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DECENTERING, PERSPECTIVE BROADENING AND ANXIETY

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Summary of MRP

Section A

Theorists have long suggested that the process of decentering may be linked to anxiety. This paper reviewed empirical studies to explore what, if any, relationship existed between decentering and anxiety. A systematic search yielded 16 papers that met inclusion criteria. Studies included were a range of cross-sectional design with simple and multi-variant associations; longitudinal design; causal-comparative design; and intervention designs. The review found good evidence from studies of sufficient quality to the conclusion that there is a negative association between decentering and anxiety. Evidence was not found for further comment on the nature of the relationship. Research that directly targets decentering as an independent variable while measuring anxiety as the dependent variable is one of the recommendations of this review.

Section B

Anxiety presentations remain the most prevalent mental health condition and are associated with poor quality of life as well as an immense health care costs to the NHS. Transdiagnostic approaches that target the mechanisms of change in established therapies offer promise in developing briefer, more targeted interventions and have the potential to be applied across mental health presentations. The STAGE approach was developed as a two-step technique to directly target decentering and perspective broadening, hypothesised active ingredients of CBT and mindfulness therapies. This study sought to use a pilot and feasibility design to explore a new brief online self-help format of STAGE for those with self-reported anxiety. Overall, the STAGE programme was found to be mostly acceptable to participants. Additionally, trends and preliminary data were tentatively encouraging. However, attrition rates were considerable, and it was considered unfeasible to recruit and run a full-scale randomised control trial (RCT) without further adaptations to the STAGE format. Study limitations are discussed as are the implications for theory, research and clinical practice.

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MAJOR RESEARCH PROJECT (MRP) SECTION A: LITERATURE REVIEW

What is the relationship, if any, between decentering and anxiety?

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Abstract

It has long been hypothesised that an important mechanism of change in anxiety interventions is the process of decentering. However, to date no review of the evidence base relating to this has been completed. This paper sought to conduct a narrative review to consider if a relationship between decentering and anxiety was supported by the literature. A systematic search of three databases yielded 16 papers that met criteria for inclusion: eight studies utilised cross-sectional design with a combination of simple and multi-variant associations; a further study used a longitudinal design; one study used a causal-comparative design; and a further six studies utilised intervention designs. The review found good evidence from different study designs utilising correlational analysis to support the negative association between decentering and anxiety. Findings from a limited number of multi-variant analyses were consistent with this. However, due to the limitations of the available literature, there was no current evidence of a causal relationship, if, and how, the relationship changed over time or if, and how, the relationship was impacted by other variables. The studies included in the review were generally of good quality, though the exceptions to this are discussed. Research that directly targets decentering as an independent variable while measuring anxiety as the dependent variable is one of the recommendations of this review.

Keywords:

Anxiety, decentering, review, association, critical.

1. Introduction

Anxiety is a normal experience in day-to-day life characterised by responses such as feelings of tensions, worrying thoughts or concerns as well as physiological shifts such as increases in heart rate, blood pressure, sweating, feeling dizzy or trembling (APA, *n.d.*). However, for some, anxiety becomes a more frequent or more intense experience that affects their daily life and leads to distress. One way of conceptualising this is by using the medical model paradigm; the individual is experiencing something that we can define an anxiety disorder.

Anxiety disorders are the most prevalent mental health issue (Bandelow & Michaelis, 2015; Bystritsky, 2006) and can lead to individuals living a poorer quality of life (Kessler et al., 2005; Olatunji et al., 2007). Additionally, anxiety presentations are often long-lasting and are associated with enormous healthcare costs to the NHS (Wilamowska et al., 2010; Bystritsky, 2006). Current NICE guidance recommends several evidence-based interventions for anxiety; cognitive-behavioural therapy (CBT), applied relaxation (NICE, 2019) and short-term psychodynamic psychotherapy (NICE, 2013), often alongside pharmacological treatment (NICE, 2017). Increasingly, 3rd wave models of therapy such as mindfulness-based programmes, acceptance and commitment therapy (ACT; Hayes et al., 2009) and compassion-focused therapy (CFT; Gilbert, 2009) are adding to their evidence-base on their efficacy within anxiety populations (for example, see Hofmann, et al., 2010; Powers et al., 2009; Leaviss & Uttley, 2015, respectively).

The current context provides challenges to the NHS and its provision of anxiety interventions; there is a backdrop of growing demands on healthcare systems without a parallel increase in resources. Furthermore, with growing evidence that challenges the assumptions underlying the dominant medical model paradigm and its subsequent diagnostic classification system (Norton & Paulus, 2016), questions are raised about the validity of such

a system. Current diagnostic classifications rely on a 'splitter' approach whereby the differences between disorders are highlighted and traditional treatment models reflected this; treatments were 'disorder-specific' and consisted of strategies to disrupt the 'mechanisms' of maintenance that were most pertinent to diagnosis classification. However, more recent research highlighted a striking trend of a marked similarity in the processes identified as important across different disorders (Newby et al., 2015). Accordingly, transdiagnostic perspectives, a 'lumper approach', which conceptualise mental health presentations by emphasising the commonalities across disorders have gained traction. Whilst utilising this perspective in intervention models may not disrupt all maintaining processes specific to a disorder, it may be that the transdiagnostic approach can still offer some advantages to treatment development. For example, with a direct focus on the 'active ingredients' (or mechanism of change) of established disorder-specific therapies, new interventions have the potential to offer quicker, more effective treatment at a lesser cost to both the individual and healthcare providers such as the NHS.

Additionally, the growing pressure on NHS services (NHS Providers, *n.d.*) has encouraged the development of treatments that move beyond traditional face-to-face formats with therapist input and towards briefer interventions provided in non-traditional formats, such as via online means and/or utilising self-help. It is plausible that transdiagnostic interventions that target the 'active ingredients' (or mechanisms of change) in a direct and focussed way would be particularly suitable to these new methods of therapy delivery and could therefore potentially reduce costs and pressures on the NHS (Craske, 2012). Recent world events of a global health pandemic (BBC, 2020) have also expedited the search for effective therapies that do not rely on face-to-face contact.

Furthermore, despite the efficacy of anxiety treatments (Carpenter et al., 2018; Hofmann & Smits, 2008), there remains a significant group of people who do not show

benefits from current anxiety interventions; Bystritsky (2006) reported that the efficacy of psychological and pharmacological interventions for anxiety ranged between 60 and 85%, leaving a significant proportion of individuals 'untreated'. It is hoped that new interventions developed would be of beneficial use for this significant population.

One potential mechanism of change is decentering. Decentering, as defined by Safran and Segal (1996), is the ability to observe one's thoughts and feelings as temporary and objective objects in the mind rather than true reflections of the self. This meta-cognitive capacity promotes a disengagement from internal experiences and moves the individual towards a more distanced perspective (Hoge et al., 2015). For a person who experiences anxiety this could moving from thinking 'I am anxious' to 'I am thinking that I feel anxious right now'. Ingram and Hollon (1986) posit that this enables individuals to switch to an effortful and controlled mode of processing; a meta-cognitive mode. They suggest that effective therapies teach individuals to initiate this process in the face of future stress. Safran and Segal (1990) also emphasize the effortful activity of decentering and propose that it allows individuals to notice how their beliefs actively shape their reality and therefore how their thoughts and feelings do not necessarily reflect objective reality (Fresco et al., 2007). This capacity to take a decentered view of one's thoughts and emotions has been conceptualised by Bernstein et al. (2015) to form one part of a tri meta-cognitive process model of decentering, a model of three interrelated processes that together constitute decentering. In this model, decentering, or the disidentification from internal experience, is interrelated with the processes of meta-awareness, the awareness of present moment experience as a process, and reduced reactivity to thought content, the reduced effects of thought content on other mental processes. They theorise that it is via this interrelated metacognitive process that decentering and anxiety link, as well as how decentering may link with other mental health presentations. For this review, decentering will be equated with the

process of disidentifying from internal experience, or self-distancing and thus maps onto one part of the meta-cognitive process posited by Bernstein et al. (2015). This conceptualisation of decentering allows for this review to be coherent with current theoretical and empirical literature and ensures this review is equivalent to previous review literature investigating the relationship between decentering and depression-related symptomology (Hill, 2014).

Low levels of decentering are associated with a range of psychological symptoms, which may suggest it is a transdiagnostic process (Bernstein et al., 2015). Additionally, decentering has long been identified as taking a potentially important role in anxiety interventions. For example, Beck et al. (1979) theorised that cognitive-behaviour therapy targeted the mechanism of decentering or 'distancing' in treatment, whilst the expanding literature on mindfulness-based interventions suggests this proposition further (see Fresco et al., 2007; Teasdale et al., 2002; Hoge et al., 2015; Bernstein et al., 2015). Additionally, Bernstein et al. (2015) suggest that decentering may mediate improvements found in many other established interventions, despite these therapies not explicitly targeting this process.

In summary, there is a long-hypothesised association between decentering and anxiety. In more recent times, this association has been increasingly empirically tested. However, to the authors knowledge, there are no published reviews examining the connection between decentering and anxiety. A review of this area has the potential to inform treatment development with the potential to support an increasingly pressured NHS as well as contribute to the literature surrounding transdiagnostic approaches in psychological interventions.

1.1 Aim

This paper aims to conduct a narrative review based on a systematic search of the literature to examine the relationship between the process of decentering and anxiety. The material will be synthesised and critiqued to provide a summary of the any relationship

found. The review also aims to identify gaps in the literature and discuss implications for theory, research and clinical practice.

2. Methodology

2.1 Search Strategy

Following exploratory searches, a systematic literature search was conducted using the online citation indexing databases Web of Science, PubMed and Psych INFO on 23rd November 2019. Databases were searched from their inception to that date. Individual searches were conducted on the following: decent*, "psychological distance", "self distanc*", "self-distanc*". These terms were then combined using the 'OR' function to produce a set of results that captured the concept of 'decentering'. This was combined using the 'AND' function with anxiety. The ancestry method was also utilised to manually search eligible papers for potentially useful references.

2.2 Inclusion and Exclusion Criteria

To meet the aim of this review, papers were included if the following criteria were met:

a. a psychometrically validated measure of decentering was used;

b. a psychometrically validated measure of anxiety symptomology (e.g, self-report) was utilised or participants had a diagnosis of an anxiety disorder as confirmed via diagnostic criterion (e.g., Generalised Anxiety Disorder, or GAD);

c. the nature of the relationship between decentering and anxiety was tested statistically (e.g., correlational analysis)

d. the study was published in English in a peer-reviewed publication.

Papers were excluded if they were not empirical research (e.g., a review); if they were not published in English; they explored anxiety vulnerability, anxiety sensitivity, stress or perceived stress factors; and if recruitment was on-going.

2.3 Search Summary

Please see Figure 1 for a PRISMA diagram representing the search strategy, adapted from Moher, Liberati, Tetzlaff, and Altman (2010). Overall, the citation search yielded 457 results, including 15 identified through the ancestry method. Following the removal of duplications (numbering 98), the total papers to be screened was 375. Titles and abstracts were checked, followed by full-text reviews. In total, 16 papers met criteria for inclusion in the review.

Figure 1.

PRISMA diagram of literature search
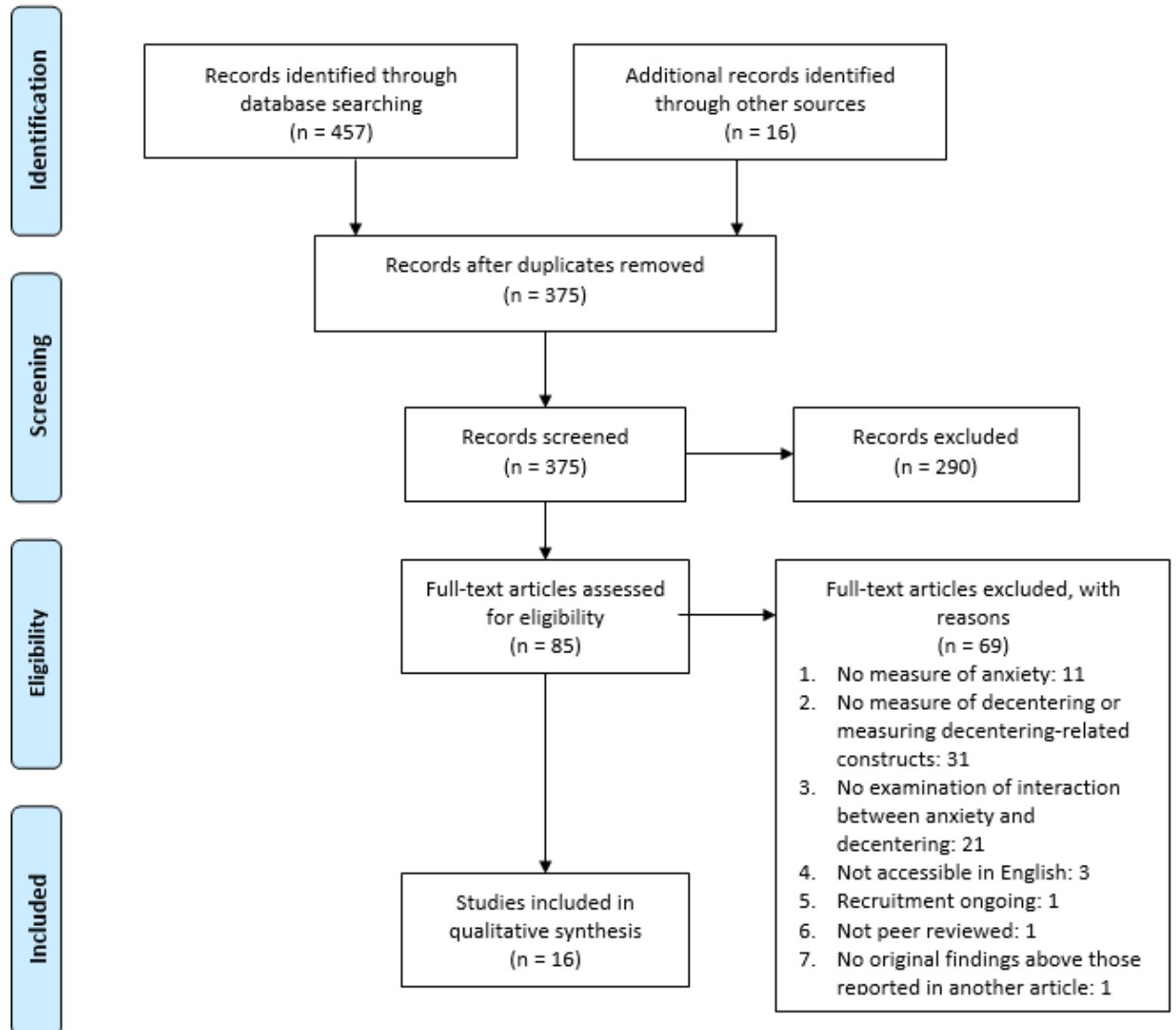
2.4 Quality Assessment

To assess quality and inform this review, the articles were evaluated using critical appraisal checklists from the Joanna Briggs Institute (JBI; Moola et al., 2017; Tufanaru et al., 2017; see Appendix A for an example). The most appropriate checklist for each study was selected according to their methodological choices. Each checklist then highlights items most relevant to consider in relation to this methodology, allowing for researchers to assess quality across a variety of designs. These were selected for their ease of use, their methodological

specificity and that they are more coherent than other well-known critical appraisal tools (Hannes et al., 2010).

2.5 Structure of this Review

Due to the number of studies included in this review, findings will be discussed as grouped by their methodology and analysis strategy in relation to the review question. This will result in some studies being discussed in more than one section of the review. However, this approach enables the relative robustness of findings to be considered. Due to the preliminary nature of this literature area, 'anxiety' will be understood broadly to represent anxiety presentations as well as synonymous with specific symptomology related to anxiety, such as worry. Implications for future research and clinical practice are subsequently discussed.

3. Narrative Review

See Table 1 for a summary of the reviewed studies.

Table 1.

Summary of reviewed studies

Reference	Aim	Participants	Methodology	Relevant outcome measures	Relevant findings
Abasi et al. (2017)	To assess the mediation role of emotion regulation strategies on the relationship between emotional intensity, safety and reward motivation with SA symptoms and rumination and worry.	Using quota sampling recruited 524 participants from local community.	Cross-sectional design with administered questionnaires.	EQ-Decentering, SIAS, PSWQ (Iranian versions)	Non-significant weak and weak-to-moderate negative correlations between decentering with SA and worry measures, respectively. Additional support for decentering as a partial mediator in a double mediation path.
Abasi et al. (2018)	To assess the distinct and shared use of emotion regulation strategies in individuals with GAD and SAD symptoms.	346 participants: 269 nonclinical; 47 with GAD symptoms; 30 with SAD symptoms.	Causal-comparative design with administered questionnaires.	EQ, SIAS, GAD-7 (Iranian versions)	Significant differences between SAD, GAD and control groups on decentering ability.
Brown et al. (2015)	To examine whether a model of mindfulness could account for the associations between five facets of mindfulness and psychological symptoms.	Student sample of 944 participants.	Administered questionnaires in a cross-sectional study design.	EQ-Decentering, PSWQ.	A significant association between decentering and worry. Decentering also a partial mediator between some mindfulness facets and worry.
Hayes-Skelton et al. (2015)	To examine decentering as a potential mechanism of action across two treatments for GAD.	Student sample of 64 participants with GAD rating of at least moderately severe.	RCT. Multiple group pretest-posttest design.	EQ-Decentering, PSWQ.	Increasing decentering scores were strongly associated with lower worry scores.

Hayes-Skelton and Graham (2013)	To examine the relationship between reappraisal, mindfulness, decentering and social anxiety.	Student sample of 1,097 participants.	Cross-sectional design with administered questionnaires.	EQ-Decentering, LSAS-SR.	Significant, modest, negative association between decentering and social anxiety. Relationship remained when other variables controlled for.
Hayes-Skelton and Lee (2018)	To examine whether CBGT for SAD led to increased decentering and whether this was associated with improved outcome.	Primarily student sample of 63 participants with a principal SAD dx.	One group with pre and post-test design.	EQ-Decentering, ADIS-IV SAD CSR, SPAI, LSAS-SR, BFNE, SUDS in BAT.	EQ- Decentering significantly predicted gain scores for some measures of SA but not all. Those at post-treatment who no longer met criteria for SAD had significantly greater change and higher decentering scores at post than those who retained dx.
Hayes-Skelton and Lee (2019)	To explore whether CR or mindfulness led to increases in decentering and whether this related to changes in anxiety and willingness to approach anxiety provoking situations.	Student and university staff sample of 46 participants with SA.	RCT. Multiple groups with pretest-posttest design.	EQ-Decentering, TMS-Decentering, BSAM, SUDS, PSP.	Increases in decentering were significantly correlated with decreases in Mean SUDS, Findings not replicated on other SA measures.
Hoge et al. (2015)	To examine potential mechanisms (mindfulness and decentering) of a mindfulness meditation intervention for GAD.	38 participants with GAD dx.	RCT. Multiple groups with pretest-posttest design.	EQ-Decentering, BAI, PSWQ.	Change in GAD was significantly negatively associated with a change in decentering; results not replicated for worry.
Jankowski and Bak (2019)	To investigate the relationship between mindfulness, trait anxiety, attentional control and cognitive failures.	Study 1: student sample of 207 participants. Study 2: student sample of 220 participants.	Cross-sectional survey design administering questionnaires.	EQ-Decentering STAI-T (Polish versions)	Significant and moderate-strong inverse association between decentering and anxiety. Relationship remained when controlling for other variables.
Josefsson et al. (2014)	To examine effects of mindfulness and the mechanisms responsible for	126 participants recruited from local workplaces.	Multiple groups with pretest-posttest design.	EQ-Decentering, HAD-A	Decentering showed significant negative relation to anxiety change in intervention groups.

	beneficial mental health effects.			(Swedish translations)	
McClintock and Anderson (2015)	To examine the efficacy of a mindfulness intervention in alleviating the affective consequences of interpersonal dependency.	Student sample of 70 participants with high trait dependency.	RCT. Multiple groups with pretest-posttest design.	TMS-S-Decentering, STAI-S.	Decentering had a significant inverse relationship with state anxiety in those with high-trait dependency. Relationship remained in multi-variant analysis.
McCracken et al. (2013)	To examine the relations between decentering, other psychological processes and daily daily functioning in those with chronic pain.	150 patients seeking speciality services for chronic pain.	Cross-sectional survey design administering questionnaires.	EQ-Decentering, PASS-20	Decentering was significantly negatively correlated with pain-related anxiety.
Naragon-Gainey and DeMarree (2017)	To empirically test whether decentering is a protective factor against extreme affective states in predicting psychopathology.	Study 1: Student sample of 1,123 non-clinical participants and clinical sample of 211 participants. Study 2: 135 participants from the local community currently receiving or seeking mental health treatment.	Study 1: Cross-sectional design. Study 2: Ecological momentary assessment design.	EQ-Decentering plus 4 high loading items from IDAS scales of social anxiety, panic and anxious mood (i.e., worry).	Study 2: Decentering added significant variance in explaining worry and social anxiety. Also there was a significant interaction of decentering with negative affect when worry was outcome.
Pearson et al. (2015)	To examine the associations between mindfulness and depressive symptoms, anxiety symptoms (i.e. worry) and alcohol related problems via decentering and purpose in life.	Student sample of 1227 participants.	Cross-sectional survey design administering questionnaires.	EQ-Decentering, PSWQ.	Decentering was significantly and modestly associated with worry. Decentering significantly mediated the association between mindfulness and worry.
Soler et al. (2014)	To evaluate the psychometric properties of the Spanish version of the EQ and explore its clinical usefulness.	921 participants: a clinical sample of 231 and a non-clinical sample of 640.	Cross-sectional survey design administering questionnaires.	EQ-Decentering STAI-S, DASS-21 anxiety	Statistically significant negative correlations found between decentering and anxiety.

			(Spanish versions).	
Tran et al. (2014)	To evaluate and develop a mindfulness questionnaire and examine associations of mindfulness with mental health and the mechanisms of mindfulness.	German sample of 891 participants and 393 Spanish participants.	Cross-sectional survey design administering questionnaires.	EQ-Decentering, DASS-21 anxiety (Spanish versions).	In experienced meditators, decentering significantly and negatively correlated with anxiety.

Note. SA or SAD = Social Anxiety or Social Anxiety Disorder; EQ-Decentering = decentering subscale of the Experiences Questionnaire (Fresco et al., 2007); SIAS = Social Interaction Anxiety Scale (Heimberg et al., 1992); PSWQ = Penn State Worry Questionnaire (Meyer et al., 1990); GAD = Generalised Anxiety Disorder; RCT = randomised control trial; GAD-7 = Generalised Anxiety Disorder measure (Spitzer et al., 2006); ABBT = acceptance-based behavioural treatments; AR = applied relaxation; RCT = randomized control trial; LSAS-SR = Liebowitz Social Anxiety Scale - Self Report (Liebowitz & Klein, 1991); CBGT = Cognitive Behavioural Group Therapy (Heimberg & Becker, 2002); ADIS-IV = Anxiety Disorders Interview Scheduled for DSM-IV (Brown et al., 1994); CSR = Clinician's Severity Rating; SPAI = Social Phobia Anxiety Inventory (Turner et al., 1996); BFNE = Brief Fear of Negative Evaluation (Leary, 1983); SUDS = Subjective Units of Distress; BAT = Behavioural Assessment Test; dx = diagnosis; CR = cognitive restructuring; TMS or TMS- S = Toronto Mindfulness Scale or Toronto Mindfulness Scale- State (Lau et el., 2006); BSAM = Brief State Anxiety Measure (Berg et al., 1998); PSP = Perception of Speech Performance (Rapee & Lim, 1992); DASS-21 = The Depressions, Anxiety and Stress Scales (Henry & Crawford, 2005); BAI = Beck Anxiety Inventory (Beck et al., 1988); PSWQ-PW = Penn State Worry Questionnaire- Past Week (Stoeber & Bittencourt, 1998); STAI-T and STAI- S= State-Trait Anxiety Inventory – trait subscale and state subscale (Spielberger et al., 1983); HAD-A = The Hospital Anxiety and Depression Scale – anxiety subscale (Zigmond & Snaith, 1983); WL = waitlist; PASS-20 = Pain Anxiety Symptoms Scale-20 (McCracken & Dhingra, 2002); IDAS = Inventory of Depression and Anxiety Symptoms (Watson et al., 2007).

