

1. Introduction

Depressive disorders are amongst the most prevalent (Andrade et al., 2003) and persistent psychological disorders (Torpey and Klein, 2008). Consequently, a large number of studies have been conducted to investigate etiological factors and thus find explanations for the development of depressive disorders. Alongside genetic factors, neurobiological foundations (Wray et al., 2012), and personality traits such as neuroticism (Hakulinen et al., 2015), a central aspect in studies on the etiology of depression is low self-esteem (Joiner, Katz, and Lew, 1999; Orth, Robins, and Roberts, 2008; Roberts and Monroe, 1999; Sowislo and Orth, 2013). Self-esteem shows consistent significance in its relationships with depression, psychological health, and contentedness in numerous original studies (Baumeister, Campbell, Krueger, and Vohs, 2003; Schütz and Sellin, 2003) and these associations have further been documented in extensive reviews (Leary and Baumeister, 2000; Sowislo, Orth, and Meier, 2014).

Self-esteem resides amongst the most thoroughly studied constructs in behavioral science and can be defined as the positivity of a person's self-evaluation (Leary and Baumeister, 2000). In other words, self-esteem comprises an attitude of approval or disapproval, indicating the degree to which the person believes himself to be significant, capable, or successful. Thus, it is an individual's estimation of worthiness expressed in the attitude held towards oneself. As such, positive self-appraisal is strongly connected to high self-esteem (Coopersmith, 1967). What people think about themselves can be seen as the central concept of the conscious life (McGuire and Padawer-Singer, 1976). The development of self-esteem seems to be directly influenced by life events (Li, Zhang, Liu, and Cao, 2013): positive experiences framed by conceptions of ability, personal success, and task choice as well as achievement motivation lead to benevolent personal appraisal and optimistic assessment of future challenges (Nicholls, 1984). Also, links between negative life

1 experiences and low self-esteem have been reported by several authors (Corrigan, Watson,
2 and Barr, 2006; Kashdan, Uswatte, Steger, and Julian, 2006; Low, Jones, MacLeod, Power,
3 and Duggan, 2000).

4 The centrality of self-esteem for a person's general well-being and behavior has led to
5 thorough inspections of its role in mood disorders, which identified low self-esteem as a risk
6 factor for depression (Orth et al., 2008). This relationship has therefore constituted the focus
7 of manifold investigations (Joiner et al., 1999; Kernis, Grannemann, and Mathis, 1991;
8 Roberts and Monroe, 1999) and is well documented by meta-analyses and literature reviews
9 (Sowislo and Orth, 2013; Zeigler-Hill, 2011). Consequently, the restoration of self-esteem is a
10 common therapeutic goal (Ambühl and Orlinsky, 1999; Potreck-Rose, 2006), since a lack of
11 confidence is frequently listed as a subjectively meaningful factor for the understanding of
12 personality and social interaction (Faller and Goßler, 1998) and self-esteem has been
13 demonstrated to be related to interpersonal skills (Zeigler-Hill, 2010). Intact self-esteem is
14 seen as a protective factor against the development of depressive symptoms (Dumont and
15 Provost, 1999) and has been associated with active-positive coping styles (Thoits, 1995).
16 Furthermore, self-esteem is the central element of self-regulation in newer information-
17 processing approaches (Schütz and Sellin, 2003). A recent review suggests that deficits in
18 effective self-regulation strategies applied to negative emotions result in prolonged negative
19 affect, which is a core symptom of depression (Joormann and Stanton, 2016). Besides the
20 persistent negative affect in depressive disorders due to ineffective emotional coping skills
21 (Joormann and Stanton, 2016), positive affect seems to operate as a mediator in recovery of
22 depression (Hart, Vella, and Mohr, 2008). Moreover, another current meta-analysis indicated
23 that psychotherapeutic interventions for depressed patients lead to the enhancement of
24 positive affect, which might in turn contribute to a reduced risk of relapse in psychotherapy
25 (Boumparis, Karyotaki, Kleiboer, Hofmann, and Cuijpers, 2016). Instability in self-esteem,
26 on the other hand, has been shown to predict subsequent depression (Sowislo et al., 2014).

