

## Preface

This master's thesis was written in the form of a scientific paper. That means a concise style, relatively close to how it would be if it was submitted for publication in an international journal. The intended reader is assumed to have a good general knowledge of both psychological theories and scientific methods. But because this is a master's thesis, I have sometimes chosen to explain certain points more extensively than I would in a real scientific paper, to demonstrate my level of understanding to the sensors.

When I started this project, all the data was already gathered and entered into a data file. My work has been to find appropriate scientific hypotheses, to get the data ready for analysis, to do the statistical analyses, interpreting the results, and to write the thesis.

I wish to thank my supervisors, Truls Ryum and Patrick Vogel, for valuable guidance during the process. Discussions with them gave me new avenues to go down, and a confidence that my judgments were the right ones. I also wish to thank my family, my wife Lene and my little daughter Margrete, for giving me joy every time I come home after work, for giving me inspiration, and a sense of purpose. I also wish to thank Lene for valuable discussions about the subject matter and about the art of telling the story.

Eirik P. Walderhaug

Trondheim, May 2012

The role of self-image as a predictor of psychotherapy outcome

Eirik P. Walderhaug

Department of Psychology

Norwegian University of Science and Technology

Trondheim, Norway

## Abstract

The present study aimed to investigate the relationship between self-image and outcome of psychotherapy. Self-image was measured with Benjamin's Structural Analysis of Social Behavior (SASB) introject construct. The sample consisted of 170 outpatients with heterogenous disorders, who completed treatment at a university clinic. Using multiple regression analyses, we found that pre-treatment self-image was not significantly related to post-treatment symptom level, but it weakly related to post-treatment interpersonal problems. Self-image improvement from pre-treatment to post-treatment was significantly related to treatment outcome, both in terms of symptom level and level of interpersonal problems. In a comparison between the patients with depression and patients with an anxiety disorder, the depression group showed a poorer pre-treatment self-image compared to the anxiety group, but there was no difference at the end of treatment. Self-image improvement showed a non-significant trend towards being more closely related to symptom outcome in the depression group compared to the anxiety group, but not to interpersonal problems outcome. The results suggest that self-image improvement is important to achieve a good outcome in psychotherapy, and that further research on this subject is needed.

*Keywords:* self-image, self-concept, predictor, outcome, psychotherapy,

The role of self-image as a predictor of psychotherapy outcome

### **Introduction**

The self is an important concept in psychology. It is important for (a) self-regulation (such as motivating us to reach our goals) (Gailliot, Mead, & Baumeister, 2008), in guiding (b) information processing (towards what is important in our pursuits) (Conway & Pleydell-Pearce, 2000), in (c) understanding others' minds (such as understanding others' need through awareness of one's own mental state) (Fonagy, Gyorgy, & Jurist, 2004), and in (d) identity processes (such as finding one's position and role in the social structure) (Leary, 2003).

### **Self-image and related concepts in psychotherapy theory**

Most of the major psychotherapy theories hold the self-image as an important factor in psychopathology and psychotherapy. In humanistic psychology, Rogers (1957) conceptualized psychopathology as a incongruence between the person's ideal self and actual self. According to the view, the goal of psychotherapy would be to increase the persons self-worth, and thereby reducing the incongruence. Higgins (1987) developed Rogers' theory further, theorizing about three domains of the self: (1) the actual self (the representation of how you really are), (2) the ideal self (the representation of how you ideally should be, i.e. hopes, wishes and aspirations), and (3) the ought self (the representation of how you ought to be, i.e. your duties, obligations and responsibilities). Discrepancy between the actual self and either ideal self or ought self is hypothesized to be associated with psychopathology.

In cognitive behavioral therapy, the self-concept is part of Beck's (1967) model of depression. Early experiences lead to the forming of negative self-schematas or self-schemas, a structure of assumptions about the self, which distorts the person's information processing of self-relevant information. In depression, these negative self-schemas are activated by certain triggers, which leads to changes the person's pattern

of information processing, thereby causing the symptoms of depression. This activation is called a schema mode. The self-schemas may also be relevant in psychotherapeutic treatment of other axis-I disorders, affecting the therapeutic relationship or other factors vital to the process (Beck, Freeman, & Davis, 2004). In personality disorders, these schemas are relatively stable, and distorts the person's view of himself/herself, causing emotional distress and affecting interpersonal behavior (Beck et al., 2004). Young and colleagues (Young, Klosko, & Weishaar, 2003) developed a method for treating personality disorders called schema therapy, based on identifying early maladaptive schemas, a concept based on Beck's schemas, but focusing on the schemas prevalent in patients with personality disorders. The early maladaptive schemas are developed as a consequence of unmet needs in childhood, and are not an adaptive response of coping with life as an adult. The goal of schema therapy is to modifying the early maladaptive schemas with an approach that combines elements from different psychotherapy traditions. Young et al. (2003) describe the schema mode as "the moment-to-moment emotional states and coping responses - adaptive or maladaptive - that we all experience". Originally developed to describe the sudden and dramatic change in schemas in borderline personality disorder, but useful also for describing changes in other disorders, such as depression or anxiety disorders Hawke and Provencher (2011).

