 16.6kg/m^2 to 26.7 kg/m^2 (mean: 20.86kg/m^2). Mean symptom duration was 67.5 months. Eight participants scored four or more on the EDE-Q, indicating clinically significant difficulties; however, all participants were experiencing clinically significant difficulties according to psychological assessment, meeting the threshold for acceptance into the ED service.

RMQ composite change scores pre-post FSCI were used to determine the resolution, non-resolution and mid-change cases (see Table 6). The composite change scores ranged from -88.89 to 79.47.

Table 6

Comparison of participant RMQ scores pre and post chairwork intervention

Participant	RMQ scores pre chairwork				RMQ scores post chairwork				Overall increase in motivation*
	Pre-con	Act	Int	Conf	Pre-con	Act	Int	Conf	
Kate**	71.43	20.00	70.00	35.71	71.25	58.75	97.5	48.75	**79.47**
Grace**	80.00	55.71	42.86	40.00	64.44	75.56	66.67	57.78	**77.00**
Carrie**	70.00	79.00	89.00	41.00	57.00	82.00	85.00	68.00	**39.00**
Danielle**	75.00	52.50	52.50	45.00	68.57	65.71	67.14	47.14	**36.42**
Ali	76.36	35.45	45.45	36.36	72.73	34.55	64.55	47.27	**32.74**
Jade	56.67	58.89	78.89	52.22	42.22	66.67	83.33	56.67	**31.12**
Emily	44.44	78.89	83.33	44.44	43.33	86.67	98.89	45.56	**25.57**
Robin	74.44	34.44	81.11	42.22	64.44	52.22	63.33	53.33	**21.11**
Sammie**	57.78	32.22	66.67	47.78	57.78	42.22	70.00	46.67	**12.22**
Helen**	55.56	61.11	83.33	66.67	40.00	41.11	46.67	50.00	**-88.89**

**See methods section for details of this calculation of overall increase in motivation*

Pre-con=precontemplation subscale; Act=Action subscale; Int=Internality subscale; Conf=Confidence subscale

*** Indicates participants selected for analysis based on RMQ composite change score*

The two resolution cases were identified as Kate and Grace. The two non-resolution cases were Helen and Sammie, with Helen being the only participant to decrease in motivation. Carrie and Danielle's sessions were classified as mid-change cases.

Table 7 provides a comparison of P-CAN scores pre-post intervention which were used to measure changes in participant agreement with pros and cons.

Table 7

Comparison of participant P-CAN scores pre and post chairwork intervention

Participant	**P-CAN scores pre chairwork**		**P-CAN scores post chairwork**		**Composite change scores***	
	Total agreement with pros score	Total agreement with cons score	Total agreement with pros score	Total agreement with cons score	**Pre-post FSCI increase in agreement with pros**	**Pre-post FSCI increase in agreement with cons**
Kate	-4.18	2.42	-1.56	3.45	**2.62**	**1.03**
Grace	3.11	5.77	0.85	5.68	**-2.26**	**-0.09**
Carrie	4.32	6.60	-0.91	6.20	**-5.23**	**-0.40**
Danielle	-8.74	3.08	-4.11	1.95	**4.63**	**-1.13**
Ali	-0.76	4.20	0.34	3.60	**1.10**	**-0.60**
Jade	-1.52	2.60	-1.83	2.92	**-0.31**	**0.32**
Emily	-5.09	4.75	-0.34	5.93	**4.75**	**1.18**
Robin	0.96	-1.60	2.07	1.47	**1.11**	**3.07**
Sammie	-2.09	2.23	-2.41	2.38	**-0.32**	**0.15**
Helen	-4.15	4.07	-6.96	6.68	**-2.81**	**2.61**
Means	-1.81	3.41	-1.48	4.03	**0.33**	**0.61**

**See methods section for details of the calculation of composite change scores*

Overall, there was a trend towards participants increasing agreement with ED pros (0.33) and cons (0.61) pre-post FSCI.

The rational-empirical client and therapist models

The client change process according to the empirical analysis is presented in three parts: (1) interviewing the non-recovered future self (NRS), (2) interviewing the recovered

future self (RS), and (3) task resolution. Each part is qualitatively described then illustrated by a visual representation of the model (Figures 2, 3, and 4).

Part 1: Interviewing the non-recovered future self

When participants imagined their NRS it seemed important to ***acknowledge that negative consequences of the ED will increase over time***, for instance, physical health problems, and to ***envision the NRS as a credible possibility for their future***. Helen (low-change), the only person not to do so, seemingly rejected her imagined NRS as unlikely:

"I feel hopeful that it won't be me. [Laughing] No, that I won't actually get into that situation…"

Acknowledging increases in eating and related difficulties and considering the NRS a credible possibility led to an ***expression of negative emotion towards NRS***. In the high-change cases, these were sadness (Kate) as well as frustration (Grace). The emotions expressed by lower-change cases were more complex, such as feeling sorry for (Helen) or envy (Sammie), which are typically directed towards other people, perhaps demonstrating these participants struggling to see their NRSs as part of them.

The next step was ***identifying a "bad" core feeling within the NRS, underlying the ED***. In contrast with the previous step, here the emotion was identified *within* the NRS. The phrase "bad" core feeling is used to represent the range of adverse emotions at the core of participants' difficulties. This step occurred for some in the latter part of imagining the NRS and for others in the embodying NRS stage. It was achieved to varying degrees across participants, with the most specific examples occurring within the highest-change cases, who respectively identified core feelings of low self-worth and anxiety about the fragility of life:

Grace (high-change): "Umm, well I've always worried about loads of things like… anything can happen I'll be

worried about it, or I just think… cause I've always been

uncertain about the future or even the next day"

Low-change participants also identified difficult feelings within their NRS, but because of the continued ED, rather than underlying it. For instance, Helen expressed guilt towards her children because of the ED's impact and Sammie sadness about the ED's continued presence.

Mid-change participants tended to show some recognition of a "bad" core feeling; however, these were broader and less specific, and became clearer as the task progressed. For instance, Danielle recognised discontentment, which she later clarified as feelings of inadequacy. Carrie identified general anxiety underlying the ED, which was later defined as anxiety about making decisions, possibly indicating a sense of inadequacy.

All participants seemed to ***embody further losses within the role of NRS***, such that life goals had been negatively impacted which was important in prompting the next step of ***recognising the futility of the ED as an attempt to soothe a "bad" feeling***, particularly the "bad" core feeling in those who identified it earlier. Essentially, participants realised their ED temporarily relieves distress but is short-lived and causes further problems. For instance, Carrie (mid-change) acknowledged that exercising and food compensation function to manage her anxiety about weight gain, yet never satisfy her:

[Through tears] "So like, why am I putting in so much

effort into maintaining this shape that I'm not even

comfortable in?"

Although Carrie did not access the underlying root of this anxiety, recognising the ED's futility was sufficient to prompt the next step of ***providing advice to the CS which helps to disrupt the cycle of the ED***:

[Crying] "I'd probably tell her to get up and just like, go, go travelling or just go to uni and just [expletive] stick with something that is bigger than you are. And just throw yourself into it and stop, stop procrastinating living."

Change seemed amplified at this point when participants could specifically ***identify the process used to manage or relieve their "bad" core feeling which also drives the ED***. For instance, Kate (high-change) embodied self-criticism functioning to appease feelings of low self-worth:

"yes (laughing) we're definitely still very critical of ourselves [th: yeah] yes, don't give ourselves a break, probably as much as we should".

Identifying this self-critical process was important as it also drove the ED. Similarly, Grace (high-change) embodied an increase in worrying and social media use to manage anxiety about something terrible happening to her, and a subsequent increase in the ED to provide control and reduce the intensity of the anxiety.

Recognising these detailed underlying processes enabled Kate and Grace (high-change cases) to provide more specific advice to their current selves about disrupting these processes. In contrast, the participants who had not identified underlying "bad" feelings tended to provide non-specific advice:

Helen (low-change): "Food is medicine, do as you're told, [ED clinician] knows what she's talking about"

Expressing compassion towards the current self whilst advising the CS seemed to further amplify change. Participants who identified their "bad" core feeling recognised the ED had tried to alleviate this. For instance, Grace (high-change) advised her current self:

"I'd probably say that you should have definitely listened more, or like actually… I wouldn't say tried more because you do you still try and you did actually try".

Accessing compassion seemed harder when participants expressed excessive guilt or shame within the NRS, for instance, for Helen (low-change) who expressed guilt towards her children. Although this was more pronounced in Helen's session, it was also the case for Carrie (mid-change) who expressed significant guilt about the impact of her behaviour on others. This inhibited participants' ability to connect with self-compassion whilst giving their CS advice. Helen's advice was notably critical:

"I think sometimes you gotta, you just gotta push yourself, haven't you? And I don't, don't feel like… I don't feel like I've managed…".

Upon being back in the CS chair and reflecting on the experience of embodying their NRS, it seemed important for participants to ***have experienced the embodiment as novel or unexpected*** in some way, for instance:

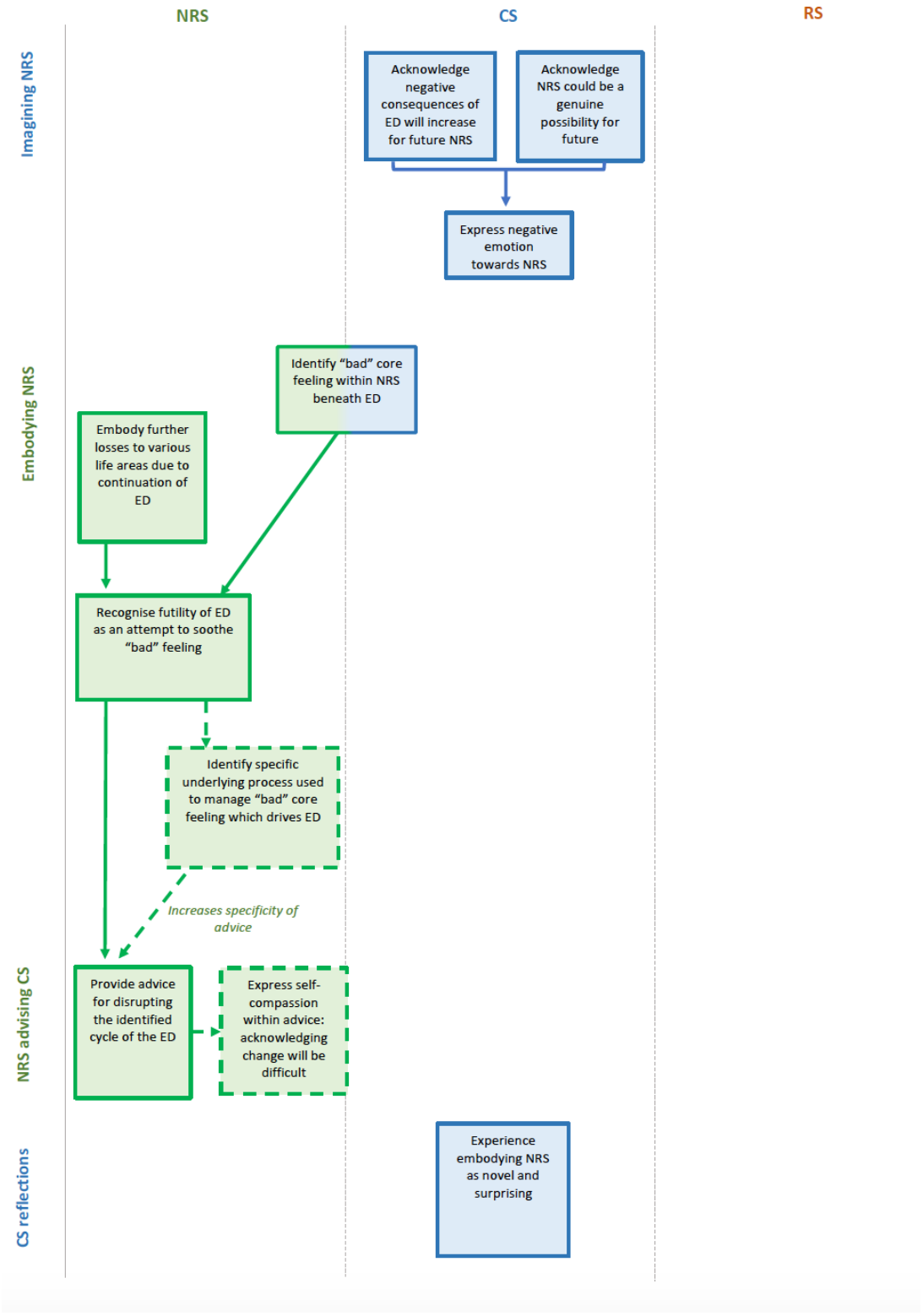
[Teary] "hard […] but interesting" (Carrie (mid-change))

"weird […] strange" (Kate (high-change))

Figures 2, 3 and 4 provide visual representations for each of the three sections of the overall client change process. Boxes within the figures indicate the change steps. Arrows are used to represent directional relationships between steps. Throughout the model, dashed boxes and arrows represent supplementary steps which seemed to amplify change and largely occurred only in the two highest-change cases.