3.1 Cross-Sectional Design and Simple Associations

Eight cross-sectional studies reported simple associations between decentering and anxiety. With one exception, all the literature reported both significant and inverse relationships between the constructs; most reported a moderate strength association, though findings did range from weak to moderately strong. A study by Abasi et al. (2017) was the exception to this; they reported a non-significant relationship between decentering and social anxiety and worry (for further details of this study, please see later discussion). They sought to investigate the 'emotional dysregulation model', a new treatment approach. The theoretical model posits that motivation (involving reward and punishment) predict emotion dysregulation (including SAD, worry and rumination) via emotion regulation strategies of decentering, reappraisal, awareness, attention control and acceptance. However, upon studying the data the published correlation table fails to show any significant effects between the 11 variables investigated, yet the subsequent analysis conducted (multi-variant analysis) suggests that significant simple associations had in fact been found. This error in publication raises questions concerning the quality of this study and limits its findings with respect to this review.

The remaining seven studies varied in the stated aims and focus of their research. Jankowski and Bak (2019) aimed to investigate the mediator role of mindfulness in the relationship between trait anxiety, attentional control and cognitive failures and utilised student participants to test their hypotheses. Hayes-Skelton and Graham (2013) explored the relationship between cognitive reappraisal, mindfulness, decentering and social anxiety also with a student sample. Two studies (Brown et al., 2015; Pearson et al., 2015) investigated the model of mindfulness proposed by Shapiro et al. (2006, 2009). In this model, mindfulness is primarily related to the construct of 'reperceiving' which leads to changes in four psychological mechanisms that then become antecedents to improved psychological

functioning. 'Reperceiving' is conceptualised as akin to the concept of decentering. A further two studies sought to assess the psychometric properties of measures. Soler et al. (2014) aimed to assess the validity, psychometrics properties and clinical usefulness of the EQ in a Spanish sample, using sub-samples of what they term 'non-psychiatric' participants and 'patients with psychiatric disorders'. Tran et al. (2014) investigated the properties of the Five Facets Mindfulness Questionnaire (FFMQ) as well as investigating the associations of mindfulness, its mechanisms and mental health. They drew a sample of meditators practising various meditation styles from Germany and Spain. A final study also had a focal sample; McCracken et al. (2013) utilised a sample of British treatment-seeking chronic pain patients to investigate the relation of decentering with other processes of 'psychological flexibility' and the daily functioning of people with chronic pain.

The strongest relationship of a 'moderate to strong' correlation between decentering and anxiety (specifically trait anxiety, as measured by the STAI-T) was reported by Jankowski and Bak (2019). The weakest relationship was reported by Soler et al. (2014) who found a significant but weak correlation between decentering and anxiety (state anxiety). The remaining studies reported a moderate relationship between decentering and anxiety, specifically between decentering and worry (Brown et al., 2015; Pearson et al., 2015), social anxiety (Hayes-Skelton & Graham, 2013), anxiety (Soler et al., 2014; Tran et al., 2014) and pain-related anxiety (McCracken et al., 2013).

On further study of the literature, the methodological quality of Tran et al. (2014) was questionable; they administered different outcome measures to different sub-sections of the bi-national sample with no clear explanation or methodological justification within the research. This raises the possibility that the study was re-designed as it progressed, reducing the standard of the research, and diminishing these findings with respect to this review.

Of the six remaining studies, most drew their samples from student populations (Brown et al.,2015; Hayes-Skelton & Graham, 2013; Jankowski & Bak, 2019; Pearson et al., 2015) limiting the generalisability of findings to the wider population and clinical samples due to age and education levels represented within these samples. Additionally, the homogeneity of most samples was noted; they were generally over-represented by women and by those identifying as 'white'. The research conducted by Jankowski and Bak (2019) reported a sample that only consisted of 'Caucasian' participants. This raises concerns of whether any relationship between decentering and anxiety would be replicated in more diverse groups or samples. However, a strength of the literature set is found in two of the USA studies (Brown et al., 2015; Pearson et al., 2015). They report samples that are over-representative of Hispanic/Latino and Black/American individuals, improving the potential of this literature set to inform more generalised findings to differing ethnicities. However, it is important to note the authorship cross-over in these studies; both Brown et al. (2015) and Pearson et al. (2015) appear in the others article as a secondary author. This not only limits the geographical diversity of the literature set but also introduces a heightened chance for bias within their findings.

Soler et al. (2014) expanded the literature set to include a clinical sample, aiding the ability of this review to potentially inform on the clinical aspect of any relationship between decentering and anxiety. However, on closer inspection participants either had a diagnosis of borderline personality disorder, an eating disorders or cocaine dependence. This clinical sample therefore does not seem truly representative of a wider clinical sample, reducing the potential for the study to inform on the above. Findings from Tran et al. (2014) and McCracken et al. (2013) are also hard to generalise beyond their specific samples of Spanish meditators and British chronic pain patients respectively. However, all three studies do add to

the consistent body of evidence that there is a relationship between the constructs of decentering and anxiety, regardless of sample specificity.

Most studies described their setting and procedures in sufficient detail. However, it remained unclear in Jankowski and Bak (2019) whether the questionnaires administered for the cross-sectional research were conducted in person (and if so, in what setting) or via post or other data collection method. The five remaining studies were advantaged by clearly and explicitly stating their data collection method and procedures. Additionally, all five used an online data collection method, a further strength that reduces the risk of experimenter bias in these studies. However, there was a general failure to note considerations of whether to address issues of multiple comparisons by using a corrected alpha, which reduces the risk of Type I error (Streiner & Norman, 2011). While there is considerable debate in the literature as to whether and when this should be used (see Cabin, & Mitchell, 2000; Cribbie, 2007; Simes, 1986; Smith & Cribbie, 2013), none of the studies reported any rationale or consideration of these issues and it appeared that none applied a correction for multiple analysis. It may be therefore that statistical significance may not offer a reliable indicator of a 'true' relationship and effect sizes may offer a better guide.

Overall, the data set is limited by the aspects described above as well as by limitations of the analysis methodology; no confounding variables were controlled for and no comparisons were made with other potential variables. Cross-sectional studies offer weak evidence for causality and it remains possible that the association between decentering and anxiety was caused by another unconsidered and unmeasured variable. By nature of its design, all the outcome measures in cross-sectional research are obtained at single time point; as such, no comment can be made on any temporal aspect to the relationship. The data therefore cannot give a nuanced understanding of the nature of any relationship between decentering and anxiety. However, the convergence of findings from simple correlational

analysis in cross-sectional research offers some evidence of an inverse association between decentering and anxiety.

3.2 Cross-Sectional Design and Multi-Variant Methods

Six studies extended their cross-sectional research to include multi-variant analysis (Abasi et al., 2017; Brown et al., 2015; Jankowski & Bak, 2019; Hayes-Skelton & Graham, 2013; McCracken et al., 2013; Pearson et al., 2015; see above for brief description of study and the simple associations reported). McCracken et al. (2013) utilised hierarchical multiple regression analysis allowing them to investigate the predictive nature of several variables, while controlling for the effect of other variables. Some of their variables relied on memory recall and were retrospective, yet these variables were not related to decentering and anxiety and so the impact of this on this review question is limited. They found that when intensity of pain was controlled for, decentering was not a significant predictor of pain related anxiety (it contributed little variance), whilst acceptance of pain explained 51% of the variance. The study did not extend the analysis into mediation which may have more fully illuminated the relationships between the variables. It may be that the relationships measured are too complex to be fully illuminated by simple associations or linear analyses or that when accounting for the intensity of pain, the association between decentering and anxiety is not meaningful. Without the means to explore these alternatives and with no further research in this area, the contribution of McCracken et al. (2013) to this review is limited.

An analysis that may have advantaged McCracken et al. (2013) and illuminated the complexity of the pathways of their variables is Structural Equation Modelling (SEM), the only analysis that allows complete and simultaneous tests of all the relationships between variables (Ullman & Bentler, 2009). SEM was appropriately utilised by the five remaining multivariant analyses allowing for complex and multi-dimensional pathways between variables to be studied. All five studies reported associations between decentering and

anxiety: either directly with social anxiety or trait anxiety (Hayes-Skelton & Graham, 2013; Jankowski & Bak, 2019); or in a mediation role between mindfulness and worry (Brown et al., 2015; Pearson et al., 2015); or in a double mediation pathway from motivation to emotion regulation strategies (including decentering) to emotion dysregulation severity to worry (Abasi et al., 2017). However, while Abasi et al. (2017) reported findings indicating a mediating role for decentering in the complex model they investigated, the utility of these findings in relation to this review are limited due to concerns over the quality of this research (as previously discussed).

As previously noted, Brown et al. (2015) and Pearson et al. (2015) both sought to test the same emerging theoretical model; the model of mindfulness proposed by Shapiro et al. (2006, 2009). The remaining two studies did not test a theoretical model directly, instead utilising SEM analysis to explore the most plausible pattern of relationships between theoretically important variables. Hayes-Skelton and Graham (2013) found that the best fitting model demonstrated an inverse relationship between decentering and social anxiety and that this model explained 36% and 46% of the variance in anxiety and decentering respectively. Jankowski and Bak (2019) were unable to determine a model of best fit for their data but appropriately averaged the effects from the models of best fit to conduct their analysis. They found that anxiety was a significant predictor of decentering with a moderate strength of effect and inverse relationship and replicated this finding in a second study.

Whilst SEM was an appropriate choice of analysis in all four studies, both Jankowski and Bak (2019) and Hayes-Skelton and Graham (2013) were unconstrained by a pre-determined theoretical model. This may indicate that they were better guided by the available current literature and better protected from exhibiting confirmation bias in their findings (MacCallum & Austin, 2000). SEM requires a minimum ratio of 10:1 participants to parameters, though a sample size of more than 25 times the number of parameters estimated

is seen as more acceptable (Nachtigall et al., 2003). All five studies reported sample numbers reaching this level, though none explicitly reported their considerations and calculations regarding this. Additionally, all the studies reported the test statistics for overall model fit and include justification for their criterion choice which adds to the quality of this literature set.

Brown et al. (2015) and Pearson et al. (2015) fail to report on the validity and reliability of the measures used in their study, leaving the reader unable to sufficiently make appraisal on the quality of the measures used. This has the potential to limit the application of these studies. However, on further inquiry all four studies used measures reaching acceptable standards of validity and reliability. Hayes-Skelton and Graham (2013) report meeting the assumptions of normality of data whilst both Brown et al. (2015) and Pearson et al. (2015) utilise a bias-corrected bootstrap estimate to ensure a robustness with data with small departures from normality (Erceg-Hurn & Mirosevich, 2008). However, Jankowski and Bak (2019) do not explicitly reference any consideration of these issue, and thus their contribution to this review is weakened due to the risk that the basic assumptions for this statistical test were not met.

Overall, in parallel to the findings from cross-sectional research, it is the convergence of findings that provide support to the likelihood of a link between decentering and anxiety. However, further study would be warranted to extrapolate the precise nature of these relationships further. These findings are strengthened by the data analysis technique being able to account for measurement error and as such the findings can be said to be more accurate that those found in simple correlation research (Ullman & Bentler, 2009). However, like all cross-sectional research, the design of the study does not allow for a causal interpretation of the results and though many studies comment on the most plausible direction of the relationship, this design cannot comment conclusively on that. Furthermore, it remains

possible that there are extraneous variables that have not been measured which may account for the observed relationships.

3.3 Cross-Sectional and Longitudinal Design

One study by Naragon-Gainey and DeMarree (2017) utilised an ecological momentary assessment (EMA) design, a longitudinal research methodology that involved participants reporting on outcome measures at multiple time points throughout the day for a course of ten days. They used multilevel models to study their data, an appropriate method to produce correct inferences, as traditional multiple regression would treat the units of analysis as independent observations (Centre for Multilevel Modelling, *n.d.*) They reported decentering to be a significant predicter of worry with an inverse relationship above and beyond that of momentary negative affect (NA) as well as significantly interacting with NA affect to predict worry. This result was partially replicated with social anxiety; decentering significantly predicted social anxiety above and beyond the impact of NA with an inverse relationship, though there was no significant interaction between decentering and NA in predicting social anxiety. None of these findings were replicated when considering panic. The design allowed for an aggregation of multiple data points and, as such, is less likely to contain random error variance when compared to other designs (especially when comparing to the 'snap-shot' produced by traditional cross-sectional design). This potentially results in a design more sensitive to change (Moskowitz & Young, 2006) and their analysis technique further strengthens the design by controlling for the impact of other important variables on anxiety. Again, it is the consistency of this finding with the additional cross-sectional research that suggests this could be a further piece of evidence to show a relationship between decentering and anxiety.

3.4 Causal-Comparative Design

A study by Abasi et al. (2018) used a causal-comparative research design to explore decentering and its relationship to anxiety. Questionnaires were administered to a purposive sample based in Tehran, the capital city of Iran, before allocating participants in one of three groups; a non-clinical (n=346), a GAD (n=47) and a SAD sample (n=30). They then looked at whether there were significant differences between three groups including along the construct of decentering. They found significant differences between the three groups on levels of decentering and by studying the data presented in the tables it appeared as though this difference was between the control group displaying higher decentering scores and the clinical groups displaying lower decentering scores. However, no further analysis was conducted to statistically confirm that this is where the difference lay. The design has implicit weaknesses; it is a retrospective way of determining what may have caused something to occur and it is not possible to determine which construct preceded which (Brewer & Kuhn, 2010). It also does not allow for experimenter manipulation of variables and therefore produces a weaker argument about causation than intervention or experimental research. Furthermore, the internal validity of this study was threatened by the lack of random sampling. This can be countered by researchers using a matching selection technique; however, this was not referred to in Abasi et al. (2018). Moreover, to counter claims that other variables apart from anxiety explained the difference in decentering, several different theories should be tested to establish if other variables had a significant impact on decentering. However, this was not done in the current study. Finally, errors in publication, such as (but not limited too) reporting decentering was 'higher' in clinical groups and intermittently naming the GAD-7 as the GAD IV raises questions concerning the quality of the study. Therefore, whilst the study reports findings consistent with the previously discussed designs, these limitations exclude this research from contributing to this review.

3.5 Intervention Design

Six studies utilised some type of intervention design in relation to this review question, though the design varied which impacted on the relative strength of their findings. Hayes-Skelton and Lee (2018) utilised one of the weakest types of design, that of one group pretest-posttest design. They studied the effect of 12 sessions of CBGT on a sample of those with a diagnosis of SAD. This study was of note (along with a further study by Hayes-Skelton & Lee, 2019 referred to below) in utilising multiple measures of anxiety as well as extending the outcome measures to beyond those solely reliant on self-report; they used a clinician rated scale and reported an excellent interclass correlation (ICC; Cicchetti, 1994). They reported decentering significantly predicted gain scores for some measures, including the clinician rated measure, but not all measures of anxiety. They extended their findings by using t-tests comparing those with and without a SAD diagnosis at post-treatment; those without the diagnosis had higher decentering scores that those with despite no difference between the groups scores at baseline. This study therefore extends the literature set to infer that a change in decentering in those with SAD differentiates those who improve in regards to their anxiety, and those who do not. This study was of a good quality with normality assumptions considered and appropriate statistical analysis used and thus contributes to this review. However, there are important limitations of the design that cannot be ignored. There could almost certainly be other explanations for the changes in gain scores and these possible other explanations are not accounted for with this design (Leedy & Ormrod, 2013). Therefore this study is best conceptualised as a preliminary study from which definitive conclusions cannot be drawn. However, if comparable findings were found in more stringent research designs, this study could add to the breadth of methodological designs that have found a relationship between decentering and anxiety.

Five studies employed multiple group pretest-posttest design, though there were differences in focus and length of the studies. The briefest of these were by Hayes-Skelton

and Lee (2019) and McClintock and Anderson (2015). Hayes-Skelton and Lee (2019) investigated decentering and anxiety in those with social anxiety measuring the constructs prior to and following a speaking task. In between, participants were randomly assigned to one of three groups: a cognitive reappraisal intervention, mindfulness intervention or an attention control group. McClintock and Anderson (2015) investigated the effects of a 20-minute mindfulness intervention in those with high-trait dependency compared with an active control group. Josefsson et al. (2014) investigated the effects of a four-week eight session mindfulness intervention comparing findings to those from an active and inactive control group. Hoge et al. (2015) looked at the effect of an eight-week mindfulness-based stress reduction programme and daily practice versus an active control for those with GAD. Finally, Hayes-Skelton et al. (2015) investigated the effects of two interventions(acceptance-based behavioural treatment or applied relaxation) for those with a diagnosis of GAD studying participants who had completed at least eight sessions of the 16-sessions.

Josefsson et al. (2014) reported correlations between change scores that showed a significant and negative relationship between decentering and anxiety in the intervention groups compared to the controls. This research was strengthened by their control for multiple comparisons via Bonferroni (which compensates for the increased risk of Type 1 error). However, the interval validity of this research was compromised; not all participants were randomly assigned to a group and while the analysis controlled for significant differences between groups on demographic variables, they fail to control for differences between groups at baseline for decentering and anxiety scores. This leaves open the possibility that the differences observed were due to pre-existing differences between the groups and from study of the raw scores it looks like there may be important differences in the baseline scores that should have been considered.

The remaining four studies improved upon the methodological design by using an RCT design which ensured the random assignment into groups. However, in all but one of the studies (McClintock & Anderson, 2015), the level of analysis with respect to this review question remained at a correlational level. Hayes-Skelton and Lee (2019) report significant negative correlations between some measures of anxiety and decentering, as measured by both the EQ-Decentering and the TMS-S-Decentering (one of only two studies to use this measure). However, once Bonferroni correction was applied to account for multiple comparisons the only significant correlation was between mean SUDs and decentering as measured by the EQ-Decentering subscale. This raises questions as to the validity of the decentering measures (as they both purport to measure the same construct) and highlights that when stringent, robust analysis is used to appropriately controls for Type I error, the associations between anxiety and decentering, though still observed, are dependent upon the measure utilised. Two further studies report an association between decentering and at least some aspect of anxiety, though their results seem somewhat conflicted. Hoge et al. (2015) found that change in decentering scores was strongly and inversely associated with a change in GAD, but not worry scores. In contrast, Hayes-Skelton et al. (2015) reported that increasing decentering scores were strongly associated with lower worry scores. These contradictory results from participants with similar presentations and using the same anxiety measure demonstrate the complexity in understanding the nature of the relationship between decentering and anxiety. A final study with an RCT design by McClintock and Anderson (2015) reported that decentering had a significant negative relationship with post-treatment anxiety. They strengthened their findings due to the analysis procedure they opted for; they were the only longitudinal designs to use a multi-variant analysis (hierarchical regression) in relation to the question posed by this review. They reported that decentring accounted for 12.6% of variance in the reduction of anxiety.

There were important methodological strengths and weaknesses to the intervention studies to consider. In similarity to previous designs, the research was broadly constrained by the reliance of self-report outcome measures; data veracity was not checked by complementary findings drawn from other measures. However, while this generally leaves research open to criticisms of response bias affecting the findings (that when participants notice improvements they report global changes) the findings reported suggest that this was not the case in these studies. Hayes-Skelton and Lee (2019) were notable for including multiple measures of decentring and anxiety, including a behavioural coding measure for SA. However, the inconsistency of their findings across these measures suggest the importance of further studies utilising multiple measures. Most sample sizes were adequate and reached the general 10:1 participant to variable rule of thumb (narrowly missed at 9.5:1 in Hoge et al., 2015), though Hayes-Skelton and Lee (2019) report a sample size ratio of below 8:1. Additionally, the large number of variables plus the large power of this study leaves the findings at risk of alpha inflation whereby some of the effects reported are in fact spurious.

The correlational analysis is strengthened using 'gain scores' as this reduces the observed-score variance and enhances statistical power (May & Hittner, 2010). Additionally, while it remains possible that other confounding variables may have explained the associations between decentering and anxiety found, all four studies report analysing and statistically controlling for differences observed at baseline between groups, not only along demographic variables, but also along the baseline outcome measures, strengthening their research methodology. Despite the appropriateness of this, it remains possible that any significant differences found could be the result of differences of unmeasured and unaccounted for variables, rather than those hypothesised by the researchers. McClintock and Anderson (2015) advance this by utilising regression analysis and allowing consideration of the relationship between decentering and anxiety, when accounting for other relationships.

However, the sample used to focus on their research question (participants with high-trait interpersonal dependency drawn from student samples), again limits the generalisations from the findings. Additionally, despite the designs, these studies do not advance our understanding of the temporal or direction of the relationship between decentering and anxiety, as none of the research attempts to directly manipulate decentering as the independent variable, which would allow for stronger conclusions considering causality to be made. So, despite the relative strengths and weaknesses of the intervention design research, it seems to offer preliminary findings that are consistent with findings from cross-sectional studies; that there is some association between decentering and anxiety.

4. Discussion

Research into decentering and anxiety is an emerging area of study; as such, the relevant literature has not previously been reviewed. This review used a systematic search of the empirical literature and identified 16 studies which could contribute to the question of whether there was current evidence for a relationship between decentering and anxiety. Taken together, the body of evidence from: cross-sectional; cross-sectional and longitudinal designs; causal comparative designs and intervention studies, it seems that there is justification for confidence that a relationship between decentering and anxiety does exist. The strongest evidence for this came from the convergence of findings from the correlational literature, sourced from both cross-sectional and intervention designs; these provide compelling evidence that the constructs were correlated. While there were a limited number of exceptions to the convergence of findings, critical appraisal could deduce that these exceptions came from studies where it remained unclear if sufficient quality had been reached in the research process. The pattern of association was identical whether found in simple or change score associations; significant associations were inverse in nature (that is, if one is high, the other is low and vice versa). These findings were supported by consistent

evidence from a limited number of studies utilising multi-variant analysis; studies that found decentering significantly and inversely predicted anxiety. Currently the data cannot support a more detailed conclusion; the evidence cannot support comment on the direction of the relationship (the causality), how the relationship changes over time, whether the relationship is stronger in certain circumstances, or how a multitude of variables impact on the association. However, this review finds that there is sufficient evidence from good quality research of the association between decentering and anxiety.

The conclusion is tempered by the following limitations. This review was based on a relatively small number of studies and as such should be interpreted with caution. Overall, the included studies were of good quality, though there were several concerns to methodological and research rigour that were highlighted by the critical appraisal of the studies. Self-report outcome measures dominated the literature and the studies highlighted how variable the findings could be dependent upon the measures used to assess the constructs. Most studies utilised correlational analyses, a methodology that, by design, cannot provide clarity that the relationships observed could not be accounted for by other unmeasured extraneous variables. The small number of multi-variant analysis advance this slightly, by demonstrating a relationship remains despite ruling out some plausible confounds. However, the multi-variant literature would benefit from further development and replication to advance the knowledge of the relationship between decentering and anxiety.

4.1 Theoretical Implications

The correlational relationship between decentering and anxiety offers coherent evidence for theoretical accounts of the constructs and their association; that an increased ability to disengage from internal experience and ability to separate this from objective reality relates to lower anxiety levels. The data is also congruent with the theoretical tri-partite model proposed by Bernstein et al. (2015). Furthermore, the data from CBT, mindfulness-

based and applied relaxation interventions fits with long hypothesised theories that decentering is a mechanism of change in anxiety treatments, despite the interventions not explicitly targeting this construct. Currently, the empirical data cannot offer confirmation to any theoretical propositions concerning the link and the importance of the association in anxiety interventions; yet the literature is consistent with current theory.

4.2 Research and Clinical Implications

Many current anxiety interventions do seem to lead to changes in an individual's ability to decenter as well as a reduction in anxiety. It remains possible therefore that this is a clinically important mechanism of change and clinician awareness of this may improve current practice. These findings also contribute to the growing transdiagnostic evidence that suggests decentering has an association with several clinical presentations (see previous review by Hill, 2014). However, further research would be needed to warrant change in clinical practice

Replicating studies in this literature set would be of great advantage in extending the knowledge concerning a relationship between decentering and anxiety. Future research should prioritise multi-variant analysis techniques to sufficiently develop the evidence-base as well as broadening the measures used beyond self-report assessment. Some behavioural coded measures were used for anxiety, but minimal variation was seen in the measurement of decentering; research may benefit from the use of different measures of this construct, perhaps via structured interview. Additionally, studies may seek to widen the clinical relevance of these decentering and anxiety links by including a wider range of clinical anxiety presentations, beyond GAD and SAD participants. Lastly, taken together the empirical evidence along with its theoretical consistency suggests that it could be a useful next step to develop interventions that seek to target the construct of decentering directly. The effect of this decentering-targeted intervention could then be observed to see if it resulted in a

reduction of anxiety. This would extend the current literature in utilising a design that could allow some preliminary evidence of causality between decentering and anxiety.

