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Cognitive behaviour therapy for low self-esteem: A preliminary randomized controlled trial in a primary care setting

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ABSTRACT

Background and Objectives: Low self-esteem (LSE) is associated with psychiatric disorder, and is distressing and debilitating in its own right. Hence, it is frequent target for treatment in cognitive behavioural interventions, yet it has rarely been the primary focus for intervention. This paper reports on a preliminary randomized controlled trial of cognitive behaviour therapy (CBT) for LSE using Fennell's (1997) cognitive conceptualisation and transdiagnostic treatment approach (1997, 1999).
Methods: Twenty-two participants were randomly allocated to either immediate treatment (IT) ($n = 11$) or to a waitlist condition (WL) ($n = 11$). Treatment consisted of 10 sessions of individual CBT accompanied by workbooks. Participants allocated to the WL condition received the CBT intervention once the waitlist period was completed and all participants were followed up 11 weeks after completing CBT.
Results: The IT group showed significantly better functioning than the WL group on measures of LSE, overall functioning and depression and had fewer psychiatric diagnoses at the end of treatment. The WL group showed the same pattern of response to CBT as the group who had received CBT immediately. All treatment gains were maintained at follow-up assessment.
Limitations: The sample size is small and consists mainly of women with a high level of educational attainment and the follow-up period was relatively short.
Conclusions: These preliminary findings suggest that a focused, brief CBT intervention can be effective in treating LSE and associated symptoms and diagnoses in a clinically representative group of individuals with a range of different and co-morbid disorders.

1. Introduction

Self-esteem has been defined as the "conviction that one is competent to live and worthy of living" (Branden, 1969; p.110) and is a term used to reflect a person's overall evaluation or appraisal of his or her own worth. It can be seen as a schema, in that it is a broad, pervasive theme or pattern, comprised of memories, emotions, cognitions and bodily sensations regarding oneself and one's relationships with others, developed during childhood or adolescence and is elaborated throughout one's lifetime (Young, Klosko, & Weishaar, 2003). Evidence suggests that the majority of people with mental health problems suffer from low self-esteem (LSE) (Silverstone & Salsali, 2003), in that they evaluate their competence and worthiness negatively. However, due to difficulties operationalizing and evaluating the concept of self-esteem (Mruk, 1999), it has been inadequately studied.

Although LSE is not a psychiatric diagnosis, it has been shown to have far-reaching consequences. It is associated with dropping out of school (Guillon, Crocq, & Bailey, 2003), self-harm and suicidal behaviour (Kjelsberg, Neegaard, & Dahl, 1994) and teenage pregnancy (Plotnick, 1992). It also has a negative impact on economic outcomes, such that those with LSE experience greater unemployment and lower earnings (Feinstein, 2000).

LSE has been associated with and cited as an etiological factor in a number of different psychiatric diagnoses including depression (Brown, Bifulco, & Andrews, 1990), psychosis (Hall & Tarrier, 2003), eating disorders (Gual, Perez-Gaspar, Martinez-Gonzallaz, Lahortiga, & Cervera-Enguix, 2002), obsessive compulsive disorder (Ehntholt, Salkovskis, & Rimes, 1999), substance abuse (Akerlind, Hornquist, & Bjurulf, 1988; Brown, Andrews, Harris, Adler, & Bridge, 1986; Button, Sonuga-Barke, Davies, & Thompson, 1996) and chronic pain (Soares & Grossi, 2000).

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Silverstone and Salsali (2003) report that the effects of psychiatric diagnoses on self-esteem may be additive, in that those patients with more than one diagnosis had the lowest self-esteem, particularly when one of the diagnoses was major depression. Furthermore, LSE has been shown to predict poorer outcome in psychological treatments (Button & Warren, 2002) and to predict relapse following treatment (Brown et al., 1990; Fairburn, Peveler, Jones, Hope, & Doll, 1993). It may also affect the natural course of disorders, making recovery more difficult (Fairburn et al., 1993; van der Ham, Strein, & Egneland, 1998).

While LSE has been associated with many psychiatric conditions, the nature of this relationship remains unclear with some studies showing that having a psychiatric disorder lowers self-esteem (Ingham, Kreitman, Miller, Sashidharan, & Surtees, 1987) and others showing lowered self-esteem to pre-dispose one towards a range of psychiatric illnesses (Brown et al., 1986; Miller et al., 1989). There is also evidence that changes in either depression or self-esteem can affect the other (Hamilton & Abramson, 1983; Wilson & Krane, 1980), suggesting that the relationship between LSE and psychiatric illness may be circular.

In summary, LSE is common, distressing and disabling in its own right; it also appears to be involved in the aetiology and persistence of disorders across the range of diagnoses. Thus attending to LSE has the potential to improve treatment outcome and is in accord with recent calls to develop transdiagnostic approaches to treating common mental health problems, particularly those with high rates of co-morbidity (Harvey, Watkins, Mansell, & Shafran, 2004; McManus, Shafran, & Cooper, 2010; Mansell, Harvey, Watkins, & Shafran, 2009; Norton & Philipp, 2008). Hence, it is a priority to develop effective treatments for LSE that can be applied across the range of diagnoses associated with LSE.