Figure 2

Empirical change model part 1: Interviewing NRS



CS = Current self; ED = Eating Disorder; NRS = Not recovered (future) self; RS = Recovered (future) self

Part 2: Interviewing the recovered future self

All participants ***described desirable characteristics when imagining their RS***, including positive: emotions (happy, calm), behaviours (open, enthusiastic) and appearance (glowing, healthy).

Higher-change cases also ***acknowledged the barriers they might face in becoming their RS***. These barriers largely aligned with earlier acknowledged "bad" core feelings; for instance, Grace feared losing control over her weight, and Kate doubted she would be able to succeed. Recognising potential barriers led to an ***expression of mixed emotions towards the RS***, for instance, pride and jealousy (Kate), or happiness and fear (Grace). These mixed emotions possibly reflected more realistic RSs compared with more idealised, and unattainable, RSs imagined by Helen and Sammie (both low-change).

All participants seemed to ***embody positive life developments and achievements*** within their RS and ***express the positive emotions associated with these such as happiness, relief, and excitement***. However, higher-changing participants also ***embodied some reduction in their "bad" core feeling***. For instance, Danielle (mid-change) embodied less inadequacy:

"I'm a lot more confident in myself so, you know, we do a

lot of stuff together as a family".

In contrast, those who changed less tended to embody only the absence of ED-related "bad" feelings such as guilt and food-related anxiety:

Helen (low-change): "how I'm feeling about the food [...].

to have no guilt, has been lovely".

The reduction in "bad" core feeling led to ***embodying alternative management of "bad" core feelings***, which aligned with the NRS' earlier advice. For instance, Carrie (mid-

change) embodied an alternative strategy for managing her anxiety about making life decisions.

The highest-change participants amplified this process by ***embodying a reduction in the underlying process used to relieve their core "bad" feeling and drive the ED***. For instance, Kate embodied a reduction in critical thoughts:

"I don't think about myself much anymore. I'm busy doing other things. I don't- My brain isn't occupied by umm… Thoughts of myself anymore".

This involved ***acknowledging continued challenges the RS would face, particularly in the absence of the ED***. For instance, Grace, when reflecting on worries within RS, recognised they are still there, but she had found different ways of coping with them. This contrasted with low-change cases, in which there was a notable lack of recognition of continued difficulty, with the RS seeming almost unattainably well. For example:

Helen: "It's hard. Really hard to describe, it's, it's [th: yeah] it's an incredible change. […] I mean, I never thought it would happen, but here I am."

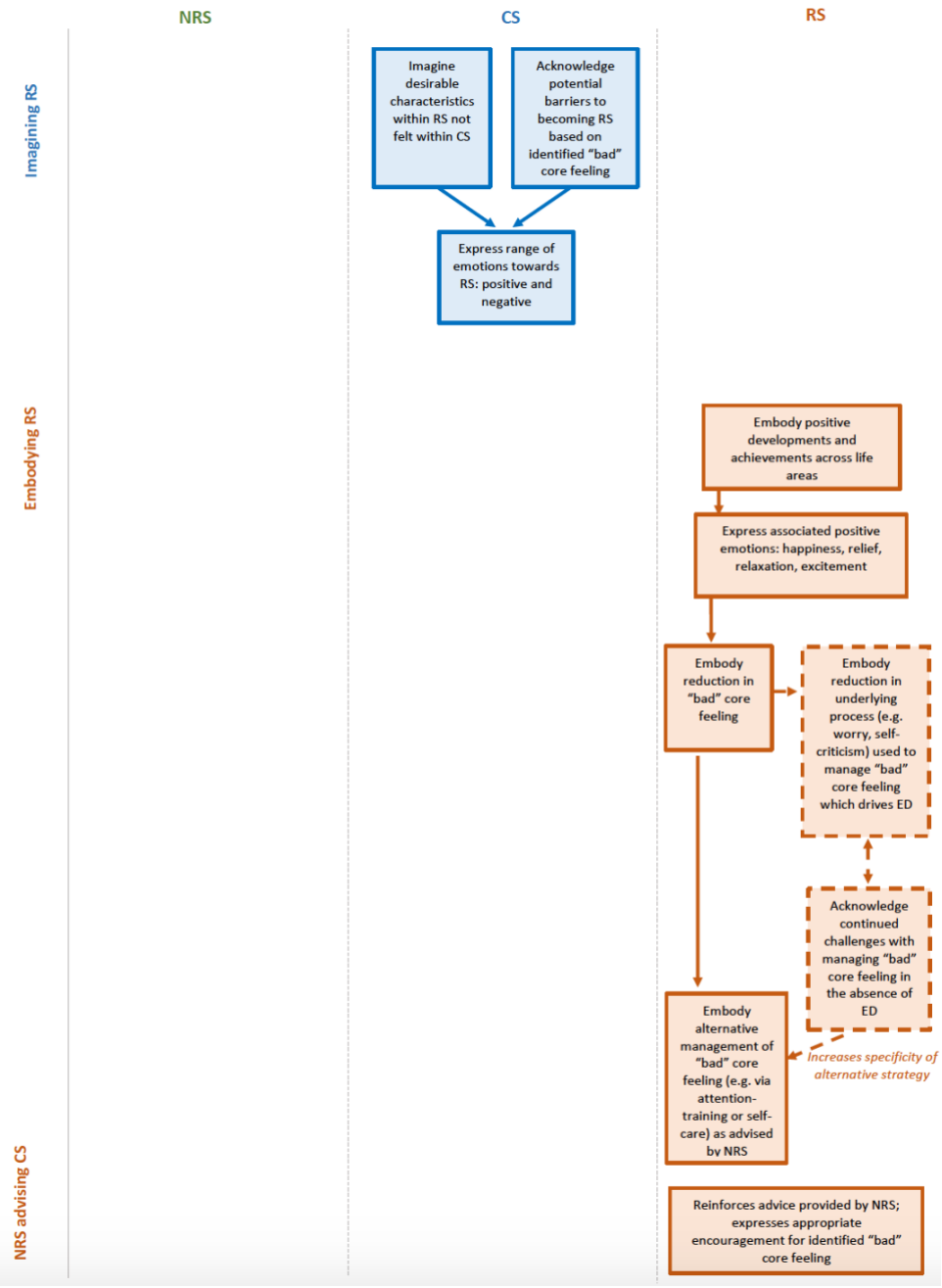
Denying difficulty possibly inhibited imagining alternative strategies which might promote recovery.

In advising the CS, higher-change cases tended to ***reinforce the earlier advice given and provide encouragement-based support which aligned with the need of the "bad" core feeling***. For instance, Grace (high-change), whose "bad" core feeling was uncertainty about the future and fragility of life, offered herself some certainty regarding things working out. Similarly, Carrie (mid-change) encouraged herself to trust her instincts when making decisions:

"there's no other way to do it. You've tried to do it the other way, there isn't- you've just got to let go."

Figure 3

Empirical change model part 2: Interviewing RS



CS = Current self; ED = Eating Disorder; NRS = Not recovered (future) self; RS = Recovered (future) self

Part 3: Task resolution

Having established their RS will continue to experience difficulty, higher-change cases ***accessed compassion for themselves*** either when advising their CS, or once back in the CS role. For instance, Carrie (mid-change) reflected:

"it's not something I'm still angry about, like, it felt more accepting and like yeah it's rubbish but it's ok because it happened and that's ok."

It seemed important for participants to ***recognise the co-existence of the two sides of their ambivalence*** through identifying and relating to each potential future self. For instance, Danielle (mid-change) reflected:

"It makes me more motivated to go to my left (RS) […] but it's like something is, is pulling me to this side (NRS) saying it's it's… Not that it's not going to happen, but…. Like, it's saying like 'I'm never gonna truly disappear'".

Upon further discussion about this conflict, she questioned:

"Why do I always want to be a stone lighter or, you know, that sort of stuff? I don't get it. I don't get why my brain is like that".

Danielle's remaining confusion about the strength of the pull towards the RS (ED) reflects the difference between the mid-change and highest-change cases; the highest-change participants, having uncovered the "bad" core feeling their ED functioned to soothe, ***identified their idiosyncratic dilemma of recovery in terms of what core "bad" feeling would be exposed without the ED***. For example, when asked which future self she felt more drawn to, Grace said:

"I think, obviously, it would be more that one (RS) to actually manage to get […] everything you want back. But then I just also am losing the feeling like I can control everything".

Those who recognised the specific function of their ED could then ***determine their own agency in dealing with the "bad" core feeling more effectively***. For instance, Carrie (mid-change) reflected of the task:

"it's definitely given me some umm […] yeah, responsibility, accountability. […] Like it feels like I'm an active player in this game"

This enabled participants to make specific plans towards recovery, based on overcoming their "bad" core feeling differently. Whereas for those who did not identify a "bad" feeling within both future selves, the two futures remained separate and the RS inaccessible. For instance, Helen (low-change) expressed doubt about becoming her RS:

[Speaking sadly] "It just feels like there's still quite a mountain to climb at the moment. […] I want to be that person, but I don't know how I'm going to get there."

The participants whose motivation increased more ***formulated plans at the end of the task which were specific and led by the self-compassion and agency accessed throughout the process***. For instance, Carrie (mid-change) determined when making decisions going forwards:

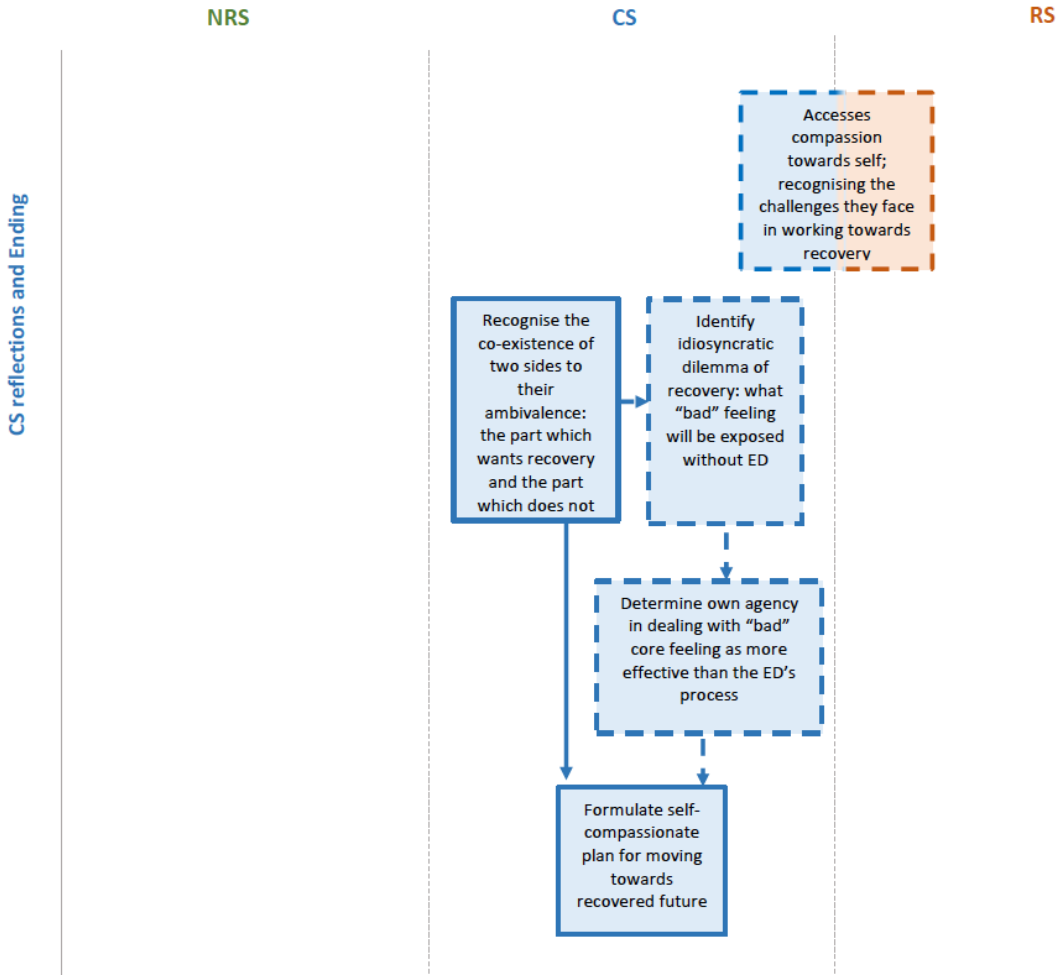
"I think… really taking a minute to think before, before I do anything about whether it's me that wants it or whether it's the eating disorder that wants it and really just… reminding myself to sit with that discomfort".

