



## **MSc in Clinical Psychology**

# **Cognitive Behavioural Group Therapy for Low Self-Esteem: An Outcome Study**

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## Foreword and Acknowledgements

The thesis is submitted in partial fulfilment of the requirements of the MSc degree in Clinical Psychology at Reykjavik University, Iceland. The thesis is presented in the style of an article for submission to a peer-reviewed journal.

The study began in the spring semester of 2016 with formation, written literature review and application for approval submitted to the National Bioethics Committee in Iceland and the Ethical Committee of Reykjalundur Rehabilitation Center. Once the approval was obtained, processing and starting to analyse the data and writing a methods chapter was carried out the following autumn. In the spring semester of 2017 the data were analysed in depth and a manuscript of an article for publication was prepared.

The aim of the study was to evaluate the effectiveness of a group Cognitive Behavioural Therapy (CBT) program designed to treat low self-esteem. Self-esteem is considered to be a significant influential factor in well-being. Low self-esteem has a high prevalence among people suffering from mental disorders and the level of self-esteem has been found to predict prognosis and treatment response. Specifically treating low self-esteem can increase the probability of recovery and prevent the development of mental disorders. Low self-esteem has therefore the potential of being an important focus of treatment. Research, evaluating the effectiveness of CBT for low self-esteem show encouraging results, but they are limited and thus there is a need for further studies.

The following study was carried out at Reykjalundur Rehabilitation Center. In the study, data from participants attending a four-week (8 sessions) group CBT for low self-esteem were measured and evaluated. The study consisted of 12 treatment groups.

The supervisors of this study and co-authors of an article when it will be submitted to a scientific journal are Gunnhildur L. Marteinsdóttir psychologist at Reykjalundur Rehabilitation Center, Hafrún Kristjánsdóttir psychologist and assistant professor at Reykjavik University and Jón Friðrik Sigurðsson, psychologist and professor at Reykjavik University and the University of Iceland.

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## Abstract

*Background:* Self-esteem is considered to be a significant influential factor concerning well-being. Low self-esteem (LSE) is known to be associated with various mental disorders as an etiological- or maintaining factor and as a consequence. Cognitive Behavioural Therapy (CBT) has been found to be effective in improving LSE. *Aims:* The study aim was to evaluate the effectiveness of a group CBT designed to treat LSE. *Method:* Data from 104 adult participants attending a four-week (8 sessions) group CBT for LSE from 2014 to 2017 at Reykjalundur Rehabilitation Center in Iceland were evaluated. Participants completed pre- and post- treatment questionnaires on the level of self-esteem, quality of life, depression, anxiety and stress. *Results:* Pre-post differences were statistically significant on all measurements. Self-esteem improved, quality of life increased and depression, anxiety and stress decreased. Effect sizes were large on the measurements of self-esteem ( $d = 0.92$ ), quality of life ( $d = 0.80$ ) and moderate for depression, anxiety and stress ( $d = 0.59 - 0.62$ ). On the primary outcome measures of self-esteem, 42% of the participants either indicated a clinically significant change or a reliable improvement. On the secondary outcome measures, these figures were 49% for quality of life, 53% for depression, 43% for anxiety and 52% for stress. *Conclusions:* These results entail that group CBT for LSE is potentially an effective treatment for low self-esteem and may have additional effects leading to improvement in quality of life and associated psychological problems such as depression, anxiety and stress.

*Keywords:* Cognitive behavioural therapy, self-esteem, quality of life, depression, anxiety, stress, rehabilitation

### Cognitive Behavioural Group Therapy for Low Self-Esteem: An Outcome Study

Self-esteem is an individual evaluation of oneself and is considered to be an important influential factor concerning well-being. According to Burns (1982), people's evaluations and beliefs about themselves determine who they are, what they can do and what they can accomplish. Self-esteem is conceptualized both as a global or domain specific phenomena. While global self-esteem concerns the overall valuation of oneself, a domain specific self-esteem applies to one's individual abilities and attributes like academic performance or attractiveness (Swann & Bosson, 2010). According to Rosenberg (1989), "high self-esteem expresses the feeling that one is good enough". Meaning that people feel that they have self-worth, but not necessarily superior to others. According to Fennell (2005), low self-esteem is the characterization of global negative belief about the self, self-criticism and low self-worth. Low self-esteem can be a temporary or a more constant state.

Self-esteem is an important influential factor in relations to mental health. Research suggests that many important life outcomes are dependent on one's level of self-esteem, low self-esteem leading to maladjustment and high self-esteem contributing to wellbeing (Glick & Zigler, 1992; Trzesniewski et al., 2006). High self-esteem has been found to be a protective factor contributing to better mental health and consequently low self-esteem a significant risk factor for a broad spectrum of mental disorders (Zeigler-Hill, 2011).

Quality of life is a multidimensional construct that reflects an individual's subjective perception of his physical- or psychological wellbeing, social functioning and overall life circumstances (Felce & Perry, 1995). A lack of self-esteem affects well-being and quality of life (Fennell, 2005). Research have indicated that self-esteem is an influential factor contributing to subjective wellbeing of quality of life (Evans, 1997). Low self-esteem can also result in unhelpful behaviour with negative outcomes, and has been associated with

school dropout (Guillon, Crocq, & Bailey, 2003), aggression (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005) and poorer physical health (Trzesniewski et al., 2006).