Many psychodynamic theories have been interested in the role of self-image in psychotherapy. One recent example found in the short-term dynamic psychotherapy of McCullough et al. (2003), is where the patient deem positive feelings about the self, such as self-esteem, self-confidence and self-compassion, as inappropriate or unacceptable. The patient develops a phobia for these affects, and engages in unconscious defense mechanisms to protect himself or herself from these feelings. These defense mechanisms can be self-attack, self-hate or self-neglect. In a treatment manual aimed at treating affect phobia, McCulloch and colleagues have emphasized the need to enhance self-compassion, a concept developed by Neff and Gilbert, among others. Neff's (2003) theory of self-compassion

comes from social psychology and buddhistic philosophy. The concept of self-compassion has three components: (a) self-kindness: being kind toward oneself rather self-critical, (b) common humanity: perceiving one's experiences as part of the larger human experience, and (c) mindfulness: holding painful thoughts and feelings in balanced awareness rather than over-identifying with them (Neff, 2003). Gilbert (Gilbert, 2005, 2009; Gilbert & Irons, 2005) conceptualizes self-compassion as a biopsychosocial process, noting that research on empathy and mirror neurons show that the system for reacting to self-criticism is the same as the system for reacting to criticism from others. He conceptualizes psychopathology as a disorder of compassion, and his compassion focused therapy focuses on enhancing the patient's compassion for himself/herself.

To measure self-image in the present study, we applied the Structural Analysis of Social Behavior Introject Questionnaire (SASB-I) (Benjamin, 1988). In Sullivan's (1953) interpersonal theory, the introject is the self's actions directed towards the self. In childhood, the person experiences actions of significant others towards the self, which in time leads the self to treat itself as it has been treated by significant others. It can be said to signify the relationship the person has with himself/herself. The introject is seen as an aspect of the individual's personality that consists of self-directed actions and attitudes towards the self, including cognitive self-appraisals, and verbal and physical actions directed toward the self (Henry, Schacht, & Strupp, 1990). These internal, self-directed actions are thought to be fairly stable across the life span (Pincus, Gurtman, & Ruiz, 1998). Based on answers from the SASB-I, eight clusters are calculated, namely self-emancipate, self-affirm, self-love, self-protect, self-control, self-blame, self-attack and self-ignore. The clusters can be viewed as behavioral tendencies in the individual. They are placed in the interpersonal circumplex as shown in figure 1. The circumplex has two basic dimensions: affiliation (love - hate) and interdependence (control - emancipate). Self-love and self-attack are on the two ends of the affiliation dimension, while self-control and self-emancipate are on either end of the interdependence dimension. The other four clusters

contain a compound of the two dimensions (for instance self-affirm contains 50 % emancipate and 50 % love) . A sample question for each cluster is given in table 1.

According to SASB theory (Benjamin, 2005), A normal personality is characterized by high scores in the attachment group, namely the clusters Self-affirm, Self-love and Self-protect. People with these personality characteristics are hypothesized to have had friendly care-giving experiences, with a good balance between enmeshment and differentiation. Pathological personalities are characterized by high scores in the disaffiliative group, namely in the clusters Self-neglect, Self-attack and Self-blame. Previous research support this hypothesis, showing that the affiliation dimension is closely related to psychopathology, while the interdependence dimension is not (Monsen, von der Lippe, Havik, Halvorsen, & Eilertsen, 2007).

---

Insert table 1 about here

---

---

Insert figure 1 about here

---

In this study, we use the term self-image to signify the totality of a person's perception of self. Robins, Tracy, and Trzesniewski (2008) conceptualize the self as having two parts: (a) self-awareness (an ongoing information processing and self-regulation), and (b) the self-representations (a collection of stable mental representations of the self). Self-awareness is an ongoing attention towards the self, such as being aware of one's own actions, and reflecting about how others might perceive you. The stable self-representation is formed when the pattern of self-awareness in time turn into stable mental representations, and becomes a part of the personality. Self-evaluation, i.e. the representation of oneself as a good, likable and competent person is an important part of

these structures. Markus and Kunda (1986) makes a useful distinction between the stable self-concept and the working self-concept, which is "the self-concept at one given moment", parallel to the distinction between working memory and long-term memory (Baddeley & Hitch, 1974). The working self-concept is seen as a central executive, directing the attention towards self-relevant information. Self-image contains both the ongoing self-awareness and the stable mental representation of self.