In contrast, participants whose motivation increased less tended to commit to broad and general steps towards change:

Sammie (low-change): "I guess […] like really trying to you know get the most out of therapy, doing the like homework [th: yeah] and things for each session and like trying to get the most out of each session".

Figure 4

Empirical change model part 3: Task resolution



CS = Current self; ED = Eating Disorder; NRS = Not recovered (future) self; RS = Recovered (future) self

Summary of key change steps

An overview of the key change steps is provided in Table 8.

Table 8

Summary of client change steps in the FSCI

Chair position (version of self in experiencing chair)	**Key change step**
Current self	Express negative emotion towards a credible NRS
Current self or not-recovered self	Identify "bad" core feeling within NRS and (ideally) how the ED functions to manage this
Not-recovered self	Provide self-compassionate advice for alternative process of managing the "bad" core feeling
Current self	Recognise mixed emotions towards an attainable RS who continues to experience challenges
Recovered self	Embody continuation of some "bad" core feeling alongside positive emotions as RS who accesses alternative coping strategies
Current self	Decide to move forwards driven by own agency and self-compassion

The therapist model

The participants' change processes relied on interactions with the therapist throughout the FSCI. These were broadly pre-defined by the chairwork intervention manual (for example, when to change chairs). However, the following model (Table 9) illustrates the therapist supportive actions for evoking change, established by the empirical analysis.

Table 9

Therapist supportive actions to evoke change

Stage of process	Therapist actions
Imagining NRS	Ask persistent questions to: • Enrich client's description of their NRS • Explore client's emotions towards their NRS • Explore the emergence of any emotions client acknowledges *within* NRS • If client acknowledges conflicting emotions towards NRS or unexpected positive emotions within or towards NRS, explore further to understand their origin
Embodying NRS	- Explicitly ask about the impact of the ED across range of different life areas - Use knowledge about client's life to emphasise differences between NRS' life and client's values, goals, and hopes - Ask persistent questions to explore and differentiate the range of negative emotions/feelings beneath ED - Notice feelings of guilt or shame - particularly activated by considering the impact of behaviour on others. Support client to de-centre from guilt and shame by externalising ED or exploring a different life area
NRS advising CS	- Support client to provide specific advice to current self which aligns with disrupting processes identified as driving eating difficulties - Notice advice driven by client's self-criticism and explore the function of this
CS reflections	- Encourage client reflections of task so far - Explore any unexpected feelings client expresses towards or within NRS - Explore the function of any self-critical client reflections and how these relate to core feelings beneath ED
Imagining RS	Ask persistent questions to: • Enrich client's description of their NRS • Explore client's emotions towards their NRS

Stage of process	Therapist actions
	• Explore the emergence of any conflicting emotions client acknowledges within NRS Accept and validate any conflicting feelings towards RS
Embodying RS	- Explicitly ask about changes across range of life areas - Use knowledge about client to emphasise RS achievements in line with client's values, goals, and hopes - Notice feelings of guilt or shame (particularly due to impact of 'past' behaviour on others). Support client to de-centre from guilt and shame by externalising ED or focus on client's views rather than others' - Explicitly ask about difficult feelings within RS - Explicitly ask about how RS manages difficult feelings differently to CS and NRS
RS advising CS	- Support client in providing specific advice - Notice advice driven by self-criticism and explore the function of this with client
CS reflections and ending	- Share experiences (from position of therapist) of client similarities and differences between NRS and RS - Explore any unexpected feelings noticed by client - Encourage client-led directed action towards change - Support clients to instil self-compassion when deciding to make changes

The therapists' supportive actions had several themes. The first was to explore, deepen, and specify clients' emotional states, particularly those which were novel or conflicting. It also seemed important to closely monitor participants' emotional experience, particularly for guilt and shame, which inhibited further exploration and self-compassion. In these cases, therapists helped participants de-centre from these emotions by separating the ED from themselves. Therapists also supported by reflecting on differences (e.g., in the values) between self-versions through using knowledge about the participants gained either

through a prior relationship or through close attention to their letters.

Discussion

Key findings

This study developed a rational-empirical model illustrating the process of resolving ambivalence towards recovery from AN during the FSCI. Overall, the model identified six key participant steps to promote change. Additionally, the study identified therapist supportive actions which seemed to support the client change process. These findings are discussed further in the context of relevant theories.

It was hypothesised the FSCI may engage the affective processing system (Teasdale & Barnard, 1993), thus enhancing motivation by bridging the 'head' and 'heart', which is often neglected in MEIs (Pugh & Salter, 2018). Indeed, emotional expression appeared an important change mechanism, with the empirical analysis further specifying this process. Identifying a core "bad" feeling underlying the ED, for instance inadequacy, seemed especially important. This is consistent with EFT theory, in which the emotion deepening sequence can first involve identifying what EFT terms 'primary maladaptive emotion(s)' (also known as 'old, stuck feelings') and their associated need(s), before recognising these are not applicable to the present situation (Elliott & Greenberg, 2021). The identified "bad" core feeling, and the role of the ED in relieving this feeling, for example, by forming part of a self-critical process to manage feelings of inadequacy, may represent a 'primary maladaptive emotion' and its associated need. The higher-change participants' realisation that this was not serving them and consideration of alternative ways of managing could represent their exploration of primary adaptive emotions and associated needs which offer more appropriate and effective guidance (Elliot & Greenberg, 2021), thus motivating a different approach towards ED recovery.

In accessing “bad” core feelings, EFT suggests differentiating and deepening emotions, as shown through the therapist-supportive actions, was likely important (Greenberg & Elliott, 2021). Increasing the salience of the mental imagery related to AN through vivid imagining and embodiment may have formed part of this emotion deepening process. Mental imagery is understood to activate emotions associated with the image(s) being worked on (Holmes & Mathews, 2010) and was first developed as a means of deepening emotional experiencing (Simpson & Arntz, 2020). Within the FSCI, the NRS could be considered an exaggerated image of AN, such that imagining and embodying it activates related emotions more intensively than cognitive tasks might.

The rational model hypothesised expressing a positive emotion associated with the RS would be important; the empirical analysis further specified self-compassion as a particularly useful adaptive emotion (first accessed within the NRS), which guided advice to the CS and later determined steps towards recovery. Through identifying their core “bad” feeling, participants recognised how difficult life had been to cope with despite how hard they had been trying, thus increasing self-compassion: again, reflecting EFT’s emotion deepening sequence by “changing emotion with emotion” (Book title; Greenberg, 2021). Accessing self-compassion may have further promoted change by engaging the soothe system, thus deactivating the obstructive threat system whose instinct is to avoid and protect (Gilbert, 2014).

Embodying future selves was hypothesised to create salient images representing the long-term pros and cons of AN, thereby enhancing cognitive retrieval (Brewin, 2006). Participants consistently commented on the novelty of the intervention, suggesting embodiment might have provided a meaningfully different experience of deliberating the pros and cons of AN.

However, other factors surrounding embodiment also appeared important including the integration, or lack thereof, between the CS, NRS and RS. The higher-change cases appeared more connected with their future versions, as if recognising they represented parts of them. In schema therapy (ST; Edwards, 2022) some self-parts are referred to as coping modes, which arise to help manage life experiences (Young et al., 2003) but can become overused and difficult to move out of. ST explores the costs of relying upon various modes and increases communication between them through engaging, listening to, and integrating them. Ideally, people develop a more cohesive 'healthy adult' self (HA) which takes responsibility, expresses self-compassion, and pursues directed action towards the person's true values (Bricker et al., 1993; Lobbestael et al., 2007). Within the FSCI, chairwork may offer an opportunity to talk with, and move between, different coping modes, represented by the different selves, thereby encouraging participants to 'de-centre' from any one part (Bell et al., 2020), particularly those parts driving the AN (e.g., self-criticism) in order to work more flexibly with them.

These self-dialogical theories are useful in hypothesising about the relative contributions of the future self versions within the order of the task. It may be that, when asked to become their NRS, participants embody the coping or self-critical mode associated with the ED which is then bypassed (and de-centred from) through the emotion deepening sequence, enabling them to compassionately acknowledge conflicting parts and begin integrating these. Embodying the RS further encourages change through offering an opportunity to embody the HA who can integrate difficult feelings alongside positive life developments and emotions, access self-compassion, and determine steps towards recovery aligned with true values: signalling an integration of self-parts. However, those who have not been through the necessary (emotion) change process may remain 'centred' within a coping

mode and unable to connect to the HA represented by their RS, such that the change process breaks down, impeding motivation enhancement.

The coping modes utilised throughout the FSCI also seemed relevant, which may explain the seeming importance of the future selves being credible and attainable. Disconnection between selves observed in the lower-change examples, such as Helen's rejection of the NRS, may have represented task-engagement from protective coping modes such as the 'detached protector', which avoids potential distress by remaining emotionally distanced (Lobbestael et al., 2007). Furthermore, when providing advice to their CSs, these participants drew upon external influences, such as clinician guidance, as if stuck within a coping mode and unable to access other ideas. This relates to the formulation of AN as a lost emotional self (Oldershaw et al., 2019b) which suggests over time, people struggle to recognise their wants and needs outside of AN's coping mode.

According to these theorised change mechanisms, participants are unlikely to benefit from the FSCI if they engage from less flexible coping modes which are not bypassed through the course of the task. Therefore, the existence and influence of participants' coping modes pre-FSCI may mediate the intervention's effectiveness, such that those with already established HAs access change more easily than those with prevalent defensive coping modes. Some people could therefore benefit from additional support prior to the FSCI to maximise its helpfulness; they could be identified by asking them to imagine their future selves and exploring the quality of emotional connections with, and reactions to, them. The Schema Mode Inventory (SMI; Lobbestael et al., 2010) could offer an additional, objective measure of various modes. Participants with undeveloped HAs might benefit from further work around self-parts before engaging with the FSCI, for instance, by mapping modes and their relationships (Green & Balfour, 2020).

Model validation

The change in P-CAN scores pre-post intervention corroborated the rational-empirical model. If resolution of ambivalence was achieved through a shift in the balance of pros and cons of change, as suggested by the TTM (Prochaska, 2008) and MI approaches (Miller & Rose, 2015), we might expect agreement with the pros of AN to have decreased in the highest-change cases. However, mean increases in agreement with both the pros and cons of AN pre-post intervention supports the assertion that the FSCI enables people to recognise first the ways AN has helped them cope with difficult feelings (pros) before acknowledging what it has taken from them (cons) in order to move forwards in a way which appropriately meets their needs.

Strengths and limitations

A strength of this study was the range of clinical profiles included in the sample, for instance, BMIs ranged from 16.6kg/m^2 to 26.7kg/m^2. This increases the generalisability of the findings, given the varied clinical characteristics found in clinical settings and the move away from low BMI as the sole indicator of clinical severity (Gianini et al., 2017).

However, the recruitment strategy also had limitations. Only 10 participants were included in the analysis due to time and service-related constraints. Although this was managed through expert consultation, a larger sample may have produced a greater RMQ-score range between the highest- and lowest-change cases, enabling clearer differentiation of the change processes between task 'resolvers' and 'non-resolvers'. Furthermore, nine of the participants were white British. Whilst this in part reflects the SU demographics of the ED service involved, the results may not be generalisable to other ethnic groups.