1 Taken together, the literature concerning this matter indicates that improving self-
2 esteem may have the potential to address the objective of generating more positive and less
3 negative emotions in depressed individuals due to the focus on individual resources and the
4 acquisition of coping-oriented skills (Potreck-Rose and Jacob, 2003). In accordance with
5 these findings, the most important feature of many depression treatment programs appears to
6 be the optimization of self-efficacy (McDermut, Miller, and Brown, 2001) and a combination
7 of psychotherapy and pharmacotherapy seems to provide the most beneficial treatment effects
8 in patients with major depression (Karyotaki et al., 2016). Results of meta-analyses on
9 cognitive behavior therapy (CBT) indicate that it constitutes an effective treatment for
10 depression (Cuijpers et al., 2011, 2010) and particularly CBT-based group therapy proved to
11 be an efficacious amelioration for the recovery process (McDermut et al., 2001; Moore, Carr,
12 and Hartnett, 2016).

13 However, studies investigating cognitive behavior group therapy (GCBT) for
14 depressed individuals with focus on the enhancement of self-esteem (seGCBT) remain sparse.
15 In detail, the authors of this paper found three studies, which showed that seGCBT was
16 effective at increasing levels of self-esteem and at reducing levels of depression in an
17 exclusively female sample (Morton, Roach, Reid, and Stewart, 2012) and in a sample
18 consisting of diverse mental health disorders (Kunikata, Yoshinaga, and Nakajima, 2016;
19 Kunikata, Yoshinaga, Shiraishi, and Okada, 2016), suggesting that the systematic
20 enhancement of self-esteem levels can be seen as a transdiagnostic approach. In line with
21 these results, individual self-esteem-focused CBT led to significant symptom reduction in a
22 sample of individuals with multi-diagnostic and co-morbid psychiatric disorders in primary
23 care (Waite, McManus, and Shafran, 2012).

24 Based on the available literature suggesting that low self-esteem prospectively leads to
25 depression and seGCBT may reduce depressive symptoms and increase level of self-esteem, a
26 non-randomized, naturalistic, treatment-manual-based seGCBT (Potreck-Rose and Jacob,

2003) with the objective of raising self-esteem in clinically diagnosed depressive patients was conducted. Up to this point, no systematic evaluation of the treatment manual of Potreck-Rose and Jacob within a comparable sample has been published. The manual was originally designed for individual psychotherapy. However, in this instance, an adjusted version for group psychotherapy was applied. According to (Seligman, 1995), the presented study design is representative of routine clinical practice settings. In prior evaluations of the seGCBT conducted by our group, patients preferred to attend further interventions regarding emotion regulation and internal criticism. Hence, it was decided to use two exercises in addition to the manual of Potreck-Rose and Jacob (2003): in session three (awareness of emotions), an intervention for naming and accepting emotions (Berking, 2011) was added, in session eight (internal critic), the so called “bus driver” exercise (Hayes and Strosahl, 2005) was included.

The aim of this study was the treatment of depressive symptoms by teaching the patients cognitive and behavioral methods, with focus on the enhancement of self-esteem and using pre-post measurements of self-esteem and weekly measurements of depressive symptom severity in order to investigate whether the four-week seGCBT would have an effect on these constructs.

2. Materials and Methods

This study was designed as a non-randomized, naturalistic trial without a control group. One-hundred-forty-seven patients out of two-hundred-forty-one psychiatric inpatients, who attended a CBT self-esteem group therapy between 2014 and 2016 were included in our study (85 female; mean age of 39.95 with a standard deviation of ± 14.34 years). All 147 patients were suffering from an affective psychiatric disorder according to DSM-IV criteria (American Psychiatric Association, 1994) with a current depressive episode. In detail: 98 (66.7%) patients had a recurrent major depression (DSM-IV: 296.3), 36 patients (24.5%)