A cognitive conceptualisation of LSE has been proposed and a cognitive behavioural treatment (CBT) program described (Fennell, 1997, 1999). As shown in Fig. 1, Fennell's (1997) conceptualization of LSE is an elaboration of the cognitive model of emotional disorder (Beck, 1976) and accounts for the presence of anxiety as well as depressive symptoms. It suggests that people form global negative judgements about themselves ('the bottom line') as a result of experiences, typically early on in their lives (Fennell, 1997, 2006). The development of dysfunctional assumptions ('rules for living') enables them to function and cope with or compensate for their negative beliefs as long as the 'rules for living' are adhered to. However, when situations are encountered where the 'rules for living' may be or have been transgressed, the 'bottom line' belief is activated and triggers vicious cycles of thoughts, feelings and behaviour that maintain and exacerbate the bottom line belief. In particular, anxiety is triggered when it is perceived that the rules *may be* transgressed, and depression is triggered when it is perceived that the rules *have been* transgressed.

Fennell' treatment approach (1997, 1999) is consistent with other transdiagnostic approaches that emphasize common pathways across diagnostic categories (Barlow, Allen, & Choate, 2004; Fairburn et al., 2009; McManus, Clark, Muse, & Shafran, submitted for publication). The treatment protocol arises from a transdiagnosic formulation of LSE which provides a framework for making sense of both anxiety and depressive symptoms and this forms the basis of a coherent treatment approach (Butler, Fennell, & Hackmann, 2008). The focus is on understanding how the person's difficulties interrelate rather than treating them separately and all interventions are carried out in the context of the enduring negative beliefs about the self (the 'bottom line'). Specific interventions are derived from established evidence-based protocols for specific emotional disorders and from cognitive approaches to working with enduring negative beliefs about the self (Beck & Freeman, 1990; Young, Klosko, & Weishaar, 2003).

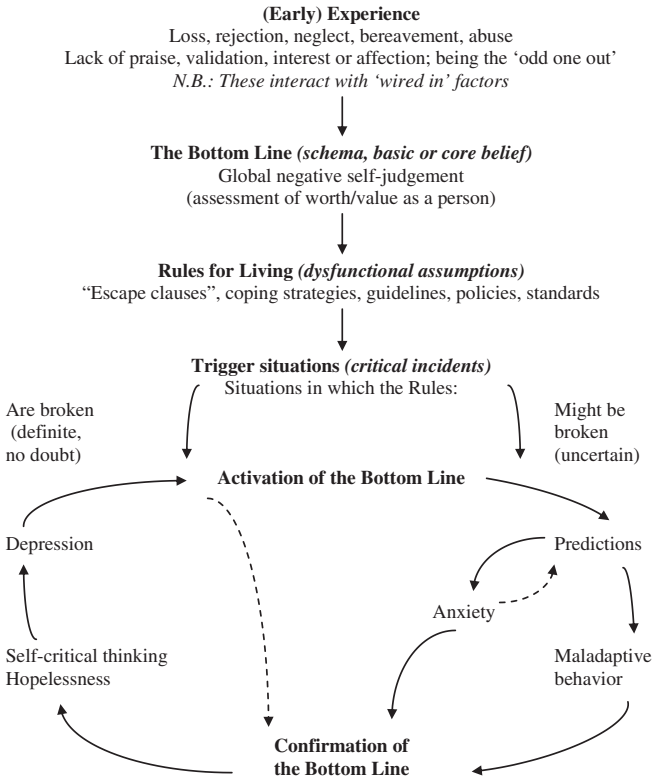

Fig. 1. Fennell's (1997) cognitive model of low self-esteem.

The CBT for LSE protocol incorporates techniques from standard CBT (e.g., Beck, Rush, Shaw, & Emery, 1979) and also schema approaches (Young, Klosko, & Weishaar, 2003), but specifies how they can best be applied to LSE, and in particular to changing pervasive negative self-evaluative beliefs and related behaviour patterns. Depending on the nature of the individual's difficulties, early sessions may include elements from other well-established cognitive therapy approaches for specific disorders. For example, a patient with social anxiety may carry out behavioural experiments to manipulate safety behaviours and shift to external attention (Clark & Wells, 1995; McManus, et al., 2009). As well as techniques designed to attenuate negative beliefs and behaviours, Fennell's treatment also incorporates strategies to enhance self-esteem and promote positive self-evaluative beliefs, such as identifying, recording and reviewing positive qualities in order to correct the perceptual bias of noticing and placing greater weight on perceived failings or flaws and screening out information that is inconsistent with this.

As with Young et al.'s (2003) schema therapy, dysfunctional assumptions and core beliefs are addressed, and there is consideration of the childhood origins of such beliefs. However, unlike schema therapy, CBT for LSE begins by utilising standard CBT techniques to address the current maintenance cycles of depression and anxiety, and does not apply Young's category system to identify problematic schemas. Instead, the focus is limited to negative self-evaluative beliefs. Techniques such as continuum work, the use of the Prejudice model (Padesky, 1993), reviewing and reinterpreting evidence consistent with the old belief and a search for new evidence through a positive data log are used to consider the evidence for core beliefs and to modify the degree to which beliefs are held. In order to then establish and strengthen a new and more positive perspective, the evidence collected from therapy is used to generate alternative beliefs and rules for living and these are

written out on flashcards to consolidate change before moving onto relapse prevention.

Although CBT for LSE is widely used in routine clinical practice, it has yet to be systematically evaluated and to date the evidence-base for this treatment protocol consists only of single case examples (Butler et al., 2008; Chatterton, Hall, & Tarrier, 2007; Fennell, 1997, 1998; McManus, Waite, & Shafran, 2009), and small uncontrolled evaluations of adaptations for group settings (Rigby & Waite, 2007), for those with learning disabilities (Whelan, Haywood, & Galloway, 2007), for those with psychosis (Hall & Tarrier, 2003) or psychosis with substance abuse (Oestrich, Austin, Lykke, & Tarrier, 2007), and for those in a forensic setting (Laithwaite, 2007). While these case studies suggest that this treatment approach may be an effective way to treat LSE, it has yet to systematically evaluated with a control group, independent assessors who are 'blind' to treatment and using validated outcome measures. Hence the current study reports on a small randomized controlled trial of CBT for LSE that compares the impact of 10 sessions of individual CBT with workbooks for LSE to a waitlist control group, in patients with the full range of diagnoses presenting in primary care to a CBT service. The impact of the intervention is assessed on self-report measures of self-esteem, depression, anxiety and general functioning as well as by independent diagnostic assessment of Axis I disorders (DSM-IV-TR, 2000).