Low self-esteem is known to be related to various mental disorders either as an etiological- or a maintaining factor (Silverstone, 1991; Zeigler-Hill, 2011). Low self-esteem can be a feature of, or a consequence of the psychological condition. The degree of low self-esteem is also a prognostic predictor of mental disorders (Shirk, Burwell, & Harter, 2003; Zeigler-Hill, 2011). Among mental disorders and problems linked to low self-esteem are; depression (Brown, Bifulco, & Andrews, 1990), obsessive compulsive disorders (Ehnholt, Salkovskis, & Rimes, 1999), eating disorders (Gual, Perez-Gaspar, Martinez-Gonzallaz, Lahortiga, & Cervera-Enguix, 2002), psychosis (Freeman et al., 1998), attention deficit and hyperactivity disorder (ADHD) (Cook, Knight, Hume, & Qureshi, 2014), self-harm and suicidal behaviour (Hawton, Rodham, Evans, & Weatherall, 2002), substance abuse (Zimmerman, Copeland, Shope, & Dielman, 1997) and chronic pain (Soares & Grossi, 2000).

Furthermore, research has shown a relation between the severity of low self-esteem and inclination towards specific mental disorders especially depression, substance abuse and eating disorders (Silverstone & Salsali, 2003). The relationship between self-esteem and depression has been well established (Brown et al., 1990) and longitudinal studies imply that low self-esteem predicts depression (Orth, Robins, & Meier, 2009; Orth, Robins, Trzesniewski, Maes, Schmitt, 2009; Roberts & Monroe, 1992). Other state that low self-esteem can result from depression but are not mutually exclusive (Sowislo & Orth, 2013). Research has also indicated a relationship between self-esteem and anxiety (Henning, Turk, Mennin, Fresco, & Heimberg, 2007; Roberts, 2006), but longitudinal studies are lacking.

As low self-esteem is often a symptom of other chronic problems it can improve when the problem is resolved (Fennell, 2005), but it can also stand in the way of treatment

effects and recovery in psychological disorders (Button & Warren, 2002) and be a predictor of treatment dropout (Brown et al., 1990).

Accordingly, low self-esteem has a high prevalence among people suffering from psychological problems and mental disorders, and as the level of self-esteem has been found to predict prognosis and treatment response it has the potential of being an important focus of treatment (McManus, Waite, & Shafran, 2009). Specifically treating low self-esteem can increase the probability of recovery and prevent the development of mental problems (Fennell, 2005). Furthermore, the importance to treat low self-esteem since treatment of other psychological problems such as depression and anxiety do not necessarily focus on the same cognitive processes as those who cause and maintain low self-esteem (Fennell, 2005).

Fennell (1997) proposed a treatment manual based on a cognitive model of low self-esteem. The model is based on Beck's (1976) cognitive model of emotional disorders. The model takes into account symptoms of anxiety and depression and suggests that on a basis of early life experiences people make global negative evaluations about themselves, so called core beliefs (Fennell, 1997, 2006). Negative core beliefs lead to low self-esteem which result into dysfunctional assumptions called rules for living. When these rules are met, people can feel better about themselves making them ease in function or coping despite negative beliefs. The negative core beliefs are activated accordingly in situations where the rules of living are broken and correspond consecutively into elicit thoughts, feelings or behaviour that maintain and intensify the core beliefs themselves (Fennell, 1997). The model explains comorbidity of depression, anxiety and low self-esteem and the relevance of how these components share maintaining factors. Finding the root of low self-esteem is important and valuable help for overcoming and reversing the issue within oneself.

Fennell's (1997, 1999) CBT approach for low self-esteem is derived from her cognitive conceptualization. The treatment approach is transdiagnostic, emphasizing on

recognizable patterns across different mental disorders (Butler, Fennell, & Hackman, 2008). The treatment manual combines procedures from standard CBT and schema-approaches targeting persistent negative beliefs in oneself including self-diminishing behaviour. It also integrates methods for improving self-esteem with re-evaluations of cognitive negative biases and emphasis on acknowledging one's positive attributes. Rather than treating each problem separately, emphasis is placed on understanding the interrelation between people's problems in the context of negative core beliefs. Interventions are based on protocols for treatment of emotional disorders (Beck, Emery, & Greenberg, 1985; Beck, Rush, Shaw, & Emery, 1979) and cognitive approaches for persistent harmful beliefs about the self (Beck & Freeman, 1990). The interventions target elements in the cognitive model, as in CBT for depression and anxiety. The treatment begins with finding maintaining factors and then uses cognitive and behavioural methods to test negative cognitions that maintain the problem. In addition to addressing core beliefs and dysfunctional assumptions the treatment also explores early life experiences as a possible source of dysfunctional beliefs. The treatment initiates by focusing on negative self-evaluative beliefs that cause and maintain a vicious cycle of depression and anxiety (Fennell, 1998). The purpose is to weaken the negative self-evaluative core beliefs maintained by biased perception and interpretation (Padesky, 1994) and replace them with more realistic beliefs and more adaptive rules for living (Fennell, 1998, 1999).

Research evaluating the effectiveness of CBT for low self-esteem based on Fennell's (1997, 1999) treatment approach are limited but show encouraging results. McManus et al. (2009) reported a case study with large effect sizes and clinically significant improvement on the level of self-esteem and symptoms of depression and anxiety post-treatment, which were maintained at 1-year follow-up. Waite, McManus, and Shafran (2012) reported a randomized controlled trial of group CBT for LSE with results showing the treatment to be clinically effective in improving overall functioning, self-esteem and depression compared to a wait list

group, as well as sustained treatment gains at follow-up. Rigby and Waite (2006) found group CBT for LSE to be effective in improving self-esteem and reducing symptoms of depression and anxiety. Morton, Roach, Reid, and Stewart (2012) also reported that group CBT for LSE was effective in improving self-esteem as well as reducing symptoms of depression and anxiety adult among women with low self-esteem. Pack and Condren (2014) showed similar results, group CBT for LSE was found to be effective in improving self-esteem and decreasing symptoms of depression and anxiety amongst patients in primary care.