### **Self-image in the research literature**

The emphasis on the concept of self-image in all major theories of psychotherapy has led to widespread empirical investigations into the role of self-image in psychotherapy. Many studies have demonstrated improvement in self-image and related concepts in psychotherapy, both in different modalities, and with different patient groups. In their classic first meta-analysis of psychotherapy outcome studies, Smith and Glass (1977) included self-esteem, as one of four outcome measures. Self-esteem is the representation of the self as competent and likable. The meta-analysis revealed an effect size of 0.9 in improvement of self-esteem across the studies, i.e. large according to Cohen (1988)), and was in the same range as the change in symptom level. Several studies have demonstrated change in SASB self-image during psychotherapy with a wide spectrum of diagnostic groups (Bedics, Atkins, Comtois, & Linehan, 2012; Granberg & Armelius, 2003; Junkert-Tress, Schnierda, Hartkamp, Schmitz, & Tress, 2001; Malmgren-Olsson, Armelius, & Armelius, 2001; Svartberg, Seltzer, & Stiles, 1996; Vittengl, Clark, & Jarrett, 2004). Most of the studies showed that self-image changes along the affiliation dimension during the course of psychotherapy (Bedics et al., 2012; Granberg & Armelius, 2003; Junkert-Tress et al., 2001; Malmgren-Olsson et al., 2001; Vittengl et al., 2004). Regarding other self-image related constructs, Gibbons et al. (2009) showed that the discrepancy between actual and ideal self can be changed in both cognitive behavioral and psychodynamic therapy for various disorders. Schanche, Stiles, McCullough, Svartberg, and Nielsen (2011)



showed change in self-compassion during short-term dynamic psychotherapy for Cluster C personality disorder. The results for early maladaptive schemas are more inconclusive, with some studies showing significant change while others show little or no change (Haaland et al., 2011; Hawke & Provencher, 2011; Nordahl, Holthe, & Haugum, 2005). It seems that some of the measures of self-image related concepts changes during the course of psychotherapy, while others are more stable.

An important question is how self-image related to treatment response. In analysis of empirical studies of the therapeutic ingredients of psychotherapy, there are two kinds of variables that influence the relationship between treatment and response: mediators and moderators (Baron & Kenny, 1986). A mediator is an intervening variable that accounts for the relationship (fully or partially) between treatment and response. A moderator is a characteristic that influences the magnitude of the relationship between treatment and effect (Kazdin, 2007). Self-image as a mediator means that how self-image changes as a course of therapy affects how well the treatment works on the participant. Self-image as a moderator means that the self-image characteristics of the patients pre-treatment influences how well the treatment works.

Several studies have pointed at SASB self-image as a potential moderator of psychotherapy outcome. Pre-treatment SASB self-image predicted outcome in treatment of eating disorder (n=246) (Bjorck, Clinton, Sohlberg, & Norring, 2007) and in a multi-site naturalistic study with a heterogeneous outpatient sample with both axes I and II diagnoses (n=233) (Halvorsen & Monsen, 2007). This suggests that SASB self-image works as a potential moderator of treatment outcome in treatment of a wide range of disorders. Early maladaptive schemas have also been shown to be a potential moderator of treatment outcome. Pre-treatment early maladaptive schemas levels predicted symptom outcome in exposure with response prevention treatment for obsessive compulsive disorder (n=88) (Haaland et al., 2011). In summary, previous studies suggests that self-image can be a potential moderator of treatment outcome.

To our knowledge, no studies have investigated the role of SASB self-image improvement as a potential mediator of treatment outcome. However, several other related concepts, such as self-discrepancy improvement and reduction of early maladaptive schemas have been shown to be potential mediators between treatment and outcome. Self-discrepancy improvement was a predictor of outcome in a pooled data study, using data from several other studies, where the effect of both cognitive behavioral and psychodynamic therapy was studied in samples with various disorders, such as depression, anxiety disorders and borderline personality disorder (n=184) (Gibbons et al., 2009). Improvement in early maladaptive schemas predicted treatment outcome in exposure with response prevention treatment of obsessive compulsive disorder (n=88) (Haaland et al., 2011), and in schema therapy with a heterogeneous samples with both axes I and II disorders (Nordahl et al., 2005). Self-compassion improvement predicted outcome in cluster C patients (Schanche et al., 2011). These results suggest that self-image improvement may be potential mediator of treatment outcome in psychotherapy.