4.3 Critique of this Review

To the author's knowledge this the first review seeking to investigate the relationship between decentering and anxiety. The review has been able to highlight gaps in the literature and make recommendations for further research. The review utilised the Joanna Briggs Institute checklists to assess and inform about the quality of the studies identified for this review. This tool, unlike some others, does not provide a total score that seeks to represents 'quality'. It remains possible that, had a different tool been used the findings and conclusions would not reflect those reported in this review. However, these appraisal tools were suitable for this review as they can adequately inform a narrative, qualitative synthesis of the data, allowing for meaningful interpretation of the current literature, which arguably a total score number would not provide.

5. Conclusions

This is the first review of the literature regarding decentering and anxiety. Based on the 16 studies and their numerous findings, this review found compelling evidence of a correlational, inverse relationship between decentering and anxiety. There was not adequate evidence to offer support for the direction of the relationship (causality), nor evidence to support a more nuanced understanding of how the relationship changes in interaction with other variables. While methodological quality across different design types was generally of a good standard, the dominance of correlational analysis in this area constrains the review findings. Future multi-variant analysis with a broader spectrum of outcome measures expanding beyond self-report measures is recommended.

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MAJOR RESEARCH PROJECT (MRP) SECTION B:
EMPIRICAL PAPER

The STAGE programme: A pilot and feasibility study to explore a brief online self-help intervention for those with anxiety

Word count: 7957 (536)

Abstract

Anxiety presentations remain the most prevalent mental health condition and are associated with poor quality of life as well as an immense health care costs to the NHS. Transdiagnostic approaches that target the mechanisms of change in established therapies offer promise in developing briefer, more targeted interventions and have the potential to be applied across mental health presentations. The STAGE approach was developed as a two-step technique to directly target decentering and perspective broadening, hypothesised active ingredients of CBT and mindfulness therapies. This study sought to use a pilot and feasibility design to explore a new brief online self-help format of STAGE for those with self-reported anxiety. Overall, the STAGE programme was found to be mostly acceptable to participants. Additionally, trends and preliminary data were tentatively encouraging. However, attrition rates were considerable, and it was considered unfeasible to recruit and run a full-scale randomised control trial (RCT) without further adaptations to the STAGE format. Study limitations are discussed as are the implications for theory, research and clinical practice.

Key words

Anxiety, decentering, perspective broadening, transdiagnostic, online

1. Introduction

Anxiety is an emotional response characterised by feelings of tension, worried thoughts or concerns and physiological changes such as an increase in blood pressure, trembling, dizziness or a rapid heartbeat (APA, *n.d.*). While it is normal to experience these feelings of anxiety, for some these feelings can become more chronic in nature, affect daily life and cause distress. This may lead to a diagnosis of an anxiety disorder (NHS Inform, 2020). Within the ICD-10, anxiety is classified under mental and behavioural disorders and highlights a number of sub-types, the most common of these being phobic anxiety disorders (such as social anxiety disorder, or SAD), obsessive-compulsive disorders (OCD), reactions to severe stress (such as post-traumatic stress disorder, or PTSD), as well as 'other anxiety disorders' including panic disorder and generalised anxiety disorder (GAD).

Epidemiological research suggests that anxiety disorders are the most prevalent mental health issue with a lifetime rate of 28.8%; that is over the lifetime of 100 individuals around 28 or 29 people will be diagnosed with an anxiety disorder (Kessler et al., 2005). The most widely held understanding of the factors involved in the development of anxiety disorders point to an interaction of psychosocial factors, such as childhood adversity, stress or trauma, together with a genetic vulnerability that then manifests in neurobiological and neuropsychological differences (Bandelow et al., 2017). Regardless of origin, the costs of anxiety are immense. Studies focusing on the quality of life have yielded large effect sizes indicating poorer quality of life when comparing those with anxiety disorders to those without (Olatunji et al., 2007) and highlighted significant impairments even in those with sub-threshold anxiety (those without a diagnosis of an anxiety disorder; Mendlowicz & Stein, 2000). As well as the cost to the individual, anxiety disorders are associated with immense health care costs and can be long-lasting (Bandelow & Michaelis, 2015).

Current recommended interventions for anxiety include cognitive-behavioural therapy (CBT), applied relaxation (AR; NICE, 2019) and short-term psychodynamic psychotherapy (NICE, 2013), often alongside pharmacological treatment (NICE, 2017). Furthermore, 3rd wave models of treatment, such as mindfulness-based therapy programmes, acceptance and commitment therapy (ACT; Hayes et al., 2009) and compassion-focused therapy (CFT; Gilbert, 2009) are increasingly adding to their efficacy evidence-base for anxiety conditions (see Hofmann, Sawyer, Witt & Oh, 2010, Bluett et al., 2014 and Leaviss & Uttley, 2015 respectively).

However, the NHS continues to struggle with increased demands on its services without an increase in resources to negate this (NHS Providers, *n.d.*) and thus is increasingly under pressure to provide more cost-effective interventions. Added to this, the proliferation of diagnoses with every edition of the DSM or ICD (Norton & Paulus, 2017) has led to an increasing number of specific interventions organised by diagnostic category. This increasing specialisation inflates the costs placed upon mental health service providers via additional therapist training costs and specific intervention resources. Additionally, there remains a significant group of people who do not show benefits from current anxiety treatments; it was reported by Bystritsky (2006) that the efficacy of psychological and pharmacological interventions for anxiety disorders range from between 60 and 85%, leaving a significant proportion of individuals 'untreated'. It is therefore hoped that new intervention models can be of utility for this significant population.

One response to these challenges is to move from a diagnosis-based, 'splitter' view of mental health and adopt a symptom-based 'lumper' view; this transdiagnostic approach emphasises the common dimensions across mental health presentations (Farchione et al., 2012). The evidence to support the conceptual basis for this approach include moderate inter-rater diagnostic reliability with the current diagnostic system, the comorbidity of diagnoses,

the rates of transition over time from one diagnosis to the other, the heritability of diagnosis seeming to be across diagnostic categories and temperamental antecedents (Norton & Paulus, 2016; Barlow et al., 2004; Goldberg, 2010). Adopting a transdiagnostic perspective could lead to two important pragmatic benefits. Firstly, it is hoped that treatments could be applied across mental health presentations more readily allowing for single intervention models. For example, there is emerging evidence that transdiagnostic CBT is clinically effective and comparable with disorder-specific CBT (Titov et al., 2015). Secondly, a direct focus on specific 'active ingredients' (or mechanism of change) of established disorder-specific therapies, whilst disregarding certain other 'potent' mechanisms, could allow for a potentially reduced treatment time. If efficacy could be demonstrated for transdiagnostic interventions, the costs and pressures on the NHS could be reduced whilst improving the access and availability of resources (Craske, 2012; Norton & Barrera, 2012).

CBT is one such established therapy for anxiety and it has been theorised that it targets at least two important mechanisms of change in treatment; those of decentering and perspective broadening (Beck et al., 1979; Hill, 2013). Decentering is the meta-cognitive capacity of individuals to step back and observe what arises in the mind as mere psychological events (Fresco et al., 2007; Teasdale et al., 2002). Perspective broadening is described as the ability to look at a situation from different perspectives to see the bigger picture (Hill, 2013). These two constructs are not thought to be entirely separate entities (Hill, 2013) and theoretically, decentering and perspective broadening are thought to promote a disengagement from internal experiences towards a more distanced perspective (Hoge et al., 2015). This distanced perspective was captured by Bernstein et al. (2015, p.2) who wrote "people can be both actors engrossed in the unfolding story of their minds' experience of the world as well as third-person observers of that subjective experience". For a person who experiences anxiety, decentering could move their thinking from 'I am anxious' to 'I am

thinking that I feel anxious right now' allowing them to 'step back' from situations whilst perspective broadening through reappraising anxiety-provoking situations could allow them to reframe experiences more positively. Ingram and Hollon (1986) posit that it is this switch to an effortful and controlled mode of processing, or a meta-cognitive mode of processing, that results in mental health benefits for individuals. They suggest that effective therapies teach individuals to initiate this mode of processing in the face of future stress. Safran and Segal (1990) also emphasize effortful processing of decentering and propose that it allows individuals to notice how their beliefs actively shape their reality and therefore how their thoughts and feelings do not necessarily reflect objective reality (Fresco et al., 2007).

There is a growing body of research that suggest these processes are associated with mental health benefits (Kross & Ayduk, 2011; Garland et al., 2010; Watkins et al., 2000; Fredrickson, 2001; Wood & Tarrier, 2010).Additionally, there is some evidence to suggest that decentering and perspective broadening are important processes for anxiety and anxiety interventions. Hoge et al. (2015) concluded that decentering appeared to be a process by which mindfulness-based stress reduction (MBSR) was effective for anxiety reduction. This was echoed by Fresco et al. (2007) who found that decentering was a mechanism of change in mindfulness interventions for anxiety and that mindfulness was effective for those with anxiety. Hayes-Skelton et al. (2015) found that in clients with generalised anxiety disorder (GAD) an increase in decentering was associated with a decrease in general anxiety symptoms by post-treatment. Furthermore, a recent narrative review of the relationship between decentering and anxiety found good correlational evidence to suggest an association between the two constructs, though the exact causal nature could not be determined (Boyle, 2020). While there is currently little empirical research into the role of perspective broadening (Hill, 2013), Schartau et al. (2009) found that perspective broadening was

successful in changing emotions towards memories with participants who presented with clinical levels of anxiety.

1.1 The STAGE Intervention

The STAGE intervention was developed to directly target the constructs of decentering and perspective broadening (Hill, 2013; Hill, 2016; Travers-Hill et al., 2017) and does so via a 2-step plus 5 strategy technique. The first step focusses on decentering, the process of mentally stepping back from an experience to examine it as separate from the self and as a distanced observer. However, decentering alone, without reappraisal, may have harmful consequences (Kuyken & Moulds, 2009). Thus, a second step is taken to see the bigger picture, known as perspective broadening, via 5 strategies. Thus, the cognitive training protocol of STAGE is intended to scaffold individuals to systematically initiate the process of decentering alongside multiple reappraisal techniques (Travers-Hill, 2017). Both decentering and perspective broadening can be achieved via a variety of methods (Papies et al., 2015; Schartau et al., 2009). The STAGE intervention sought to aid memory retention (Radovic & Manzey, 2019) and become a stand-apart resource by utilising the visualisation of a theatre stage and the acronym of 'STAGE' within the protocol. Thus, STAGE required individuals to:

a. using imagery of a theatre stage to help a person to decentre and step-back from their emotions and thoughts,

b. using five reappraisal strategies each corresponding to a letter of the acronym 'STAGE' (similar, time, areas, grey and else) to help a person broaden their perspective on the situation whilst they keep mentally returning to the image of the stage. Please see 2.2 and Figure 1 for further details.

The current version of the STAGE intervention was designed to be delivered solely by online means via a self-help format. As such a brief intervention was designed which

could be completed in 9 days (see 2.2 for full details). Training consisted of two online sessions delivered on day 1 and 2; these sessions introduced psycho-educational materials and content via video and written text and included automated online practice exercises. Following this, for the next 7 days, participants were instructed via a daily prompt email to apply the technique to newly encountered everyday distressing events. Should no event have occurred, participants were provided with a scenario to cue a memory.

The online self-help format is an increasingly researched area and has been found to be effective and comparable to therapist-administered interventions for anxiety treatment (see Newman et al., 2003; Spek et al., 2007). With researchers noting that a significant portion of the effectiveness of treatments for anxiety disorders is likely due to 'techniques' (Lambert, 1992) it is hoped that STAGE will be well-suited to be adapted into a self-help online training protocol.

The current self-help format of STAGE was adapted from a previous version in a traditional format; two weekly therapist-guided face-to-face sessions in group format to learn and practise the STAGE technique. In similarity to the current version, participants were also instructed to train at home via daily practice sessions, though used the addition of a diary to record their process. Research into the STAGE intervention has shown promise. Travers-Hill et al. (2017) found that in those presenting with recurrent depression the training was effective at improving decentering, perspective broadening, mood, and residual symptoms of depression. A further single case series A-B design study, (Hill, 2013) found the intervention had the potential for improving the ability to decentre and perspective-take and reduce negative thinking. Importantly, this study found that the STAGE training reduced anxiety in most participants, raising the possibility that the intervention may apply across diagnosis and reduce anxiety symptomology in those who experience anxiety.

1.2 The Current Study

This study sought to develop the STAGE approach along three dimensions (a) a shorter intervention and therefore abridged content; (b) a change in client group towards anxiety; (c) a change in means of delivery towards online. It was hoped this approach could further investigate the potential application of STAGE as a transdiagnostic intervention model. As a first step, focusing on individuals who reported experiencing anxiety via a GAD screening tool was decided upon. The screening tool asks about prominent GAD presentation symptoms such as tension, worry and feelings of apprehension about everyday events and problems (Barton et al., 2014) and GAD as a condition is unlikely to remit without intervention (Roemer & Orsillo, 2002). Furthermore, to respond to the current context of the NHS, the delivery method of the STAGE was re-developed to be an online resource. This is a format already in use within the NHS; for example, 'E-couch' used for those with depression (SLaM, *n.d.*).

1.3 Hypotheses

Firstly, a consultation stage with service users to refine the STAGE intervention package was completed. Subsequently, and in view of Medical Research Council guidance (2006) on developing complex interventions, this study was designed as a pilot and feasibility study. The study aimed to explore whether an online self-help format of the STAGE intervention was acceptable to participants who reported anxiety via examining: dropout rates; participant satisfaction with the intervention; whether it was understandable; and whether it was easy to use (a similar approach was previously adopted by Kaletenthaler et al., 2008). Moreover, this study would aim to provide effect size estimates that could be used for a power calculation for a subsequent full randomised control trial (RCT). Furthermore, this study would examine whether it is feasible to recruit and run a RCT of a self-help STAGE

intervention using online means with no direct therapist guidance. Finally, it was hoped that this current pilot could provide an initial exploration of the RCT hypotheses, these being:

a) participation in the online STAGE intervention will result in a reduction from the baseline (week 0) in anxiety symptomology, relative to a wait list control at post intervention (week 2; primary outcome);

b) participation in the online STAGE intervention will result in an increase from the baseline (week 0) in decentering, relative to a wait list control at post intervention (week 2);

c) participation in the online STAGE intervention will result in an increase from the baseline (week 0) in perspective broadening, relative to a wait list control at post intervention (week 2);

d) participation in the online STAGE intervention will result in a reduction from the baseline (week 0) in depression symptomology, relative to a wait list control at post intervention (week 2);

e) participation in the online STAGE intervention will result in an increase from the baseline (week 0) in wellbeing, relative to a wait list control at post intervention (week 2);

f) participation in the online STAGE intervention will result in the changes detailed in a, b, c, d and e being maintained at a 2-week follow-up (week 4);

g) lower anxiety relative to the wait list control at follow up (week 4) will be mediated by an increase in decentering and perspective broadening at post-intervention (week 2).

2. Methodology

2.1 Design

This study used a two-phase approach. The first phase was consultation with those with lived experience of anxiety to co-develop the online intervention resource and study procedures. The second phase was a pilot and feasibility study to explore whether the online self-help format of the intervention was acceptable to participants. Self-report measures were collected online at baseline (week 0), post-intervention (week 2) and at follow-up (week 4) from both intervention and control groups. All participants were able to access any additional support outside of the study, as per usual care. The control group were given access to intervention material following completion of the outcome measures at the end of the study (week 4). The study was registered with ClinicalTrials.gov, an independent international register maintained by the United States National Library of Medicine prior to the start of phase 2 (registration number: NCT04117906).

2.2 The Brief Online Self-help STAGE Resource

The new STAGE programme, based upon previous STAGE resources (Hill, 2013; Hill, 2016; Travers-Hill et al., 2017), was developed in conference with its main author, Emma Travers-Hill (née Hill) and service user consultants in accordance with National Institute for Health Research (NIHR) guidelines (2014). It was designed as an online intervention with two sessions delivering content and practice of the technique before instructing participants to practice independently for seven days. See Table 1 for a summary of session by session content. See Appendix B – E for full copies of the written and video script for all sessions. The STAGE cue card is presented in Figure 1 which details a summary of the two-step technique. Participants were encouraged to take a photo of this with their

phone, or screen shot it with their computer, to retain a copy to aid independent practice.

Finally, in Table 2, the second step of the STAGE technique is detailed.

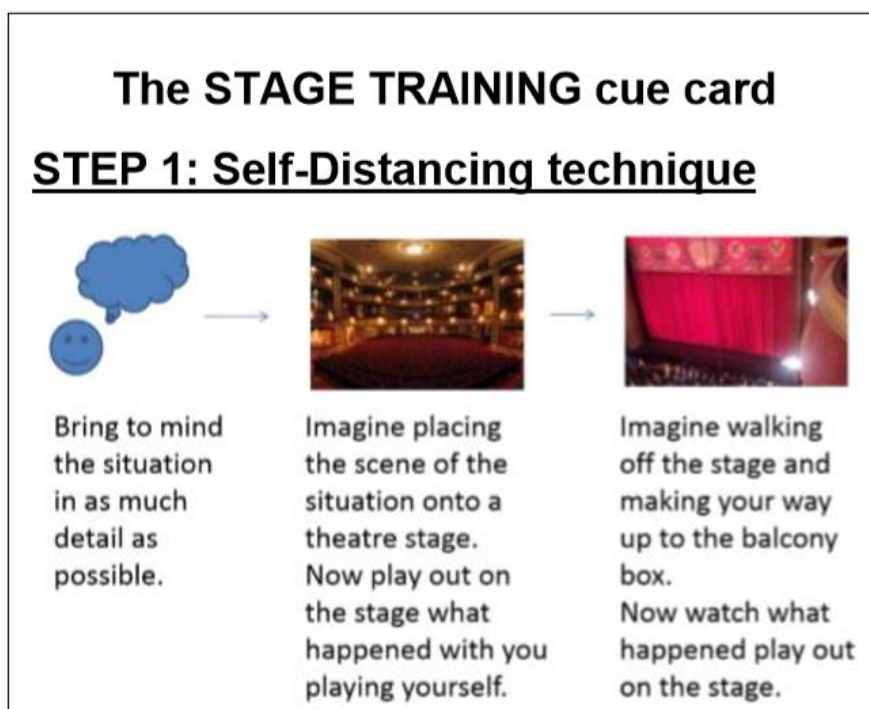**Table 1.**

Details of the STAGE intervention sessions

Session number	Delivery mode	Type of session	Estimated length of session	Description/scenario
1	Video content and written material	Psycho-educational input session	30 - 40 minutes	Introduce the STAGE method for combining the techniques of decentering and perspective broadening (the two stage technique).
2	Written material and Likert ratings	Consolidate STAGE technique and guided practice	15 – 20 minutes	Reminder of STAGE technique. Practice of the technique with four anxiety provoking scenarios: 1. a crowded place; 2. when you couldn't get hold of someone; 3. when you were faced with a deadline; 4. put on the spot by someone asking you your opinion, which you were not expecting.
3- 9	Written material and Likert ratings	Practice session 1	10 minutes	Reminder of STAGE technique. Use technique on anxiety resulting from going somewhere new, or similar personal anxiety-provoking situation.
		Practice session 2		STAGE applied to an example of anxiety from not being good enough, or similar personal anxiety-provoking situation.
		Practice session 3		STAGE applied to an example of anxiety from thinking you have upset someone, or similar personal anxiety-provoking situation.
		Practice session 4		STAGE applied to an example of anxiety from an assessment or an interview coming up, or similar personal anxiety-provoking situation.
		Practice session 5		STAGE applied to an example of anxiety from embarrassing yourself in

		front of other people, or similar personal anxiety-provoking situation.
Practice session 6		STAGE applied to an example of anxiety from walking into a room of unknown people, or similar personal anxiety-provoking situation.
Practice session 7		STAGE applied to an example of anxiety from calling up to make a complaint, or similar personal anxiety-provoking situation.

Please note: *practice sessions presented forwards (1-7) and backwards (7-1) for spilt half of experimental participants*

Figure 1.

Cue card summarising the STAGE technique to participants

The STAGE TRAINING cue card

STEP 1: Self-Distancing technique

Bring to mind the situation in as much detail as possible.

Imagine placing the scene of the situation onto a theatre stage. Now play out on the stage what happened with you playing yourself.

Imagine walking off the stage and making your way up to the balcony box. Now watch what happened play out on the stage.

STEP 2: Perspective Broadening using STAGE thinking strategies

S imilar — Think about a similar situation in the past which was not as distressing. — *Imagine the similar situation playing out.*

T ime — Think about how you will feel about this in the future. — *Imagine yourself going through your future plans.*

A reas — Think about all the areas of your life and focus on the ones that are going ok. — *Imagine the stage full of the things from your positive life areas.*

G rey — Think about aspects of the situation that may not be all bad. — *Imagine watching the situation and picking out everything good.*

E lse — Think about what you would say if this were happening to someone else. — *Imagine watching the situation happening to someone else.*

Table 2.

Details of the second STAGE intervention step

Letter	What it stands for?	Explanation in STAGE resource
S	Similar	Think about a time in your life when you have experienced a similar situation happen, but where the situation was not as distressing. For example, when you thought something bad was about to happen, but it wasn't as bad as you had thought. Or when you have found yourself in a similar anxiety provoking situation, but you found it okay and it wasn't that bad.
T	Time	Think about the situation and putting it on a timeline. Try to imagine what it is going to feel like when you feel less emotional about the situation. It may be that you already feel less emotional about the situation now than when it happened; it is this ability of time to mellow our emotions that we want to try and use. Think about how you might feel next week, and even how you might feel a year on from now.
A	Areas	Try to think about putting the situation in context of your life at the moment. Think about all the areas of your life. People do this in all different ways. Some people think about the areas of your life determined by different groups of people, such as friends, family, work colleagues, sports team. Some people choose to organise the areas of their life by activity, such as work, sport, relaxing. Or some may think of the areas in their life in terms of roles, for example child, parent, employer, friend, lover, pet owner.
G	Grey	Try to think about the aspects of your situation which may not be all bad. What do you think could be the silver lining to this grey cloud? This may

		be too difficult and if this is the case then think about how the situation may be less awful than it first seems. Perhaps there are things that you can learn or take away from what happened.
E	Else	Try to imagine that your situation is happening to someone you care about. They are talking to you about it and are obviously very upset. What would you say to them to make them see things in a less negative light, or panicked perspective. What could help them feel a bit calmer?

2.3 Participants

Participants for phase two were recruited via advertising purchased from the organisation 'Anxiety UK' who posted on Twitter and Facebook social media platforms (see Appendix F for copies of the posts). In total, 12 posts were featured across the two media platforms. Participants were eligible to take part if: they were over 18 years of age; had access to the internet; resided in the UK and understood English; and were not receiving a psychological intervention currently or at any time in the last 6 months. Participants were then screened for anxiety symptomology via a generalised anxiety disorder screening tool (see 2.4); participants whose self-reported anxiety fell above 'clinical threshold' (scores of 8 or above; Watson, 2016) and within a 'moderate' (scores of 6-10) to 'moderately severe' (scores of 11-15) range were deemed suitable to take part in this study. Therefore, those scoring 8 to 15 were suitable, whilst those who scored below a score of 8 or above a score of 15 were not suitable to take part in this study. In recognition of the time the study would require from participants and to aid retention rates (Booker et al., 2011), participants who completed the measures at all time points could opt to enter a prize draw to be randomly allocated to win one of four shopping vouchers worth £25.

There was no possibility for a *priori* power calculation as there was no previous research on this delivery method or mental health presentation (McCrum-Gardner, 2010). For a pilot intervention study, a sample size of 30 participants per group is seen as acceptable (Hertzog, 2008). Participant demographics are presented in the results section.

2.4 Measures

For full questionnaires or question sets, see Appendix G.

Anxiety

Anxiety symptomology was screened and assessed using the Generalized Anxiety Disorder screener (GAD-7), a seven item self-report measure that aims to identify individuals experiencing symptomology associated with generalised anxiety (Spitzer, Kroenke, Williams & Lowe, 2006). The GAD-7 uses a four-point Likert scale where respondents report the frequency of symptoms over the past two weeks ranging from zero ("not at all") to three ("nearly every day"). Total scores range from zero to 21 with higher scores indicating higher levels of generalised anxiety symptomology. The GAD-7 is validated in both clinical samples and in the general population (Spitzer et al., 2006; Löwe et al., 2008). It has been found to have excellent internal consistency (α =.92) and good test-retest validity in a clinical sample (Spitzer et al., 2006). In the current study at baseline, this measure had a poor level of internal consistency (α = .43), whilst at post-intervention, this had improved to a good level of internal consistency (α = .86); please see 4.3 Limitations for more regarding this discrepancy.