Although improving self-esteem is beginning to be seen as an important target for treatment, no research has to the authors best knowledge evaluated the effectiveness of CBT for low self-esteem based on the treatment approach of Fennell (1997, 1999) at a rehabilitation setting. Adding CBT treatment to a standard inpatient rehabilitation program has shown to be advantageous (Schweikert et al., 2006) and greater access to CBT, such as an outpatient service is likely to improve treatment outcome as well as remain cost-effective (Myhr & Payne, 2006).

The primary aim of present study was to investigate the effectiveness of a four-week (8 sessions) group-CBT on self-esteem. Secondary aims were to investigate the effects on quality of life, depression, anxiety and stress. The primary hypothesis suggests that the self-esteem of the participants will improve during the treatment. Secondary hypothesis suggests that quality of life will increase and depression, anxiety and stress levels will decrease during the treatment.

## **Method**

### **Participants**

A total of 104 participants, 13 males (12.5%) and 91 females (87.5%) that attended four-weeks (8 sessions) of group CBT for LSE at Reykjalundur Rehabilitation Center in Iceland from 2014-2017 were included in the study. The mean age of the participants was



43.8 years (SD = 11.9), ranging from 20 to 68 years. Of the total number of participants included in the study, 70 were inpatients and 34 were outpatients. Participants were receiving interdisciplinary rehabilitation from seven different fields of physical or mental rehabilitation: Obesity ( $n = 29$ ), Arthritis ( $n = 25$ ), Mental Health ( $n = 16$ ), Cardiac and Pulmonary ( $n = 10$ ), Vocational ( $n = 10$ ), Chronic pain ( $n = 8$ ) and Neurological ( $n = 6$ ).

## Measures

*Robson Self Concept Questionnaire* (SCQ; Robson, 1989) is a 30 item self-report scale to measure self-esteem. The scale provides a measure of self-esteem based on seven theoretical and empirical components of self-esteem. Responses are rated on an 8-point scale from 0 (strongly disagree) to 7 (strongly agree). Scores can range from 0-180. Scores below 130 are indicative of low self-esteem, scores from 130-139 reflect good self-esteem and scores above 140 are indicative of high self-esteem. Robson reported a mean total score of 137 (SD = 20.2) and a mean total score of 140 (SD = 19.8) in two different non-clinical samples (Robson, 1989). The SCQ has shown good internal reliability ( $\alpha = 0.89$ ) and good overall psychometric properties (Ghaderi, 2005). The SCQ has been translated to Icelandic, but its psychometric properties have not been evaluated empirically in Iceland.

*Quality of life scale* (QOLS; Burckhardt & Anderson, 2003) is a 16 item questionnaire measuring on individual's overall satisfaction with life based on six conceptual domains of quality of life. Each item is rated on a 7- point scale from 7 (very satisfied) to 1 (very dissatisfied). The scoring is on a range from 16 to 112, with higher scores indicating a greater quality of life. The QOLS has been proven to be valid and reliable measure of quality of life (Burckhardt, Woods, Schultz, & Ziebarth, 1989). The Icelandic translation of the QOLS has shown good internal reliability ( $\alpha = 0.89$ ). A mean total score of 86.2 (SD = 9.03) has been reported in a non-clinical Icelandic sample (Guðmundsson & Hrafnsson, 2007).

*Depression, Anxiety and Stress Scale* (DASS; Lovibond & Lovibond, 1995) is a 42 item self-report scale measuring levels of depression, anxiety and stress. Each of the three factors has 14 statements and each item is rated on a scale from 0 (did not apply to me at all) to 3 (applied to me most of the time). Scores can range from 0 - 42 on each of the subscales with higher scores reflecting higher severity of symptoms. The DASS has been found to be reliable and valid (Brown, Chorpita, Korotitsch, & Barlow, 1997). The Icelandic version of the DASS has good internal reliability for the three subscales ( $\alpha = 0.85 - 0.97$ ) and has demonstrated good overall psychometric properties. A mean total score of 5.25 (SD = 6.55) has been reported for the Depression scale, 4.87 (SD = 4.87) for the Anxiety scale and 8.16 (SD = 6.71) for the Stress scale, in a non-clinical Icelandic sample (Ingimarsson, 2010).

## **Procedure**

The study was carried out at Iceland's biggest rehabilitation facility Reykjalundur Rehabilitation Center. Reykjalundur comprises interdisciplinary rehabilitation from different fields within physical and mental health. Approval was sought and obtained from the Ethical Committee of Reykjalundur Rehabilitation Center and the National Bioethics Committee in Iceland (VSN-16-087) to evaluate data from the period from May 2014 to March 2017.

Participants were given a research number for privacy protection. Participants were referred to a specialized CBT group addressing low self-esteem if they experienced clinically low self-esteem or were having emotional problems. Participants were evaluated for these problems by psychologists at each of the interdisciplinary team of the division they were attending. Otherwise the participants were not clinically assessed before attending the treatment and there were no specific diagnostic criteria for inclusion in the treatment. Exclusion criteria for the treatment were being diagnosed with a current psychotic condition

or current substance abuse and being under the age of 18. Participants meeting the inclusion criteria were offered the treatment by clinicians.

The participants who accepted the treatment completed the SCQ, the QOLS and the DASS before and after the treatment. The study consisted of 12 treatment groups, each group had 3 to 14 participants. Mean group size was 6.0 (SD = 3.7). Treatment dropout was defined as not attending the last session. Participants who completed the treatment were included in the pre- and post-treatment analysis, testing the primary and secondary hypothesis. Table 1 shows the demographics for the participants included in the main analysis.