1 received the diagnosis of a major depression (DSM-IV: 296.2), 11 (7.5%) patients had bipolar
2 disorder I, with a current depressive episode (DSM-IV: 296.5) and two patients (1.4%)
3 suffered from dysthymia (DSM-IV: 300.4; for further information regarding clinical
4 characteristics, see Table 1). The patients were diagnosed by experienced and trained
5 psychiatrists using the Structured Clinical Interview for DSM-IV Axis I, German version
6 (SKID I; Wittchen, Wunderlich, Gruschwitz, and Zaudig, 1997). Depressive symptoms were
7 the primary assessment criterion. Indication for group therapy was confirmed on basis of a
8 conversation between the psychiatrist and the patient. Patients went through an initial
9 interview of about 45 minutes with one of the two group therapists, in which the study
10 procedures were fully explained and written informed consent was obtained. The participants
11 were free of serious somatic disorders, acute substance abuse disorder, and suicide intentions.
12 Participation also required fluent German in spoken and written and the patients had to attend
13 at least two group sessions to be included in the study. Medication was chosen according to
14 clinical judgment at the discretion of the psychiatrist in attendance. Ninety percent of the
15 included patients received pharmacotherapy (further clinical characteristics see Table 1).

Table 1: Clinical characteristics of patients with affective disorders at t0 and t4.

	Mean and standard deviation (t0) N= 147	Response (t4) N=27	Partial Response (t4) N=28	Non- Response (t4) N=29	F-value/ χ^2	p-value
Gender [f/m]	85/62	14/13	18/10	14/15	1.610 ^{a)}	.447
Age [years]	39.95±14.34	38.3±11.3	43.9±13.4	43.0±15.6	1.352	.265
Age of onset [years]	28.38±13.53	26.5±12.6	30.4±11.9	26.3±13.9	.889	.415
bipolar I, depressive episode	11	4	4	1		
major depression, episodic	36	3	7	6		
major depression, recurrent	98	20	16	21		
dysthymia	2	0	1	1		
Number of admissions	1.9±5.3	1.2±1.4	1.9±2.6	1.3±1.5	1.102	.337
Antidepressant medication [yes/no]	132	26	25	26	4.112 ^{b)}	.128

Note: ^{a)}: Chi-Square (Pearson). ^{b)}: Likelihood-Ratio-Test.

The four-week CBT group therapy program comprised eight group sessions (each 90 minutes), which took place twice a week. Each intervention was undertaken in a group of a maximum of 15 individuals. The group therapy intervention was based on five modules (Potreck-Rose and Jacob, 2003): psychoeducation about self-esteem and resources (session 1), self-awareness for needs, emotions and the body (sessions 2, three & 4), self-care including the implementation of positive activities (session 5), cognitive reconstruction (session 6 & 7), prevention of relapse and activation of resources (session 8). The group therapy was conducted by two experienced clinical psychologists.

The Multidimensional Self-Esteem Scale (Multidimensionale Selbstwertskala, MSWS; (Schütz, Rentzsch, and Sellin, 2006) was applied one week before the first group therapy session (t0, pre-intervention) and after five weeks (t4, post-intervention). The Beck Depression Inventory (BDI; (Beck, Ward, Mendelson, Mock, and Erbaugh, 1961) was

completed weekly (t0: pre-intervention, t1: after the first week of group therapy, t2: after the second week, t3: after the third week, t4: after the forth week). Questionnaires were filled out by the participants at the end of each group therapy session (except for t0: BDI and MSWS were completed by the patients after informed consent was given). Clinical response was defined by a reduction of at least 50% in the BDI sum score after five weeks of treatment, partial clinical response was defined by a reduction of at least 25% in the BDI sum score.

Formal approval to conduct the investigation was obtained by the local ethics committee. The study was conducted in accordance with the Declaration of Helsinki and all procedures were carried out with the adequate understanding and written consent of the participants.