The case selection strategy for the analysis may have impacted study validity. The RMQ was used as it draws on several theories of motivation (Geller et al., 2013) and addresses multiple eating-related difficulties (Hötzel et al., 2013) suitable for people with atypical AN. Furthermore, clinician and client assessments of motivational change have been

found to be unreliable (Geller, 2002). However, motivation in EDs is a complex paradigm (Waller, 2012), therefore selecting cases using a singular measure may have omitted important elements. Waller (2012) suggests behavioural change is a more robust measure of motivation and, whilst the RMQ indeed measures behavioural change, it is via self-report which is prone to reporting bias (Bauhoff, 2011). Consequently, selected cases may not have represented the best examples of high, low, or medium motivational change. Nevertheless, a differentiation in change processes was evident in the current study suggesting a useful delineation between cases was made. Furthermore, model validation typically occurs through later stages of the overall TA process, in which elements of the model are altered, refined, and discarded as appropriate (Greenberg, 2007).

Analysing therapist actions separately from (rather than interdependently with) client change steps inhibited this study's identification of therapists' influences on the change process. For instance, the client model suggested expressions of guilt and shame may inhibit accessing self-compassion, therefore a suggested therapist supportive action, common to therapists across resolution cases, was to help clients de-centre from guilt and shame. However, as the therapist and client processes were not analysed contingently, this was not empirically corroborated. Furthermore, there may have been important therapist contributions which could influence participants' change process, for the better or worse, which were not identified by this study, yet would be important to clarify.

Clinical implications

Given the consistent increases in motivation across participants, despite variation in the delivery of intervention, relationships between therapist and participant, and participant characteristics, this study suggests the FSCI offers a flexible opportunity for increasing pre-treatment motivation for PwAN. It is hoped the models of task-resolution and corresponding therapist actions will provide further clinical guidance for achieving success within the FSCI.

Furthermore, given the letter-writing task exists within MANTRA (Schmidt et al., 2014), and CBT approaches include weighing up pros and cons of change (Fairburn, 2008), the FSCI could be incorporated into existing NICE concordant therapies reasonably easily.

The findings suggest utilising psychological theories outside of MI is worthwhile in establishing effective MEIs. Specifically, this study indicates dialogical-self models such as EFT and ST are relevant and useful for working with AN. In line with emerging therapeutic paradigms such as specialist psychotherapy with emotion for anorexia (SPEAKS; Oldershaw et al., 2019a), it may be useful to increase the training of ED clinicians within these models. At a basic level, given the hypothesised importance of identifying core "bad" feelings and moving between self-parts as mechanisms of change, it may be useful to implement EFT and ST-informed psychoeducation about emotions and coping modes early in the treatment of AN, such that these ideas can be worked with throughout the course of treatment.

Research implications

The natural progression of this research would be model refinement and validation in line with TA's validation phase which involves repeating the analysis with further examples of resolved and unresolved cases (Greenberg, 2007). Validating various model components, such as identifying a core "bad" feeling, could involve formalising definitions of various change steps then blind rating them across cases representing various levels of resolution to determine relationships between the presence and sequence of the steps and task resolution. For instance, assessing change on the SMI to measure the prevalence of various coping modes pre-post FSCI would further validate the change process hypothesised by the current study's findings.

Analysing therapist and participant in-session processes in conjunction with one another would be interesting to empirically explore the influences of therapist actions on client experiences. This could be achieved through employing a microanalytic sequential

process design focused on turn-by-turn interactions between therapists and participants to further examine theories about processes of change (Elliot, 2009), for example, investigating whether therapist-led exploration of a "bad" core feeling promotes client motivation in the same way client-led discovery seems to, or whether helping clients de-centre from guilt and shame indeed influences client self-compassion, as suggested by this study.

As recovery from EDs in a long-term process (Federici & Kaplan, 2008), future research should investigate the impact of the FSCI over time. It would be interesting to observe differences in recovery outcomes between those who increased most in motivation and those who increased least and, given high rates of treatment dropout (DeJong et al., 2012), whether the FSCI impacts therapy engagement and completion. This will be important in determining whether the FSCI is more impactful than existing MEIs which are not found to benefit participants over and above more comprehensive therapies (Denison-Day et al., 2018).

Finally, given one participant was lost to the study (and ED service) following the FSCI session, it will be important throughout development of the FSCI to continue exploring risks of the intervention and systems for safeguarding participants. For instance, it may be interesting to integrate a compulsory immediate debrief with a trusted HCP as part of the research process and compare dropout rates. Alternatively, it may be useful to collaborate with FSCI completers about their reactions to the intervention and their ideas for protecting future participants: incorporating these insights into future FSCI research.

Conclusion

This study developed a preliminary rational-empirical model illustrating the client process of resolving ambivalence towards recovery from AN using a novel chairwork intervention. It proposes resolution occurs when participants deepen their emotion experience beyond "bad" core feelings underlying the ED to access 'primary adaptive' emotion such as

self-compassion; thereby enabling them to compassionately acknowledge conflicting parts and draw upon a more integrated identity to guide change. Therapists can support this change process by attending closely to emotional experience and supporting clients to de-centre from emotions incompatible with self-compassion. The change model aligns particularly with EFT and ST theories, with this study providing support for new directions in the field of motivational interventions for EDs. The model requires further testing, validation, and refinement, in line with CPR methodology.

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Section C: Appendices of Supporting Material

Appendix A. *A priori* coding framework

PE	Definition	Source(s) of PE and definition
Provide information about [ED]-health link	General information about behavioural risk, for example, susceptibility to poor health outcomes or mortality risk in relation to the behaviour [ED]	Abraham & Michie (2008)
Provide information on consequences [of ED]	Information about the benefits and costs of action or inaction, focused on what will happen if the person does or does not perform the behaviour [continue with ED]	Abraham & Michie (2008)
Provide information about others' approval	Information about what others thinking about the [ED] behaviours and whether others will approve or disapprove of any proposed behaviour changes	Abraham & Michie (2008)
Prompt intention formation	Encouraging the person to decide to act or set a general goal, for example, to make a behavioural resolution such as ["I will eat more next week"]	Abraham & Michie (2008)
Prompt barrier identification	Identify barriers to [recovery and treatment] and plan ways of overcoming them	Abraham & Michie (2008)
Set graded tasks	Set easy tasks, and increase difficulty until target behaviour [reduced influence of ED] is performed	Abraham & Michie (2008)
Provide instruction	Telling the person how to perform a behaviour and/or preparatory behaviours	Abraham & Michie (2008)
Model or demonstrate the behaviour	An expert shows the person how to correctly perform a behaviour, for example, in class or on video	Abraham & Michie (2008)
Prompt specific goal setting	Involves detailed planning of what the person will do, including a definition of the behaviour specifying frequency, intensity, or duration and specification of at least one context, that is, where, when, how, or with whom	Abraham & Michie (2008)
Prompt review of behavioural goals	Review and/or reconsideration of previously set goals or intentions	Abraham & Michie (2008)
Prompt self-monitoring of behaviour	The person is asked to keep a record of specified [ED-related] behaviour(s) (e.g., in a diary)	Abraham & Michie (2008)
Provide feedback on performance	Providing data about recorded [ED-related] behaviour or evaluating performance in relation to a set standard or others' performance, i.e., the person received feedback on their behaviour	Abraham & Michie (2008)

PE	Definition	Source(s) of PE and definition
Provide contingent rewards	Praise, encouragement, or material rewards that are explicitly linked to the achievement of specified behaviours [e.g., non ED-compliant behaviours]	Abraham & Michie (2008)
Teach to use prompts or cues	Teach the person to identify environmental cues that can be used to remind them to perform a behaviour, including times of day or elements of contexts	Abraham & Michie (2008)
Agree on behavioural contract	Agreement (e.g., signing) of a contract specifying beahviour to be performed so that there is a written record of the person's resolution witnessed by another	Abraham & Michie (2008)
Prompt practice	Prompt the person to rehearse and repeat the [non-ED compliant] behaviour or prepatory behaviours	Abraham & Michie (2008)
Use follow-up prompts	Contact the person again after the main part of the intervention is complete	Abraham & Michie (2008)
Provide opportunities for social comparison	Facilitate observation of nonexpert others' performance, for example, in a group class or using video or case studies [e.g., of 'recovered' people]	Abraham & Michie (2008)
Plan social support or social change	Prompting consideration of how others could change their behaviour to offer the person help or (instrumental) social support, including "buddy" systems and/or providing social support	Abraham & Michie (2008)
Prompt identification as a role model	Indicating how the person may be an example to others and influence their beahviour or provide an opportunity for the person to set a good example	Abraham & Michie (2008)
Prompt self-talk	Encourage use of self-instruction and self-encouragement (aloud or silently) to support action	Abraham & Michie (2008)
Relapse prevention	Following initial change, help identify situations likely to result in readopting risk behaviours or failure to maintain new behaviours and help the person plan to avoid or manage these situations	Abraham & Michie (2008)
Stress and/or anxiety management	May involve a variety of specific techniques (e.g., progressive relaxation) that do not target the behaviour but seek to reduce anxiety and stress	Abraham & Michie (2008) (PE title adapted to include anxiety - definition unchanged)
Time management	Helping the person make time for the [non-ED compliant] behaviour (e.g., to fit it into a daily schedule)	Abraham & Michie (2008)
Elicit concerns about eating behaviours	Helping the person to recognise their concerns about current eating behaviours	PE name - Macdonald et al. (2012) Definition - Price-Evans & Treasure (2011)

PE	Definition	Source(s) of PE and definition
Exploration of ambivalence	Using a collaborative stance to explore with the person their own reasons for and against maintaining/changing ED behaviours	PE name - Macdonald et al. (2012) Definition - Treasure & Ward (1997)
Discussion of trans-theoretical model of change and/or brief assessment of participant's stage of change	Talking to the person about the different stages of change according to the TTM and working out which stage of change they are likely to be in to determine most appropriate intervention	PE name - Macdonald et al. (2012) Definition - Orchard (2003)
Written decisional balance	Written process of weighing up the pros and cons to ED and/or changing ED behaviour, e.g., via a worksheet	PE name - Macdonald et al. (2012) Definition - Miller & Rose (2015)
Bolster self-efficacy	Promoting the person's belief in their ability to achieve change and their goals, e.g., through affirming and supportive statements and reviewing past events which demonstrate mastery despite challenges	PE name - Macdonald et al. (2012) Definition - Treasure & Ward (1997); Cassin et al. (2008)
Exploration of dissonance with values	Helping the person to establish their life values and/or goals and discrepancies between these and current ED behaviours	PE name - Macdonald et al. (2012) Definition - Killeen et al. (2014)
Elicit ideas for possible behavioural alternatives to current ED behaviour	Enabling the client to come up with alternative behaviours to existing ED behaviours, being led by their view of their needs	PE name - Macdonald et al. (2012) Definition - Killick & Allen (1997)
Devise a change plan	Work collaboratively on devising a change plan consisting of small, manageable steps	Macdonald et al. (2012)
Complete "plans for change" worksheet	The change plan is specifically written up (as opposed to verbally agreed)	PE name - Macdonald et al. (2012) Definition - Killeen et al. (2014)
Problem solving	Supporting the person to systematically identify and address problems which may otherwise disrupt healthy eating behaviours	PE name - Macdonald et al. (2012) Definition - Fairburn (2008)
Discussion of personal and moral norms	Discussing with the person their view of moral obligations and norms across eating (and other related situations) and the impact these have with expectations for themselves	PE name - Macdonald et al. (2012) Definition - Schwartz (1977)

PE	Definition	Source(s) of PE and definition
Weight gain monitoring	Regular weighing, meal planning, information about nutrition and adherence	Macdonald et al. (2012)
Working with maladaptive cognitions	Identifying and beginning to challenge beliefs which maintain eating disorders, such as dieting rules, body image and concerns about loss of control	PE name - Macdonald et al. (2012) Definition - Macdonald et al. (2012); Fairburn (2008)
Addressing concurrent unhelpful behaviours: e.g., laxatives, diuretic use, and excessive exercise	Supporting the person to acknowledge, and start addressing related behaviours, e.g., by providing factual information about them and their dangers, and related strategies for managing them e.g., replacing excessive exercise with social exercise	PE name - Macdonald et al. (2012) Definition - Fairburn (2008)
Family work	Involving family in interventions to support their efficacy outside of therapy	PE name - Macdonald et al. (2012) Definition - Treasure & Ward (1997)
Recognising quality of life improvements	Exploring and recognising changes made to quality of life and addressing any fear of 'normal life' challenges	Macdonald et al. (2012)
Mindfulness techniques	Mindfulness-based techniques aimed at addressing mood intolerance and emotional dysregulation	Macdonald et al. (2012)