Decentering

Decentering was measured using the 11 item decentering sub-scale of the 20 item self-report Experiences Questionnaire (EQ; Fresco et al., 2007). The items are rated on a five-point Likert scale from one ("strongly disagree") to 5 ("strongly agree"). Total scores for the EQ-Decentering range from 11 - 55, with higher scores indicating an increased ability to decentre. The EQ has good internal consistency (α =.81) and construct validity (Fresco et al., 2007). In the current study this measure had an acceptable level of internal consistency (α = .74).

Perspective Broadening

Perspective broadening was measured by the 4 item self-report 'putting into perspective' sub-scale from the Cognitive Emotion Regulation Questionnaire (CERQ). Items are measured on a 5-point Likert scale ranging from one ("almost never") to five ("almost always"). The perspective broadening total scores were obtained by summing up the scores belonging to the subscale; these ranged from four to 20. Higher scores indicated that the cognitive strategy was used to a greater extent. The CERQ had moderately stable test-retest reliabilities of thinking style (ranging from .40 to .60; Garnefski et al., 2001). The 'putting into perspective' scale has been found to have a good level of internal consistency ($\alpha = .83$; Garnefski & Kraaij, 2007). In the current study this measure had a good level of internal consistency ($\alpha = .87$).

Low Mood

The Patient Health Questionnaire (PHQ-9), a nine item self-report tool, was used to measure change in low mood. It uses a four-point item scale for respondents to report the frequency of symptoms over the past two weeks from zero ("not at all") to three ("nearly every day"). Total scores range from zero to 27 with higher scores indicating higher levels of depression. The PHQ-9's internal reliability has been reported as excellent (α of between .86 and .89 across 2 different settings), as has the test-retest reliability (Kroenke at al., 2001). In the current study this measure had a good level of validity ($\alpha = .79$).

Well-being

Psychological well-being was assessed using the 14 item self-report Warwick-Edinburgh Mental Well-Being Scale (WEMWBS-14; Tennant et al., 2007). Respondents answer statements on a five-point Likert scale ranging from one ("some of the time") to five ("all of the time"). Total scores range from 14 - 70 and higher scores indicate greater well-being. The WEMWBS has a good level of internal consistency ($\alpha = .89$) and a high test-retest

score (NHS Scotland, 2016). In the current study this measure had a good level of validity (α = .86).

2.5 Demographic Questionnaire

Demographic information questionnaires were developed through consultation with the literature and consultation with service users in phase one. These were administered to participants following their consent and screening for anxiety symptomology and prior to randomisation into conditions. Please see Appendix H for a copy of these questions.

2.6 Feedback Questionnaire

Feedback questions were presented to participants in the intervention condition. A within training nine item questionnaire was developed to collect participant feedback on sessions one and two of STAGE. Additionally, an end of training 16 item questionnaire was presented at post-intervention and asked about participant views on the entire training course. Both questionnaires were a mix of Likert scale and open-ended questions where participants could report on their views about the intervention. Please see Appendix I and J for copies of these questionnaires.

2.7 Procedures and Intervention

Participation was entirely online through the platform 'Qualtrics'. Within the advertisements on social media, interested participants were invited to a click a link which took them to directly to the Qualtrics platform and the study information sheet and consent form (see Appendix K & L). Following screening to ensure reported anxiety fell within the suitable range (as measured by GAD-7), those not eligible to participate were re-directed to a screen explaining why they were not suitable to take part in this study (see end of Appendix L). All eligible participants were then instructed to complete the remaining baseline outcome measures. Following this, participants were randomised on a 1:1 ratio by Qualtrics into an

intervention group or a waitlist control group. Those allocated to the control condition were immediately informed via the platform that they would receive a further email link in two weeks which they should open to continue with to the next part of the project. Those allocated to the intervention condition were informed they would receive an email in 24 hours with a link to access the first session of the STAGE intervention, as described above. All initial links to the study were sent out via an automated function on Qualtrics. However, if the links had not been completed after 24 hours, an email reminder would be sent manually to remind participants to complete the next part of the project and include the link again (see Appendix M). This was done on up to three occasions per link. Post-intervention and follow-up measures were requested from all participants via automated emails at week two and week four post-randomisation. Again, email reminders were sent manually, as above, should participants not have completed them after 24 hours. Following completion of the trial, the control participants received access to the STAGE intervention resource material. Following data collection, data were matched across time points using participant email addresses before all identifying information was removed from the data set.

2.8 Ethical Considerations

Ethical approval was obtained by the Salomons Ethics Panel, Canterbury Christ Church University (see Appendix N). The project followed the Code of Human Research Ethics (BPS, 2014). In recognition of the distant online nature of this intervention, throughout the study mental health support and services were signposted and participants were advised to discontinue the programme should they experience distressing symptoms as well as contact the lead researcher or supervisors of the project (email addresses of both were provide|). Furthermore, a limit was placed on the number of email reminders that could be sent to help prevent participants feeling coerced into taking part. Additionally, particular care was taken to ensure those who did not met clinical threshold for anxiety as measured by the screening

tool did not feel their experiences and feelings were unimportant or invalid (see end of Appendix L).

2.9 Analysis Plan

To examine the acceptability and feasibility of the STAGE intervention, attrition rates were calculated. Additionally, the within training and end of training feedback data were analysed. The quantitative data generated were collated into an Excel document to calculate frequency and relative distribution (%) and qualitative feedback data were collated into a word document before being transferred to an Excel document for content analysis. Interrater reliability was calculated using Cohen's kappa (Cohen, 1960) and a second rater. Content analysis was inductive, meaning that themes were closely driven by what participants said (Vaismoradi et al., 2013). Semantic themes were developed at the explicit level. This was deemed appropriate due to the relative brevity of responses, making analysis at any deeper level difficult.

To provide an initial statistical exploration of the data SPSS version 24 (IBM Corp, 2016) was used. Descriptive statistics were used to explore outcome measures and effect size estimates were used to suggest minimum sample size for a fully powered RCT via G*Power (Faul at al., 2007). The data were checked for statistical assumptions and some deviations from normality were noted. ANCOVA analysis, a robust statistical test (Field, 2013) was used conduct an intention-to-treat (ITT) analysis to investigate the main effect of group with baseline score functioning as the covariate. Due to unequal group sizes a further non-parametric test was used as a check. However, it supported the primary analysis and is not presented. Bootstrapping mediation analysis was not completed (Hayes, 2013) as observed data made this unnecessary. Per-protocol analysis excluding intervention participants that did not complete at least half of the STAGE resource was conducted. Change scores were computed for all measures at post-intervention and follow-up (by subtracting baseline from

the scores) and these were compared using a non-parametric test, the Mann-Whitney U, due to the limited and unequal sample size and to ensure a robust assessment.

3. Results

3.1 Participants

Figure 2 shows the flow of participants through the study. Of the 337 clicks on the initial link, 260 did not progress to randomisation: 197 opted out of the study after the information sheet; a further 43 did not meet the screening criteria of the suitable anxiety range (as measured by GAD-7); whilst 20 did not fully complete the baseline measures and therefore were not randomised into a group. For the 77 who were randomised, the CONSORT diagram follows the completion rates for outcome measures at each time point.

Figure 2.

CONSORT diagram showing participant flow through the trial (adapted from Moher et al.,

2001)
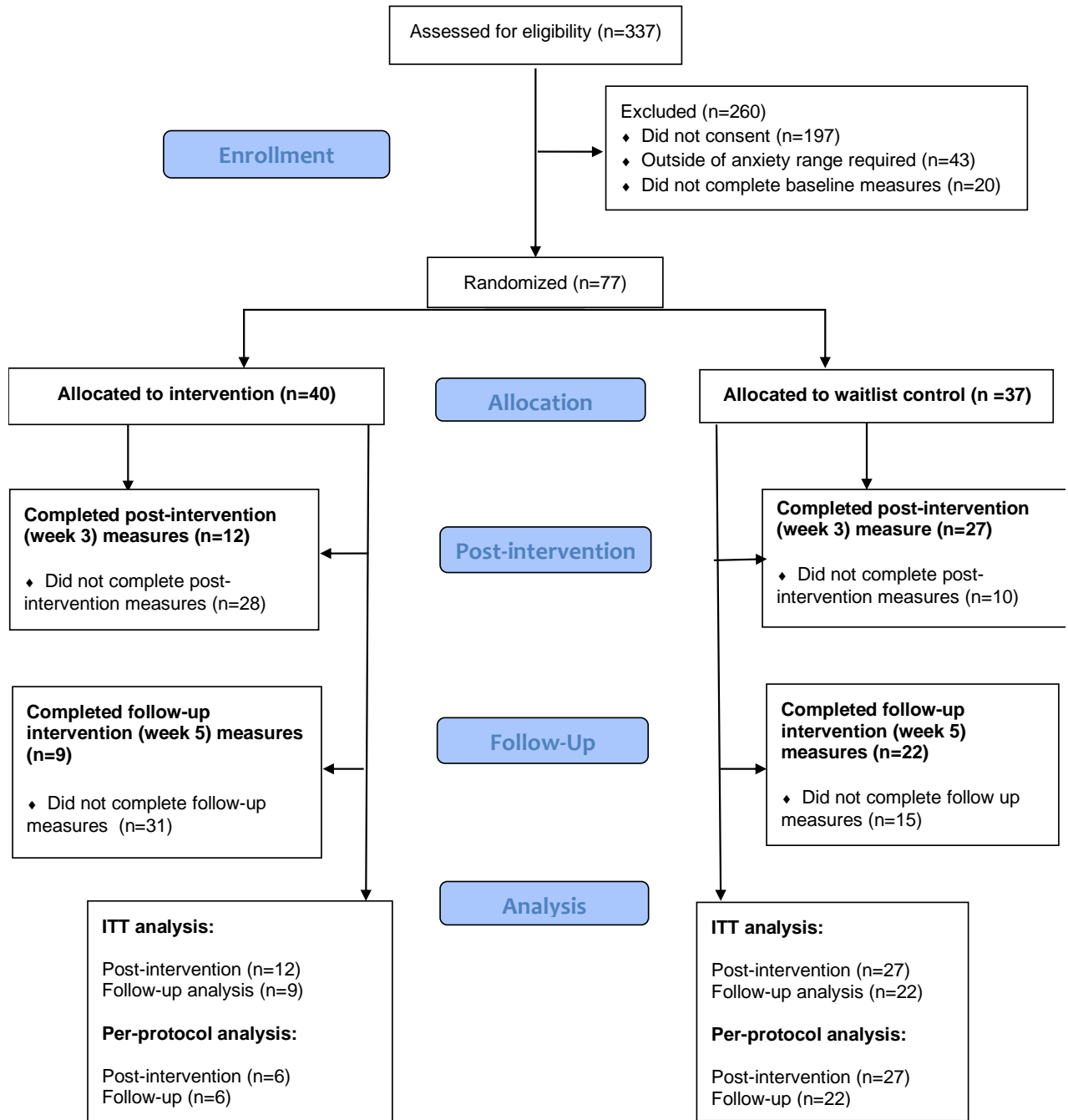
3.2 Baseline Data

Demographic information for participants is presented in Table 3. The sample was largely female (88.3%) with the mean age at 40 years old. The sample primarily comprised individuals who identified as 'white' (96.1%) and most selected the description of their employment status as 'higher managerial' (49.4%). Most participants had a current diagnosis of anxiety (64.9%); slightly fewer had a previous anxiety diagnosis (61%). Almost half of the participants were on medications for anxiety and/or depression (45.5%) while most of the sample (57.1%) had received previous psychological therapy for anxiety and/or depression.

Table 3.

Table presenting demographic information for participants.

	Both conditions	Intervention group	Control group	Between group comparison	*p*-value
	N=77	N=40	N=37		
Mean (SD)					
Age (years)	39.73 (10.60)	40.08 (11.22)	39.35 (10.26)		*p* = .1
N (%)					
Gender				x^2 (2) = 1.44	*p* = .59
Female	(88.3%)	35 (87.5%)	33 (89.2%)		
Male		5 (12.5%)	3 (8.1%)		
Prefer not to say			1 (2.7%)		
Ethnicity				x^2 (5) = 6.02	*p* = .2
White	74 (96.1%)	40 (100%)	34 (91.9%)		
Mixed ethnicity	2 (2.6%)		2 (5.4%)		
Prefer not to say	1 (1.3%)		1 (2.7%)		
Most Recent Occupational status				x^2 (4) = 2.89	*p* = .59
Higher managerial	38 (49.4%)	22 (55%)	16 (43.2%)		
Intermediate	17 (22.1%)	8 (20%)	9 (24.3%)		
occupations	12 (15.6%)	5 (12.5%)	7 (18.9%)		
Routine & manual	4 (5.2%)	3 (7.5%)	1 (2.7%)		
	6 (7.8%)	2 (5%)	4 (10.8%)		
occupations					

Long term					
unemployed					
Prefer not to say					
Current anxiety					
diagnosis				$x^2 (2) = .25$	$p = .92$
Yes	50 (64.9%)	27 (67.5%)	23 (62.2%)		
No	23 (29.9%)	11 (27.5%)	12 (32.4%)		
Prefer not to say	4 (5.2%)	2 (5%)	2 (5.4%)		
Previous anxiety					
diagnosis				$x^2 (1) = .55$	$p = .49$
Yes	47 (61%)	26 (65%)	21 (56.8%)		
No	30 (39%)	14 (35%)	16 (43.2%)		
Current depression					
diagnosis?				$x^2 (1) = 2.3$	$p = .4$
Yes	27 (35.1%)	15 (37.5%)	12 (32.4%)		
No	48 (62.3%)	23 (57.5%)	25 (67.6%)		
Prefer not to say	2 (2.6%)	2 (5%)			
Previous depression					
diagnosis				$x^2 (2) =$	$p < .01$
Yes	35 (45.5%)	24 (60%)	11 (29.7%)	8.16	
No	39 (50.9%)	14 (35%)	25 (67.6%)		
Prefer not to say	3 (3.9%)	2 (5%)	1 (2.7%)		
Other mental health					
diagnoses				$x^2 (2) =$	$p = .11$
Yes	7 (9.1%)	6 (15%)	1 (2.7%)	4.48	
No	69 (89.6%)	34 (85%)	35 (94.6%)		
Prefer not to say	1 (1.3%)		1 (2.7%)		
Current medications					
for anxiety or				$x^2 (2) =$	$p = .49$
depression				1.62	
Yes	35 (45.5%)	20 (50%)	15 (40%)		
No	41 (53.2%)	20 (50%)	21 (56.8%)		
Prefer not to say	1 (1.3%)		1 (2.7%)		
Current medications					
for other mental					
health issues				N/A	N/A
No	77 (100%)	40 (100%)	37 (100%)		
Previous					
psychological				$x^2 (2) =$	$p < .01$
therapy for anxiety				9.07	
or depression	44 (57.1%)	28 (70%)	16 (43.2%)		
Yes	31 (40.3%)	10 (25%)	21 (56.8%)		
No	2 (2.6%)	2 (5%)			
Prefer not to say					

Two variables demonstrated significant differences when comparing intervention and

control conditions; previous depression diagnosis and previous psychological therapy for

anxiety or depression (both variables at $p < .01$). However, this significance value did not survive a Bonferroni correction for multiple analysis and, as such, is likely to be a Type II error. No other demographic variables displayed significant differences when comparing intervention and control groups (p > 0.05).

Descriptive statistics for all outcome measures at baseline are presented in Table 4. As can be seen, the mean baseline scores for both groups on reported anxiety (as measured by the GAD-7) fell within the 'moderate' range. Similarly for low mood (as measured by the PHQ-9), mean baseline scores for both groups were within the 'moderate' range. Regarding well-being (as measured by the WEMWBS-14), both groups mean baseline scores were in the range described as 'low mental well-being' (below 40; Warwick Medical School, 2020). Overall, there were no significant differences between groups on any of the baseline outcome measures ($p>.05$).
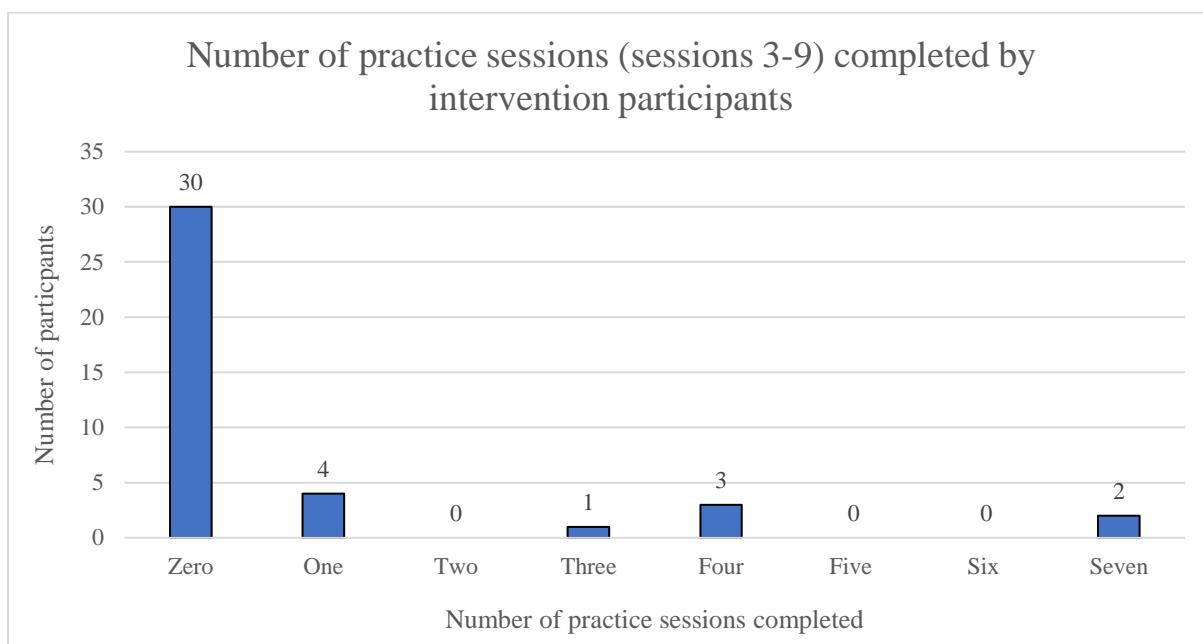
3.3 Attrition and Adherence

Of the 77 participants who were randomised into conditions, 39 participants (50.65%) completed measures at post-intervention (week 2). At follow-up (week 4), 31 participants completed the measures, resulting in 40.26% of the sample being retained (see Figure 2). Attrition rates were higher among participants randomised to the intervention group when compared to the control group at both post and follow-up. At post intervention, 27 participants, or 67.5% did not complete the outcomes measures compared to 10 participants, or 27.03% in the control condition. At follow-up, 31 participants, or 77.5% in the intervention group did not complete outcomes measures compared to 14 participants, or 37.84% in the control condition.

Finally, the amount of the STAGE resource accessed by intervention participants (n = 40) is presented in Figure 3. Three quarters of participants (n = 30 or 75%) did not complete any practice sessions (sessions 3-9). Four participants (10%) completed one practice sessions.

Six participants progressed further (15%); one participant (2.5%) completed three practice sessions (up to session 5 of 9), three participants (7.5%) completed four practice sessions (up to session 6 of 9) and two participants (5%) completed all five practice sessions and finished the STAGE resource (completed all 9 sessions).

Figure 3.

Visual representation of the numbers of practice sessions completed by participants in the intervention condition (n=40)

Number of practice sessions (sessions 3-9) completed by intervention participants

Number of participants

30
4
0
1
3
0
0
2

Zero   One   Two   Three   Four   Five   Six   Seven

Number of practice sessions completed

## 3.4 Acceptability of the STAGE Intervention

Feedback on Sessions One and Two

Out of 12 participants, 11 (91.66%) reported that they were satisfied with session one of the training resource ('extremely', 'moderately' or 'slightly'), with most indicating they were 'extremely' or 'moderately' satisfied (9 participants, or 75%). One respondent (8.33%) said they were 'slightly dissatisfied' with session one. Two participants out of ten, fed back that they were 'moderately' or 'extremely dissatisfied' with session two, one (10%) for each

respective category. Eight (80%) of participants indicated their satisfaction with session two ('extremely', 'moderately' or 'slightly'). See Figure 4.

Figure 4

Participant reported satisfaction with sessions
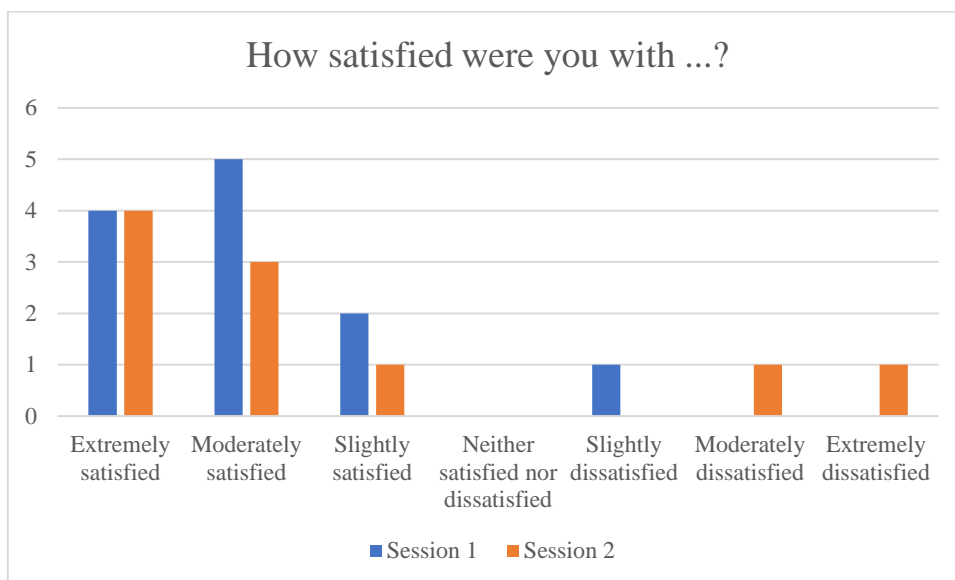
Of 11 responses recorded (100%; one response missing from data) for session one all reported the view that the session was helpful ('extremely', 'moderately' or 'slightly'), with the majority (seven, or 62.64%) indicating at a 'moderate' level. From ten responses, seven (70%) noted session two was helpful, at either an 'extremely', 'moderately' or 'slight' level, though a further one participant (10%) rated session 2 as 'extremely unhelpful' and a further one participant (10%) rater the session was 'neither helpful nor unhelpful'. See Figure 15.

Figure 5.

Participants reported helpfulness of sessions
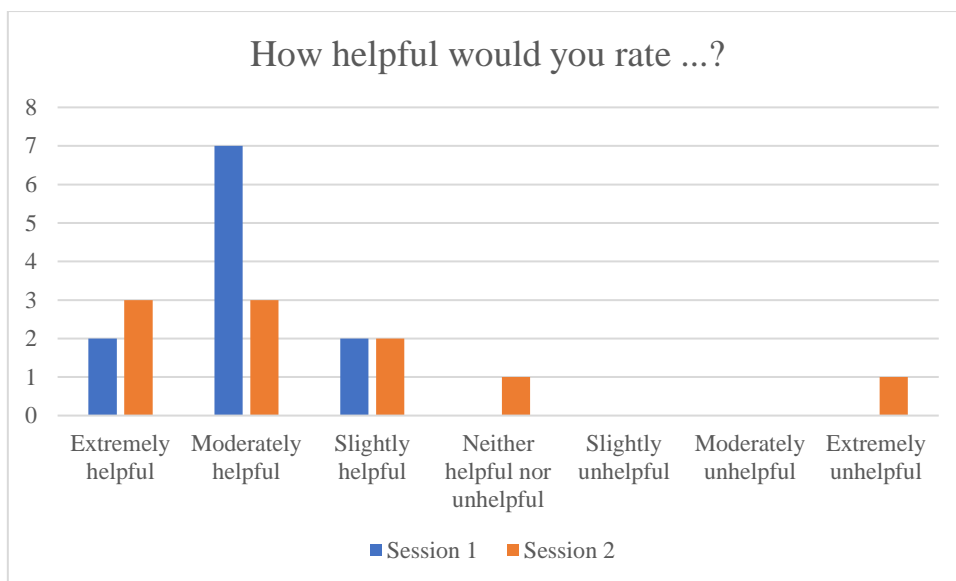
For session one, all 12 participants (100%) reported that the session was 'extremely easy' or 'moderately easy' to understand. Eight participants (80%) fed back that session two was 'extremely easy', whilst 2 participants (20%) indicated it was 'slightly easy'. See Figure 6.