Table 1. *Demographic information of the participants included in the main analysis*

	Test group ( <i>n</i> = 81)	N (%)
Age (mean, SD)	44.0 (SD = 12.1)	
Gender	Women	71 (87.7%)
	Men	10 (12.3%)
Field of rehabilitation	Obesity	23 (28.4%)
	Arthritis	21 (25.9%)
	Mental health	12 (14.8)
	Cardiac and Pulmonary	7 (8.6%)
	Vocational	7 (8.6%)
	Chronic pain	7 (8.6%)
	Neurological	4 (4.9%)
	Status	Inpatient
Outpatient		24 (29.6%)

### **The intervention**

The CBT treatment implemented in the study was designed by two psychologists at the Mental Health Services at Landspítali – The National University Hospital of Iceland and was first offered at the Mental Health Services at Landspítali in 2007. The treatment protocol is based primarily on the work of Fennell's (1997, 1999, 2006) on overcoming low self-

esteem, but also on Burns (1993), *Ten Days to Self-Esteem* and worksheets from Centre for Clinical Interventions (CCI) handbook of *Improving Self-esteem* (Lim, Saulsman, & Nathan, 2005). The treatment was facilitated by at least one qualified clinical psychologist in each group. The psychologists who ran the treatment were employed at Reykjalundur Rehabilitation Center. The treatment consisted of 8 sessions of group CBT. The protocol used in this study has 9 sessions but the last two sessions were combined because of practical reasons. Sessions were 90 minutes long and occurred twice a week for four weeks. All sessions contained a slideshow presentation and homework exercises. Participants received a CBT workbook and were requested to read the chapters and complete exercises between the sessions. Table 2 shows the main components of the treatment.

Table 2. *The treatment's main components*

Sessions	Main components
Sessions 1-2	Psychoeducation about the development and characteristic of low self-esteem. Goal setting and individualized formulation.
Sessions 3-4	Breaking into maintenance cycles, learning skills to re-evaluate self-critical thoughts/beliefs through cognitive techniques and behavioural experiments.
Sessions 5-6	Recognizing and combating self-criticism. Enhancing self-acceptance by focusing on potentials and positive qualities.
Sessions 7-8	Re-evaluation of "rules for living" and core beliefs. Developing alternative more adaptive rules, formulating more realistic core beliefs. Plan for the future.

### **Statistical analysis**

This study used a one group pre-test, post-test research design. To examine if the treatment had an effect on self-esteem, quality of life, depression, anxiety and levels of stress following analyses were carried out:

Paired-samples *t*-tests were applied to assess if there were a statistically significant differences between pre- and post-treatment. *Cohen's d* effect sizes were calculated on the DASS, the SDQ and the QOL, using differences in pre- and post-measures means divided by the pooled pre- and post-measures standard deviations (Cohen, 1988). A Reliable Change Index (RCI) (Jacobson & Truax, 1991) was calculated to determine reliable clinical change, including the standard deviations at pre-test measures and reliability from the instruments. Participants were regarded to have reached a reliable change if the RCI was above 1.96 ( $p < .05$ ). Evaluation on the clinical reliable improvement and recovery on participants determined the clinical significance. Post-test score within one standard deviation of the means of normative samples classified the clinical significance criteria. The criteria used to determine clinically significant change for the SCQ was a cut-off score of one standard deviation lower than the British non clinical mean score, due to unavailability of Icelandic norms. A mean score of 139.2 (SD = 19.9) has been calculated by pooling the Robson's (1989) control samples, which presents a cut-off score of 119. RCI of 21 was calculated with a standard deviation of 18.8 and a reliability of 0.83 from Robson's (1989) clinical sample. The criteria used for the QOLS was a cut-off point of one standard deviation lower than the non-clinical mean score in the Icelandic sample (Guðmundsson & Hrafnsson, 2007). A mean score of 86.2 (SD = 9.03) presents a cut-off score of 77. RCI of 11 was calculated with a standard deviation of 12.2 ( $\alpha = 0.89$ ). The criteria used for the DASS subscales was a cut-off point of one standard deviation higher than the means scores in the non-clinical Icelandic sample (Ingimarsson, 2010). A mean score of 5.25 (SD = 6.55) for depression gives a cut-off score of 12. RCI of 5 was calculated with a standard deviation of 9.5 ( $\alpha = 0.97$ ). A mean score of 4.87 (SF = 4.87) for anxiety gives a cut-off score of 10. RCI of 6 was calculated with a standard deviation of 8 ( $\alpha = 0.92$ ). A mean score of 8.16 (SD = 6.71) for stress gives a cut-off score of 15. RCI of 5 was calculated with a standard deviation of 8.4 ( $\alpha = 0.95$ ).

To examine if there were any differences between those participants who completed the treatment and those participants who dropped out following analyses were carried out: Independent sample t-tests were applied to assess if there were any differences in the pre-intervention scores and chi-square tests were used to assess if there were any differences in demographic variables based on different categorical data.

## Results

Of the total of the 104 participants included in the study, 23 dropped out of the treatment, leaving 81 participants to be included in the pre- to post treatment analysis.

### Pre- to post treatment measurements

Table 3 shows the means, standard deviations and effect sizes of the outcome measures. As hypothesized, paired *t*-tests revealed a statistically significant improvement in symptoms from pre- to post-treatment on each of the outcome measures. Significant improvement was found in self-esteem as measured with the SCQ, quality of life as measured with the QOLS, and depression, anxiety and stress as measured with the DASS subscales.