It was hypothesized:

1. Compared to waitlist, CBT for LSE will lead to greater improvements in self-esteem, anxiety, depression, and general functioning and a greater reduction in psychiatric diagnoses
2. Any treatment gains from CBT for LSE will be maintained at an 11-week follow-up assessment.

2. Method

The study hypotheses were tested through a small randomized controlled trial (ISRCTN75675072). Ethical permission for the study was granted by the NHS Central Office for Research Ethics Committee (COREC).

2.1. Recruitment

The study was carried out at the University of Reading Medical Practice. Fifteen of the 22 participants were referred by clinicians (nine by a General Practitioner, two by a Clinical Psychologist and four by a Mental Health Advisor) and the remaining seven self-referred (having heard about the trial through advertisements or word of mouth). There were no significant differences between those that were self-referred and those that were referred by clinicians on any baseline demographic or clinical variable. Participants were not offered any incentives for taking part in the trial. Fig. 2 shows the flow of participants from assessment to follow-up. One participant who was allocated to receive immediate treatment withdrew before treatment began and a further two participants from the WL group dropped out after beginning CBT (after sessions 2 and 3).

2.2. Participants

Participants were included in the trial if they were experiencing clinically significant low self-esteem as evidenced by (i) a score of more than one standard deviation below the mean (a total score of $\leq$120) on the Robson Self-concept Questionnaire (RSCQ) (Robson, 1989) and (ii) psychological difficulties that interfered with functioning as evidenced by scoring outside the 'healthy' range (a total score of $\geq$20) on the Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM) (Evans, Connell, Barkham, Margison, & McGrath, 2002). If participants were taking medication, this needed to have been at a stable dosage for the preceding 6 weeks before undertaking the initial assessment, and be kept at the same dosage for the duration of the trial. To maximise the clinical representativeness of the sample there were as few exclusion criteria as possible. Exclusion criteria were (i) having been diagnosed with a psychotic illness or (ii) if severity of symptoms or suicidality meant that allocation to a delayed treatment condition would be unethical.

The number of DSM-IV Axis I diagnoses ranged from 0 to 6 ($M = 2.91$, SD = 1.74). Of the 22 participants in the trial, three

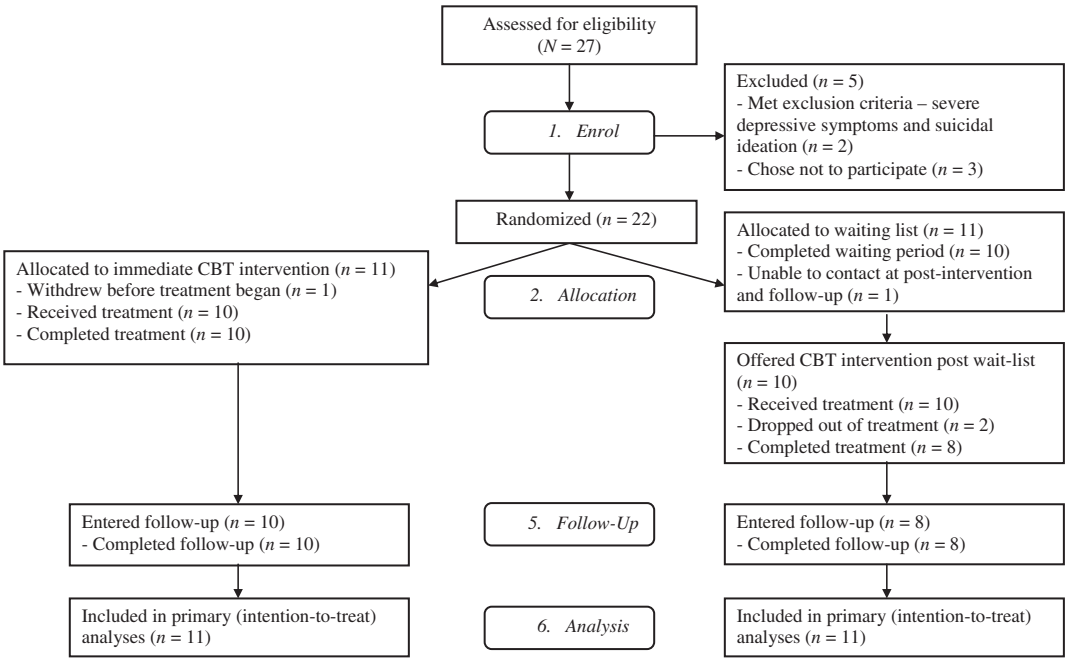

Fig. 2. CONSORT flow diagram.

participants did not meet criteria for any DSM-IV-TR diagnoses, one participant had one diagnosis, five participants had two diagnoses, five participants had three diagnoses, three participants had four diagnoses, four participants had five diagnoses and one participant had six diagnoses. Participants' diagnoses were as follows: Generalised Anxiety Disorder ($n = 12$), Social Anxiety Disorder ($n = 11$), Major Depressive Disorder ($n = 8$), Body Dysmorphic Disorder ($n = 6$), Specific Phobias ($n = 4$), Panic Disorder with Agoraphobia ($n = 4$), Panic Disorder without Agoraphobia ($n = 1$), Eating Disorder Not Otherwise Specified ($n = 2$), Obsessive Compulsive Disorder ($n = 2$), Post-traumatic Stress Disorder ($n = 2$) and Dysthymic Disorder ($n = 2$).