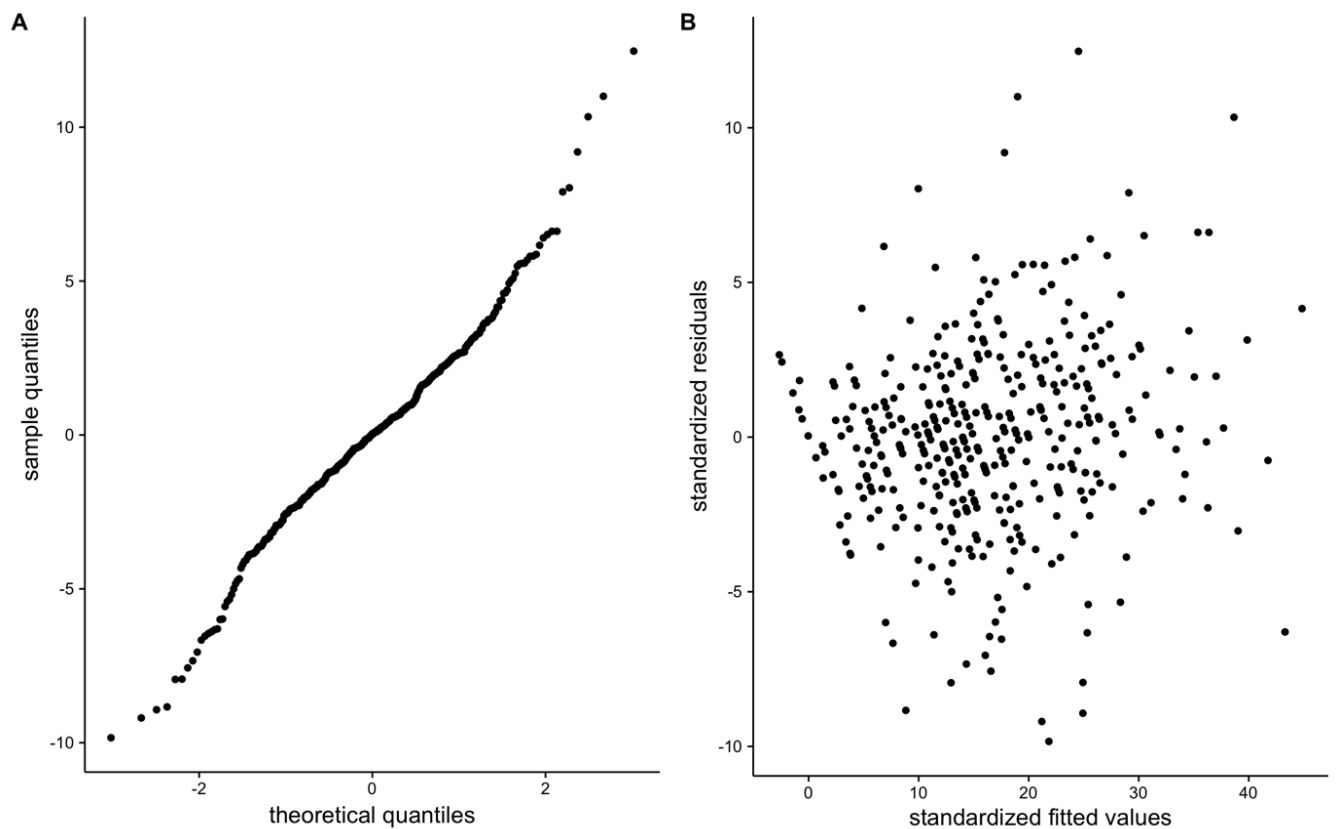
3 Statistical analyses

Two goals were pursued in the statistical analysis: first, the slope of the symptom decrease was to be adequately modeled. Symptom decrease was operationalized by the BDI sum score, which was also cast to assume the role of the dependent variable in subsequent analyses. Second, to further disentangle the composition of parameters influencing BDI change, the MSWS score was included as a change factor, quantifying the impact of self-esteem on the symptom slope. Five BDI measurement points were included in the analysis and the linear slope was modeled via a growth variable, scored [0, 1, 2, 3, 4] to match the five time points for each participant.