Table 3. *Pre- and post- treatment scores for the participants who completed the treatment*

Measure	Treatment group, mean (SD)		t-value	Cohen's d
	Pre	Post		
Self-esteem ( <i>SCQ</i> )	97.74 (18.76)	118.6 (26.03)	-8.579*	0.93
Quality of life ( <i>QOLS</i> )	60.58 (12.18)	71.32 (14.72)	-8.614*	0.80
Depression ( <i>DASS</i> )	17.10 (9.50)	11.52 (9.54)	6.419*	0.59
Anxiety ( <i>DASS</i> )	12.34 (7.99)	7.69 (6.90)	5.559*	0.62
Stress ( <i>DASS</i> )	18.12 (8.37)	12.92 (8.39)	6.145*	0.62

*Note.* Measures = SCQ ( $n = 78$ ), QOLS ( $n = 78$ ), DASS subscales ( $n = 77$ ). Missing values = SCQ ( $n = 3$ ), QOLS ( $n = 3$ ), DASS subscales ( $n = 4$ ).

\*  $p < .001$

As Table 3 shows, the effect sizes were large for the difference between pre- and post-measures on the SCQ and the QOL and medium-sized on the DASS subscales.

### Clinically significant and reliable change

Table 4 shows the percentage of clinically significant and reliable improvement for the participants who completed the treatment.

Table 4. *Clinically significant and reliable improvement on the outcome measures*

Measure	Improved <i>n</i> (%)	Recovered <i>n</i> (%)	Improvement <i>n</i> (%)	Total <i>n</i> (%)
Self-esteem ( <i>SCQ</i> )	8 (10%)	20 (26%)	5 (6%)	33 (42%)
Quality of life ( <i>QOLS</i> )	17 (22%)	20 (26%)	1 (1%)	38 (49%)
Depression ( <i>DASS</i> )	14 (18%)	23 (30%)	4 (5%)	41 (53%)
Anxiety ( <i>DASS</i> )	6 (8%)	22 (29%)	5 (6%)	33 (43%)
Stress ( <i>DASS</i> )	12 (16%)	18 (23%)	10 (13%)	40 (52%)

*Note.* Measures = SCQ (*n* = 78), QOLS (*n* = 78), DASS subscales (*n* = 77). Classification: Improved = reliable improvement, but not clinically significant; recovered = clinically significant and reliable improvement; improvement = pre-test scores within one standard deviation of the means of normative samples reliable improvement at post-test measures; total = total number of participants who showed reliable improvement.

As Table 4 shows, that highest percentage of the participants improved (showed reliable improvement, but not clinically significant) in quality of life according to the QOLS, whereas only a few of them improved of anxiety according to the DASS Anxiety scale. Highest percentage of the participants recovered (showed clinically significant and reliable improvement) of depression according to the DASS Depression scale while only a small percentage recovered on the measures of stress according to the DASS Stress scale. On measurement of improvement (pre-scores within one standard deviation of the means of normative samples, reliable improvement post-treatment) most of the participants improved on measures of stress according to the DASS Stress scale whereas only one participant showed improvement on the measures of quality of live according to the QOLS. Of the total number of participants who showed reliable improvement post-treatment the highest percentage improved on measures of depression according to the DASS Depression scale and the smallest percentage improved on measures of self-esteem according to the SCQ.

### Dropout analysis

Table 5 shows the pre-intervention scores of the participants in the treatment group and the dropout group. Dropout from the treatment was 22%. Independent t-tests revealed no statistically significant difference between any of the pre-scores in the treatment group and the dropout group. However, the results demonstrated a marginally significant difference between the treatment group and the dropout group on pre-scores measures of anxiety. There were no significant differences in age,  $X^2(1) = .083, p = .774$ , gender,  $X^2(1) = .008, p = .929$ , status,  $X^2(1) = 1.561, p = .211$  or fields of rehabilitation,  $X^2(6) = 2.244, p = .896$  between those participants who dropped out and those participants who completed the treatment.

Table 5. *Pre-intervention scores of the participants in the treatment- and the dropout group*

Measure (mean, SD)	Treatment group	Dropout group	t-value	<i>p</i>
Self-esteem ( <i>SCQ</i> )	97.74 (SD = 18.76)	97.57 (SD = 24.39)	.037	.970
Quality of life ( <i>QOLS</i> )	60.77 (SD = 12.23)	60.57 (SD = 13.23)	.070	.944
Depression ( <i>DASS</i> )	17.15 (SD = 9.33)	19.52 (SD = 11.37)	-1.022	.309
Anxiety ( <i>DASS</i> )	12.35 (SD = 7.91)	16.13 (SD = 9.42)	-1.933	.056
Stress ( <i>DASS</i> )	18.20 (SD = 8.28)	20.87 (SD = 8.90)	-1.287	.207

### Discussion

Participants receiving the CBT group intervention for LSE, based primarily on the protocol of Fennell (1997, 1999), had significantly improved scores post-treatment compared to pre-treatment on measures of self-esteem, quality of life as well as depression, anxiety and stress. Effect sizes were large on measurements of self-esteem and quality of life and medium sized effect sizes were found on measurements of depression, anxiety and stress. The clinical benefit of the intervention was supported by the fact that the proportion of participants remaining in the more severe categories of low self-esteem and other important outcome measures was markedly reduced post-treatment. These results add further support and are in consistency with previous findings that show CBT programs for LSE based on the treatment manual of Fennell (1997, 1999) to be effective in improving self-esteem (McManus et al.,



2009; Morton et al., 2012; Pack & Condren, 2014; Rigby & Waite, 2006; Waite et al., 2012). The results likewise add support to previous findings that show group CBT for LSE to be effective in reducing symptoms of depression and anxiety (Morton et al., 2012; Pack & Condren, 2014; Rigby & Waite, 2006). The present findings additionally showed improvement on measures of quality of life and levels of stress post-treatment which previous research did not evaluate. The results highlight the effectiveness of CBT for LSE in improving associated problems.