All 19 of the participants who completed a form indicating whether they had previously had therapy indicated that they had had therapy previously, with the mean number of sessions received being 62.11 (SD = 62.41) (see Table 1 for further detail).

2.3. Design

Participants were randomly allocated to either immediate treatment (IT) ($n = 11$) or a waitlist (WL) group ($n = 11$). Allocations were made using computer-generated random numbers in sealed envelopes which were only opened after all assessment and consent procedures had been completed. Although the initial aim was to conduct the treatment over 10 weeks, due to scheduling difficulties this was often not achieved and the mean treatment period for the IT group was 13.6 weeks (SD = 4.17). The mean waitlist period was 11.5 weeks (SD = 2.92). This difference was not statistically significant, $t(18) = 1.31$, $p = 0.21$. Participants initially allocated to WL received the CBT for LSE intervention once the waitlist period was completed. The mean duration of treatment for the WL group was 13.5 weeks (SD = 4.50) and this was also not significantly different to the duration for the IT group, $t(16) = 0.05$, $p = 0.96$. Both the IT group and those who received CBT following WL were followed up after CBT was completed and the aim was to conduct the follow-up assessment 10 weeks after treatment completion. There was not a significant difference in the length of follow-up period between the two groups, $t(16) = 0.74$, $p = 0.47$. The mean follow-up period for all participants was 10.9 weeks (SD = 1.55).

2.4. Assessment procedure

All outcome measures were administered prior to IT/WL and immediately following IT/WL. For those in the IT group the measures were repeated a third time after the end of the follow-up period and for those initially allocated to WL, the measures were repeated a third time immediately following their delayed treatment, and a fourth time at follow-up (see Fig. 3).

2.5. Measures

The Structured Clinical Interview for DSM-IV Disorders (SCID I-RV; First, Spitzer, Gibbon, & Williams, 2002) was used to assess diagnoses. Diagnostic assessments were conducted by a trained independent assessor who was 'blind' to participants' allocation. To assess reliability of diagnostic assessments, seven recordings of SCID interviews (10%) were randomly selected and diagnostic status was re-rated by the first author (PW) with high inter-rater reliability ($\kappa = 0.90$ ($p < 0.0001$).

The Robson Self-concept Questionnaire (RSCQ; Robson, 1989) is a 30-item self-report questionnaire measuring self-esteem. The RSCQ has good psychometric properties and is suitable for clinical and non-clinical populations (Ghaderi, 2005). Responses are rated on an eight-point scale (0–7) ranging from *completely disagree* to *completely agree*. In contrast to most psychiatric measures, a higher score on the RSCQ is indicative of a higher self-esteem and thus of better functioning/lower symptom severity. Robson (1989) reports a mean total score of 99.8 (SD = 24.0) for 47 patients referred to a psychotherapy service and a mean total score of 137 (SD = 20.2)

Table 1
Participants' demographic information, pre-intervention scores and length of treatment.

Measure	Waitlist group ($n = 11$)	Immediate treatment group ($n = 11$)	Statistic
Age (mean, SD)	36.55 (12.53)	30.64 (9.24)	$t(20) = -1.26$, $p = 0.22$
Gender	8 women, 3 men	10 women, 1 man	$\chi^2(1) = 0.39$, $p = 0.53$
Ethnicity	10 Caucasian, 1 Other	10 Caucasian, 1 Asian	$\chi^2(2) = 2.00$, $p = 0.37$
Educational level	1 GCSEs, 2 A levels, 1 undergraduate degree, 6 masters degree, 1 PhD	1 GCSEs, 2 A levels, 4 undergraduate degree, 2 professional qualifications, 1 masters degree, 1 PhD	$\chi^2(5) = 7.37$, $p = 0.19$
Occupation	1 professional, 1 white collar, 6 students, 2 homemaker, 1 unemployed	2 professional, 3 white collar, 1 blue collar, 5 students	$\chi^2(5) = 5.42$, $p = 0.37$
Medication	8 none, 3 SSRI	5 none, 6 SSRI	$\chi^2(1) = 1.69$, $p = 0.19$
Previous treatment	*$n = 10$ (missing data = 1)* All 10 who provided information had previous treatment (9 counselling, 1 CBT, 1 family therapy, 1 psychiatry, 1 computerized CBT)	*$n = 9$ (missing data = 2)* All 9 who provided information had previous treatment (9 counselling, 4 CBT, 1 family therapy, 2 psychiatry, 1 inpatient, 2 anxiety management group)	
Estimated mean number of previous treatment sessions (mean, SD)	$n = 10$ (missing data = 1) 70.89 (68.68)	$n = 9$ (missing data = 2) 54.20 (58.74)	$t(17) = -0.57$, $p = 0.58$
Source of referral	7 by clinician, 4 self-referral	8 by clinician, 3 self-referral	$\chi^2(1) = 0.21$, $p = 0.65$
Treatment length (mean, SD)	11.5 weeks (2.92)	13.6 weeks (4.17)	$t(18) = 1.31$, $p = 0.21$
No. of SCID Axis I diagnoses (mean, SD)	3.00 (1.41)	2.82 (2.09)	$t(20) = -0.24$, $p = 0.81$
Self-esteem			
RSCQ (mean, SD)	89.82 (13.20)	83.09 (14.91)	$t(20) = -1.12$, $p = 0.28$
Overall functioning			
CORE-OM (mean, SD)	63.09 (12.90)	58.18 (20.81)	$t(20) = -0.67$, $p = 0.51$
Associated psychopathology			
BDI-II (mean, SD)	26.73 (5.76)	23.55 (11.57)	$t(20) = -0.82$, $p = 0.42$
BAI (mean, SD)	15.55 (7.06)	19.36 (12.18)	$t(20) = 0.90$, $p = 0.38$