Figure 6.

*Participants reported understandability of sessions*
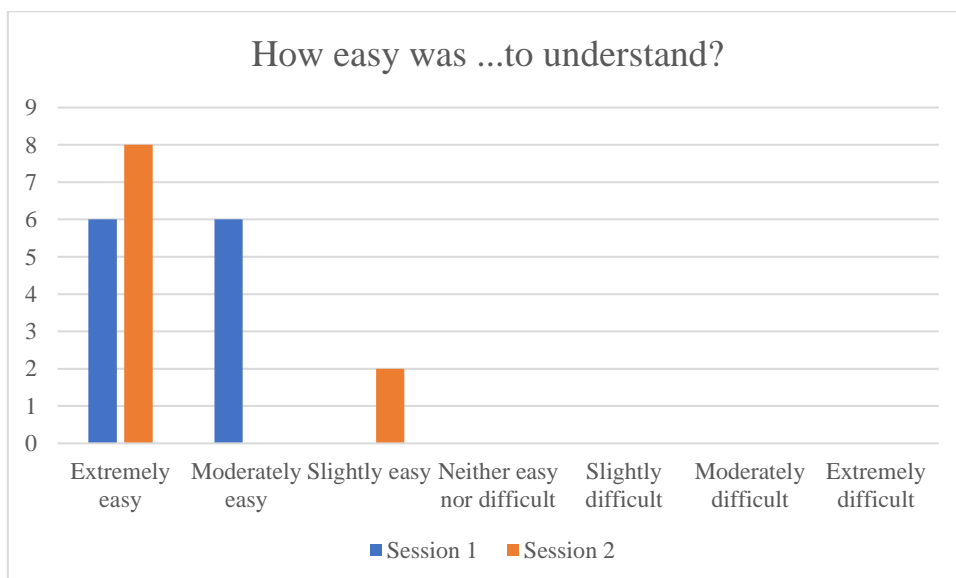
Seven of 12 participants (58.33%) said that it was easy to apply what they learnt from session one, with most (5, or 41.67%) indicating it was 'moderately easy' (as opposed to

'extremely' or 'slightly'). A further three participants (25%) fed back that it was 'slightly difficult' to apply the learning from session one. One person (10%) stated they found it 'moderately difficult' to apply what they had learnt for session 2, and a further person (10%) noted a neutral response. Eight participants, or 80%, reported they found it easy to apply what they learnt from session two; two participants (20%) reported it was 'extremely easy', whilst a further three participants (30%) indicated 'moderately easy' and 'slightly easy' respectively. See Figure 7.

Figure 7.

Participants reported ease of application of sessions
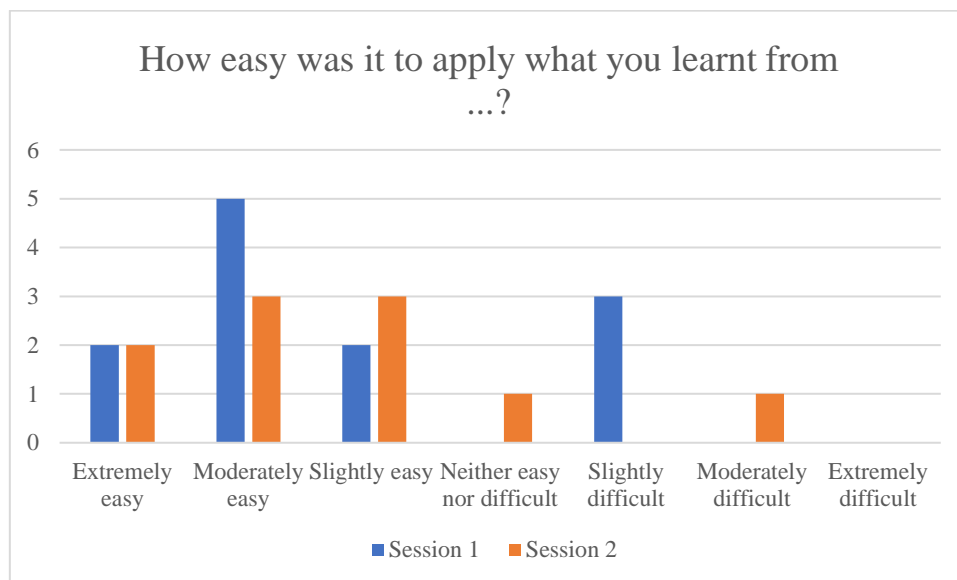
Feedback about the Complete STAGE Resource

Of the 12 participants that responded, four (33.33%) stated they were 'extremely satisfied' with the content of the STAGE intervention. Nine participants (75%) reported they were satisfied ('extremely', 'moderately' or 'slightly'), whilst two participants (16.67%) stated they were 'neither satisfied nor dissatisfied'. One participant, or 8.33% of the respondents indicated that they were 'slightly dissatisfied' with the whole training course. See Figure 8.

Figure 8.

Participant reported satisfaction with the content of the whole training course
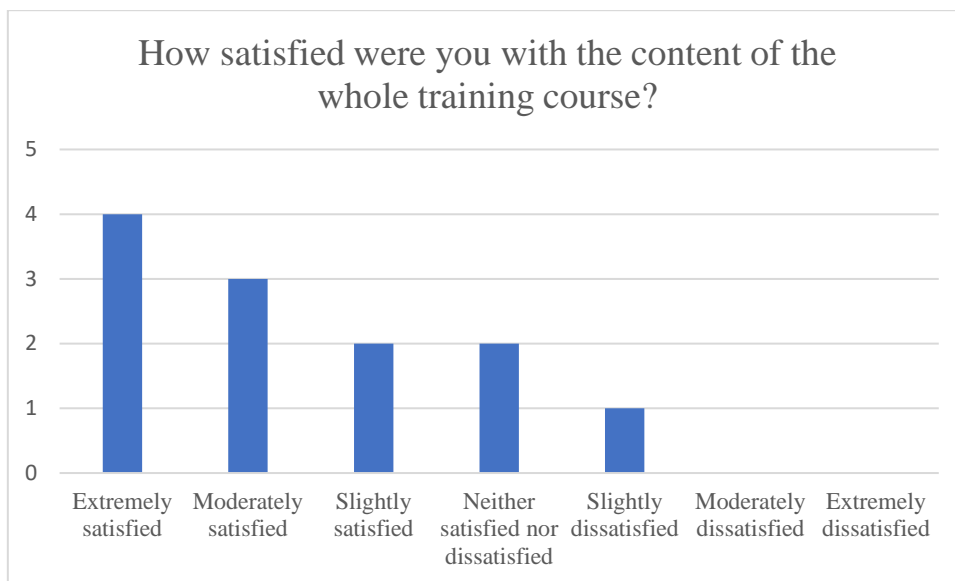
Ten participants out of 12 (83.33%) indicated they were satisfied with the structure of the resource and two participants (16.67%) reported a neutral response; see Figure 9. This pattern was repeated for ratings of helpfulness of the intervention; ten participants out of 12 (83.33%) indicated they found the intervention 'slightly', 'moderately' or 'extremely helpful', whilst two participants (16.67%) reported a neutral response. Five participants, or 41.67% reported they thought it was 'extremely helpful'; see Figure 10.
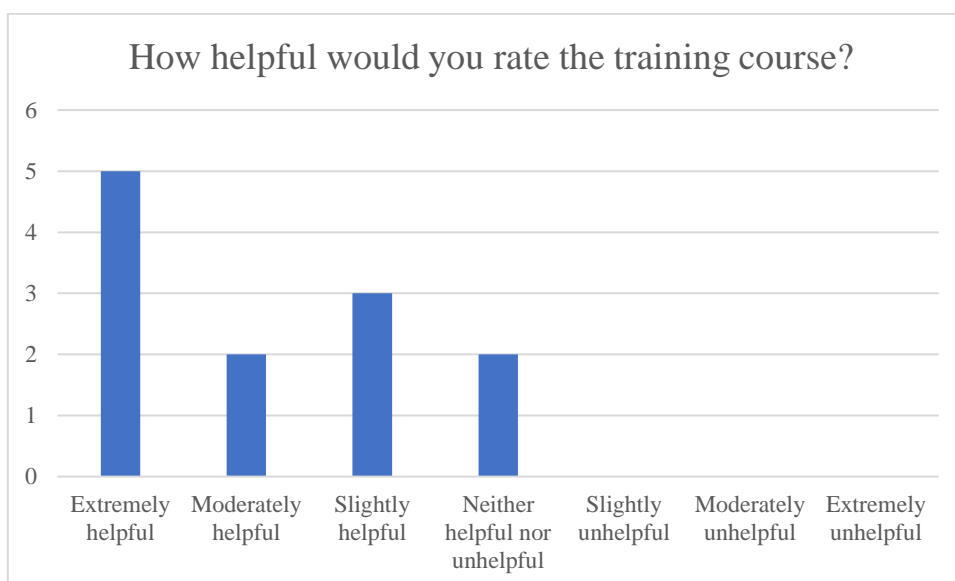
Figure 9.

Participant reported satisfaction with the structure of the whole training course

How satisfied were you with the structure of the training course?

Figure 10.

Participant reported helpfulness of the training course

How helpful would you rate the training course?

11 participants (91.67%) stated they found the whole training course 'extremely' or 'moderately' easy to understand, while one participant indicated a neutral response (8.33%); see Figure 11. When considering the ease of application of the resource, ten participants, or 83.33% said it would be easy to apply ('extremely', 'moderately' or 'slightly'). One person indicated that they thought it would be 'slightly difficult', whilst one person gave a neutral response, both representing 8.33% of the responses; see Figure 12.

Figure 11.

Participant reported ease of understanding of the training course
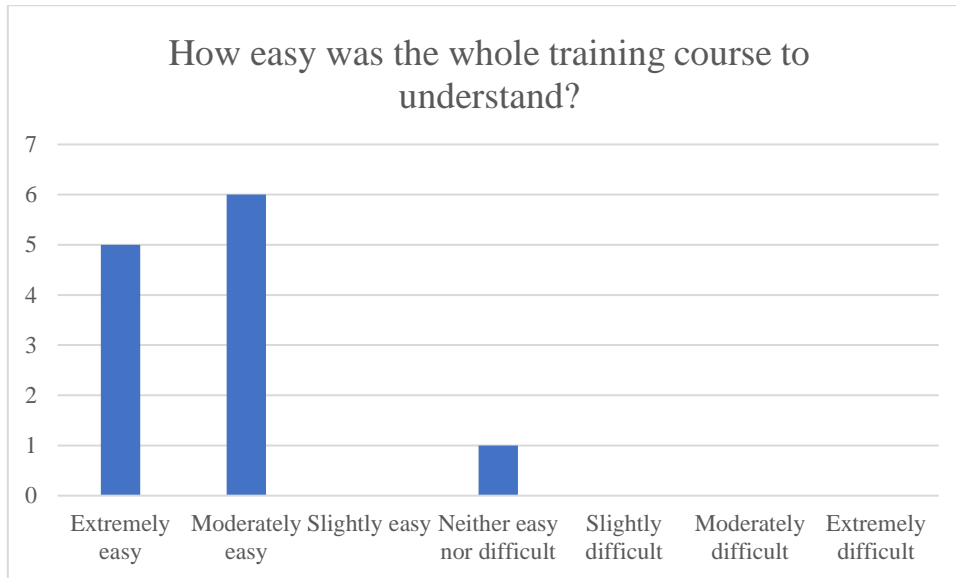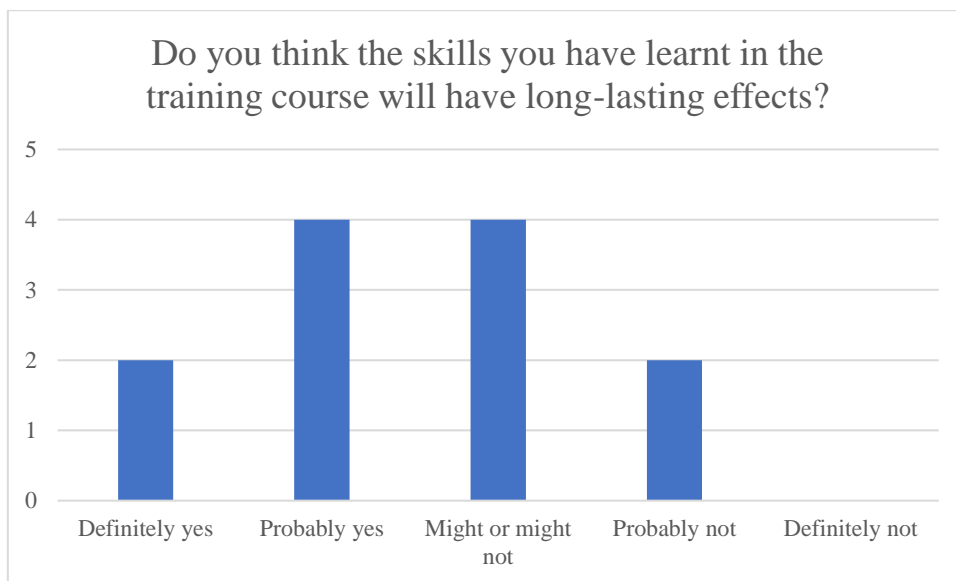

Figure 12.

Participant reported ease of applying the training course

Six participants, or 50% gave a positive answer to the question of whether they thought the effects of the intervention would be long-lasting. Four participants (or 33.33%) gave a neutral answer, whilst two (16.67%) recorded 'probably not' in response to the question; see Figure 13.

Figure 13.

Participant reported rates of effects from the training course

Do you think the skills you have learnt in the training course will have long-lasting effects?

Category	Count
Definitely yes	2
Probably yes	4
Might or might not	4
Probably not	2
Definitely not	0

Four participants (33.33%) reported 'sometimes' practising the intervention skills in their day-to-day life, while a further four (33.33%) indicated they 'always' or 'often' practised the skills. A further four participants (33.33%) indicated they 'rarely' or 'never' practise the skills outside of the intervention; see Figure 14.

Figure 14.

Participant reported practice rates

How often did you practice the skills in your day-to-day life (outside of the training course)?

Category	Count
Always	2
Often	2
Sometimes	4
Rarely	2
Never	2
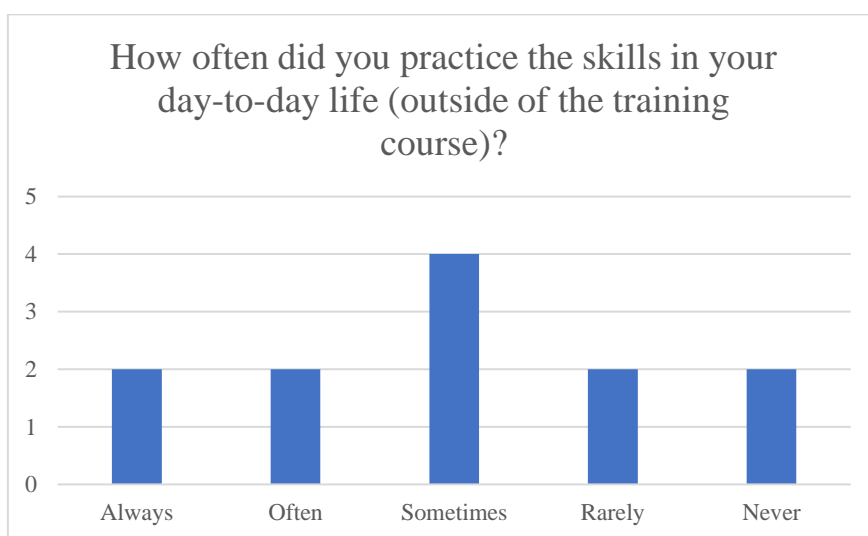
Finally, seven participants (58.33%) rated that they would 'definitely' or 'probably' recommend the intervention to others. One (8.33%) reported they 'definitely' would not recommend the resource, whilst four participants, or 33.33% stated they were unsure whether they would recommend the resource; see Figure 15.

Figure 15.

Participant reported rates of whether they would recommend the training course

A table summarising the quantitative feedback from session 1, session 2 and the end of training feedback is presented below; see Table 5.

Table 5.

Summary of responses detailed by positive, neutral or negative from all feedback time points

	Positive n (%)	Neutral n (%)	Negative n (%)
Satisfied (n=46)	38 (82.61%)	4 (8.7%)	4 (8.7%)
Helpful (n=33)	29 (87.88%)	3 (9.09%)	1 (3.03%)
Easy to understand (n=34)	33 (97.06%)	3 (8.82%)	0 (0%)
Easy to apply (n=34)	27 (79.41%)	2 (5.88%)	5 (14.71%)

Open-text Question Feedback

Answers provided to the open text questions were analysed using content analysis. A descriptive summary of generated categories, subcategories and example text that comprised them can be viewed in Table 6. Interrater reliability demonstrated substantial to almost perfect agreement. This was calculated using Cohen's kappa (κ); see Table 7.

Table 6.

Summary of categories and subcategories generated by content analysis of open-ended questions (n = 13)

Category	Number of Responses	Subcategory	Frequency of response per participant	Examples of coded text
Positives about the training	31	Easy and clear	10	"*easy to understand and follow*" "*I thought the module was explained well and was simple enough to understand and follow*"
		Helpful	6	"*I have found this technique very helpful with my anxiety*"
		Enjoyable	4	*"I enjoyed doing this"*
		Positive about the content	6	"*the stage imagery is good*" "*I like the video explaining the method*"
Barriers to the training	20	Hopeful of continuing to use the technique	5	"*I have already included it into my anxiety toolbox*" "*I can see me continuing to use the techniques on other situations in future especially as they are easy to remember*"
		The importance of practice	5	"*Need more practice to get used to it*"
		Difficult to use imagery technique	4	"*it's difficult ... to imagine the scenarios in the detail required for success*"

		Some strategies were harder than others	4	"*some strategies are easier than others*"
		Doubtful of effectiveness	2	"*I am unsure how helpful it could be if I was outside trying to do the techniques*",
		Confusion about the technique	2	"*sometimes not sure whether I was supposed to visualise the situation as myself first on the stage or as a spectator*"
		Issues with the scenarios	3	"*none of these situations would be incredibly anxiety provoking for me*"
		Overall	3	"*not enough content*" "*not long enough*"
Suggested improvements	5	Audio and video improvements	2	"*I think it would be easier to do the training if there is …an audio each time. It would help the person to concentrate*" "*graphics and delivery could have been improved on*"

The category 'positives about the training' was formed by the highest number of responses and within this the subcategory with the highest response rate was relating to the resource as 'easy and clear'. A significant number of responses formed the category 'barriers to the training' and the highest number of responses within this was the 'importance of practice'. Finally, a small number of responses formed the category 'suggested improvements' composing both some feedback relating to the overall resource and specifically to audio and video elements of the resource.

Table 7.

Interrater reliability and descriptor for each main category generated by content analysis

Category	Cohen's κ	Descriptive Interpretation
Positives about the training	0.74	Substantial agreement
Barriers to the training	0.8	Almost perfect agreement
Suggested improvements	0.85	Almost perfect agreement

Please note: Descriptive interpretations taken from Landis & Koch (1977)

3.5 Initial Estimates of Possible Intervention Effects

Descriptive statistics for all outcome measures at all three time points (baseline, post and follow-up) are presented in Table 8. These are presented in Figure 16 where the scores for each measure at three time points is plotted graphically. A power calculation to compute the required sample size for a fully powered RCT was conducted using G* Power (Faul at al., 2007). This used estimated effect sizes for a power of .80 and an alpha of $p = .05$ and found a minimum total sample of 456 participants was required to test the primary outcome. See Table 9 for full details.

Table 8.

Descriptive statistics for all outcome measures at all three time points (baseline, post and follow-up)

|	Baseline				Post-intervention				Follow-up			
	STAGE intervention		Wait list control		STAGE intervention		Wait list control		STAGE intervention		Wait list control	
	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)
N	40		37		12		27		9		22	
GAD-7 Total (/21)	11.83 (2.16)	12 (4)	12.49 (1.95)	13 (3)	10.85 [a] (3.63)	11 [a] (5)	12.48 (4.87)	13 (8)	10.33 (6.93)	12 (11.5)	11.64 (4.54)	12 (6.25)
EQ-D Total (/55)	26.15 (5.03)	25.5 (7)	26.19 (5.35)	26 (5.5)	30.5 (8.39)	30.5 (11.75)	28.41 (5.96)	27 (7)	33.33 (10.28)	32 (12.5)	29.82 (4.22)	29 (5)
CERQ-PB Total (/20)	11.9 (3.17)	12 (4)	12.03 (3.83)	12 (5)	14.42 (3.03)	15 (3.25)	12.54 [b] (3.83)	12.5 [b] (6.25)	16.44 (3.09)	16 (4)	12.55 (4.22)	12 (7.25)
PHQ-9 Total (/27)	13.73 (4.16)	14 (4.75)	14 (5.13)	14 (7)	10.5 (4.01)	11 (5.75)	12.5 [b] (5.3)	12.5 [b] (8.50)	11.11 (8.67)	7 (16.5)	12.77 (4.60)	12.5 (5.25)
WEMWBS-14 Total (/70)	34.45 (6.8)	34 (9)	34.38 (6.99)	35 (8.5)	41.17 (7.79)	43 (8.75)	35.78 (5.78)	36 (5)	41.2 [c] (8.22)	42 [c] (12.5)	37 (8.60)	34 (9.25)

[a] n=13, [b] n=26, [c] n=10

Table 9.

Effect size and sample size estimates for primary and secondary outcomes

Hypotheses for analysis Participation in the online STAGE intervention will result in…	Effect Size Estimate $\eta^2\rho$	Estimated Total Sample Size (n)
…a reduction from the baseline (week 0) in anxiety symptomology, relative to a wait list control at post intervention (week 2; primary outcome)	.02	456
…an increase from the baseline (week 0) in decentering, relative to a wait list control at post intervention (week 2)	.02	384
…an increase from the baseline (week 0) in perspective broadening, relative to a wait list control at post intervention (week 2)	.06	130
…a reduction from the baseline (week 0) in depression symptomology, relative to a wait list control at post intervention (week 2)	.03	240
…an increase from the baseline (week 0) in wellbeing, relative to a wait list control at post intervention (week 2)	.14	51
…changes detailed above being maintained at a 2-week follow-up (week 4)	.02 - .11	68 - 598

On further study of Table 8 and Figure 16, the initial trends observed appear to be in the hypothesised directions at post-intervention and this continued to follow-up: anxiety and low mood mean scores were lower for the intervention group compared with control, whilst mean scores for decentering, perspective broadening and well-being were higher in the intervention group compared with control. Similarly, when the mean scores for participants who completed a "minimum effective dose" of at least half of the STAGE intervention (n = 6; criteria as previously adopted by Teasdale et al., 2000) and compared to the control group (n = 37) the pattern of this trend was repeated – please see Figure 17.

Figure 16.