Appendix B. Detailed quality appraisal tables

JBI quality assessment checklist for quasi-experimental designs

Paper	Study design	Bias level	Q. 1	Q. 2	Q. 3	Q. 4	Q. 5	Q. 6	Q. 7	Q. 8	Q. 9	Overall score
1. Allen et al. (2011)	**Sequential-trial**	**Study**	Yes	Yes - no significant differences were found between groups for variables including age, BMI, diagnosis, and comorbid difficulties	Yes	Yes - CBT-E without preceding MFT	No - outcomes only assessed once pre-intervention	Yes - although follow up was not complete, differences between groups were described and analysed including comparison with ITT analyses	Yes	Partial - mixture of self-reported questions used and standardised measures	Yes	7.5 / 9
		Outcome	Yes	N/A	N/A	No	No - outcomes only assessed once pre-intervention	Yes - although follow up was not complete, differences between groups were described and analysed including comparison	N/A	Unclear - unvalidated self-report questions used	Yes	4 / 6

							with ITT analyses				
4. Dean et al. (2008)	**Sequential-trial**	**Study**	Yes	Unclear - no analyses comparing diagnoses across groups and greater restriction in MET group	Yes	Yes - TAU	No - outcomes only assessed once pre-intervention	Partial - loss to follow up explained, but not adequately accounted for in analysis	Yes	Yes	Yes	6.5 / 9
		Outcome	Yes	Unclear - no analyses comparing diagnoses across groups and greater restriction in MET group	Yes	Yes - TAU	No - outcomes only assessed once pre-intervention	Partial - loss to follow up explained, but not adequately accounted for in analysis	Yes	Yes - measure of readiness to change (ANSOCQ) is a standardised self-report measure	Yes	6.5 / 9

6. Feld et al. (2001)	**Pilot study (no control group)**	**Study**	Yes	N/A	N/A	No	No - outcomes only assessed once pre-intervention	Partial - loss to follow up explained, but not adequately accounted for in analysis	N/A	Partial - mixture of standardised measures and unvalidated Likert scales	Yes	3 / 6
		Outcome	Yes	N/A	N/A	No	No - outcomes only assessed once pre-intervention	Partial - loss to follow up explained, but not adequately accounted for in analysis	N/A	Partial - mixture of standardised measure and unvalidated Likert scales	Yes	3 / 6
8. Gowers & Smyth (2004)	**Pilot study (no control group)**	**Study**	Yes	N/A	N/A	No	No - outcomes only assessed once pre-intervention	No - loss to follow up not described or accounted for apart from for immediate motivation outcome	N/A	Partial - mixture of standardised measures and unvalidated self-	Yes	2.5 / 6

									report questions		
		Outcome	Yes	N/A	N/A	No	No - outcomes only assessed once pre-intervention	Yes - no loss to follow up for motivation outcome	N/A	Unclear - unvalidated self-report questions used	Yes	3 / 6
9. Shingleton et al. (2016)	**Replicated single-case alternating treatment design**	**Study**	Yes	Yes - design allowed for the same participants to act as control	Yes	Yes - participants acted as their own controls	No - outcomes only assessed once pre-intervention	Yes	Yes	Partial - mixture of standardised measures and unvalidated self-report questions	Yes	7.5 / 9

	Outcome	Yes	Yes - design allowed for the same participants to act as control	Yes	Yes - participants acted as their own controls	No - outcomes only assessed once pre-intervention	Yes	Yes	Yes	Yes	8 / 9

Key

Q. 1: Is it clear in the study what is the 'cause' and what is the 'effect'? ; Q. 2: Were the participants included in any comparisons similar?; Q. 3: Were the participants included in any comparisons receiving similar treatments other than the exposure or intervention of interest?; Q. 4: Was there a control group?; Q. 5: Were there multiple measurements of the outcome both pre and post the intervention/exposure?; Q. 6: Was follow up complete, and if not, were differences between groups in terms of their follow up adequately described and analysed?; Q. 7: Were the outcomes of participants included in any comparisons measured in the same way?; Q. 8: Were outcomes measured in a reliable way?; Q. 9: Was appropriate statistical analysis used? (JBI, 2020).

AN = Anorexia Nervosa; BN = Bulimia Nervosa; EDNOS = Eating Disorder Not Otherwise Specified; MFT = Motivation Focused Therapy; CBT (Cognitive Behavioural Therapy) CBT-E = Enhanced Cognitive Behavioural Therapy; ED = Eating Disorder; BMI = Body Mass Index; RMI = Readiness and Motivation Interview (Geller et al., 2001); ITT = Intention to Treat Analysis

JBI quality assessment checklist for RCTs

Paper	Bias level	Q. 1	Q. 2	Q. 3	Q. 4	Q. 5	Q. 6	Q. 7	Q. 8	Q. 9	Q. 10	Q. 11	Q. 12	Q. 13	Overall score
2. Cardi et al. (2019)	**Study**	Unclear - insufficient information provided	Unclear - insufficient information provided	Yes	No	No	Partially - some outcomes assessed by clinicians blinded to treatment assignment	Yes	Yes - ITT analyses used	Yes	Yes	No - unvalidated, self-report analogue scale used, no repetition over time	Yes	Yes	7.5 /13
	Outcome	Unclear - insufficient information provided	Unclear - insufficient information provided	Yes	No	No	No	Yes	Yes - ITT analyses used	Yes	Yes	No - unvalidated, self-report analogue scale used, no repetition over time	Yes	Yes	7 / 13
3. Cassin et al. (2008)	**Study**	Yes	Yes	Yes	Yes	No	Partially - some outcomes assessed by clinicians blinded to treatment assignment	Yes	Yes - ITT analyses used	Yes	Yes	No - unvalidated, self-report scales used	Yes	Yes	10.5 / 13

	Outcome	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes - ITT analyses used	Yes	Yes	No - unvalidated, self-report scales used	Yes	Partial - would have been helpful to analyse effect of time for each intervention	10.5 / 13
5. Dunn et al. (2006)	**Study**	Unclear - insufficient information provided	Unclear - insufficient information provided	Yes	No - masked until after baseline assessment	No	No	Yes	Yes - appropriate analyses reported to manage missing data	Yes	Yes	Yes - standardised measures used appropriately	Yes	Yes	8 / 13
	Outcome	Unclear - insufficient information provided	Unclear - insufficient information provided	Yes	No - masked until after baseline assessment	No	No	Yes	Yes - all participants completed outcome of interest imme	Yes	Yes	Yes - standardised measure of readiness to change adapted and tested for reliability	Yes	Yes	8 / 13

								diately post-session						
7. Geller et al. (2011)	**Study**	Yes	Unclear - insufficient information provided	Yes	No	No	No	No - participants were able to participate in other treatments	Yes	Yes	Yes	Yes - standardised measures used	Yes	Yes	8 / 13
	Outcome	Yes	Unclear - insufficient information provided	Yes	No	No	No	No - participants were able to participate in other treatments	Yes	Yes	Yes	Yes - standardised measure used	Yes	Yes	8 / 13
10. Treasure et al. (1999)	**Study**	Yes	Unclear - insufficient information provided	Yes	No	No	No	Yes	Partial - loss to follow up	Yes	Yes	Yes - standardised measures used	Yes	Yes	8.5 / 13

								explained, but not adequately accounted for in analysis						
	Outcome	Yes	Unclear - insufficient information provided	Yes	No	No	No	Yes	Partial - loss to follow up explained, but not adequately accounted for in analysis	Yes	Yes	Yes - standardised measure used	Yes	Yes	8.5 / 13
11. Vella-Zarb et al. (2015)	**Study**	Yes	No	Unclear - information not reported	No	No	No	Yes	Yes	Yes	Yes	Yes - standardised measures used	Yes	Yes	8 / 13

	Outcome	Yes	No	Unclear - information not reported	No	No	No	Yes	Yes	Yes	Yes	Yes - standardised measure used	Yes	Yes	8 / 13
12. Wade et al. (2009)	**Study**	Partial - some adaptations made due to service set up (2/6 week treatment groups)	Unclear - insufficient information provided	Partial - significant differences between groups, however most were controlled for in analysis	No	No	Partially - some outcomes assessed by clinicians blinded to treatment assignment	Yes	Yes	Yes	Yes	Partial - mixture of standardised and non-standardised measures used	Yes	Yes	8 / 13
	Outcome	Partial - some adaptations made due to service set up (2/6 week treatment groups)	Unclear - insufficient information provided	Partial - significant differences between groups, however most were controlled for in analysis	No	No	No	Yes	Yes	Yes	Yes	Partial - mixture of standardised and non-standardised measures used	Yes	Yes	7.5 / 13
13. Weiss et	**Study**	Yes	Unclear - insufficient	Partial - similar across	No	No	No	No - some partici	Partial - loss	Yes	Yes	Partial - mixture of	Yes	Partial - other designs	6 / 13

al. (2013)			information provided	demographic and baseline measures, however many were receiving multiple other treatments				pants receiving additional psychotherapy and/or intensive treatment	to follow up explained, but not adequately accounted for in analysis			standardised and non-standardised measures used		may have better enabled the service setting	
	Outcome	Yes	Unclear - insufficient information provided	Partial - similar across demographic and baseline measures, however many were receiving multiple other treatments	No	No	No	No - some participants receiving additional psychotherapy and/or intensive treatment	Partial - loss to follow up explained, but not adequately accounted for in analysis	Yes	Yes	No - unvalidated, self-report analogue scale used	Yes	Partial - other designs may have better enabled the service setting	5.5 / 13

14. Ziser et al. (2021)	**Study**	Yes	Unclear - insufficient information provided	Partial - one significant difference between groups at baseline	No	No	No	Partial - both were TAU, but no information provided about what this entailed	No	Yes	Yes	Yes - standardised measures used	Partial - would have been helpful to analyse effect of time for each intervention	Yes	6.5 / 13
	Outcome	Yes	Unclear - insufficient information provided	Partial - one significant difference between groups at baseline	No	No	No	Partial - both were TAU, but no information provided about what this entailed	No	Yes	Yes	Yes - standardised measure used	Partial - would have been helpful to analyse effect of time for each intervention	Yes	6.5 / 13

Key

Q.1: Was true randomisation used for the assignment of participants to treatment groups?; Q.2: Was allocation to treatment groups concealed?; Q.3: Were treatment groups similar at the baseline?; Q.4: Were participants blind to treatment assignments?; Q.5: Were those delivering treatment blind to treatment assignments?; Q.6: Were outcome assessors blind to treatment assignment?; Q.7: Were treatment groups treated identically other than the intervention of interest?; Q.8: Was follow-up complete and if not, were differences between groups in terms of their follow-up adequately described and analysed?; Q.9: Were participants analysed in the groups to which they were randomised?; Q.10: Were outcomes measured in the same way for treatment groups?; Q.11: Were outcomes measured in a reliable way?; Q.12: Was appropriate statistical analysis used?; Q.13: Was the trial design appropriate, and any deviations from the standard RCT design (individual randomisation, parallel groups) accounted for in the conduct and analysis of the trial?