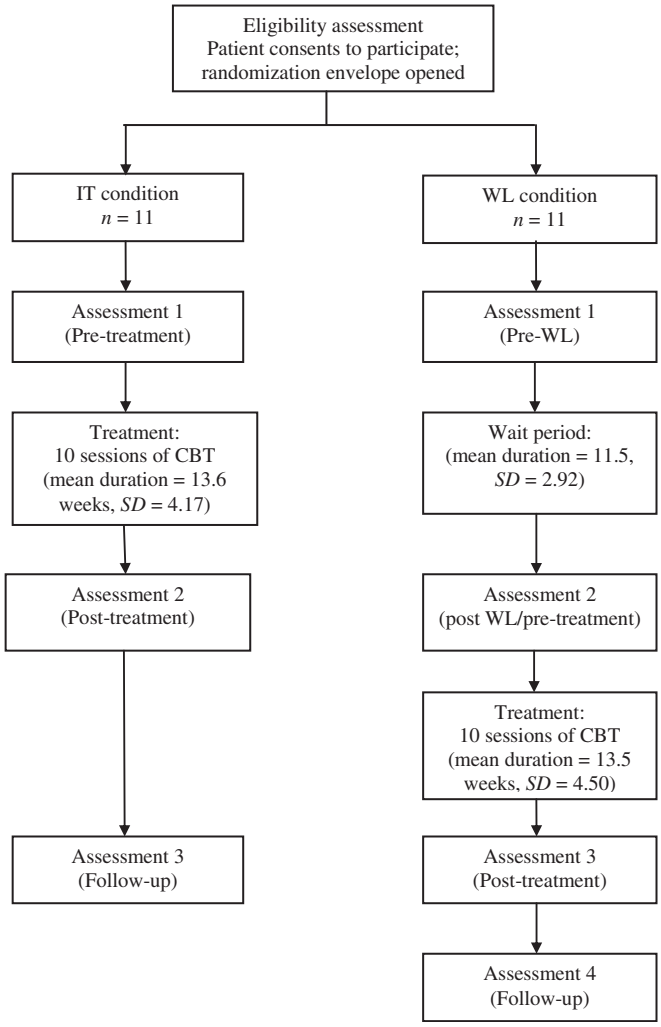

Fig. 3. Study design.

for 70 non-clinical controls. Subsequently, Robson (personal communication) has reported a mean total score of 140 (SD = 19.8) in a group of 200 non-clinical controls.

The Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) is a 21-item self-report measure of depression. It has established reliability and validity and has been widely used in a primary care setting (e.g., Arnau, Meagher, Norris, & Bramson, 2001).

The Beck Anxiety Inventory (BAI; Beck & Steer, 1990) is a 21-item self-report measure of anxiety symptoms. The BAI is widely used and has good reliability and validity (Beck & Steer, 1990).

The Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM; Evans, Connell, Barkham, Margison, & McGrath, 2002) is a 34-item self-report measure of overall psychological functioning and wellbeing that was designed and is widely used to measure outcomes from psychological treatments. It has good internal and test–retest reliability (0.75–0.95) and convergent validity (Evans et al., 2002) and has been shown to be acceptable and robust in a primary care setting (Barkham, Gilbert, Connell, Marshall, & Twigg, 2005). Items are rated on a 5-point scale, ranging from *not at all* to *most or all of the time*. Cut-off item scores between clinical and non-clinical populations are 1.19 for males and 1.29 for females, with a mean score for a non-clinical population of 25.84 (SD = 20.05) and 63.24 (SD = 25.5) for a clinical population (Evans, Connell, Barkham, Margison, & McGrath, 2002).

In addition to the formal outcomes measures, participants completed a form asking about whether they had received therapy previously and if so, what kind of treatment they had received and for how many sessions.

After treatment was completed, participants who had completed CBT ($n = 18$) were asked to complete a questionnaire asking how much of the workbooks they had read and how important they perceived the following treatment components to be (on a scale from 0 = *not at all important* to 10 = *extremely important*): workbooks, between session tasks, and therapy sessions. This was done anonymously and completed questionnaires were collected by the independent assessor.

2.6. Treatment

All treatment was carried out by the first author (PW), an experienced and accredited CBT therapist and Clinical Psychologist. All treatment was closely supervised by the second author (FM), an experienced and accredited CBT therapist, supervisor and trainer with experience of delivering, supervising, and monitoring adherence of CBT protocols in randomized controlled trials. Treatment was conducted on an individual outpatient basis, and consisted of 10 sessions, each lasting an hour. The treatment was based on Fennell's (1997, 1999, 2006) CBT protocol for overcoming low self-esteem and included four phases:

1. Individualised formulation, goal-setting and psychoeducation (sessions 1–2)
2. Learning skills to re-evaluate anxious and self-critical thoughts and beliefs through cognitive techniques and behavioural experiments (sessions 3–8)
3. Enhancing self-acceptance (sessions 4–8)
4. The development of more adaptive beliefs and rules and planning for the future (sessions 7–10).

As well as individual treatment sessions, all participants were given a three part self-help workbook (Fennell, 2006) and were asked to read the chapters and complete the exercises to tie in with the associated therapy sessions.