Dropout during the treatment was lower than the average dropout rate from CBT programs reported (Fernandez, Salem, Swift, & Ramtahal, 2015). One explanation could be that the majority of the participants were inpatients, also attending a full schedule of rehabilitation activities. However, the outpatients were not more likely to dropout which is inconsistent with other studies that show higher dropout rate for outpatients than inpatients (Fernandez et al., 2015). There were no significant differences in age, gender, status or fields between participants who completed the treatment and those participants who dropped out.

While the results are promising there are a number of limitations of the current study that should be taken into account. The research method is the main limitation of the study. This was a pre-test-post-test study and thus lacked a comparison group to control for non-specific effects. Majority of the participants were inpatients, receiving rehabilitation at the same time as they were attending the CBT program. It is possible that other different therapeutic interventions, included in the rehabilitation program, may have contributed to the reported improvement, as well as recovery over time. The majority of the outpatients in the study were attending the treatment following completed rehabilitation, which may also have influenced the improvement of their symptoms. Therefore, it cannot be concluded that changes were specific to the intervention. Participants were only assessed at the beginning and at the end of the treatment, leaving the present study to be based on pre- to post-measures

only. Intention to treat (ITT) analysis would have been a preferable choice since it can reduce the probability of over-interpreting treatment effects. No follow-up was done to assess whether treatment gains were sustained over the long term. Follow-up needs to be evaluated since it gives the opportunity to assess maintenance as well as possible reasons for why the treatment effect was not maintained. The data analysis was retrospective and lacked information on relevant demographics of the participants, for example diagnoses, education, occupation, marital status or previous experience of CBT. The sample comprised predominantly of women, which limits the generalizability of the results, however majority of the patients attending the rehabilitation were women, so the sample is considered to be characteristic of the setting.

Our results indicate that the CBT group therapy is potentially effective for low self-esteem and may have additional effects leading to improvement in quality of life and associated psychological problems such as depression, anxiety and stress. It can be suggested that CBT for LSE is an important addition to rehabilitation due to the improvements in psychological symptoms. Rehabilitation also aims on increasing the patient's general contentment of quality of life and the CBT group therapy could add to that goals. The treatment evaluated in this study is also relatively brief and therefore a practical option.

Despite the reported improvements in associated symptoms, the participants were not formally assessed for the presence of any diagnoses before entering the treatment, and therefore no assumptions can be made of the treatment effects on comorbid mental disorders. Waite et al. (2012) reported that participants who underwent group CBT for LSE had fewer psychiatric diagnoses post-treatment compared to a group control wait list. The treatment approach to low self-esteem targets core-belief focused work to change negative biases towards the self as well as standard CBT interventions to break maintenance cycles of anxiety and depression, and thus has the potential to benefit clients with comorbid mental

disorders. Future studies should emphasis evaluating the treatment effects on comorbid disorders, such as depression and anxiety, frequently linked to low self-esteem.

Focusing on the limitations of the study, future studies should also use a comparison group to control for non-specific effects affecting the treatment outcome. A long-term follow-up should be completed to assess therapy maintenance. Even though the treatment was found to be effective there were still a large percentage who did not improve. It would be beneficial to gather socioeconomic information of the participants as well as perform detailed diagnoses to be better able to assess potential influential factors on the treatment outcome. Finally, it could be advantageous to evaluate the cost-effectiveness of CBT for LSE at a rehabilitation setting, especially as an outpatient service since that can increase treatment accessibility.

## References

- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York, NY: International Universities Press.
- Beck, A. T., & Emery, G., with Greenberg, R. L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York, NY: Basic Books.
- Beck, A. T., & Freeman, A. (1990). *Cognitive therapy of personality disorders*. New York, NY: Guilford Press.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York, NY: Guilford Press.
- Brown, G. W., Bifulco, A., & Andrews, B. (1990). Self-esteem and depression. IV. Effect on course and recovery. *Social Psychiatry and Epidemiology*, 25, 244–249.  
<https://doi.org/10.1007/BF00788643>
- Brown, T. A., Chorpita, B. F., Korotitsch, W., & Barlow, D. H. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behaviour research and therapy*, 35(1), 79-89. [https://doi.org/10.1016/S0005-7967\(96\)00068-X](https://doi.org/10.1016/S0005-7967(96)00068-X)
- Burckhardt, C. S., & Anderson, K. L. (2003). The Quality of Life Scale (QOLS): Reliability, validity, and utilization. *Health and quality of life outcomes*, 1(1), 60.  
<https://doi.org/10.1186/1477-7525-1-60>
- Burckhardt, C. S., Woods, S. L., Schultz, A. A., & Ziebarth, D. M. (1989). Quality of life of adults with chronic illness: A psychometric study. *Research in nursing & health*, 12(6), 347-354. <https://doi.org/10.1002/nur.4770120604>
- Burns, D. D. (1993). *Ten days to self-esteem: The leader's manual*. New York, NY: Quill.
- Burns R. (1982). *Self concept—development and education*. London, England: Holt, Rinehart and Winston.