Appendix C. The final list of PEs and definitions

Practice Element (A to Z)	Definition	Source(s) of PE and definition
Additional personalised peer support provided	*Supporting the person outside of the core intervention via personalised contact, e.g., with peer or recovery mentors (people of a similar age, carers or people who have recovered from an ED)*	Cardi et al. (2019)
Addressing concurrent unhelpful behaviours: e.g., laxatives, diuretic use, and excessive exercise	Supporting the person to acknowledge, and start addressing related behaviours, e.g., by providing factual information about them and their dangers, and related strategies for managing them e.g., replacing excessive exercise with social exercise	PE name - Macdonald et al. (2012) Definition - Fairburn (2008)
Bolster self-efficacy	Promoting the person's belief in their ability to achieve change and their goals, e.g., through affirming and supportive statements and reviewing past events which demonstrate mastery despite challenges	PE name - Macdonald et al. (2012) Definition - Treasure & Ward (1997); Cassin et al. (2008)
Building self-compassion	*Techniques to help the person recognise the principles compassion and direct them towards themselves*	Kelly & Carter (2015)
Complete "plans for change" worksheet	The change plan is specifically written up (as opposed to verbally agreed)	PE name - Macdonald et al. (2012) Definition - Killeen et al. (2014)
Devise a change plan	Work collaboratively on devising a change plan consisting of small, manageable steps	Macdonald et al. (2012)
Discussion of trans-theoretical model of change and/or brief assessment of participant's stage of change	Talking to the person about the different stages of change according to the TTM and working out which stage of change they are likely to be in to determine most appropriate intervention	PE name - Macdonald et al. (2012) Definition - Orchard (2003)
ED-specific letter writing exercises	*Supporting the person to write therapeutic letters about their ED, e.g., to the ED as a friend and as a foe; to friends from future versions (recovered and unrecovered) of themselves; a day in the life of the ED/stomach; and/or about life experiences*	Schmidt et al. (2002)
Elicit concerns about eating behaviours	Helping the person to recognise their concerns about current eating behaviours	PE name - Macdonald et al. (2012) Definition - Price-Evans & Treasure (2011)

Practice Element (A to Z)	Definition	Source(s) of PE and definition
Elicit ideas for possible behavioural alternatives to current ED behaviour	Enabling the client to come up with alternative behaviours to existing ED behaviours, being led by their view of their needs	PE name - Macdonald et al. (2012) Definition - Killick & Allen (1997)
Emotion management and regulation	*Supporting the person to learn adaptive strategies aimed at managing challenging emotions*	Schäfer et al. (2017)
Exploration of ambivalence	Using a collaborative stance to explore with the person their own reasons for and against maintaining/changing ED behaviours	PE name - Macdonald et al. (2012) Definition - Treasure & Ward (1997)
Exploration of dissonance with values	Helping the person to establish their life values and/or goals and discrepancies between these and current ED behaviours	PE name - Macdonald et al. (2012) Definition - Killeen et al. (2014)
Exploration of interpersonal difficulties	*Acknowledging the role of interpersonal difficulties in EDs e.g., disputes, transitions, loss and grief, and providing ideas about how to manage these difficulties*	Mitchell et al (2007)
Exploration of readiness towards change	*Non-judgemental discussion of the person's overall readiness towards changing ED behaviours, including their sense of confidence and its importance*	Rollnick (1998)
Externalising/separating the ED from the person	*Separating the problem [ED] from the person, to help create space for the person to move away from the problem and recognising individual's resources*	White (2007)
Family work	Involving family in interventions to support their efficacy outside of therapy	PE name - Macdonald et al. (2012) Definition - Treasure & Ward (1997)
Interventionist MI stance	*Collaboration/partnership with the person, respecting and accepting the person, showing genuine compassion and concern, empathising, avoiding confrontation, being guided by the person's responses (not specifically asking them to change/rolling with resistance)*	Miller & Rollnick (2013); Treasure & Schnmidt, (2001)

Practice Element (A to Z)	Definition	Source(s) of PE and definition
Looking back and forwards	*Encouraging the person to look into the past and the future to consider what was/might be different about their life with and without ED*	Miller & Rollnick (2013)
Model or demonstrate the behaviour	An expert shows the person how to correctly perform a behaviour, for example, in class or on video	Abraham & Michie (2008)
Motivational messages sent	*Sending messages electronically, e.g., over email or text, with encouraging content e.g., "eating more is good for your emotional health"*	Shingleton et al (2016)
Plan social support or social change	Prompting consideration of how others could change their behaviour to offer the person help or (instrumental) social support, including "buddy" systems and/or providing social support	Abraham & Michie (2008)
Prompt barrier identification	Identify barriers to [recovery and treatment] and plan ways of overcoming them	Abraham & Michie (2008)
Prompt intention formation	Encouraging the person to decide to act or set a general goal, for example, to make a behavioural resoltion such as ["I will eat more next week"]	Abraham & Michie (2008)
Prompt review of behavioural goals	Review and/or reconsideration of previously set goals or intentions	Abraham & Michie (2008)
Prompt self-monitoring of behaviour	The person is asked to keep a record of specified [ED-related] behaviour(s) (e.g., in a diary)	Abraham & Michie (2008)
Prompt self-talk	Encourage use of self-instruction and self-encouragement (aloud or silently) to support action	Abraham & Michie (2008)
Prompt specific goal setting	Involves detailed planning of what the person will do, including a definition of the behaviour specifying frequency, intensity, or duration and specification of at least one context, that is, where, when, how, or with whom	Abraham & Michie (2008)
Provide information about [ED]-health link	General information about behavioural risk, for example, susceptibility to poor health outcomes or mortality risk in relation to the behaviour [ED]	Abraham & Michie (2008)
Provide information about others' approval	Information about what others thinking about the [ED] behaviours and whether others will approve or disapprove of any proposed behaviour changes	Abraham & Michie (2008)
Provide information on consequences [of ED]	Information about the benefits and costs of action or inaction, focused on what will happen if the person does or does not perform the behaviour [continue with ED]	Abraham & Michie (2008)

Practice Element (A to Z)	Definition	Source(s) of PE and definition
Provide instruction	Telling the person how to perform a behaviour and/or preparatory behaviours	Abraham & Michie (2008)
Provide opportunities for social comparison	Facilitate observation of nonexpert others' performance, for example, in a group class or using video or case studies [e.g., of 'recovered' people]	Abraham & Michie (2008)
Recognising quality of life improvements	Exploring and recognising changes made to quality of life and addressing any fear of 'normal life' challenges	Macdonald et al. (2012)
Relapse prevention	Following initial change, help identify situations likely to result in readopting risk behaviours or failure to maintain new behaviours and help the person plan to avoid or manage these situations	Abraham & Michie (2008)
Stress and/or anxiety management	May involve a variety of specific techniques (e.g., progressive relaxation) that do not target the behaviour but seek to reduce anxiety and stress	Abraham & Michie (2008) (PE title adapted to include anxiety - definition unchanged)
Using chairwork	*Using chairs to represent relevant concepts in exploring impact of ED, e.g., future and past versions of the person without ED or personifications of the ED*	Pugh & Salter (2018)
Weight gain monitoring	Regular weighing, meal planning, information about nutrition and adherence	Macdonald et al. (2012)
Working with maladaptive cognitions	Identifying and beginning to challenge beliefs which maintain eating disorders, such as dieting rules, body image and concerns about loss of control	PE name - Macdonald et al. (2012) Definition - Macdonald et al. (2012); Fairburn (2008)
Written decisional balance	Written process of weighing up the pros and cons to ED and/or changing ED behaviour, e.g., via a worksheet	PE name - Macdonald et al. (2012) Definition - Miller & Rose (2015)

*Italicised text indicates PEs named by this review
ED = Eating Disorder; TTM = Transtheoretical Model of Change (Prochaska et al., 1992)

Appendix D: Questions discussed with expert by experience consultation session

What does motivation mean to you in this context?

Do you think motivation towards treatment is relevant for us to investigate as researchers?

Have you ever been involved in any motivation-enhancing tasks? How did you find this?

How would you feel about doing a one-off chairwork session to improve your motivation?

How could we best look after participants during the research process?

How would you feel about recording the session?

Is there any language you'd prefer us to use/not use?

Anything else which could be done to make the process more comfortable?

Appendix E. The Eating Disorder Examination Questionnaire (EDE-Q)

This has been removed from the electronic copy.

Appendix F. The Readiness and Motivation Questionnaire (RMQ)

This has been removed from the electronic copy.

Appendix G. The Pros and Cons of Anorexia Nervosa (P-CAN) questionnaire

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Appendix H. Participant information sheet

Canterbury Christ Church University

Salomons Institute for Applied Psychology
One Meadow Road, Tunbridge Wells, Kent TN1 2YG
www.canterbury.ac.uk/appliedpsychology

Participant Information sheet

Analysis of a motivational chairwork intervention for adults with anorexia: *exploring what it's like to be involved in a chairwork therapy task which we hope improves motivation*

You are being invited to take part in a study of a new therapy task for adults with anorexia. Before you decide whether to take part, it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. You will be given a copy of this information sheet and a signed consent form to keep. You may also talk to others about the study if you wish. Part 1 tells you the purpose of this study and what you will be asked to do if you take part. Part 2 provides more detailed information about how the study will run.

Part 1

Why is this research being done?

Chairwork has been used in therapy for many years, however we are interested in whether it is useful for people with eating disorders. The chairwork task involves an individual session with a trained therapist who helps people to think about their futures by using different chairs to represent different future versions of themselves. It is a one-off task which takes place before starting therapy and has seemed helpful for many who have tried it, so we are now exploring this further to better understand how it might benefit people and why. The question we hope to answer is: Is this motivational chairwork task useful for adults with Anorexia? We have separated this into two parts. For part A the research question is: What has to happen for people to find the chairwork task helpful at improving motivation? For part B the research question is: What do people who have completed the task think about it?

Who is conducting the study?

The study is being conducted by [redacted] and [redacted] who are Trainee Clinical Psychologists. The research is being organised with the Salomons Centre for Applied Psychology at Canterbury Christ Church University as part of [redacted]'s work in completing a doctorate in Clinical Psychology (DClinPsy). The research is being supervised by Dr [redacted] (Senior Clinical Psychologist) and Dr [redacted] enior Clinical Psychologist).

Why have I been invited?

You have been invited because you are over 18 years old, have a diagnosis of Anorexia Nervosa or Atypical Anorexia Nervosa, have been referred to the Kent All Age Eating Disorder Service and speak English.

Do I have to take part?
Taking part in the research is voluntary. It is up to you to decide whether to join the study. If you agree to take part, we will ask you to sign a consent form. You are free to withdraw at any time (without giving a reason) before we start analysing the data.

What will happen if I take part?
If you are interested in taking part, you will be contacted by [redacted]. They will answer any questions you have about the research and your potential involvement. To give you time to think about your decision, they will contact you again within the next week to hear your decision. If you decide to continue, they will arrange to meet with you to discuss further and ask you to read and sign a consent form. It is your choice whether this meeting takes place online or in-person. At this meeting you will also complete three questionnaires about eating disorder symptoms, how you feel about the eating disorder and your motivation towards change. The questionnaires should take around 30 minutes to complete. You will also be asked some basic demographic information about yourself, for example, your gender and ethnicity. With your permission, we will ask your care team to provide information about your eating disorder history, including age of diagnosis, duration of illness, current BMI, and treatment history. We will not ask you about these directly.

The one-off chairwork session
After your consent and questionnaires meeting, your allocated therapist from the Eating Disorder Service will contact you over the phone. In this call they will ask you to write two letters to yourself from the future to help you prepare for the chairwork task. They will also arrange a time with you to take part in the chairwork session.

'Part A' of this research will involve video recording your chairwork session and completing research questionnaires afterwards. 'Part B' will involve being interviewed after the intervention. We are inviting you to take part in the whole study, however, you can opt-out of part A or B if you wish.

For 'Part A', with your permission, we would like to video record the chairwork session. Video recordings will support the research team to analyse what happens within the session and establish how it might help people. You will not be asked to watch back the video. You can consent to us videotaping the session by indicating this is ok on your consent form. If you do consent to these recordings, your therapist will ask again at the start of the session and you are free to say no without it affecting your current or future care in the service. After you've completed the chairwork session, you will be sent two of the original questionnaires again via email, and asked to complete them and send them back. These two questionnaires are about your feelings towards the eating disorder and your motivation towards change.

For 'Part B', after completing the intervention session, you will be invited to meet with [redacted] or [redacted] approximately 1 week later to take part in an interview about how you found the session, and whether there were any parts you did or did not find useful. This will not be to assess your skills or ability and there is no right answer to these questions. Instead, we are interested in your experiences to discover whether or not the chairwork therapy task should be used more widely. The interview will take up to 90 minutes, with opportunities for breaks throughout.

Again, with your permission, we would like to audio record the interview to analyse the interviews afterwards. This will help to understand more about the experience of completing the intervention. In

writing up the project, it is helpful to use your words (quotations) to illustrate the data. Your name and identifying details will be changed so that no one would know these quotations came from you. You can indicate on the consent form whether you are comfortable with us audio recording and/or using quotations or not. You are free to say no to these elements without it affecting your participation in the chairwork session or care within the service.

Once you have completed the chairwork task and/or the interview, your named therapist from the eating disorder service will be informed and will be encouraged to check in with you about it. It is also recommended that you take some time to rest immediately following the task and/or interview.