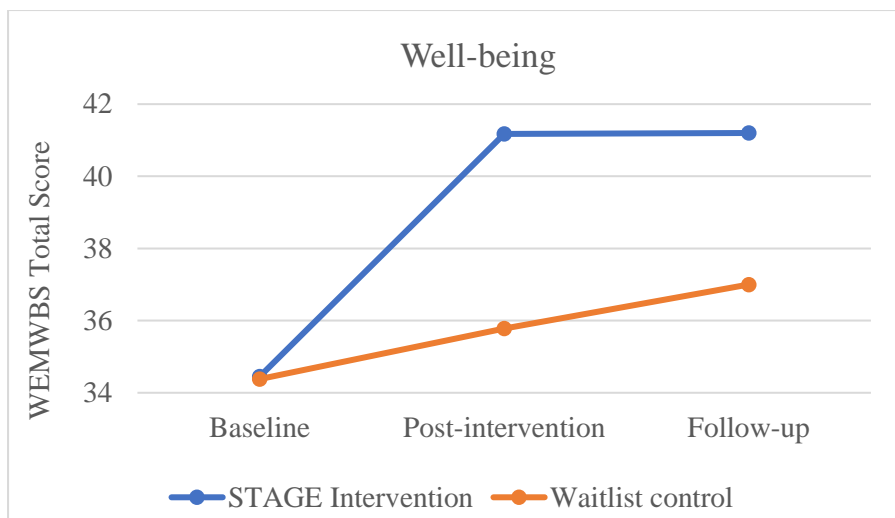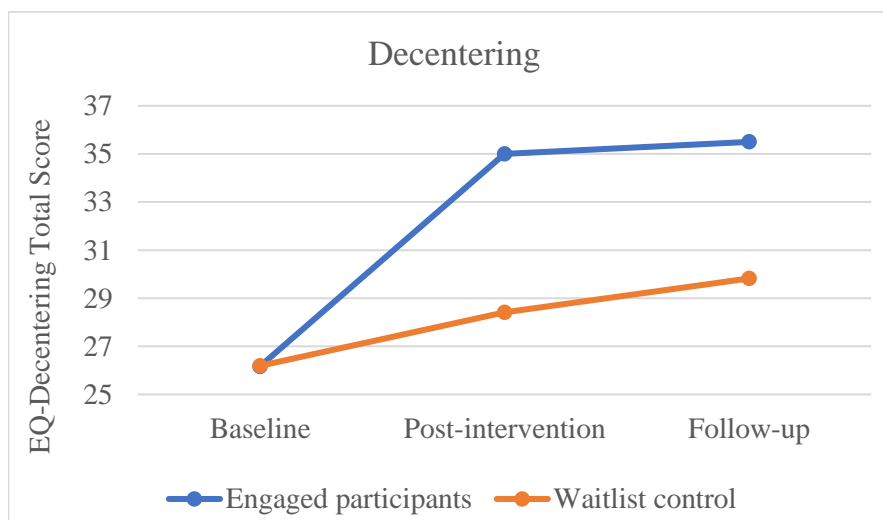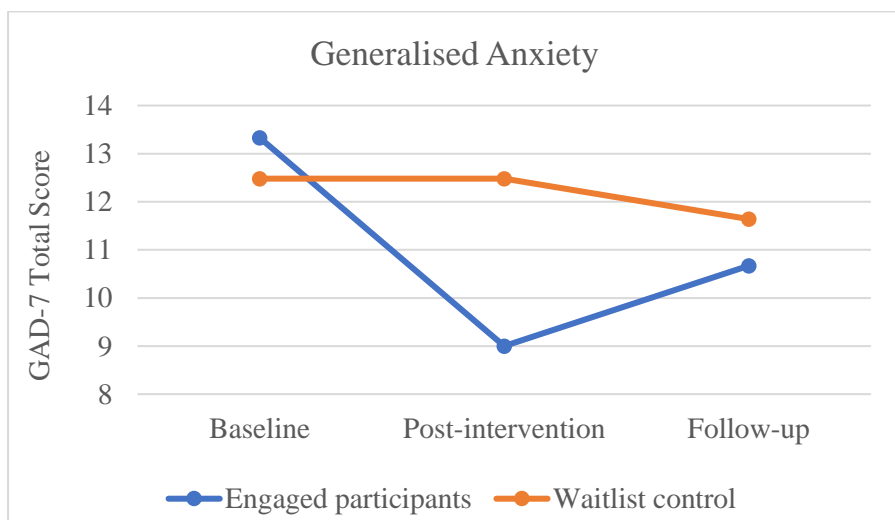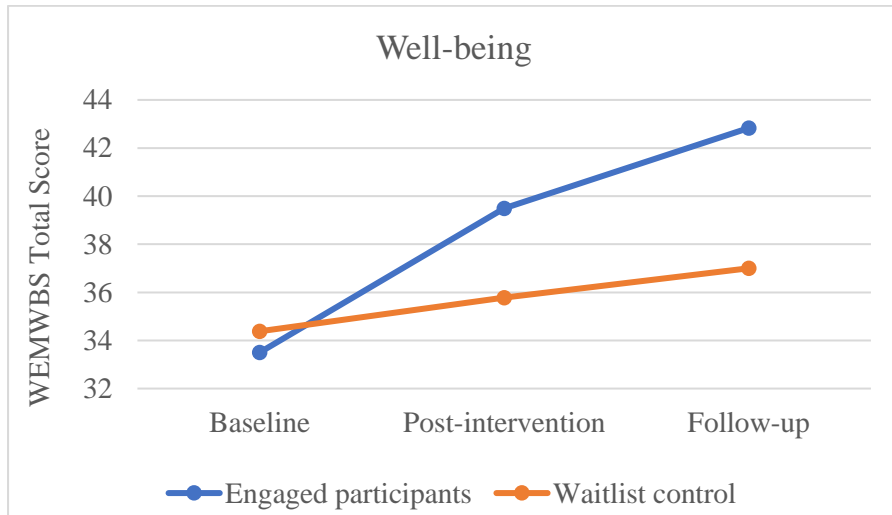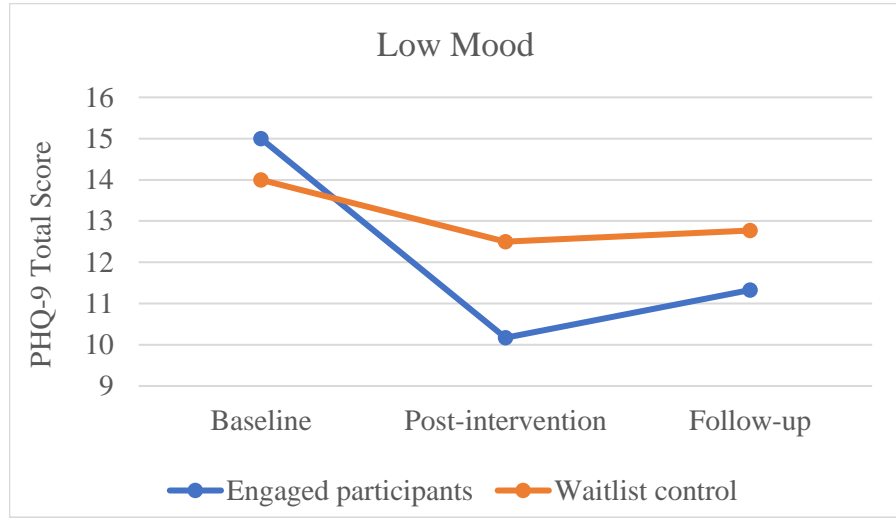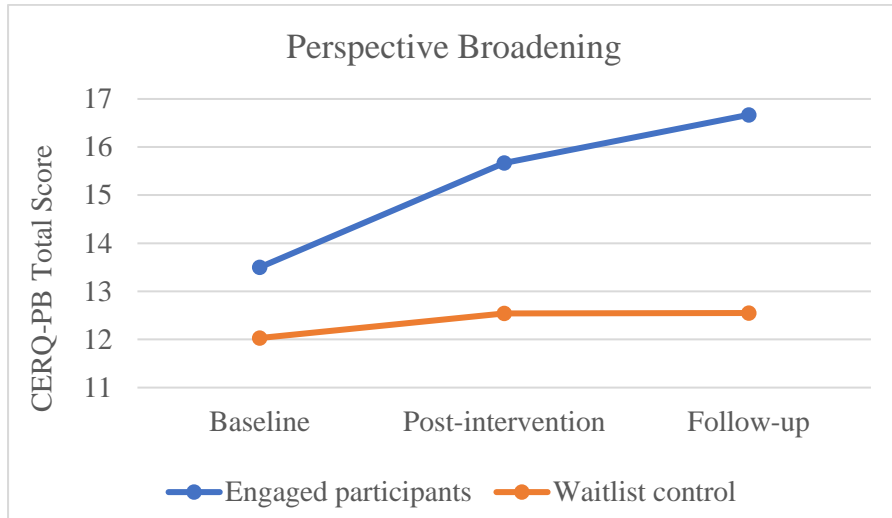*Graphs showing mean total scores on the outcome measures by group for each time point*
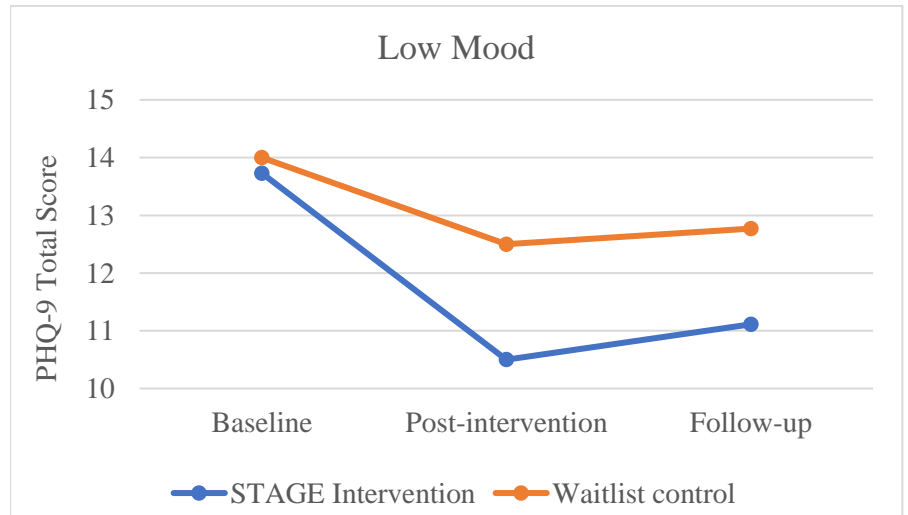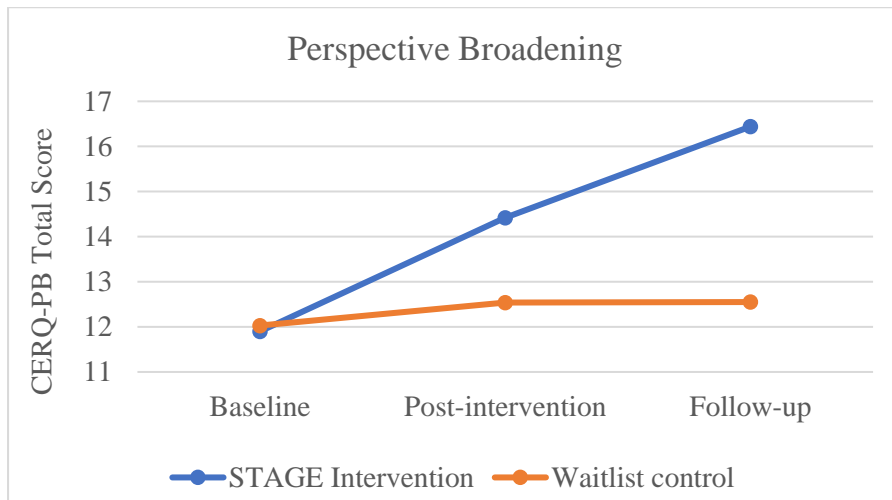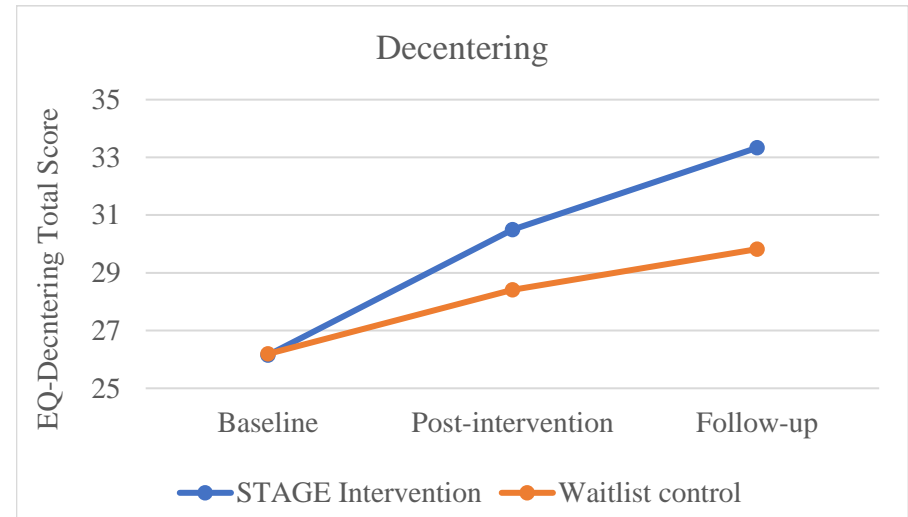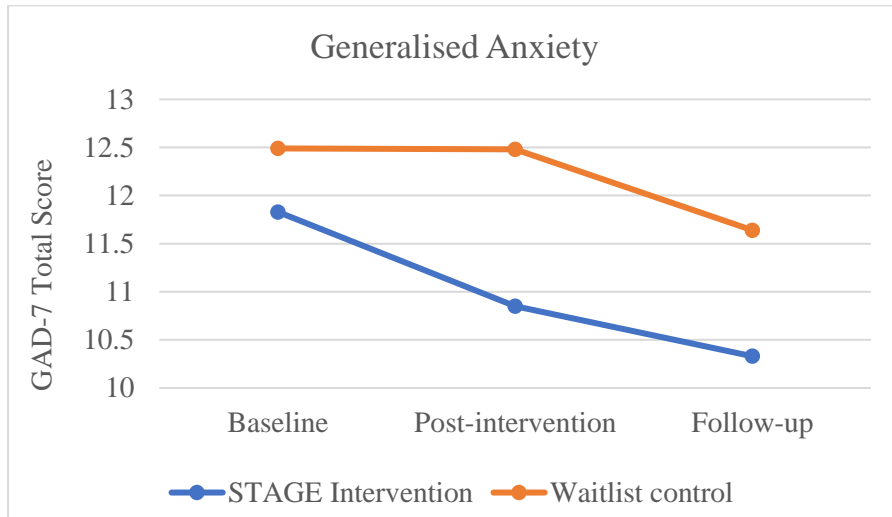
Figure 17.

Graphs showing mean total scores on the outcome measures for each time point for per-protocol analysis

Perspective Broadening

Low Mood

Well-being

ITT analysis was used to provide preliminary exploration into the hypotheses of a full-powered RCT. See Table 8 for descriptive statistics for the ITT analysis at each time point and see Table 10 for the results for the ANCOVA analysis. Significant differences between groups were found in change scores between baseline and post-intervention on the measure of well-being (WEMWBS). Marginal differences between groups were found in change scores between baseline and follow-up on perspective broadening (CERQ-PB). All other primary and secondary outcomes were contrary to hypotheses and found no significant differences. However, as this was not designed to be a powered trial, non-significant findings could be Type II error. No mediation analysis was performed due to the lack of significant differences between intervention and control groups between baseline anxiety (week 0) and either time points (post or follow up). Furthermore, baseline to post-intervention scores did not differ significantly between the intervention and control groups for either of the purported mediators (decentering and perspective broadening).

Table 10.

Table presenting results from ITT ANCOVA analysis of the main effect of group when controlling for baseline measures

Measure	Time point	N	Degrees of Freedom	F	p	Effect Size $\eta^2\rho$
GAD-7	Post-intervention	40	1, 37	0.66	.42	.02
	Follow-up	31	1, 28	0.37	.55	.01
EQ-D	Post-intervention	39	1, 36	0.75	.39	.02
	Follow-up	31	1, 28	1.54	.23	.05
CERQ-PB	Post-intervention	38	1, 36	2.23	.14	.06
	Follow-up	31	1, 28	3.35	.08	.11
PHQ-9	Post-intervention	38	1, 35	1.15	.29	.03
	Follow-up	31	1, 28	0.46	.51	.02
WEMWBS	Post-intervention	39	1, 36	5.8	.02*	.14
	Follow-up	32	1, 29	1.48	.23	.05

*Please note: effect size estimate presented to inform power calculation and do not imply there was an effect; * $p < .05$.*

Additionally, per protocol analysis was conducted comparing the change score differences from participants who had received a "minimum effective dose" of STAGE (half the sessions; n = 6) to those in the control group (n = 37). There were significant differences between the engaged group in anxiety at post-intervention when compared to the control group ($U = 37.5$, $z = -2.04$, $p < .05$, $r = -.36$). All other group differences between the participants who remained engaged with STAGE compared to the control group were found to be non-significant ($p > .05$) at post-intervention and follow-up.

4. Discussion

This study had several aims: to pilot the online self-help format of the STAGE intervention to assess its acceptability to participants with self-reported anxiety and provide effect size estimates for a subsequent RCT; to determine whether it was feasible to recruit and run a fully-powered RCT of an online self-help STAGE intervention without direct therapist guidance; and to provide an initial exploration of the RCT hypotheses. These will be discussed below.

4.1 Piloting STAGE for those with Anxiety

This pilot study sought to examine the acceptability of the new format of STAGE via several means, similar to the approach used by Kaletenthaler et al. 2008. Qualitative and quantitative feedback from those who accessed and remained engaged with the programme (to varying extents) seemed to that STAGE was acceptable to participants. However, increasingly mixed quantitative feedback was found in response to questions relating to the ease of applying the technique as well as when asked about the amount that participants were able to use STAGE outside of the training resource and within their day-to-day life. This seemed to converge with some of the data from the qualitative feedback; that there was some confusion about the technique and some difficulties with using the STAGE imagery,

scenarios and/or technique. Qualitative data also suggested that participants noted that practise was important to STAGE. It is hypothesised that by improving the ability of participants to learn and apply STAGE within their day-to-day life on a consistent basis would have a subsequent positive impact on the acceptability of the resource. Taken together though, it seems that participant feedback suggests that the new format of STAGE was broadly acceptable to participants with anxiety, consistent with wider literature finding participant satisfaction with self-help internet-based mental health interventions (for example, see Griffiths & Christensen, 2006).

Dropout rates can also give inferences about the acceptability of the resource to participants. It was hoped that the brief nature of the intervention would increase numbers of participants fully completing the resource and therefore result in a low dropout rate. Examining the data however, it seemed that this expectation was not supported. 75% of participants (30 in total) did not progress onto the practice sessions (sessions three to nine) despite the time commitment prior to these sessions estimated at between 45-60 minutes in total over two days. The attrition continued throughout the resource; only 15% (5 in total) completed at least half of the STAGE resource and only 5% of participants (2 in total) completed the full STAGE programme. It may be that these attrition numbers reflected the resources being unacceptable to some participants; initial hypotheses may suggest that the online nature of the resource or the time commitment to complete the measures may have been factors. However, whilst these figures appear low and may infer the resource was unacceptable to participants, a closer inspection of the surrounding literature suggests otherwise. Firstly, whilst previous studies have shown that adherence to an intervention (and thus intervention outcome) may be influenced by factors such as age, gender, education, a 'belief in treatment' or the credibility of a online intervention (Al-Asadi et al., 2014; Karyotaki et al., 2015; Melville et al., 2010), making inferences regarding the dropout rate

remains problematic. A review by Christensen et al. (2009) clarified the difficulty with this; most studies do not formally examine reasons for drop out and inappropriate statistical techniques are reported to analyse missing data. Secondly, these attrition figures were comparable with rates reported in other internet-based treatments. For example, a systematic review found in internet-based intervention studies with minimal therapist contact dropout ranged from 2% to 83% (Melville et al., 2010). No literature pertaining to adherence in a brief two-week intervention could be identified, but Farvolden et al. (2005) reported that just 1.03% of participants completed a 12-week online CBT programme. Similarly, it seems that dropout rates of this level do not exclude the resource from being offered as a NICE recommended intervention available through the NHS; Kaltenthaler et al. (2008) found dropout rates ranged from 0% to 75% in studies evaluating a NICE recommended computerised intervention for depression (NICE, 2016). It therefore seems that the dropout rates observed in this study are not remarkable for this intervention format and as such cannot infer that acceptability for this resource is lower than other similarly formatted interventions. Considering feedback and dropout rates in tandem, it seems that overall, the results do not infer that the intervention was unacceptable to participants with GAD.

This pilot study also found that the data obtained showed preliminary promise for STAGE as an effective intervention for anxiety reduction. The initial trends noted within the data set from both ITT and per-protocol analysis show changes in the directions hypothesised by the study. It seems then that the changes observed within the data seem compatible with the hypotheses that STAGE could confer some benefits for those who reported anxiety symptomology. Furthermore, per-protocol initial statistical exploration found significant group difference in change scores for anxiety at post-intervention. Again, this is coherent with hypotheses. These trends tentatively suggest that STAGE may show promise as an

intervention for individuals with anxiety. However, this conclusion is stated cautiously and is caveated – please see 4.3 Limitations.

4.2 Feasibility of STAGE

This study also explored the feasibility of recruiting and running a full-powered RCT into the online self-help STAGE intervention for those with anxiety symptomology. Utilising the estimated effect size, the estimated minimum sample size required to test the primary outcome was 456 participants. However, the recruited sample would need to be considerably larger to account for the attrition rates commonly observed in online self-help interventions; to account for the dropout rate observed in this study 684 individuals would need to form the initial recruitment sample, though this would rise 834 should the attrition rate reach 83%, the maximum rate as reported by Melville et al. (2010). Previous research utilising similar recruitment strategies have managed to recruit adequate sample numbers to reach sufficient power to statistically test hypotheses (for example, see Gammer, 2017). However, despite the adequacy of the recruitment strategy participant numbers in this study would need to increase 83% to reach a power required to statistically test hypotheses. It seems then, that due to the attrition numbers observed it is not feasible to run a full-powered RCT to test the hypotheses concerning the STAGE intervention with STAGE remaining in its current format. Please see 4.4 Implications for Theory, Research and Clinical Practice for further details.

4.3 Limitations

Several important limitations of the study should be noted. A large proportion of the data that informed this study came from an extremely small number of participants, sometimes as limited as 6 participants. This greatly caveats all the findings reported, including the acceptability of the STAGE programme as well as the initial and potentially beneficial trends observed within the data. It remains unclear whether the sample numbers obtained allow for meaningful interpretation of the data. Furthermore, the statistical analysis

presented did not reach adequate sample numbers to be fully powered to explore the hypotheses; as such, it remains possible that the findings reported could represent error or indeed be meaningless. Additional investigation with adequate sample numbers would be needed to elucidate this further. Furthermore, it remains unclear whether this sample of participants with anxiety were suitably representative of the clinical population. While this study did not find significant differences at baseline between the two groups, the small sample numbers increase the likelihood that there may have been significant differences that were unmeasured and that were unlikely to have been fully neutralised by the randomisation process.

There may have been further concerns around the use and subsequent accuracy of the GAD-7 as a screening tool within the study. Previous assessment of the GAD-7 has found it to have excellent internal consistency ($\alpha = .92$; Spitzer et al., 2006). This was congruent with the internal consistency observed within this study at post-intervention ('good'; $\alpha = .86$). However, in contrast to this, at screening/baseline the measure had a poor level of internal consistency ($\alpha = .43$). One potential explanation for this is that participants who found their anxiety levels excluded them from participating in the study, re-accessed the link to adjust their responses to have another attempt at being suitable to take part in the study. Though this cannot be conclusively stated, it remains that this may have had an impact on the findings reported. As such, future research may benefit from ensuring that access codes are only available to participants on a one-time basis.

It is important to note that this study was a development of the STAGE approach along three dimensions (a) a shorter intervention and therefore abridged content; (b) a change in client group towards anxiety; (c) a change in means of delivery towards online. It may be that research that developed STAGE along one dimension could have reported more definitive conclusions. This seems especially relevant in the interpretation of participant

feedback in regard to acceptability. Future studies may seek to limit the development of STAGE to limit the confounding issues that can influence the data collected.

4.4 Implications for Theory, Research and Clinical Practice

A literature reviews conducted by Hill (2014) found that there was evidence to suggest an association between the process of decentering and depression. This contributed to the growing evidence base linking the cognitive processes of decentering and perspective broadening to existing effective interventions for depression, such as CBT and mindfulness-based cognitive therapy (MBCT; see Travers-Hill et al., 2017). Thus, STAGE was developed as cognitive training programme designed to directly target decentering and perspective broadening. Previous research into STAGE, whereby the training was delivered via a traditional face-to-face format, found it to be effective for those with depression and bipolar disorder (Travers-Hill et al., 2017; Hill, 2013). Increased literature seemed to suggest that these cognitive processed were likely to be important mechanisms in those with anxiety Boyle (2020) found evidence to support an association between decentering and anxiety.