An unconditional random effects model (UREM) was computed to estimate the effect of potential between-subject variances of the BDI sum scores. The resulting parameters of the between-subject (τ_{00}) and residual variance (σ^2) were included in the subsequent calculation of the intra-class-correlation (ICC) as the quotient of intra- and inter-subject variation in order to explore for potential grouping effects. Using mixed linear regression models the growth

variable (labeled *Time*) was fitted in order to quantify the linear gradient development of the BDI sum score. A linear relationship with an autoregressive covariance structure was considered for the Time factor, since measurements were performed in regular weekly intervals all necessary assumptions for conducting mixed linear models were met (see Figure 1).

Figure 1: Graphical test of model assumptions



Note: (A) depicts the normal QQ diagram, which plots the theoretical quantiles on the x-axis against the sample quantiles on the y-axis. (B) depicts the standardized fitted values on the x-axis against the standardized residuals on the y-axis.

Model complexity was increased by including the MSWS pretest score ($MSWS_{pre}$) as well as the MSWS difference score ($MSWS_{dif}$: first - last MSWS measurement) as covariates in the analysis to evaluate the impact of self-esteem on the symptom change. Please note that 63 of the participants did not show up for the last measurement and consequently do not have a difference score for self-esteem. Also, variables modeling the two-way interactions

$MSWS_{pre} \times Time$, $MSWS_{dif} \times Time$, and $MSWS_{pre} \times MSWS_{dif}$, as well as the three-way interaction $MSWS_{pre} \times MSWS_{dif} \times Time$ were included in the model. These interactions represent the respective and combined influences of $MSWS_{pre}$ and $MSWS_{dif}$ on the linear decrease of the BDI sum score. The mixed linear regression models allowed for varying intercepts, meaning that the pretest score was allowed to randomly differ between the subjects. A concurring model, additionally allowing for randomly differing linear slopes (i.e., regression weights of the *Time* variable) was fitted to take possible differences in the linear decrease between the subjects into account. In order to test for distinctions in model-fit between the concurring models, analyses of Variance (ANOVA) were conducted. All tests were run two-tailed.

4. Results

Regarding clinical response, 27 patients were responder and 28 patients were partial-responder, while 29 patients were non-responder (further clinical characteristics see Table 1). Please note that 63 of the participants did not show up for the last measurement (t4) and therefore could not be classified as responder/partial responder/nonresponder.

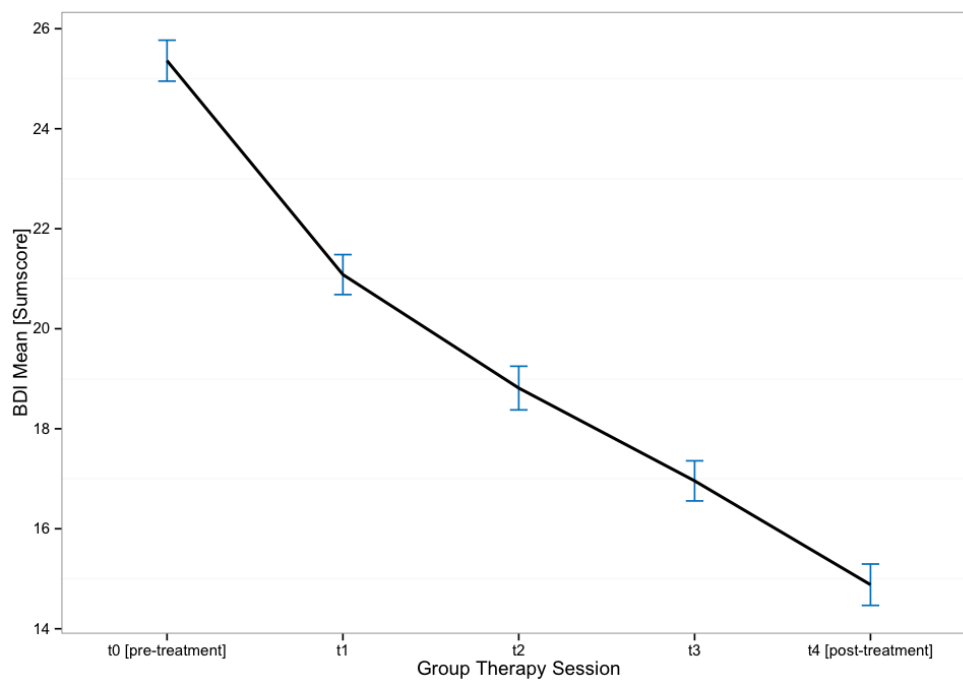
4.1 Inter vs. inner-subject variance

The UREM showed a variance of $\tau_{00} = 88.10$ and $\sigma^2 = 33.84$ for the BDI sum scores, resulting in an ICC of .72, thus strongly presupposing the appropriateness of mixed regression models in order to quantify the symptom change.