2.7. Treatment fidelity

Eighteen treatment sessions (10%) were randomly selected and rated by an independent rater for adherence to the protocol. This involved assessing whether the sessions included key activities relating to the protocol and the percentage of time taken up by these activities in each session. All sessions were rated as including key activities relating to the protocol and the mean percentage of time taken up by these activities was 96.67 (SD = 3.83), indicating a high level of adherence to the protocol.

2.8. Power and sample size

Previous research has reported an effect size of Cohen's $d = 1.2$ on the RSCQ for CBT for LSE (McManus, Waite, & Shafran, 2009). Given an estimated effect size of $d = 1.2$, a one-tailed power calculation (using G power) showed that a sample size of $N = 20$ (10 per group) had 80.0% power to detect an effect size of $d = 1.2$ at $p < 0.05$. Thus the sample of $N = 22$ was calculated to give sufficient power for the primary comparison of the IT and WL groups.

2.9. Data analysis

Independent *t*-tests and chi-square tests (for categorical data) were used to compare clinical and demographic variables in the IT

and WL groups at baseline. All analyses were conducted on an intention-to-treat (ITT) basis (Fergusson, Aaron, Guyatt, & Hébert, 2002). The ITT sample consisted of the total participants who were entered into the trial ($N = 22$) with the last available data point carried forward for missing data (see Fig. 2 for details of attrition). To compare differences between participants treated with CBT for LSE and those on the waitlist, a mixed MANOVA was used, with Group (IT vs. WL) as a between participants factor and Time (pre-intervention, post-CBT/WL) as a within participants factor. This was followed up with corresponding Univariate repeated measures Group × Time ANOVAs for each dependent measure separately. Significant effects were followed up with paired comparisons (paired-samples *t*-tests) of the IT and WL groups at each time point. Because the post-treatment Axis I diagnostic data for both groups was significantly non-normal (IT: $D(11) = 0.277$, $p = 0.018$; WL: $D(11) = 0.273$, $p = 0.022$), diagnostic data was analysed using Wilcoxon tests for differences within groups from pre- to post-treatment and a Mann–Whitney test for differences between groups post-treatment.

A further MANOVA was used to determine whether there were differences between the participants who received the CBT intervention immediately (IT group) and those that received it following the waitlist on the RSCQ, CORE-OM, BDI and BAI. A Mann–Whitney test was used to examine whether there were differences between these two groups in the number of Axis I diagnoses following CBT. As there were no significant differences in the scores of participants who received CBT immediately and those that received CBT after the 10-week waitlist period, scores from all participants ($n = 22$) were pooled for analysis of the maintenance of treatment gains (i.e., to determine whether there was any change in scores between the assessment immediately following the end of CBT and the one that occurred 11 weeks after the end of CBT) using a repeated measures MANOVA for the RSCQ, CORE-OM, BDI and BAI and a Wilcoxon test for the diagnostic data.

Effect sizes were calculated using Cohen's *d* (Cohen, 1988) for the RSCQ, CORE-OM, BDI and BAI; this was done by calculating the differences in IT and WL post-treatment means divided by the pooled post-treatment standard deviations. For the diagnostic data, the effect size was calculated using r by dividing the *z*-score by the square root of the total number of observations (Rosenthal, 1991). Clinical significance was assessed for all participants who completed treatment according to criteria suggested by Jacobson and Truax (1991) for determining reliable clinical improvement and recovery. The criteria used to calculate clinically significant change was a cut-off point ≥119 on the RSCQ, which is one standard deviation below the non-clinical mean total score; this was computed by pooling the data from Robson's (1989; personal communication) two non-clinical control groups, which gives a mean total score of 139.2 (SD = 19.9). A reliable change index of ≥27 was calculated using a standard deviation of 24 and reliability of 0.83 from Robson's (1989) clinical sample.

3. Results

3.1. Pre-treatment comparisons

Table 1 shows the demographic characteristics and baseline (pre-intervention) scores for participants in the IT and WL groups. There were no significant differences between the groups on any of the demographic or clinical variables, or in the source of referral. Most importantly, there was not a significant difference between the IT and WL groups in scores on the main outcome measure, the RSCQ, or on any of the other symptom measures or the mean number of Axis I diagnoses.

3.2. Hypothesis 1: compared to waitlist, CBT for LSE will lead to greater improvements in self-esteem, anxiety, depression, and general functioning and a greater reduction in psychiatric diagnoses

Means and standard deviations of the dependent measures are shown in Table 2. A MANOVA revealed a significant effect of group (WL or IT), $F(4, 17) = 3.37$, $p = 0.033$. Separate univariate ANOVAs revealed significant effects of group on each of the outcome measures: RSCQ, $F(1, 20) = 22.42$, $p \leq 0.001$; CORE-OM, $F(1, 20) = 27.64$, $p \leq 0.001$; BDI-II, $F(1, 20) = 25.07$, $p \leq 0.001$ and BAI, $F(1, 20) = 4.90$, $p = 0.04$. Paired post hoc *t*-tests demonstrated that in the WL condition, there was not a significant change in symptoms from pre- to post-treatment on the RSCQ, $t(10) = 1.78$, $p = 0.105$, or the BDI-II, $t(10) = -0.776$, $p = 0.456$, and there was a significant deterioration in symptoms on the CORE-OM, $t(10) = -2.39$, $p = 0.037$, and the BAI, $t(10) = -2.32$, $p = 0.043$. However, in the CBT condition, symptoms significantly improved from pre- to post-treatment on the RSCQ, $t(10) = -5.89$, $p \leq 0.001$, CORE-OM, $t(10) = 6.55$, $p \leq 0.001$ and BDI-II, $t(10) = 6.12$, $p \leq 0.001$. Although scores improved on the BAI, the difference was not significant, $t(10) = 1.58$, $p = 0.146$).