It is important to note, the chairwork session will happen whilst you are on the waiting list for psychological therapy. Therefore, it will not delay or speed up your access to support.

Flowchart of possible involvement:

Please note that once we have enough participants, you will be unable to take part in part B: the post-intervention interview. However, you will still be offered an opportunity to speak with [redacted] following the chairwork task. This is so we can offer support with questionnaire completion and to give you a chance to ask any questions or share feedback.

Expenses and payments
We can provide up to £10 per person in travel expenses. Please discuss this with [redacted] if you are interested in receiving travel expenses.

What are the possible disadvantages and risks of taking part?
Although previously, some people have found the chairwork task helpful for feeling more motivated, it can be emotionally demanding. Attending the initial chairwork session will take up to 60 minutes and completing an interview will take around 60-90 minutes. There will be a scheduled break during the interview and additional breaks can be added. Speaking to researchers you do not know can sometimes feel uncomfortable or distressing, however, we will do our best to make you feel at ease throughout, and will offer an opportunity to speak with us further following the intervention and/or interview should you wish to. You will also be able to contact your named therapist at any time, including afterwards, for additional support if required.

What are the possible benefits of taking part?
You may find that you benefit from the chairwork session, as some people have found the chairwork task has helped them to feel more motivated towards recovery. However, we cannot promise it will be helpful. The post-intervention interview can be a good opportunity to reflect on what it was like to be involved in the task. In general, we hope the information we gather from this research will help improve the treatment of people living with anorexia.

What if there is a problem?
In the first instance, please discuss any concerns you have with [redacted] or our supervisors, Dr [redacted]. For information about making complaints, please see Part 2 of this information sheet.

Will information from or about me from taking part in the study be kept confidential?
Yes, all information about you will be handled in confidence in line with legal requirements. There are some rare situations in which information would have to be shared with others. The details of this are included in Part 2.

Part 2

How will we use information about you?
We will need to use information from you and information from your medical records relating to eating disorders, for this research project.

This information will include your name and contact details. People will use this information to do the research or to check your records to make sure that the research is being done properly. People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number or pseudonym instead. We will keep all information about you safe and secure. Once we

have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

What will happen if I don't want to continue with the study?
You can change your mind about doing the chairwork session and/or interview and this will not impact your current or future treatment within the service. If this happens, you can still take part in the chairwork session without it being filmed or having to complete the questionnaires or the feedback interview.

If you do take part, although you will not be able to see or change your individual data once it has been collected, you can request for your data to be entirely removed from the study up until we start the data analysis, which is likely to be Spring 2023.

What are your choices about how your information is used?
You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.
We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Where can you find out more about how your information is used?

- You can find out more about how we use your information at www.hra.nhs.uk/information-about-patients/
- our leaflet available from www.hra.nhs.uk/patientdataandresearch
- by asking one of the research team by sending an email to [redacted] or [redacted]
- by ringing us on [redacted]

What if I have a question?
If you have a question or concern about any aspect of this study, you can ask to speak to [redacted] and we will do our best to address it. You can contact us by leaving a message on the 24-hour voicemail phone number [redacted] Please leave a contact number and say that the message is for [redacted] and we will get back to you as soon as possible.

What if there is a problem?
You can make a complaint about the research study, the way you have been dealt with, or any possible harm suffered by contacting Dr Fergal Jones (fergal.jones@canterbury.ac.uk), Clinical Psychology Programme Research Director at the Salomons Institute for Applied Psychology. This will be taken seriously and investigated accordingly. Complaints will be handled on an individual basis. If you would like to speak to someone independent of the research you can contact the Patient and Liaison Service (PALS): https://www.nhs.uk/nhs-services/hospitals/what-is-pals-patient-advice-and-liaison-service/

Will information from, or about, me be kept confidential?
Your information will be kept confidential. Your consent form will be stored securely in a locked filing system. All information about you and your questionnaire data will be stored securely on an encrypted memory stick. Your identity will not be recorded within the data, alongside recordings, or within written

transcripts of the interviews, and will not be revealed in any publication that may result from this study. Data will be collected with only a participant number and false name (pseudonym) to identify it.

The video of your chairwork intervention will be recorded via NHS trust laptops and uploaded to a shared drive which only the research team will have access to. The video will be transcribed by [redacted] using pseudonyms, to support the analysis. Video recordings will also be kept by [redacted] during the research as these will be important for the data analysis. [redacted] will copy the videos from the shared drive and store them on a trust-approved encrypted (password protected) device which only [redacted] will have access to.

Your interview will be recorded on an encrypted audio recording device. Pseudonyms, rather than your name, will be used and the audio recording of your interview will be deleted once transcription has been completed. All audio transcription will be undertaken by [redacted]

Upon completion of the research, consent forms, questionnaire data, video recordings and transcripts will be retained securely on an encrypted hard drive at the Salomons Institute for Applied Psychology for 10 years as per Medical Research Council guidelines and only the research team will have access. Once these ten years have passed, all items will be fully deleted. If the study is submitted to an academic journal for publication, the data will be retained for the following five years post-publication. As the video recordings are more sensitive in nature, they will be deleted earlier: once the research has been accepted for journal publication, but up to a maximum of 10 years.

The data collected in this study will be used only for the purpose described in this form and will be available only to the research team. Your recordings (audio and video) will not be used in future studies without your consent.

The only time the research team would need to pass on information about you to a third party would be if we were concerned about your safety or the safety of someone else as a result of something you told us.

What will happen to the results of the research study?

The results of the study will be written up into a report and submitted for assessment as part of the fulfilment of the DClinPsy at the Salomons Institute, Canterbury Christ Church University. The study may be published in relevant scientific journals and presented at national or international conferences. You will not be personally identifiable in any publication but anonymised quotes from interviews will be used in published reports.

Results can be shared with you if you wish. If you would like to receive a copy of the finished report, please indicate this in the space provided on the consent form.

Who is sponsoring and funding the research?

The research is funded by Canterbury Christ Church University as part of the fulfilment of the Salomons Institute DClinPsy. Canterbury Christ Church University is the Sponsor of the study who will act as the Data Controller.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by [redacted]

Further information and contact details

For general information about research or specific information about this research project, you can speak to the research team by leaving a message for us on the 24-hour voicemail phone line at [redacted]. Please state that the message is for [redacted] and leave a contact number so that we can get back to you. Alternatively, you can email us on:

[redacted]

Please note, these contacts can direct you to the Sponsor's Data Protection Officer if required.

For advice as to whether you should participate, you can contact [redacted] as above, or you may want to speak to someone in the [redacted] such as your named clinician or [redacted]

Thank you for reading this information sheet.

Appendix I. Participant consent form (blank)

Canterbury Christ Church University

Salomons Institute for Applied Psychology

One Meadow Road, Tunbridge Wells, Kent TN1 2YG

Project ID: [redacted]
Research Ethics Committee (REC) reference: [redacted]
Version number: 4
Participant Identification number for this study:

One copy of this Consent Form and the Information sheet to be provided to the participant ;
One copy to be filed in the investigator file.

CONSENT FORM

Project Title: Analysis of a motivational chairwork intervention for adults with anorexia: *exploring what it's like to be involved in a chairwork therapy task which we hope improves motivation*

Name of Researchers: [redacted]

Please put your initials in the box next to each of the statements you consent to:

1. I confirm that I have read/had read to me and understood the information sheet dated.....6.10.22..... (version....11.....) for the above study. ☐
2. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
3. I understand that my participation is voluntary and that I am free to withdraw until March 2023, without giving any reason. ☐
4. I understand that my current and future care will not be affected, regardless of the decisions I make around participation in this study. ☐
5. I understand that any information collected about me will not have my name on it. ☐
6. I consent to relevant information about my eating disorder history being provided to the research team by the [redacted] ☐
7. I understand that data collected during the study may be looked at by the research supervisors [redacted] as well as the main ☐

researchers [redacted] I give permission for these individuals to have access to my data.

8. I agree to have my chairwork intervention session audio recorded for the purpose of analysing the content of sessions. ☐
9. I agree to have my post-intervention interview audio recorded for the purpose of data analysis. ☐
10. I agree to participate in this study. ☐

Name of Participant_____ Date_____

Signature _____

Name of Person taking consent _____

Date_____

Signature _____

Appendix J. Characteristics of FSCI session for each participant

Participant (pseudonym)	**Task characteristics**			
	Clinician: relationship	***Mode of delivery***	***Session length***	***Recording modality***
Jade	CBT therapist: known to client	Online	50 minutes	Video
Helen	AP 1: not previously known to client	Face to face	55 minutes	Video
Carrie	AP 2: not previously known to client	Online	84 minutes	Video
Danielle	AP 2: not previously known to client	Online	48 minutes	Video
Kate	CBT therapist: known to client	Online	48 minutes	Video
Ali	AP 2: not previously known to client	Online	52 minutes	Video
Grace	AP 1: not previously known to client	Face to face	72 minutes	Video
Emily	AP 1: not previously known to client	Face to face	78 minutes	Video
Sammie	AP 1: not previously known to client	Face to face	81 minutes	Audio
Robin	AP: not previously known to client	Face to face	94 minutes	Video

Appendix K. Coded transcript

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Appendix L. Evidence of the comparison of resolution cases and initial change model

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Appendix M. Evidence of process of models' annotation and adaptations

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Appendix N. Evidence of university ethical approval

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Appendix O. Evidence of the NHS Health Research Authority (HRA) ethical approval

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Appendix P. Evidence of email confirming confirmation of capacity and capability from participating NHS trust

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Appendix Q. Evidence of ethical amendments

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Appendix R. Excerpts of reflective journal

Extract example 1: study design/preparing for the proposal
It seems the overriding process of task analysis is pretty long: how much of this might be feasible within an MRP? Is it the case that my research will constitute stage 5 (empirical task analysis) as the task has already been developed? This involves selecting a number of best-possible therapeutic examples to develop a description of the 'resolved' task (e.g., in this case resolved ambivalence) then a description of what seems to be necessary for the participant in moving from a state of ambivalence to resolved ambivalence (resolving the task).

There are generally two stages to task analysis:
- A discovery-oriented phase (building models)
- A validation-oriented phase

This research therefore sits within the former stage, with the idea being that subsequent studies would continue with the findings into a validation-oriented phase.

Extract example 2: study design/preparing for the proposal
Thoughts and ideas for further exploration following supervisor meeting:
- The future-selves chairwork intervention actually started out as a CBT task, wherein people are encouraged to take different perspectives, which is made more experiential via the use of chairwork. This aligns with ideas from emotion focused therapy, however the mechanisms of change have not yet been explored.
- There are different potential ways to explore the mechanisms of change here:
    - Using a task-analytic process as above, which is often used in EFT
    - A conversation analysis
    - Classification of emotion using a questionnaire such as the CAMS which was developed as a method by Pascual-Leone
    - Look for innovative moments in the chair task by interviewing people afterwards regarding these
- In making these decisions, I need to consider the literature around motivation and eating disorders, as well as therapeutic motivation and ambivalence more generally: what is the current understanding? What interventions exist? How far have these been researched and how far are their mechanisms of change understood?

Extract example 3: considerations around involving experts by experience
Following a lecture about PPI: I need to think about how meaningful public and patient involvement is created, and some of the differences between consultation, involvement, and collaboration. I found it useful to think about the Arnstein ladder of engagement (Sherry R. Arnstein, 'A ladder of citizen participation', Journal of American Planning Association, Vol. 35, No 4, July 1969, pp. 216 – 224) and the following table taken from https://www.england.nhs.uk/wpcontent/uploads/2014/03/bs-guide-plann-part1.pdf

Given this is quite a theory-driven methodological approach, what might be some of the most meaningful options for including people with lived experience within this study? Informing feels like the absolute minimum which should be done in feeding back the research, however it would be good to get consultation on whether this is even an area of interest to service users. Would some kind of focus group be possible in consulting and/or involving experts by

experience? Plan to discuss this further with other trainee and supervisors – could contact the service clinicians for further ideas about this.

Extract example 4: my position within the research
After speaking with supervisors and other trainee involved in related project, I'm aware of feeling clinically inexperienced within eating disorders, although it has been an area of interest I had hoped to pursue during the doctorate. I am noting feelings of imposter syndrome through some of these meetings, some of which I have come to realise are part of my process, and some which probably relate to the expertise of the people I'm working with. I have discussed with my Salomons manager the potential for doing my child/family placement with the eating disorder service next year, which would be useful both for my own confidence and for making some links with the service which should support with the research throughout the project. I spoke with my research supervisor (AO) re concerns around my lack of experience, and she suggested it might be helpful that I'm coming into the task with fewer preconceptions about what is happening, which I found an interesting frame.