4.2 Linear mixed growth analysis

As a result of the linear mixed growth analysis of the decremting BDI sum score, a mean decrease of $Time = 2.26$ points per session ($t(436.7) = -15.04; p < .001$) was found, starting at a mean intercept of $\gamma_{00} = 24.42$ ($t(173.3) = 29.42; p < .001$), which represents the average BDI sum score in the pretest. Thus, as indicated in Figure 2, the decrease in the BDI sum score can be linearly described. The current model merely allowed the intercepts to vary between subjects, so the decrease is estimated for the entire sample while the BDI sum score at the pretest is modeled as normally distributed amongst the subjects with the mean pretest score corresponding to the mean intercept γ_{00} .

Figure 2: BDI mean sum score of all patients with affective disorders at t0 (pre-treatment), t1 (after one week), t2 (after two weeks), t3 (after three weeks), t4 (after four weeks).



Note: BDI mean sumscore and standardeviation (SD) are indicated.

A second model was estimated, which additionally allowed the in the linear decrease to vary between subjects, following a normal distribution. In this model, a mean intercept of $\gamma_{00} = 24.44$ ($t(146.23) = 29.14; p < .001$) and a mean linear decrease of $Time = 2.28$ ($t(123.47) = -11.91; p < .001$) per session were estimated. A model comparison using an ANOVA revealed a significant improvement in model fit ($\Delta AIC = 23.4; df = 2; p < .001$), indicating a

substantial variation in the extent of the linear decrease between subjects. The inter-individual slope variance was hence included in all subsequent analyses.

4.3 Analysis of process-related change factor impact

In the following analysis, the influence of $MSWS_{pre}$ and $MSWS_{dif}$ on the overall value level and their interaction with the linear decrease of the BDI were investigated by including both variables as well as their all possible interactions in the model. The variables underwent z -transformation before entering the model, so the estimated regression weights (also presented in Table 2) are standardized.

Table 2: Results of the full linear mixed growth analyses of change in the BDI sum score.

	Estimate	SE	df	t	p
Depression (BDI)					
γ_{00}	23.491	1.019	80.052	23.062	< .001
<i>Time</i>	-2.169	.202	79.205	-10.740	< .001
<i>MSWS_{diff}</i>	1.294	1.020	80.285	1.268	.208
<i>Time x MSWS_{diff}</i>	-6.353	1.116	79.867	-5.695	< .001
<i>MSWS_{pre}</i>	1.005	.203	80.130	4.958	< .001
<i>Time x MSWS_{pre}</i>	.066	.221	79.320	.300	.765
<i>Time x MSWS_{pre} x MSWS_{diff}</i>	.973	1.156	79.828	.842	.402

Note: Estimate = Estimated parameter value; SE = Standard error of the parameter estimate; *df* = Degrees of freedom; *t* = *t*-value; *p* = Probability of committing a Type-I-Error; γ_{00} = Intercept; *Time* = linear growth variable; the suffix *diff* indicates the difference score (e.g. difference between pre-test score and last score of therapeutic relation) and the suffix *pre* indicates the pretest score of these variables.

The mean intercept of the model was $\gamma_{00} = 23.49$ ($t(80.05) = 23.06$; $p < .001$), representing the predicted BDI sum score in the pretest for a person with an average MSWS score. The significant mean linear decrease from the antecedent models was replicated at $Time = -2.17$ ($t(79.20) = -10.74$; $p < .001$). A significant effect of the initial self-esteem level on the overall BDI score could be found ($MSWS_{pre} = -6.35$ ($t(79.87) = -5.70$; $p < .001$). In other words, individuals who started with higher self-esteem ratings showed lower overall BDI scores. The interaction term quantifying the influence of the MSWS difference score on the symptom slope was significant at ($Time \times MSWS_{diff} = 1.05$ ($t(80.13) = 4.96$; $p < .001$), indicating a stronger decrease in BDI values along with increasing MSWS difference scores. This is because a negative difference score indicates an increase in the MSWS score between the first and the last measurement.