This is the first study that trialled STAGE as a potential intervention: with abridged content; for individuals who reported anxiety symptoms; and in a brief online self-help format. The results of the present study provide some tentative preliminary data that the STAGE intervention may also offer some benefits to those with self-reported anxiety. This study also suggests that the brief online STAGE format is overall acceptable to participants. The reported findings were consistent with theory that suggests the importance of decentering and perspective broadening as active and effortful processes that can be mechanisms of change to desired mental health outcomes including that of anxiety reduction. However, this contribution to theory is tentative and the study cannot offer confirmation of theoretical positions concerning decentering, perspective broadening and their subsequent impact on anxiety.

A key challenge for future research is to improve the numbers of participants who remain engaged with the STAGE programme. Whilst research suggests that retention in internet-based interventions improves with clinician support whether by telephone or email (Beatty & Binnion, 2016), it remains a challenge as to how improve adherence rates without increasing the demand on clinicians. This would help ensure that the STAGE intervention obtains the acceptable cost-benefit ratio that is required before an intervention is translated into routine practice within the NHS (Medical Research Council, 2006). A recent systematic review suggested some methods to improve retention for internet-based resources, increasing treatment expectancy and credibility; and personalised content (Beatty & Binnion, 2016). It is possible that both these aspects could be attended to within an automated system. Additionally, a study by Titov et al. (2010) reported that technician-assisted support could be as effective as clinician-assisted support in aiding participants using an online CBT programme. However, with the paucity of research in this area a consultative qualitative piece of work to explore in-depth what may be helpful to allow participants to adhere to the programme seems justified. This research could inform the development of a modified version of the brief online STAGE programme which could then be subsequently piloted. It is also assumed that improved retention rates would improve adherence to the STAGE programme and hypothetically at least, this would have a positive impact on therapeutic research findings.

Clinically, it seems that the trend towards developing novel interventions that are online, brief self-help formats seems likely to continue due to the enduring contexts of increased demand and financial pressures (Bennion et al., 2017; Moock 2014) as well as adapting to the post-covid-19 environment. However, even in traditional face-to-face formats drop-out rates, poor engagement and homework compliance have long been identified as reducing the success and effectiveness of interventions (for examples, see Addis & Jacobson,

2000; Burns & Nolenhoeksema, 1991; Detweiler-Bedell & Whisman, 2005; Kluger & Karras, 1983). This research on STAGE as a brief online self-help tool aligns with the increasing literature that suggests these same issues are likely to remain a crucial issue in the delivery of interventions via non-traditional remote formats (Donkin et al., 2011). The development of the models of adherence, drop out and compliance specific to internet-based interventions would benefit the clinical practice of these increasingly used interventions (Christensen et al., 2009).

Following the successful completion of the research outlined above, it is hoped the modified STAGE could still offer the NHS an effective intervention for clinical anxiety presentations. A modified brief online STAGE programme with increased retention rates potentially allows for an increased number of individuals with anxiety who can access an evidence-based approach without requiring direct therapist contact. This can move the NHS away from growing waitlists and increasing threshold criteria that gatekeep current services to protect them from increasing demand and towards an NHS which can provide unrestricted access to effective evidence-based interventions that improve mental health presentations.

5. Conclusion

This is the first study into the adapted brief online self-help STAGE resource and used a pilot and feasibility design to explore its acceptability to those who are experiencing anxiety symptoms. Overall, the resource seemed broadly acceptable to participants, though a focus on improving attrition and adherence to the resource was justified. Initial exploration of data and statistical exploration into the hypotheses showed preliminary promise with trends observed in hypothesised and beneficial directions. However, the reported findings were caveated by the extremely small sample obtained within this study. Currently, it is not feasible to run a full-scale RCT with the current format of STAGE. Instead, further qualitative research and the development of a modified STAGE programme to improve attrition may allow for a

further pilot and feasibility project to be completed. Following a subsequent full powered

RCT, it remains the case that the STAGE programme has the potential to be developed as an

evidence-based intervention that could be utilised by the NHS.

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MAJOR RESEARCH PROJECT (MRP) SECTION C:

APPENDICES

Appendix A: An example of a JB Critical Appraisal Tool

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Appendix B: Psycho-educational written material (session one)

Thank you. Before we begin the training, we wanted to remind you:

Should you feel distressed, we recommend you stop participating in the course, even if you have not completed it. In such circumstances, please let the researcher know: contact Asuka Boyle at a.l.boyle1184@canterbury.ac.uk.

You might also want to speak to your GP or contact the Samaritans: Telephone on 116 123 (UK) or 116 123 (ROI). Alternatively email on jo@samaritans.org.

You may want to take a screenshot of the above information or write down the information, so that you can refer to it if necessary, during the study.

Thank you. We will now begin the training.

We are conducting research into whether people who learn new strategies to manage emotions such as anxiety find it helpful in managing their anxiety. Anxiety can occur in a variety of situations such as during a stressful day at work or prior to an upcoming event in your life. Anxiety can raise our heart rate, we may feel sweaty or notice that we are feeling tense in our bodies, or we might start to worry about things. As we know, anxiety can sometimes linger around and effect the rest of your day.

We can learn different techniques to help reduce the impact of these anxiety-provoking events. Learning these new techniques may be useful to those who have anxiety disorders or experience regular symptoms of anxiety.

As you may have experienced, sometimes we can get caught up in the details of situations that we find anxiety-provoking and enter a cycle of anxiety. For example, a cycle of anxiety may start with a worry that leads to feeling anxious in your body, which subsequently leads to another worry. We think that two things are happening when people are in this cycle of anxiety. Firstly, we can lose sight of the 'bigger picture' and get sucked into the specific details of something and struggle to gain perspective. For example. we can get caught in a pattern of worrying and going over what has happened or what might happen.

Secondly, we tend to use 'black and white thinking'. This is where people tend to see things in extreme ways – as either all good or all bad. An easy way to detect signs of 'black and white thinking' is through the words people use, such as 'always, never, disastrous'. For example, people may think things like 'I should always avoid crowded places', 'I can never cope with certain situations' or 'if I feel myself getting anxious, I will pass out and it will be disastrous'. Does this sound familiar to you? If so, there are ways of changing these two aspects of thinking. First, you can learn to step back from situations in order to see the bigger picture – what we call Self -distancing.   This involves stepping back from the emotions of an event by using your imagination. Some people find it easier to bring images to mind, and others might find that they process things more in thoughts than in images. This is completely natural, but we encourage everyone to give these imagination exercises a go. Sel=distancing will be explained more in the following video.

Second, you can learn to use wider perspective to see situations in terms of shades of grey so that everything isn't simply all good or all bad – what we call Perspective-broadening. Thinking in shades of grey is when someone thinks about an emotional event or situation in terms of all its different elements, not just thinking about an event in wholly negative terms. It is the kind of thinking that produces phrases like 'looking back, that wasn't as awful as it seemed at the time' or 'well actually something good did come out of that'. This involves using 5 thinking strategies, which we will explain more in the video.

Now, watch the video to learn more about these techniques.

Appendix C: Video script (session one)

In this video we will practice the two techniques that you just read about; self-distancing and perspective broadening.

Remember – we are learning these techniques using examples first. But in the long run, after practicing these techniques, it is hoped that you can use them in your everyday life when you are feeling anxious. We hope these techniques will become another tool in your toolbox to help you manage your anxiety.

Before we begin, it would be helpful if you could think of a situation recently where you felt moderately anxious. For example, when you were somewhere where you felt the symptoms of anxiety in your body, such as your heart beating faster, but did not lead to what you might call an anxiety attack.

I will be using an example in this video to help illustrate the techniques. The example I will be using will be running late to meet a friend.

So before we start, pause this video to give yourself time to choose a situation to use. Remember we are trying to think about a time you felt moderately anxious.

{Slight PAUSE}

It may be as we are learning these new techniques you find your mind wandering. If this happens, just try to bring yourself back to this situation you have in mind.

Just remember, learning anything for the first time can be tricky, so don't worry if you struggle with it to start with. Try as much as you can to not place too much pressure on yourself or be too critical, stick with it and we are here to guide you through.

The exercise works better if you feel physically relaxed, are you feeling comfortable? If not, pause this video and take a few deep breaths until you are feeling more relaxed.

Okay, let's get started. We will start with the self-distancing technique.

{Visual of the technique}

First, bring to mind the memory you chose a few moments ago.   You may find it easier if you close your eyes, but it is up to you.

Now think about the memory in more detail. Build a mental picture of it playing out again, seeing the situations unfold in your mind. Try as much as you can to think about the details. Remember what and who was around you, what you said, what you were thinking.

So, in my example I am thinking about myself stuck in traffic, worrying about what my friend was going to think when I am late.

I'll give you a bit of time now to think about your own situation.

{PAUSE}

You may find the memory is a mix of fleeting images, recollections of what was said, thoughts and feelings. That's fine. If possible, I would now like you to mentally 'replay' the

situation in your mind. You don't have to do this from start to finish. You may first find it easier to focus on particularly vivid bits of the memory – have a go at this.

{PAUSE}

Notice what emotions, if any, are you feeling right now?

{PAUSE}

Okay. Now, I want you to imagine that the memory you have in mind is actually taking place on a stage, like a theatre stage. Imagine you are playing yourself as one of the actors on the stage. You are in the midst of what is happening and you can look around the stage and see the other people involved. You can be as inventive as you like with this, it may help to think that the actual room where the situation took place is on your stage. Note that there is no audience watching this - it is just you and the characters that were in your situation.

In my example, I would be picturing the traffic jam on the theatre stage, and looking around me seeing the other cars and the red lights.

{PAUSE}

Watch the situations as they unfold around you on the stage as best you can and try to visualise what was around you at the time and where everyone was situated. Try to do this and then act out the scene in your mind over again.

{PAUSE}

If you have managed this, that's fine, keep watching the video. If not, pause it and give yourself a little more time. Remember it doesn't have to be perfect.

So, you have created the scene on the stage, Now think about how you are feeling on this stage. Again, don't worry if the images and feelings are a bit jumbled up. I am going to give you a few moments to keep imagining that you are on the stage going through that time again. Try to get into the scene and your feelings about it as much as you can.

{PAUSE}

Now I want you to imagine walking off that stage and just leaving this scene from your life behind for a minute. Imagine that you are walking off stage and making your way up a winding staircase backstage. Picture yourself doing this.

{PAUSE}

You reach the top of the staircase and you find yourself up in a really high seat or a balcony box overlooking the stage. Imagine taking a seat in there; you are so high up and looking down om the stage. Take this moment to actually change the way you are sitting now, readjust yourself so you are sitting confidently yet comfortably.

{PAUSE}

 Now as you look down on the stage, you can see the scene from a different angle, an angle you could never have achieved if you stayed on the stage. You can see yourself down there going through that time again. Take a few moments to imagine sitting in that really high seat,

or in the balcony box and looking down on the stage. Have a think about what you can see from this bird's eye view.

In my example, I am looking down on myself sat in the car with all the traffic around me.

{PAUSE}

Ok, you have managed to achieve self-distancing.

I will give you a few moments to picture the memory again from this new vantage point.

{PAUSE}

Notice any changes in your thoughts or feelings when you think about your situation from this different perspective?

Well done, you have now practiced the technique self-distancing. Now it is time to move onto the next video.

Practice of Perspective-broadening:

In this video, we will practice Perspective-broadening. We have put together 5 thinking strategies that can help you to reduce 'black and white thinking' and instead broaden your perspective.

(Image of stage on a white board)

We wanted to make it easy to remember all the thinking strategies. We thought this image of the stage could help you remember, as each letter spelling STAGE corresponds to a different thinking strategy. Let's have a look and go through them.

{write STAGE on the board}

The S stands for similar..(and write up on the board)

The T stands for time…..(and write up on the board)

The A stands for areas...(and write up on the board)

The G stands for grey..(and write up on the board)

The E stands for else…..(and write up on the board)

It is important to remember that not every strategy will be helpful for every situation that you find yourselves in. Some people may find some strategies more useful to them and the situations that cause them anxiety, but we encourage you to practice them all to begin with.

Also, it may be that if your emotions are particularly intense, it may be difficult to use some of the techniques. However, we hope trying the techniques can help take the edge off of them.

So lets begin. Think about the situation that we JUST worked with and take yourself back to that self-distanced perspective; so remember- you are sittin gin the really high seat or in the balcony box looking down at yourself and the situation on the stage of a theatre.

{PAUSE}

Let us now try the first strategy:

SIMILAR... Think about a time in your life when you have experienced a similar situation happen, but where the situation was not as distressing. For example, when you thought something bad was about to happen, but it wasn't as bad as you had thought. Or when you have found yourself in a similar anxiety provoking situation, but you found it okay and it wasn't that bad.

In my example, I would think about a time when I was late to meet a friend and when I arrived they were very understanding.

Pause this video to give yourself time to think about your similar situation.

{PAUSE}

Now reflect on what this strategy makes you think about your original situation.

{PAUSE }

We are now going to bring this strategy to life on your theatre stage. Remember to give this a go, even if you feel that you are someone that processes things in thoughts rather than images. You may find, like others have, that this works for you.

First I want to ask you to imagine that the memory you have of a similar situation is actually taking place on the stage. Imagine that you are sitting in your balcony box watching the scene play out; you can see yourself as one of the actors and any other people that were involved in this similar situation.

Try to do this and watch this similar sitaution play out all the way to the end.

{PAUSE}

Now imagine closing the curtains on this similar situation.

{PAUSE}

Now ask yourself again, what does this strategy make you think about your situation? And what advice might you offer your actor that was down on the stage?

{PAUSE}

You may have found that the strategy was really helpful for you; on the other hand it may be the case that the strategy did not really quite fit the scene and it did not really help with your ideas. Either way the strategies are designed to help provide ideas in different ways, therefore it is always worth seeing what the other strategies can do for you.

{PAUSE}

Let us now think about the next strategy:

TIME...

Think about the situation and putting it on a timeline. Try to imagine what it is going to feel like when you feel less emotional about the situation. It may be that you already feel less emotional about the situation now than when it happened; it is this ability of time to mellow our emotions that we want to try and use. Think about how you might feel next week, and even how you might feel a year on from now.

{PAUSE}

In my example of being stuck in traffic on my way to meet a friend, I would use this strategy by thinking about how I would feel about this in a weeks' time. In a weeks' time, I might feel a little bit annoyed about it, I might not, but I am unlikely to feel as distressed as I was in the moment and certainly a year later I won't even remember it.

Pause this video to give yourself time to use this strategy on your situation. So use this technique with your own anxiety-provoking situation that you thought of a moment ago.

{PAUSE}

Now reflect on what this strategy makes you think about your original situation.

{PAUSE}

We are now going to bring this strategy to life on your theatre stage.

First think of your situation. Now we are going to use the strategy. I want you to take a moment to think of what you have planned for the next couple of months. Think about what events you have planned, any breaks away, any birthdays or special occasions. I would like you to imagine these events in as much detail as possible, even think about what might have changed by the time this event comes round. Will the weather be different? Maybe even a new season would have started.

{PAUSE}

Now I would like you to imagine yourself sitting in your balcony box looking down on the stage. Imagine you can see your character moving from your situation through all your upcoming plans over the next couple of months, imagine the weather changing on the stage. Take some time to do this.

{PAUSE}

Now imagine closing the curtains on this similar situation.

{PAUSE}

Now ask yourself again, what does this strategy make you think about your situationAnd what advice might you offer your actor that was down on the stage?

{PAUSE}

Now let us explore another strategy, this time we will be thinking about the strategy:

AREAS ...

Try to think about putting the situation in context of your life at the moment. Think about all the areas of your life. People do this in all different ways. Some people think about the areas of your life determined by different groups of people, such as friends, family, work colleagues, sports team. Some people choose to organise the areas of their life by activity, such as work, sport, relaxing. Or some may think of the areas in their life in terms of roles,

for example child, parent, employer, friend, lover, pet owner. Now, pause this video to give yourself time to think about what the different areas of your life are. It may help to draw these out in a mind map, like this

SHOW EXAMPLE

{PAUSE}

And now, concentrate your thoughts on the areas of your life that you feel are going okay. Look at the positives in some of the other aspects of your life, and think about what they bring you.

{PAUSE}

So, in my example of being stuck in traffic on my way to meet a friend, I would use this strategy to think about the areas of my life that were going okay, such as my home life, or my work. I may then reflect whether this situation is actually affecting any of these areas of my life, which it is unlikely to be.

Pause this video to give yourself time to use this strategy on your situation.

{PAUSE}

Now reflect on what this strategy makes you think about your original situation.

{PAUSE}

We are now going to bring this strategy to life on your theatre stage.

First, imagine those areas of your life all on a stage together, so you can see them all clearly, particularly focusing your attention on the positive areas. It may be easier to do this by picking a person that is related to each area of your life. Imagine one person per life area.

{PAUSE}

Now, imagine sitting in your balcony box looking down on the stage at all those areas of your life.

{PAUSE}

Now imagine closing the curtains on this situation.

{PAUSE}

Now ask yourself again, what does this strategy make you think about your situation. And what advice might you offer your actor that was down on the stage?

{PAUSE}

Now let us explore another strategy, this time we will be thinking about the strategy:

GREY ...

Try to think about the aspects of your situation which may not be all bad. What do you think could be the silver lining to this grey cloud? This may be too difficult and if this is the case then think about how the situation may be less awful than it first seems.

Perhaps, there things that you can learn or take away from what happened? Challenge yourself to find 3 things.

{PAUSE}

So, in my example of being stuck in traffic on my way to meet a friend, I would use this strategy to think about the silver linings, such as the traffic could have been a lot worse and I might not have been able to make it at all, and I might learn from this situation that I need to leave a little bit earlier on this route in future and equip my car for such traffic with some snacks.

Pause this video to give yourself time to use this strategy on your situation.

{PAUSE}

Now reflect on what this strategy makes you think about your original situation.

{PAUSE}

We are now going to bring this strategy to life on your theatre stage.

First, put your situation on the stage. Now, take a moment to think about the scene in terms of positive and negative aspects. Imagine yourself sitting in your balcony box as if you are a director looking down on the stage. Imagine the scene playing out on the stage and try and pick out everything that could be a positive, even if it is a small positive.

{PAUSE}

Now imagine closing the curtains on this situation.

{PAUSE}

Now ask yourself again, what does this strategy make you think about your situation. And what advice might you offer your actor that was down on the stage?

{PAUSE}

Now let us explore one more final strategy, this time we will be thinking about the strategy:

ELSE ...

 Try to imagine that your situation is happening to someone you care about. They are talking to you about it and are obviously very upset. What would you say to them to make them see things in a less negative light, or panicked perspective. What could help them feel a bit calmer?

{PAUSE}

So, in my example of being stuck in traffic on my way to meet a friend, I would use this strategy to think about what I would say to my friend if they were the one in this position. I would say, it's okay, there is no need to panic, you will get here when you get here, take a deep breath, and drive safely.

Pause this video to give yourself time to use this strategy on your situation. So use this technique with your own anxiety-provoking situation.

{PAUSE}

Now reflect on what this strategy makes you think about your original situation.

{PAUSE}

We are now going to bring this strategy to life on your theatre stage. Imagine seeing your situation playing out on the stage.

Now, I would like you to imagine yourself sitting in your balcony box looking down on the stage. Imagine the situation playing out on the stage as before but this time imagine this person you really care about in your role. Imagine that you are in the balcony box watching this happen to that person. Now when the scene ends think about what you would say to that person to help make them feel less distressed.

{PAUSE}

Now imagine closing the curtains on this situation.

{PAUSE}

Now ask yourself again, what does this strategy make you think about your situation. And what advice might you offer your actor that was down on the stage?

We have now practiced all five strategies and related them to your own situation. Just take a few moments to think about all the STAGE strategies and which were most helpful to you.

It is really important when we are learning new skills to practice them regularly. We will be prompting you daily to practice these new skills with different scenarios. An email to prompt you to practice the training will arrive in your inbox tomorrow.

Well done for today.

Appendix D: Written scenarios (session two)

Welcome back.

Now to practise using the STAGE technique again. Before we do, lets just remind ourselves of the technique. Grab your cue card (this may be a picture on your phone, or text in a document, or you may have written it down)

step 1: imagine yourself in a really high seat or a balcony box, looking down on a stage

step 2: while in that high seat, use the following thinking strategies – you can remember these by the word STAGE

S = similar – so think about a similar situation in your life that caused you anxiety but turned out okay

T = time – think about how you will feel about this in the future

A = areas – think about the areas that are going okay in your life

G = grey – think about aspects of the situation that may not be all bad

E = else – think about what you would say to someone else that you care about, if they were in this situation.

Now to practise using the technique.

For each of the following scenarios do both steps of the technique and try out all the thinking strategies.

If you can think of a scenario similar, that has happened in your life then use your memory rather than the scenario to practise the technique. If not, then try to imagine what it would feel like if you were in the suggested scenario.

Right onto the first scenario; a **crowded place.**

Imagine you are in a crowded place like a supermarket. You can see loads of people around you. You have a list of things you want to buy, but you are struggling to make it through the crowds. People keep banging into you and you start to feel quite flustered. You may notice you are starting to feel hot and bothered and your heart is racing faster.

Take your time to imagine this scenario. Try and imagine or recollect all your feelings, thoughts and bodily sensations. We will give you a minute to do this.

Now please rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Now keeping this scenario in mind, use the STAGE technique. Remember to practice each step of the STAGE technique.

Take your time.

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Did you notice an effect on your anxiety? It is sometimes difficult to learn a new skill, but practice is important. Let's move onto the next scenario.

The next scenario to imagine is thinking about a time when **you couldn't get hold of someone**.

Imagine you tried to ring someone close to you, perhaps a family member or a friend. You have some news you wanted to tell them. You tried to ring them earlier this morning, and you tried again at lunchtime and made sure you left a message then, asking them to call you back. You rung them in the afternoon and now it's the evening you still can't get hold of them and you are starting to worry.

Take your time to imagine this scenario. Try and imagine or recollect all the details of the situation and think about how you felt, how you thought and whether you noticed any sensations in your body. We will give you a minute to do this.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Now keeping this scenario in mind, use the STAGE technique. Remember to practice each step of the STAGE technique.

Take your time. We will give you a minute to practice using all the steps with the scenario.

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Did you notice an effect on your anxiety? Remember to take your time and to really imagine the anxiety-provoking situation in detail: remember your thoughts, your feelings and any bodily sensations.

Before we move onto the next scenario, just a reminder - if you can think of a scenario similar, that has happened in your life then use your memory rather than the scenario. If not, then try to imagine what it would feel like if you were in the suggested scenario.

The next scenario, when you were **faced with a deadline**, that you were worried you couldn't meet.

So, imagine you had an application form that you needed to return by a certain time, or your boss had given you an important deadline. You have had had so much else to do and you have been so busy, but now it is the week it is due, and you realise you will not be able to meet the deadline. You start thinking about how much you are letting your boss, your colleagues or other people down and how something dreadful might happen; they were relying on you to get this done.

Take your time to imagine this scenario. Really think about the situation and imagine or recollect your feelings, thoughts and what was going on inside your body. We will give you a minute to do this.

INSERT SLIDER SCALE

Please rate your anxiety?

How anxious am I?

Not at all   Extremely so

0   10

Now keeping this scenario in mind, use the STAGE technique. Remember to practice each part of the STAGE technique. Take your time.

We will give you a minute to practice using all the steps with the scenario.

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Did you notice an effect on your anxiety? Even a small effect is really important and something that you can build upon with practice.

Let's move onto the next scenario.

The final scenario is being in a meeting and you were put on the spot by someone **asking you your opinion,** which you weren't expecting.

Imagine you are in a meeting with lots of people. It is a very important meeting to you. Someone asks your opinion on the matter that has just been talked about – you weren't expecting this and have not thought about this before. You start worrying that you will look stupid and that you will get something wrong.

Take your time to imagine this scenario. Try and imagine or recollect all your feelings, thoughts and bodily sensations. We will give you a minute to do this.

INSERT SLIDER SCALE

Please rate your anxiety.

How anxious am I?

Not at all   Extremely so

0   10

Now keeping this scenario in mind, use the STAGE technique.

Take your time to practice each step of the technique.

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Did you notice any difference in your anxiety after using the STAGE technique.

Remember it takes time to learn new skills, so don't worry if the STAGE technique still feels hard to do.

Well done for trying out the STAGE technique. Remember it takes time to learn new skills, so don't worry if the STAGE technique still feels hard to do.

You will receive the next practice session tomorrow.

Take care.

Appendix E: Scenarios for diary sessions (sessions 3-9)

Day One

Welcome to the first of 7 daily practice sessions. Each practice will not take long to complete - we estimate it will take around 5 to 10 minutes. Before we start, please enter your email address again. This is so we can send you the practice session tomorrow.