In terms of the number of Axis I diagnoses, Wilcoxon tests revealed that there was not a significant difference from pre- to post-treatment for the WL group, $T = 2.5$, $p = 0.157$, but that there was a significant difference between pre- and post-treatment for the IT group, $T = 0$, $p = 0.011$. A Mann Whitney test demonstrated that the difference in the number of Axis I diagnoses between the WL and IT group post-treatment was also significant, $U = 14.50$, $z = -3.090$, $p = 0.002$.

3.2.1. Effect size

The effect size was large for the difference between groups on each of the measures: RSCQ ($d = 2.02$), CORE-OM ($d = 2.24$), BDI

Table 2
Pre- and post-intervention scores for waitlist and immediate treatment groups (using an intention-to-treat analysis).

Measure	Waitlist group ($n = 11$) mean (SD)		Immediate treatment group ($n = 11$) mean (SD)		Statistic
	Pre	Post	Pre	Post	
Self-esteem					
RSCQ	89.82 (13.20)	84.81 (18.86)	83.09 (14.91)	122.73 (18.69)	$F(1, 20) = 22.42$, $p \leq 0.001$[a]
Overall functioning					
CORE-OM	63.09 (12.90)	72.18 (15.56)	58.18 (20.81)	33.55 (18.76)	$F(1, 20) = 27.64$, $p \leq 0.001$[a]
Associated psychopathology					
BDI-II	26.73 (5.76)	28.27 (7.59)	23.55 (11.57)	11.18 (8.40)	$F(1, 20) = 25.07$, $p \leq 0.001$[a]
BAI	15.55 (7.06)	19.36 (5.03)	19.36 (12.18)	13.09 (7.94)	$F(1, 20) = 4.90$, $p = 0.04$[a]
Number of SCID axis I diagnoses	3.00 (1.41)	2.64 (1.29)	2.82 (2.09)	0.73 (0.79)	$U = 14.50$, $z = -3.090$, $p = 0.002$

[a] Time × condition interactions.

($d = 2.13$) and BAI ($d = 0.94$) and the total number of diagnoses measured by the SCID ($r = 0.66$) (Fig. 4).

3.2.2. Reliable and clinically significant change

Reliable and clinically significant change was calculated for participants ($n = 18$) on the RSCQ, the measure of self-esteem. In the IT group ($n = 10$), seven participants were recovered, in that they showed both reliable and clinically significant change and a further two were improved, in that they showed reliable (but not clinically significant) change. In contrast, following the wait period, none of the participants from the WL group ($n = 8$) showed reliable or clinically significant change on the RSCQ.

3.3. Hypothesis 2: any treatment gains from CBT for LSE will be maintained at follow-up

Following the post-waitlist assessment, the WL group received the same active treatment (CBT) as the IT group. Following CBT, the mean score on the RSCQ was 122.73 (SD = 18.69) for the IT group and 107.73 (SD = 26.48) for the WL participants who received the CBT intervention following the WL. On the CORE-OM, the mean score for the IT group was 33.55 (SD = 18.76) and 46.73 (SD = 21.99) for the WL group. On the BDI-II, the mean score for the IT group was 11.18 (SD = 8.40) and 17.91 (SD = 11.44) for the WL group. On the BAI, the mean score for the IT group was 13.09 (SD = 7.94) and 12.00 (SD = 6.75) for the WL group. A MANOVA was carried out to determine whether there was a difference in outcome on these measures between those that received the CBT intervention in the IT group and those that received it following being allocated to WL. There was no significant effect of group (WL or IT) on outcome, $F(4,17) = 0.81$, $p = 0.534$. The mean number of Axis I diagnoses post-CBT was 0.73 (SD = 0.79) for the IT group and 1.36 (SD = 1.50) for the WL group and, as with the other measures, the difference between groups was not significant, $U = 48.50$, $z = -0.836$, $p = 0.403$. Consequently, scores from both groups were pooled to examine whether any treatment gains were maintained between the post-treatment and follow-up assessment. Mean scores and standard deviations are shown in Table 3.

A repeated measures MANOVA was carried out to investigate whether there was any change on the RSCQ, CORE-OM, BDI-II and BAI from post-CBT to follow-up and this demonstrated no significant effect of time, $F(4,17) = 1.272$, $p = 0.319$. A Wilcoxon test showed that there was also no significant difference between the total number of AXIS I diagnoses on the SCID post-CBT and at follow-up, $T = 9$, $p = 0.748$. This indicates that participants' scores did not change significantly between the post-CBT assessment and the 11-week follow-up assessment.

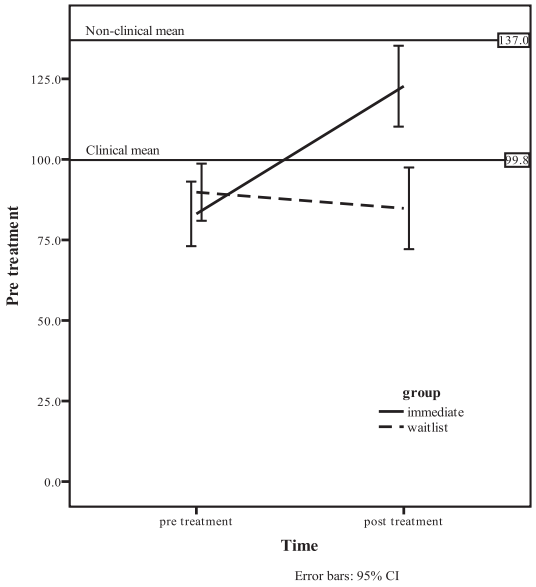

Fig. 4. Mean scores and 95% confidence intervals on the RSCQ for the immediate treatment and waitlist groups before and after treatment ($N = 22$).