Moreover, the interaction $MSWS_{pre} \times MSWS_{diff}$ as well as the three-way interaction was $MSWS_{pre} \times MSWS_{diff} \times Time$ were not statistically significant. This means that the negative relationship between the initial levels of self-esteem and the depressive symptoms were

unrelated to the potential for a change in self-esteem and that the effect of change in self-esteem on the linear decrease in depressive symptoms was unrelated to the initial level of self-esteem.

The BDI comprises two items that show a potential overlap with the self-esteem construct: items seven (self-aversion) and eight (self-accusation). Because this overlap may have artificially inflated the statistical relationship between the BDI sum score and the *MSWS* measures, the analysis was rerun after excluding these items. However, the results remained stable (see table 3).

Table 3: Mixed linear regression analysis without self-esteem-related items

	Estimate	SE	df	t	p
Depression (BDI)					
γ_{00}	21.83	1.01	105.60	21.58	< .001
Time	-1.35	.18	306.01	-7.28	< .001
<i>MSWS</i> _{diff}	.05	.03	105.70	1.411	.16
Time x <i>MSWS</i> _{diff}	3.77	.006	306.00	5.69	< .001
<i>MSWS</i> _{pre}	1.50	.03	104.03	-4.34	< .001
Time x <i>MSWS</i> _{pre}	.003	.01	308.03	-.55	.58
Time x <i>MSWS</i> _{pre} x <i>MSWS</i> _{diff}	.004	.002	306.02	-1.54	.13

Note: Estimate = Estimated parameter value; SE = Standard error of the parameter estimate; *df* = Degrees of freedom; *t* = *t*-value; *p* = Probability of committing a Type-I-Error; γ_{00} = Intercept of the linear regression; for the impact factors, the appendix “diff” indicates the difference score (e.g. difference between pre-test score and last score of therapeutic relation) and the appendix “pre” indicates the pretest score of these variables.

5. Discussion

5.1 Outcomes

The aim of the present investigation was to investigate the change in the severity of depressive symptoms over the course of five measurement points (t0-t4) and to relate this change to the level of self-esteem. First of all, the linear decrease in the BDI sum score indicates the impact of the treatment on the depressive symptom severity amongst the patients. Depressive symptoms were negatively associated with present self-esteem in the

1 pretest, indicating that patients with higher self-esteem showed fewer symptoms. Also, over
2 the course of the investigation, depressive symptoms showed a stronger linear decline for
3 patients with higher gains in self-esteem between the first and the last measurement but the
4 decrease was not related to initial self-esteem. Moreover, in addition to varying pretest scores
5 in the BDI, the linear decrease was shown to vary significantly between the patients.

6 The association of higher self-esteem with reduced depressive symptoms replicates the
7 findings of various studies (e.g., Corrigan et al., 2006; Kashdan et al., 2006; Low et al., 2000;
8 Kunikata , Yoshinaga, and Nakajima, 2016). Low self-esteem, in particular, has often been
9 related to depression (Joiner et al., 1999; Kernis et al., 1991; Roberts and Monroe, 1999),
10 marking it as a risk factor that can lead to depression (e.g., Sowislo and Orth, 2013). This
11 notion has been put forward in form of a vulnerability model (Orth and Robins, 2013), which
12 is supported by the significant interaction-effect between the difference measure in self
13 esteem and the linear slope for the BDI sum score: increase in self-esteem was related to
14 decreasing depressive symptoms. The idea that low-self esteem poses a risk-factor for
15 depression (e.g., Beck, 1967), thereby making people susceptible to depressive thoughts that
16 lead to the related symptoms, is perhaps the clearest link between self-esteem and
17 psychopathology (Zeigler-Hill, 2011) and may be regarded as strongly supported by the
18 present results.