Take care to ensure you enter your email correctly.

For the rest of the week, there will be one practise a day. You are invited to think of an anxiety provoking situation from your own day and practise using the technique on that. If not, use the prompt scenario to imagine a similar situation and then practise the technique.

Remember to do both steps of the technique and try out all the thinking strategies.

PAGE BREAK

Now to practice using the STAGE technique again.

The first scenario to imagine is **going somewhere new.**

Imagine you are going to a place you have never been before. You don't know how you will get there, or the lay out of the place once you arrive. You are not sure how busy it will be or whether you will know anyone, and you don't know where the toilets are. You start thinking it may be better not to go at all.

Take your time. We will give you a minute to think about the thoughts, feelings and bodily sensations that being in this scenario would bring up for you.

PAGE BREAK

Now rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

PAGE BREAK

Now keeping this scenario in mind, use the STAGE technique.

You may like to look at your cue card to remind yourself of the steps of the STAGE technique. If you don't have this with you, there is a reminder below.

Reminder of technique

Step 1: imagine yourself in a really high seat or a balcony box looking down on the stage

Step 2: while in that high seat, use the following thinking strategies – you can remember these by the word STAGE, so the letter

S = **similar:** so think about a similar situation in your life that turned out okay

T = **time:** think about how you will feel about this in the future

A = **areas:** think about the areas that are going okay in your life

G = **grey:** think about aspects of the situation that may not be all bad

E = **else:** think about what you would say to someone else that you care about, if they were in this situation.

Take your time practising the technique. Really focus on the visual and on applying the strategies to the scenario.

We will give you a minute to apply the technique to the scenario but take longer if you need to.

PAGE BREAK

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

If your anxiety, hasn't dropped, try once more. Try visualising the situation again and thinking about how anxious it would make you feel if this was happening to you.

Then try the STAGE technique again.

PAGE BREAK

Well done. You have practised the STAGE technique. If you found it hard, don't worry. Using the STAGE technique should get easier with practice.

You will receive another email tomorrow to continue the practice.

Take care.

Day Two

Welcome back to day 2 of the practice sessions.

Please enter your email address. **Take care** to ensure you enter it correctly.

BLOCK

Remember you are invited to think of an anxiety provoking situation from your own day and practise using the technique on that. If not, use the example scenario below to imagine a similar situation and then practise the technique.

The example scenario is **not being good enough.**

Imagine you have been struggling recently (for example, at work, studying, or at home being a parent), but have been trying to do things to the best of your ability, However, today it has become apparent; you are not good enough and now you have failed in what you were trying to do. You start worrying that you will never be good enough and that others all know that you are not good enough.

Take your time to imagine the scenario. Try and focus on how you would be feeling and what you would be thinking if you were in the situation. We will give you a minute to do this.

Page break

Now rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Page break

Now keeping this scenario in mind, use the STAGE technique.

Take your time and really focus on trying out all the techniques on the scenario.

We will give you a minute to apply the technique to the scenario but take longer if you need to.

Page break

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

If your anxiety hasn't dropped, try once more. Try visualising the situation again and recognising how you would think and feel if that was happening to you. Take your time.

Then try the STAGE technique again.

Page break

Well done for practising the STAGE technique. Remember that learning new ways of thinking takes practice.

Tomorrow we will continue with day 3 of 7.

Take care.

Day Three

Welcome back to day 3 of the practice sessions. You are almost half way through – well done. Don't worry if the STAGE technique still feels difficult- with practice it should get easier.

Please enter your email address so that we can send the next practice session to you tomorrow. **Take care** to ensure you enter it correctly.

Block

Let's start the practice.

Remember, you are invited to think of an anxiety provoking situation from your day. However, if you cannot think of anything you are welcome to use the example below and try to imagine a similar occasion where that happened to you.

The example scenario is **thinking you have upset someone.**

You spent time with someone yesterday and you had a nice time. However, this morning you started thinking that you may have said something without realising that upset them. You now remembered that they seemed to change in how they interacted with you and may have looked upset, and they left shortly afterwards. This person is really important to you and you worry they won't want to meet you again.

Take your time to imagine the scenario. Try and focus on how you would be feeling and what you would be thinking if you were in the situation. We will give you a minute to do this.

Page Break

Now rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Page Break

Now keeping this scenario in mind, use the STAGE technique. Take your time and practice all the elements of the STAGE technique.

We will give you a minute to apply the technique to the scenario but take longer if you need to.

Page Break

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Did your anxiety reduce? If not try the STAGE technique once more. Try visualising a situation where you thought you had upset someone important to you. Take your time.

Then try the STAGE technique again.

Well done for practising the STAGE technique. Tomorrow, you are halfway through the practice sessions.

Take care.

Day Four

You are halfway through the practice sessions. After today there are only 3 more practice sessions. You may start to notice it is becoming a bit easier to use the STAGE technique, but if not don't worry as learning a new skill can take time.

Please enter your email address so we can send you tomorrow's practice. **Take care** to ensure you enter it correctly.

BLOCK

Remember, use an anxiety provoking situation from your day to practice the STAGE technique if you can. If not, use the example below and try to imagine an occasion where a similar thing has happened to you.

The example scenario today is that **you have an assessment or an interview coming up.**

Imagine you wake up and it is the day of your assessment or interview. You start thinking that you have not done enough preparation and berating yourself for spending your free time having fun or doing other things rather than concentrating solely on preparing. It is so

important to you; you can't believe you didn't prepare better. It is fast-approaching, and you start thinking about how awful it is going to be when you don't know what to say and go blank when they ask you questions.

Take your time to imagine the scenario. Try and focus on how you would be feeling and what you would be thinking if you were in the situation. We will give you a minute to do this.

Page break

Now rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Page break

Now keeping this scenario in mind, use the STAGE technique. Take your time and practice all the elements of the STAGE technique.

We will give you a minute to apply the technique to the scenario but take longer if you need to.

Page break

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

If your anxiety, hasn't dropped, try once more; try visualising the situation again and recognising how you would think and feel if that was happening to you. Take your time.

Then try the STAGE technique again.

Page break

Well done for practising the STAGE technique. Tomorrow is practice session 5 of 7.

Take care.

Day Five

Welcome back to the practice sessions.

Please enter your email address. **Take care** to ensure you enter it correctly.

BLOCK

Remember, use an anxiety provoking situation from your day to practice the STAGE technique if you can. If not, use the example below and try to imagine an occasion where a similar thing has happened to you.

The example scenario today is that **you embarrass yourself in front of other people**

You are remembering how you embarrassed yourself earlier. You really made a fool of yourself, perhaps you fell over or perhaps you said the wrong thing. You know that everyone noticed, and everyone saw and now you can't stop thinking about it. You keep imagining the moment over and over and thinking about how much you embarrassed yourself.

Take your time to imagine the scenario. Try and focus on how you would be feeling and what you would be thinking if you were in the situation. We will give you a minute to do this.

Page break

Now rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Page break

Now keeping this scenario in mind, use the STAGE technique. Take your time and practice all the elements of the STAGE technique.

We will give you a minute to apply the technique to the scenario but take longer if you need to.

Page break

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Did your anxiety reduce? If your anxiety, hasn't dropped, try once more; try visualising the situation again and recognising how you would think and feel if that was happening to you. Take your time.

Then try the STAGE technique again.

Page break

Well done for practising the STAGE technique. Tomorrow is practice session 6 of 7.

Take care.

Day Six

Welcome back.

Please enter your email address and **take care** to enter it correctly.

BLOCK

Remember, use an anxiety provoking situation from your day to practice the STAGE technique if you can. If not, use the example below and try to imagine an occasion where a similar thing has happened to you.

The example scenario today is that **you are walking into a room of unknown people**

You are by yourself and walk into a room. You scan around but cannot see anyone that you know. You start thinking about how you don't know how to speak to anyone and they all seem to know each other, but also that you must look ridiculous standing here by yourself, so you have to talk to someone, but you still can't see anyone to talk to.

Take your time to imagine the scenario. Try and focus on how you would be feeling and what you would be thinking if you were in the situation. We will give you a minute to do this.

Page break

Now rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Page break

Now keeping this scenario in mind, use the STAGE technique. Take your time and practice all the elements of the STAGE technique.

We will give you a minute to apply the technique to the scenario but take longer if you need to.

Page break

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all   Extremely so

0   10

Did your anxiety reduce? If your anxiety has not reduced, try once more. Try visualising the situation again and recognising how you would think and feel if that was happening to you. Take your time.

Then try the STAGE technique again.

Page break

Well done for practising the STAGE technique. Tomorrow is the last practice session.

Take care.

Day Seven

Welcome back. This is the last day of the practice – well done for sticking with it as it is sometimes hard to learn a new skill.

Please enter your email address and **take care** to enter it correctly.

BLOCK

Remember, use an anxiety provoking situation from your day to practice the STAGE technique if you can. If not, use the example below and try to imagine an occasion where a similar thing has happened to you.

The example scenario today is that **you are calling up to make a complaint**

You are going to ring to make a complaint, as you know you have been treated unfairly, perhaps a product is faulty, or you were not happy with the service you got from someone. You start to plan what you are going to say, but as you start thinking about the call you start to worry about it. You don't like talking over the phone anyway. What if they don't believe you and think you are just complaining for the sake of it. What if they disagree with how you see things, or they get angry with you? What if it is really awkward over the phone?

Take your time to imagine the scenario. Try and focus on how you would be feeling and what you would be thinking if you were in the situation. We will give you a minute to do this.

Page Break

Now rate your anxiety.

INSERT SLIDER SCALE

How anxious am I?

Not at all	Extremely so
0	10

Page Break

Now keeping this scenario in mind, use the STAGE technique. Take your time and practice all the elements of the STAGE technique.

We will give you a minute to apply the technique to the scenario but take longer if you need to.

Page Break

Now rate your anxiety again.

INSERT SLIDER SCALE

How anxious am I?

Not at all	Extremely so
0	10

Did your anxiety reduce? If your anxiety has not reduced, try once more. Try visualising the situation again and recognising how you would think and feel if that was happening to you. Take your time.

Then try the STAGE technique again.

Page Break

You have completed the STAGE training course – well done for practising the skills of self-distancing and perspective broadening.

You will receive a further email with some surveys to complete in the coming days.

Well done again and take care.

Appendix F: Online recruitment advertisement

Facebook advert

Twitter advert

Appendix G: Outcome measures

These have been removed from the electronic copy

Appendix H: Demographic Questionnaire

Thank you for completing the surveys. There are just a few more questions we would like to ask you.

1. Please enter your age?

2. Please select your gender? (Options given: Female/Male/Non-binary/Prefer not to say)

3. How would you describe your ethnic origin? (Tick options and space provided presented via Qualtrics, only one tick allowed and include option of 'Prefer not to say)

How would you describe your ethnic origin?
(Tick ✓ one box only)

White
- English/Welsh/Scottish/Northern Irish/British ☐
- Irish ☐
- Gypsy or Irish Traveller ☐
- Any other White background (Please write in) ☐

[_____]

Mixed/multiple ethnic groups
- White and Black Caribbean ☐
- White and Black African ☐
- White and Asian ☐
- Any other Mixed background (Please write in) ☐

[_____]

Asian or Asian British
- Indian ☐
- Pakistani ☐
- Bangladeshi ☐
- Chinese ☐

Black/African/Caribbean Black British
- Caribbean ☐
- African ☐
- Any other Black background (Please write in) ☐

[_____]

Other ethnic group
- Arab ☐
- Any other ethnic background (Please write in) ☐

[_____]

4. Think of your current job (or your last job if you are temporarily out of work). Which of the following would best describe it? Options-

Higher managerial, administrative and professional occupations

Intermediate occupations

Routine and manual occupations

Long term unemployed

Prefer not to say

5. Do you have a current diagnosis of an anxiety disorder? (Options given: Yes/No/Don't know/Prefer not to say)

6. If so, which? (Tick box and 'other' and space)

7. If no, do you have a previous diagnosis of anxiety? (Options given: Yes/No/Don't know/Prefer not to say)

8. If so, which? (Tick box and 'other' and space)

9. Do you have a current diagnosis of depression? (Options given: Yes/No/Don't know/Prefer not to say)

10. If so, which? (Tick box and 'other' and space)

11. If no, do you have a previous diagnosis of depression? (Options given: Yes/No/ Don't know/Prefer not to say)

12. If so, which? (Tick box and 'other' and space)

13. Are you currently on a medication prescribed for anxiety or depression? (Options given: Yes/No/Don't know/Prefer not to say)

14. Have you ever been diagnosed with any other mental health disorder? (Options given: Yes/No/Don't know/Prefer not to say)

15. If so, which? (Tick box and 'other' and space)

16. Are you currently on any other medications for other mental health difficulties? (Options given: Yes/No/Don't know/Prefer not to say)

17. If so, for which? (Space given for response)

18. Have you previously received a psychological therapy for anxiety or depression? (List of common therapies given plus space to write other)

Appendix I: Within training questionnaire

You have completed the first/second (delete as appropriate) part of the training.

Before you go, we have a few more questions we would like to ask you.

Rating scale presented on Qualtrics

1-------2--------3--------4--------5--------6--------7

1. How satisfied were you with this module? (Rating scale – satisfied)

2. Please explain why you have given this rating. (Space given for response) OPTIONAL

3. How helpful would you rate this module? (Rating scale- helpful)

4. Please explain why you have given this rating. (Space given for response) OPTIONAL

5. How easy was this module to understand? (Rating scale – easy /difficult)

6. Please explain why you have given this rating. (Space given for response) OPTIONAL

7. How easy was it to apply what you learnt in the module? (Rating scale– easy /difficult)

8. Please explain why you have given this rating. (Space given for response) OPTIONAL

9. Any other feedback you would like to provide about this module? (Space given for response) OPTIONAL

Thank you.

You will receive another email tomorrow.
Take care.

Appendix J: End of training questionnaire

Rating scale presented on Qualtrics

1-------2--------3--------4--------5--------6-------7

Not at all   Neither   Extremely so

1. How satisfied were you with the content of the whole training course? (Rating scale)

2. Please explain why you have given this rating. (Space given for response)

3. How satisfied were you with the structure of the training course? (Rating scale)

4. Please explain why you have given this rating. (Space given for response)

5. How helpful would you rate the training course? (Rating scale)

6. Please explain why you have given this rating. (Space given for response)

7. How easy was the whole training course to understand?   (Rating scale)

8. Please explain why you have given this rating. (Space given for response)

9. How easy was it to apply what you learnt in the training course? (Rating scale)

10. Please explain why you have given this rating. (Space given for response)

11. Would you recommend this training course to others? (Rating scale)

12. Please explain why you have given this rating. (Space given for response)

13. Do you think the skills you have learnt in the training course will have long-lasting effects? (Rating scale)

14. Please explain why you have given this rating. (Space given for response)

15. How often did you practice the skills in your day-today life (outside of the training course)? (Rating scale)

16. Any other feedback you would like to provide? (Space given for response)

For each of the following questions, the options Yes/No/Prefer not to say will be presented on Qualtrics, plus space given to leave further details.

•17. Have you accessed any therapies, treatments or self-help in relation to anxiety over the course of the study (this would include a change in a dose of medication)?

•18. Have you accessed any therapies, treatments or self-help in relation to depression over the course of the study (this would include a change in a dose of medication)?

19. Have you accessed any therapies, treatments or self-help in relation to other mental health issues over the course of the study (this would include a change in a dose of medication)?

Appendix K: Participant Information Sheet

Project Title: **Developing and piloting an online self-help training course for anxiety.**

We would like to invite you to take part in a pilot project **to see whether a new brief, online training course is helpful as a method of managing anxiety**. The study is being conducted by Asuka Boyle who is a trainee clinical psychologist studying at Salomons Centre for Applied Psychology, part of Canterbury Christ Church University. The study will form part of Asuka's clinical doctorate training and will be written up as both a thesis and as a paper for publishing in a peer reviewed journal.

Before you decide whether to take part, please take time to read the following information carefully. Please take time to decide whether to take part.

What is the aim of the study?

The aim of the study is to trial **an online self-help training course** that aims to reduce anxiety by teaching alternative ways to observe and process emotional events.

A face-to-face version of the training has already helped to develop better therapy for those with depression and bipolar disorder. The current study begins the process of exploring whether an online version of this training is helpful for people experiencing significant anxiety.

Why have I been invited to take part in this study?

You are invited to take part in this study if you;

- Are over 18 years old;

- have regular internet access;

- are based in the UK;

- are experiencing moderate to moderately-severe anxiety (this will be measured by a questionnaire that is used in research, prior to starting the study. You will only be able to take part in the study if you fall within the specified range of anxiety as measured by the questionnaire)

Unfortunately, you are not suitable to take part in this project if:

- you have experienced significant risk issues in the last year, such as attempting suicide or having thoughts of suicide or hurting yourself in the past year. This is because this intervention is not yet validated.

- you are currently receiving another psychological treatment, therapy or training (this includes self-help and more traditional face-to-face therapies and treatments);

- you have completed a psychological treatment or training (this includes self-help and more traditional face-to-face therapies and treatments) within the last 6 months.

Do I have to take part?

Taking part is entirely voluntary. You are free to withdraw at any time, without giving a reason.

What will happen if I take part?

Before agreeing to take part, it is important you understand what you are being asked to do.

Firstly, there will be a questionnaire which will determine whether the level of anxiety you are currently experiencing is within the range for which the training course has been designed for. Should you be suitable, we will ask you to fill in some more information about yourself, such as your age, gender and so on, as well as some surveys on different topics. This should take no longer than 10 minutes.

Then a computer programme will randomly determine which of two groups you are put into:

- Group 1 will have immediate access to the training course. There will be two daily sessions presenting written information, a video and example scenarios to begin to learn and practice the technique. The first session will be around 35 minutes long, the second is not expected to take longer than 20 minutes. After completing these sessions, you will be prompted to practice the techniques every day for 7 days. This practice is expected to take about 10 minutes. You can take up to 14 days to complete the training course.

- Group 2 will not have access to the training course during the study. Data from this group will provide us with an important baseline from which we can compare the group that has received the training course. This will enable us to tell whether any reductions in anxiety in Group 1 are due to the training or to other factors, such as the passage of time.

  However, after the data collection is complete, group 2 will also receive the training course.

Two weeks after being put into a group, you will repeat the surveys you completed before the training. Two weeks after finishing the training course, you will repeat the surveys you completed at the start of the project.

This will be the end of the study. At this point, the training course will become available to those who have not yet had access to it.

Incentives to take part

If you complete the questionnaires at all three time points within the specified time frame, then you can opt-in to a prize draw for the chance to win one of four vouchers totalling £25. This voucher can be spent in a number of different shops. The winner will be randomly chosen via a computer programme. If you decide to stop the training part way through, you can still enter the prize draw, so long as you complete the questionnaires at the three time points.

What are the possible disadvantages and risks of taking part?

The training course will ask you to bring to mind mildly emotional events that have happened to you recently. This could be events such as when you were last running late to meet someone, when you were faced with a deadline, or you were in a crowded space. This study asks for you to only use **mildly emotional events** but thinking about them may still cause upset. In previous studies with face-to-face training for those with bipolar disorder and major depression this was not a common experience reported by participants. The research will also involve completing some questionnaires about your experiences of anxiety and other relating issues. Usually people do not find completing these distressing; however, it is possible that you may do.

If you are currently under a mental health team and would like to discuss with them about your involvement in this study, please feel free to discuss with them about whether you should take part or not.

Should you feel distressed, we recommend you stop participating in the course, even if you have not completed it. In such circumstances, please let the research team know (our contact details are below). You might also want to speak to your GP or contact the Samaritans: Telephone on 116 123 (UK) or 116 123 (ROI). Alternatively email on jo@samaritans.org.

What are the possible advantages of taking part?

This project seeks to teach alternative way to observe and process emotional events. It could be that taking part in this project could help you gain a better understanding of your anxiety.

What happens to the information that is collected as part of the project?

You will be required to input a consistent email address at multiple time points throughout the study, in order for you to receive the next part of the project Your email address will be linked to the data you provide across time points; this links all the data you provide. Following the completion of the study your data will be stored with an identification number. All data will be stored within a safe and secure online system, Qualtrics. Qualtrics treats all data as confidential data and the data will not be utilised for any other purpose by Qualtrics, or by the research team. All information collected as part of the project will be treated as confidential, except where a serious risk of harm to someone is identified.

All data will be kept locked and secure and will be kept for 10 years. This is in accordance with Salomons Centre for Applied Psychology's data management policy.

All data collected in this project will be treated with confidentiality in accordance with the General Data Protection Regulation (GDPR) and the Data Protection Act 2018. For further information about Canterbury Christ Church University's data protection procedures, please see please see;

https://www.canterbury.ac.uk/university-solicitors-office/data-protection/data-protection.aspx

When the data is presented, such as in a report, publication or at a conference, all information will remain anonymous and will not be personally identifiable.

What happens if I change my mind and decide not to take part?

If you subsequently decide not to take part in this project, please stop opening and responding to the links sent to you or contact Asuka Boyle (contact details below) who can remove you from the list of participants.

What if I have a problem whilst taking part?

Should you have any difficulties with the online training course, please contact Asuka Boyle (contact details below).

If you have a concern about any aspect of this study, please telephone or email me and I will do my best to address your concerns. You can contact me by email via a.l.boyle1184@canterbury.ac.uk.

If you remain unhappy and wish to complain formally, you can do this by contacting Professor Margie Callanan, Programme Director of Clinical Psychology Doctorate, Salomons Institute for Applied Psychology, Canterbury Christ Church University. Tel: 01227 927094. Email: margie.callanan@canterbury.ac.uk

Project approval

This project is funded by Canterbury Christ Church University and has been approved by a university ethics committee.

What if I have further questions or would like to discuss my concerns?

Please contact Asuka Boyle via email on a.l.boyle1184@canterbury.ac.uk

Additionally, this project is supervised by;

- Dr Emma Travers-Hill, Clinical Psychologist, Folkestone Psychological Services, who can be contacted on emma.travers-hill@kmpt.nhs.uk

- Dr Fergal Jones, Reader in Clinical Psychology, Canterbury Christ Church University, who can be contacted on fergal.jones@canterbury.ac.uk

Appendix L: Participant consent form

Canterbury
Christ Church
University

School of Psychology, Politics and Sociology
Faculty of Social and Applied Sciences

Canterbury Christ Church University
1 Meadow Road Tunbridge Wells
Kent TN1 2YG (UK)
Tel +44 (0)1227 927166

Participant Consent form

Project title: **Developing and piloting the STAGE training course as an online self-help resource for anxiety.**

Main researcher: **Asuka Boyle (trainee clinical psychologist)**

I confirm that I have read and understood the information about the study displayed on the previous pages. [online tick box]

I was given the opportunity to ask questions and discuss any concerns with the main researcher/ research team. [online tick box]

I understand that my participation is voluntary. I do not have to take part. [online tick box]

I understand that I can withdraw from the project any time. I understand that if I withdraw, the data I will have supplied up to the point of the withdrawal will be analysed. [online tick box]

I understand that all information collected as part of the project will be treated as confidential [online tick box]

I understand that the findings of this project may be published, and that anonymised data may be made available to other researchers, to check our work. [online tick box]

I can confirm that;

- I am over 18 years old [online tick box]

- I have regular internet access [online tick box]

- I am based in the UK [online tick box]

- I have not attempted suicide or had thoughts of suicide or hurting myself in the past year

- I am not currently receiving another psychological intervention (this includes self-help and more traditional face-to-face interventions) [online tick box]

- I have not completed a psychological intervention (this includes self-help and more traditional face-to-face interventions) within the last 6 months [online tick box]

I understand that if my score on a measure of anxiety is outside of a range then I will not be suitable to take part in this study [online tick box]

If tick no to any statement they are shown this message –

Unfortunately, you are not suitable to take part in this project. This does not mean you are not experiencing anxiety. Should you require more support please contact you GP or contact the Samaritans on 116 123 (UK) or 116 123 (ROI) or email on jo@samaritans.org. Thank you for your time. Goodbye and please close your browser.

Appendix M: Example of email prompt

Dear (email address of participant),

Thank you for signing up to take part in this study.

Here is the link to the next part of the training:
(link to next session)

Please let me know if you have any problems with it.

All the best,
Asuka

Asuka Boyle
Trainee Clinical Psychologist
a.l.boyle1184@canterbury.ac.uk

Appendix N: Ethical approval

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Appendix O: Summary letter to the Ethics Panel

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Appendix P: MRP information form

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