- Butler, G., Fennell, M., & Hackman, A. (2008). *Cognitive-behavioural therapy for anxiety disorders: Mastering clinical challenges*, 133-151. New York, NY: Guilford Press.
- Button, E. J., & Warren, R. L. (2002). Self-image in anorexia nervosa 7.5 years after initial presentation to a specialized eating disorders service. *European Eating Disorders Review*, 399–412. <https://doi.org/10.1002/erv.484>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Earlbaum Associates.
- Cook, J., Knight, E., Hume, I., & Qureshi, A. (2014). The self-esteem of adults diagnosed with attention-deficit/hyperactivity disorder (ADHD): A systematic review of the literature. *ADHD Attention Deficit and Hyperactivity Disorders*, 6(4), 249-268. <https://doi.org/10.1007/s12402-014-0133-2>
- Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). *Low self-esteem is related to aggression, antisocial behavior, and delinquency. Psychological science*, 16(4), 328-335. <https://doi.org/10.1111/j.0956-7976.2005.01535.x>
- Ehnholt, K. A., Salkovskis, P. M., & Rimes, K. (1999). Obsessive- compulsive disorder, anxiety disorders and self-esteem: An exploratory study. *Behavior, Research and Therapy*, 37, 771–781. [https://doi.org/10.1016/S0005-7967\(98\)00177-6](https://doi.org/10.1016/S0005-7967(98)00177-6)
- Evans, D. R. (1997). Health promotion, wellness programs, quality of life and the marketing of psychology. *Canadian Psychology*, 38(1), 1-12. <https://doi.org/10.1037/0708-5591.38.1.1>
- Felce, D., & Perry, J. (1995). Quality of life: Its definition and measurement. *Research in developmental disabilities*, 16(1), 51-74. [https://doi.org/10.1016/0891-4222\(94\)00028-8](https://doi.org/10.1016/0891-4222(94)00028-8)
- Fennell, M. J. (1997). Low self-esteem: A cognitive perspective. *Behavioral and Cognitive*

- Psychotherapy*, 25, 1–25. <https://doi.org/10.1017/S1352465800015368>
- Fennell, M. J. (1998). Cognitive therapy in the treatment of low self-esteem. *Advances in Psychiatric Treatment*, 4(5), 296-304.
- Fennell, M. J. (1999). *Overcoming low self-esteem: A self-help guide using cognitive behavioral techniques*. London, England: Robinson.
- Fennell, M. J. (2005). Low self-esteem. In *Encyclopedia of Cognitive Behavior Therapy* (pp. 236-240). New York, NY: Springer.
- Fennell, M. J. (2006). *Overcoming low self-esteem: Self-help program*. London, England: Constable and Robinson.
- Fernandez, E., Salem, D., Swift, J. K., & Ramtahal, N. (2015). Meta-analysis of dropout from cognitive behavioral therapy: Magnitude, timing, and moderators. *Journal of Consulting and Clinical Psychology*, 83(4). <https://doi.org/10.1037/ccp0000044>
- Freeman, D., Garety, P. A., Fowler, D., Kuipers, E. K., Dunn, G., Bebbington, P., & Hadley, C. (1998). The London-East Anglia randomised controlled trial of cognitive-behaviour therapy for psychosis IV: Self-esteem and persecutory delusions. *British Journal of Clinical Psychology*, 37, 415–430. <https://doi.org/10.1111/j.2044-8260.1998.tb01399.x>
- Ghaderi, A. (2005). Psychometric properties of the self-concept questionnaire. *European Journal of Psychological Assessment*, 21(2), 139-146. <https://doi.org/10.1027/1015-5759.21.2.139>
- Glick, M., & Zigler, E. (1992) Premorbid competence and the courses and outcomes of psychiatric disorders. In J. Rolf, A. S. Masten, D. Cicchetti, K. H. Nuechterlein, & S. Weintraub (Eds), *Risk and Protective Factors in the Development of Psychopathology* (pp. 497-513). Cambridge, England: Cambridge University Press.
- Gual, P., Pérez-Gaspar, M., Martínez-González, M. A., Lahortiga, F., Irala-Estévez, J. D., &

- Cervera-Enguix, S. (2002). Self-esteem, personality and eating disorders: Baseline assessment of a prospective population-based cohort. *International Journal of Eating Disorders, 31*(3), 261-273. <https://doi.org/10.1002/eat.10040>
- Guðmundsson, M., & Hrafnsson, Ó. V. (2007). *Próffræðilegir eiginleikar Lífsgæðakvarðans (QOLS)* (Unpublished master's thesis). University of Iceland, Reykjavik.
- Guillon, M. S., Crocq, M. A., & Bailey, P. E. (2003). The relationship between self-esteem and psychiatric disorders in adolescents. *European Psychiatry, 18*(2), 59-62. [https://doi.org/10.1016/S0924-9338\(03\)00002-6](https://doi.org/10.1016/S0924-9338(03)00002-6)
- Hawton, K., Rodham, K., Evans, E., & Weatherall, R. (2002). Deliberate self harm in adolescents: Self report survey in schools in England. *British Medical Journal, 325*, 1207–1211. <https://doi.org/10.1136/bmj.325.7374.1207>
- Henning, E. R., Turk, C. L., Mennin, D. S., Fresco, D. M., & Heimberg, R. G. (2007). Impairment and quality of life in individuals with generalized anxiety disorder. *Depression and Anxiety, 24*(5), 342-349. <https://doi.org/10.1002/da.20249>
- Ingimarsson, B. (2010). *Próffræðilegt mat á DASS sjálfsmatskvarðanum: Þunglyndi, kvíði og streita* (Master's thesis, University of Iceland). Retrieved from <http://hdl.handle.net/1946/5411>
- Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of consulting and clinical psychology, 59*(1), 12. <http://dx.doi.org/10.1037/0022-006X.59.1.12>
- Lim, L., Saulsman, L., & Nathan, P. (2005). *Improving self-esteem*. Perth, Western Australia: Centre for Clinical Interventions.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck

- Depression and Anxiety Inventories. *Behaviour research and therapy*, 33(3), 335-343. [https://doi.org/10.1016/0005-7967\(94\)00075-U](https://doi.org/10.1016/0005-7967(94)00075-U)
- McManus, F., Waite, P., & Shafran, R. (2009). Cognitive-behavior therapy for low self-esteem: A case example. *Cognitive and Behavioral Practice*, 16(3), 266-275. <https://doi.org/10.1016/j.cbpra.2008.12.007>
- Morton, L., Roach, L., Reid, H., & Stewart, S. H. (2012). An evaluation of a CBT group for women with low self-esteem. *Behavioural and cognitive psychotherapy*, 40(02), 221-225. <https://doi.org/10.1017/S1352465811000294>
- Myhr, G., & Payne, K. (2006). Cost-effectiveness of cognitive-behavioural therapy for mental disorders: Implications for public health care funding policy in Canada. *The Canadian Journal of Psychiatry*, 51(10), 662-670.
- Orth, U., Robins, R. W., & Meier, L. L. (2009). Disentangling the effects of low self-esteem and stressful events on depression: Findings from three longitudinal studies. *Journal of personality and social psychology*, 97(2), 307. <https://doi.org/10.1037/a0015645>
- Orth, U., Robins, R. W., Trzesniewski, K. H., Maes, J., & Schmitt, M. (2009). Low self-esteem is a risk factor for depressive symptoms from young adulthood to old age. *Journal of abnormal psychology*, 118(3), 472. <https://doi.org/10.1037/a0015922>
- Pack, S., & Condren, E. (2014). An evaluation of group cognitive behaviour therapy for low self-esteem in primary care. *The Cognitive Behaviour Therapist*, 7(e7), 1-10. <https://doi.org/10.1017/S1754470X14000051>
- Padesky, C. A. (1994). Schema change processes in cognitive therapy. *Clinical Psychology & Psychotherapy*, 1(5), 267-278. <https://doi.org/10.1002/cpp.5640010502>
- Rigby, L. W., & Waite, S. (2006). Group therapy for self-esteem, using creative approaches and metaphor as clinical tools. *Behavioral and Cognitive Psychotherapy*, 35, 361–364. <https://doi.org/10.1017/S1352465806003389>



- Roberts, J. E. (2006). Self-esteem from a clinical perspective. In M. H. Kernis (Ed.), *Self-esteem issues and answers: A sourcebook of current perspectives* (pp. 298–305). New York, NY: Psychology Press.
- Roberts, J. E., & Monroe, S. M. (1992). Vulnerable self-esteem and depressive symptoms: Prospective findings comparing three alternative conceptualizations. *Journal of Personality and Social Psychology*, *62*(5), 804. <https://doi.org/10.1037/0022-3514.62.5.804>
- Robson, P. (1989). Development of a new self-report questionnaire to measure self esteem. *Psychological medicine*, *19*(02), 513-518. <https://doi.org/10.1017/S003329170001254X>
- Rosenberg, M. (1989). *Society and the adolescent self-image* (rev. ed.). Middletown, CT: Wesleyan University Press.
- Schweikert, B., Jacobi, E., Seitz, R., Cziske, R., Ehlert, A., Knab, J., & Leidl, R. (2006). Effectiveness and cost-effectiveness of adding a cognitive behavioral treatment to the rehabilitation of chronic low back pain. *The Journal of rheumatology*, *33*(12), 2519-2526.
- Shirk, S., Burwell, R., & Harter, S. (2003). Strategies to modify low self-esteem. In M. Reinecke, F. Dattilio, & A. Freeman (Eds.), *Cognitive therapy with children and adolescents: A casebook for clinical practice* (pp. 189 –213). New York, NY: Guilford Press.
- Silverstone, P. H. (1991). Low self-esteem in different psychiatric conditions. *British Journal of Clinical Psychology*, *30*, 185–188. <https://doi.org/10.1111/j.2044-8260.1991.tb00936.x>
- Silverstone, P. H., & Salsali, M. (2003). Low self-esteem and psychiatric patients: Part I—the relationship between low self-esteem and psychiatric diagnosis. *Annals of general*

*hospital psychiatry*, 2(1), 2. <https://doi.org/10.1186/1475-2832-2-2>

Soares, J. F., & Grossi, G. (2000). The relationship between levels of self-esteem, clinical variables, anxiety/depression and coping among patients with musculoskeletal pain. *Scandinavian Journal of Occupational Therapy*, 7, 87–95.  
<https://doi.org/10.1080/110381200750018887>

Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological bulletin*, 139(1), 213-240.  
<https://doi.org/10.1037/a0028931>

Swann, W. B., & Bosson, J. K. (2010). Self and identity. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (pp. 589–628). Hoboken, NJ: Wiley.

Trzesniewski, K. H., Donnellan, M. B., Moffitt, T. E., Robins, R. W., Poulton, R., & Caspi, A. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental psychology*, 42(2), 381. <https://doi.org/10.1037/0012-1649.42.2.381>

Waite, P., McManus, F., & Shafran, R. (2012). Cognitive behaviour therapy for low self-esteem: A preliminary randomized controlled trial in a primary care setting. *Journal of behavior therapy and experimental psychiatry*, 43(4), 1049-1057.  
<https://doi.org/10.1016/j.jbtep.2012.04.006>

Zeigler-Hill, V. (2011). The connections between self-esteem and psychopathology. *Journal of Contemporary Psychotherapy*, 41(3), 157-164. <https://doi.org/10.1007/s10879-010-9167-8>

Zimmerman, M. A., Copeland, L. A., Shope, J. T., & Dielman, T. E. (1997). A longitudinal study of self-esteem: Implications for adolescent development. *Journal of Youth and Adolescence*, 26(2), 117-141. <https://doi.org/10.1023/A:1024596313925>