19 The linear decrease in depressive symptoms was more pronounced for patients that
20 experienced an increase in self-esteem between the first and the last measurement of the
21 investigation. This finding is important, as it provides further evidence for the assumed
22 relationship between self-esteem and depression (e.g., Corrigan et al., 2006; Kashdan et al.,
23 2006; Low et al., 2000). Notably, initial self-esteem was not related to the change in the BDI
24 score, which indicates that this finding cannot be explained by a change in very depressed
25 subjects with low self-esteem. Also, no significant interaction between initial self-esteem and
26 the self-esteem difference score was present, ruling out possible bottom-effects. In other

words, it is not indicated that only patients with low initial self-esteem, which has often been identified as a risk factor for depression (e.g., Joiner et al., 1999; Orth et al., 2008; Roberts and Monroe, 1999; Sowislo and Orth, 2013) profited from an increase, but rather patients across the whole range of self-esteem.

Moreover, the initial level of self-esteem was not predictive for the decrease at all but only predicted the other point estimate in the regression model: the initial level of depressive symptoms. The picture that evolves is therefore remarkably clear: initial self-esteem is unrelated to the change in depression and initial depression is unrelated to the change in self-esteem while the change in one predicts the (linear) change in the other. Of course, the design of the present study does not allow for assumptions about causality, but Sowislo and Orth (2013) reported in their meta-analysis that the effect of self-esteem on depression can be assumed to be twice as high as vice versa.

It has to be mentioned that individual therapy in depressive disorders regarding effect sizes and drop-out rates seems to be superior to group therapy, as a meta-analysis suggests (Cuijpers, van Straten, and Warmerdam, 2008). In line with these findings, 63 patients in this study missed the last measurement due to drop-out (54%). Converting this finding in the context of self-esteem therapy, future studies should be able to compare between group and individual psychotherapy for self-esteem enhancement. Nevertheless, group interventions may address the need for social support, which could also play a role in the outcome of depression (McDermut et al., 2001).

5.2 Limitations

The present study included only two measures of self-esteem: at the first (t0) and the last time point (t4). Even though the slope of depression has been shown to be related to the difference in self-esteem between these two measures, a design pinning the decrease in

depressive symptoms directly to the gradual increase in self-esteem would be a major improvement to the model, which could not be established with the available data.

The treatment outcome was exclusively assessed by the self-report instruments MSWS and BDI. Future research should use additional observer-rating scales for depressive symptom severity and levels of self-esteem for the same time points. Due to the lack of follow-up investigations we cannot demonstrate persistence of the perceived enhancement of self-esteem and the decrease of depressive symptoms, although previous studies using seGCBT indicate that improvements in depression and self-esteem would last for several months (Morton et al., 2012; Kunikata et al., 2016; Kunikata, Yoshinaga, Shiraishi, et al., 2016). Another caveat is the lack of a control-group, especially since a heterogeneous clinical sample, which included mainly patients with major depressive disorder (91.2%) but also patients with dysthymia and bipolar I disorder, was under investigation. Furthermore, the pharmacotherapy, which 90% of the patients received, could have confounding effects on the study results.

Taken together, these limitations – in particular the absence of a control group – indicate that the results of the present investigation have to be interpreted with care: the main share of the patients received anti-depressant medication along with the seGCBT and it is not experimentally verified that the decrease in depressive symptoms is caused by (or even related to) the seGCBT. The current investigation should therefore be regarded as a feasibility study that highlights seGCBT as a promising approach for treating depressiveness with a potentially positive effect on the process of recovery.

5.3 Conclusion

This study provides an initial contribution to the corroboration of seGCBT efficacy for patients with depressive symptoms. It is strongly indicated that helping patients to improve their self-esteem has beneficial effects in the treatment of depressive symptoms, independent of the current level of self-esteem. However, further research is needed to confirm the applicability of seGCBT as a transdiagnostic approach in samples with mood disorders and randomized-controlled trials are needed to compare its efficacy and effectiveness in relation to alternative treatments.

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