Table 3
Scores for entire sample post-CBT and at 11-week follow-up (using an intention-to-treat analysis).

Measure	Post-CBT mean (SD) $n = 22$	Follow-up mean (SD) $n = 22$
Self-esteem		
RSCQ	115.23 (23.64)	120.05 (30.23)
Overall functioning		
CORE-OM	40.14 (21.06)	37.59 (26.46)
Associated psychopathology		
BDI-II	14.55 (10.38)	12.41 (10.49)
BAI	12.55 (7.22)	11.32 (8.23)
Number of SCID axis I diagnoses	1.05 (1.21)	1.09 (1.31)

3.3.1. Reliable and clinically significant change

Scores on the RSCQ were then examined to establish whether there was clinically significant or reliable change from initial assessment to follow-up. Twelve of the 18 participants who completed CBT were recovered, in that they showed both reliable and clinically significant improvement on the RSCQ. A further participant was improved, in that they showed reliable (but not clinically significant) change on the RSCQ.

3.4. Rating of workbooks, homework tasks and therapy sessions

Of the 18 participants who completed CBT, the mean percentage of the workbooks read was 75.8% (SD = 18.31). The mean rating of importance in bringing about change for the workbooks was 5.71 (SD = 1.72), for the homework tasks was 7.71 (SD = 1.86), and for the therapy sessions was 8.74 (SD = 1.30).

4. Discussion

The results of this preliminary study provide encouraging evidence that ten sessions of CBT, based on a widely used and respected protocol (Fennell, 1997, 1999) with accompanying workbooks as an adjunct to sessions (Fennell, 2006), is more effective in reducing LSE, and associated symptoms and diagnoses, than a waitlist condition in participants with a range of co-morbid disorders.

An intention-to-treat analysis demonstrated that the participants who received CBT had significantly more functional scores on measures of LSE, overall functioning and depression compared to those who were allocated to a waitlist condition. They also had significantly fewer psychiatric diagnoses at the end of treatment and all effect sizes were large. On the main outcome measure of self-esteem (the RSCQ), seven of the 10 participants (70%) who completed treatment in the IT group showed clinically significant improvement and nine of the 10 participants (90%) showed reliable change. In contrast, none of the WL group demonstrated clinically significant or reliable change in self-esteem.

Once the WL group received CBT, their scores were compared to the IT group and there were no differences. Consequently scores from both groups were analysed to determine whether treatment gains were maintained over the 11-week follow-up period. There

were no significant differences in the scores on any self-report measures or in the number of Axis I diagnoses between the end of CBT and the follow-up assessment. At follow-up, of the 18 participants who completed CBT for LSE, 12 (66.7%) demonstrated clinically significant improvement and 13 (72.2%) demonstrated reliable change on the measure of self-esteem. Acceptability of the treatment was good with only two participants (10.0%) dropping out once beginning treatment.

Although results are encouraging, it is important to consider the limitations of this study. While it was carried out with a clinically relevant sample with few exclusion criteria applied, the sample size is small and consists mainly of women with a high level of educational attainment. Also, the intervention was delivered by only one therapist. As such, it is difficult to know to what extent these findings can be generalised. Participants were not assessed for the presence of Axis II diagnoses and given the often enduring nature of LSE and high levels of co-morbidity, there may have been additional Axis II diagnoses that were not accounted for. Five participants had previous experience of CBT and it is unclear how this may have impacted on their outcome in this study. There was no comparison intervention to control for the non-specific effects of therapy and the follow-up period was relatively short, occurring around 11 weeks after the end of therapy. Consequently, further research is necessary to ascertain whether treatment gains are maintained over the longer-term. This intervention involved individual sessions as well as workbooks and although participants rated the sessions themselves as the most important factor in bringing about change, they did make good use of the workbooks. Further research would be needed to determine the relative contribution of different components of the treatment.

In spite of the limitations outlined above, this preliminary randomized controlled trial is a significant contribution to the existing literature as it is the largest existing study of CBT for LSE and is the first study to compare CBT for LSE to a control group. The results provide initial preliminary evidence that a focused, brief CBT intervention can be effective in treating LSE and associated symptoms and diagnoses in a clinically representative group of individuals with a range of different and co-morbid Axis I disorders. This is consistent with the findings of other studies that demonstrate the effectiveness of a treatment approach that emphasizes a single common pathway across diagnostic categories (e.g. Riley, Lee, Copper, Fairburn, & Shafran, 2006). Importantly, it is also suggestive that the presence of negative core beliefs about the self does not necessarily mean long-term therapy is required to effect change or improve self-esteem, even in individuals who may have already had significant previous therapeutic input.

With regard to the clinical implications of the current findings, it has been suggested that LSE is a vulnerability factor for developing psychiatric disorders but may also develop as a result of psychiatric disorders (Mruk, 1999). Hence, there may some circumstances when LSE should be the focus of treatment but other circumstances when it would be more helpful to use this treatment approach as an adjunct to existing, evidence-based CBT protocols for specific disorders. However, further research is required to better understand the relationship between LSE and associated problems and to determine when focussing on LSE as the primary problem is likely to be most effective. It would be of great interest to determine whether treating this 'common thread' across disorders could have a larger impact on co-morbidity than focussing on the primary diagnosis.

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