Extract example 5: reflections on focus group with EBE
We had our focus group today for which the aim was to consider the importance of this type of research with people currently working within the service. We had hoped to have up to 8 people take part in this, however, only one person was available and attended. We have wondered whether to run any more, however we want the conversation(s) to directly inform the study materials and planning so there we need to weigh up the delaying of our timeline against the potential benefits of another focus group. I think probably we will need to continue without another focus group so that we can move towards ethics as this is likely to take some time.

The EBE was extremely helpful and thoughtful. It changed my ideas on the 'simplicity' of motivation. The SU who attended talked about how on the surface, motivation can look like showing up in the building 'ready' to do the therapy/work, however contrasted this with the day to day motivation needed to keep making constant choices towards recovery, despite the anxiety associated with it. This made me think about how helpful a one-off chairwork intervention might be, and the importance of future research which assesses the longer-term impact of the intervention on motivation – which is a slightly different research question to that which we're asking but also important.

Extract example 6: reflections on research having started placement with ED team
This has been removed from the electronic copy.

Extract example 7: reflections following Q and A session with ED service clinicians
4 clinicians attended this meeting. One of them confirmed she'd like to be involved and that she has 3 or 4 people on her caseload currently who would be eligible for the research. One attendee was the clinical lead who would not be involved with recruitment and the intervention itself, but wanted to get an overview of the research and also was able to support with decision making around which participants to invite (those who had not yet started a NICE-concordant treatment and were in the first stage of treatment). One attendee advised she will not be able to be involved due to other commitments. One CBT clinician said she'd

like to be involved but would not be able to commit for a couple of months. The service lead advised there are two new CBT therapists joining in May who may be able to get involved.

I left this meeting feeling concerned about our current recruitment strategy and the likelihood of reaching my target of 15-30 participants within the next 6 months. Having discussed this with AO (lead supervisor) at the end of the meeting, we have agreed to see how this goes and review at the end of July.

Extract example 8: ethics application

This process has been much longer than I anticipated, despite everyone telling us how long and complex this would be. We attended a REC review which was a great experience of discussing the research and answering questions, however, the review panel also had some difficult questions, for instance relating to the ethical issues around including or not including people of a very low weight who require a NG feeding tube.

Although we have submitted our ethics application, we have already had to put in an amendment as AO has left the service and therefore the principal investigator onsite has changed to a different service clinician. We have yet to receive the full approval from the trust's research and development department, which is another hurdle we need to overcome. I am hopeful this can be sorted within the next months as I'd like to be able to start recruitment ASAP given my concerns about recruiting enough participants.

Extract example 9: reflections on the recruitment process

Unfortunately recruitment isn't going as hoped and we are having to think about ways to broaden the potential pool and process in general. I have been thinking a lot about how many moving parts there are within this study in comparison to some of the research I've done previously. I found my MSc research really challenging as it meant travelling for interviews and often people not turning up, so a lot of time and travel. However, compared with the current situation I had a lot more control – I could be very flexible with times as I wasn't on placement and so it was within my control to make things happen. This feels very different; recruiting through the NHS involves so many steps before we are able to speak directly with potential participants, and relying on the interest and generosity of service clinicians means working around extremely busy and pressured diaries. I am finding the delays stressful and frustrating, exacerbated by knowing everyone involved is doing their best – which makes me feel more powerless. At times I am finding it very difficult to believe the research will complete, although I am trying to remind myself of how often I've felt like this previously when working on big projects and remember that, although it's often tough work, we have ultimately been successful.

Extract example 10: recruitment progress

We have made further amendments to widen our recruitment strategy to include atypical anorexia nervosa, no upper limit of BMI, and to recruit via assistant psychologists as well. This has made a huge difference to recruitment and within the first 2 weeks we have 4 people who have either taken part or are about to consent. This is really exciting and finally feels that the project is moving forwards, although a lot later than we had hoped [winter 2022]. I'm now finding there to be a lot to juggle across recruitment, consent appointments, questionnaire follow ups, data collection, and placement. However, I would rather be busy with research tasks to complete than in the position we were a few months ago.

Extract example 11: EFT training

We have been extremely fortunate to attend 4 days of EFT training this week, to support with better understanding some of the theory which may be useful in thinking about the chairwork intervention. This has been fascinating and such a high quality, experiential training. Specifically for our research, it has been so interesting to see the 'end product' of a task analysis in terms of the way in which EFT uses established change-process models to guide therapeutic tasks. What is particularly helpful is the concept of a key change point, which is considered necessary in resolving a given task, and this differs for different tasks such as unfinished business or systematic evocative unfolding. I have realised through this training the importance of including the therapists' interactions within the analysis, such that we can identify the means through which therapist support clients to evoke change.

It has also made me wonder about some of the differences between the FSCI and tasks within EFT in which, for instance, different parts might talk with each other. There is some of this through the sharing of advice in our task, however what might it be like for the unrecovered and recovered versions to speak? Or even for the recovered/unrecovered versions to speak directly with the current/experiencing self, rather than the therapist?

Extract example 12 - Analysis: Reflections when combining initial change models for PTs 5 and 7 to establish the first draft of the model

Pt 7 is a longer, and more detailed session, but the process of change in the embodying section seems to be the same structure, with just more detail/back and forth within each of the steps. Part of this may relate to differences in therapist style, training and experience (Pt 5 more experienced clinician with model-specific training).

The detail in PT 7 is useful in helping to elicit ideas about what might be going on for the client in each of the change steps, e.g., embodying stuckness, avoiding negative emotions (loss, sadness).

Created a final step to the model: reduction in ambivalence, as there seem to be some clear steps which indicate success of the task: recognising the dilemma of their ambivalence towards recovery and determining steps forward with acknowledgement and compassion towards the challenging core feelings they're dealing with via the ED.

Extract example 13 – Analysis: Reflections whilst adapting model 2 following second unresolved case (URC 2)

I think the acknowledging negative consequences of ED across life areas and realising problems will increase for future NRS can be combined for simplicity as one seems to have to occur for the other to.

The recognition of the NRS as genuine seems less clearly a necessity, as it did occur for URC 2 (although they changed a little), so this could be downgraded and acknowledged alongside the above point.

In the first instance of CS reflections, unsure how important any of these steps are, so probably good to leave them unbolded for now. Unsure about the need for the expression of increased commitment towards recovery, as this did happen for URC1 (PT 2) whose motivation decreased, but did not happen for URC2 whose motivation did increase a little.

When going back to look at PTs 5 and 7 (highest changers), it's not clear that this is a separate step from realising goals and values are not attainable without recovery.

The 'experience increased negative emotion towards NRS' doesn't seem quite right, because this was common to the 2 resolved cases and the URC1 (whose motivation decreased following the task according to the RMQ), but did not occur for URC2 (whose motivation increased a little). Going back to the 2 resolved cases, what may be a better description is a deepening of the emotion towards NRS, either through increasing in severity, or specifying its origin more; e.g., PT 7: frustration into anger; PT 5: general sadness into disappointment related to her low confidence both of which seemed to benefit motivation towards change.

- It's possibly also important that this happens within the context of someone accessing compassion, so as not to increase guilt and blame towards self.

Noticed in both URCs, when they access feelings of guilt, this seems to either shut down the conversation or change their tone. These are accessed via considering the impact of the ED on people they care about; and seem to be unhelpful as increasing guilt is incompatible with the self-compassion which we are starting to hypothesise is important. Therefore, maybe embodying further losses/embodying positive achievements

Appendix S. Evidence of dissemination

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Appendix T. End of study declaration and summary for ethics panel and participating R&D department

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The following summary was provided via the 'final report' referenced in the above (redacted from electronic copy) form:

Summary to the ethics board

Introduction and methodology

Many people with Anorexia Nervosa (PwAN) experience ambivalence towards recovery. Chairwork is a psychotherapeutic technique incorporating the position, dialogue, and movement between 'self-parts' placed in different chairs to elicit change. The 'future selves' chairwork intervention (FSCI), aims to increase motivation by role-playing, dialoguing, and interacting with a future 'non-recovered self' and 'recovered self', utilising movement between chairs. Thirty-two participants were approached, and eleven participants completed the FSCI which was recorded for the purpose of the analysis. Ten participants completed pre- and post-intervention questionnaires measuring readiness towards change and nine were subsequently interviewed individually about their experience of the FSCI.

Part 1 analysis and results

Participants' pre- and post-intervention questionnaires were used to identify examples of two high, two low, and two medium-change cases. Using descriptive interpretive qualitative analysis of the process of task completion, the six cases were compared for their similarities and differences and a model was developed to illustrate the process of change required to increase motivation towards recovery. In summary, going beneath "bad" underlying emotions to access more helpful emotions seemed important, together with de-centring from and

integrating various parts of the self to create a ‘healthy adult’ self who could guide change in line with their true values.

Part 2 analysis and results

[redacted]

Conclusions

This research demonstrates that the FSCI is acceptable and feasible, and services could consider using the FSCI in addition to evidence-based interventions. Adaptations could be made in line with the client’s experience of what helped and hindered the task, for example, re-engagement of letters and support post-task. The change process model steps provide further guidance about important change steps for clinicians training in and delivering the

FSCI. This research also supports the use and investigation of emotion-focused interventions for PwAN.

Appendix U. Draft feedback report for participants

To be finalised and distributed following viva and university feedback

Research Overview

Project Name	
Evaluating the 'Future selves' chairwork task for adults with living with Anorexia Nervosa	
Researchers:	[redacted] (Part one) and [redacted] (Part two).
Research supervisors:	[redacted]

Why was this research conducted?	The 'future selves' chairwork session may improve motivation for people living with anorexia. Chairwork may be helpful as it provides a more experiential or emotional approach than other interventions. However, the 'future selves' task required research to establish it as credible. Specifically, we wanted to better understand its mechanisms of change and to clarify its acceptability and feasibility.
What were the aims of this research?	Part one: Creating a preliminary model demonstrating how the task may work Part two: Interviewing participants about their experiences
Part one results:	The questionnaires participants completed before and after the chairwork session were used to identify: • 2 participants whose motivation increased the most • 2 participants whose motivation increased the least • 2 participants whose motivation increased in the mid-range Each of these 6 sessions was analysed according to what seemed to be happening moment by moment (the process). Process descriptions across the 6 participants were compared for their similarities and differences to develop a model illustrating: what key change steps need to happen for the chairwork intervention to increase motivation towards recovery?

The table below provides a broad overview of this model:

Chair position	Key change step
Current self	Express negative emotion towards a credible NRS
Current self or not-recovered self	Identify "bad" core feeling within NRS and (ideally) how the ED functions to manage this
Not-recovered self	Provide self-compassionate advice for alternative process of managing the "bad" core feeling
Current self	Recognise mixed emotions towards an attainable RS who continues to experience challenges
Recovered self	Embody continuation of some "bad" core feeling alongside positive emotions as RS who accesses alternative coping strategies
Current self	Decide to move forwards driven by own agency and self-compassion

In summary, going beneath "bad" underlying emotions to access emotions which provided a more effective guide to what the person truly wanted seemed important. It also seemed helpful for people to be able to step back from the part of themselves the anorexia most identifies with, in order to recognise other parts of the self and guide change towards recovery led by integration of the different parts. This seemed to increase self-compassion and to help participants realise their own agency in managing difficult feelings differently.

Part two results:

Conclusions	The task is generally acceptable and feasible, but changes could be made to improve it. It is possible that change occurs by; identifying emotions and coping strategies, *'stepping back'* during the task to look at and assess emotions and current coping, improving compassion and agency, and identifying coping strategies outside of anorexia. The therapist can (and should) help with these processes. More research is needed to learn more about this task and to improve it further.
What next?	The results have been presented to the eating disorder team. Amendments will be made to the task and training based on your feedback. [redacted] will submit the results as part of their training to become clinical psychologists. Markers will review their work, and [redacted] may make further changes based on the markers feedback. [redacted] will aim to publish the results, so that other services can learn about the intervention and how to improve it.

We would like to say a huge thank you to you - without your involvement this research would not have been possible. We are incredibly grateful for your time and support in this project.

Appendix V. Submission requirements for Psychotherapy Research Journal

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