The role of self-image in psychotherapy may be more important treatment of some diagnostic groups than in others. Higgins (1987) theorizes that depression and anxiety stem from different self-states. A discrepancy between the actual self and the ideal self is associated with depression related emotions, while anxiety related emotions are related to an discrepancy between the actual self and the ought self. This hypothesis was supported in an empirical investigation (Higgins, Klein, & Strauman, 1985). This suggests that depression is related to internal demands, while anxiety is related to experienced external demands. Beck et al. (2004) theorize that schema activation is important for axis-I-disorders, and that the onset of the symptoms coincide with activation of the dysfunctional schema mode. They theorize further that depression is characterized by a self-negation mode, while anxiety disorders are characterized by a personal danger mode. In a review of studies of early maladaptive schemas in anxiety and mood disorders, Hawke and Provencher (2011) concluded that both groups have elevated scores in most or all of

the early maladaptive schemas, but that early maladaptive schemas reflecting negative views of the self are specific to depressive symptoms, while early maladaptive schemas reflecting vulnerability to harm and illness were specific to anxiety symptoms. Tarlow and Haaga (1996) found that negative view of self was uniquely related to depression symptoms as apposed to anxiety symptoms in a normal sample. This suggests that depression is more closely related to self-image than anxiety disorders. They may also suggest that self-image may more important to treatment outcome in depression than in anxiety disorders. This differentiation regarding the role of self-image in depression versus anxiety disorders have to our knowledge never been studied using the interpersonal framework of the SASB self-image.

## Hypotheses

The present study investigated the relationship between self-image, as measured by the SASB-I, and psychotherapy outcome. It also investigated the differential role of SASB self-image in depression and anxiety disorders. Based on the theory and research previously outlined, we formulated the following research hypotheses:

1. Self-image will improve from pre-treatment to post-treatment, with a decrease in the disaffiliative group of the self-image, and an increase in the attachment group.
2. Pre-treatment self-image will predict treatment outcome.
3. Self-image improvement from pre-treatment to post-treatment will predict treatment outcome.
4. Pre-treatment self-image will be poorer in the depression group compared to the anxiety group, and that self-image will improve the most in the depression group.
5. Self-image self-image improvement will be more important for treatment outcome in the depression group compared to the anxiety group.

## Methods

### Participants

A total of 218 participants were initially recruited to the study. The subjects were recruited by means of referrals from general practitioners and by self referral during the years 2001-2007. 48 of these were rejected in this study, due to missing or incomplete data registration. The final sample therefore consisted of 170 participants (N=170). The participants were diagnosed according to the criteria of the ICD-10 (World Health Organization, 1993), partly based on the MINI neuropsychiatric interview (Sheenan et al., 1998). The diagnoses were determined at the end of treatment. The participant's demographic and diagnostic status is summarized in table 2. Participation in the study was based on informed and signed consent. The study was approved by the Regional Ethics Committee for research with human subjects as a part of the Norwegian Multi-site study of Process and Outcome in Psychotherapy.

---

Insert table 2 about here

---

### Treatment

The therapy was conducted by advanced level students, as a part of a university clinical psychology programme at the Norwegian University of Science and Technology Psychological Clinic. The therapy was supervised by an experienced psychologist, usually within a cognitive behavioral therapy tradition. The treatment procedures were not manualized, and consisted of a one hour session weekly. The mean number of treatment sessions was 14.9 (SD= 5.2, range=5 to 41). The treatment has previously been evaluated, and found to be as effective as other typical non-manualized psychotherapy (Ryum, Stiles, & Vogel, 2007).

## Process measure

**Structural Analysis of Behavior Introject Questionnaire (SASB-I).** As a measure of self-image the Structural Analysis of Social Behavior (SASB) Introject Questionnaire was used. The participants rated 36 statements regarding themselves as they usually are as a person, using an eleven point Likert scale, with 0 (does not fit at all) and 10 (fits perfectly). The Norwegian version of the questionnaire was used (Svartberg, 1994). The questionnaire measures the constructs of the SASB model, presented by Benjamin (1974, 1996). The SASB model and the questionnaire have been validated by a number of methods, and is considered an accepted psychometric (Benjamin, 1974, 1984, 1996; Wiggins, 1982; Wiggins & Pincus, 1992). Test-retest reliability has been shown to be comparable with other standard self-report measures (Benjamin, 1988). In the present study, the introject was rated only once (i.e. as the participant usually is) instead of twice (i.e. at best and at worst) as the standard questionnaire requires. This to be consistent with most other self-concept and personality inventories (Svartberg et al., 1996). In a validation study of the Norwegian translation of the SASB-I, Monsen et al. (2007) found acceptable reliability in most clusters. Three of the clusters, self-emancipate, self-protect and self-ignore showed unacceptably low internal consistencies. The present study's reliability of the self-image clusters are shown in table 3. Only self-affirm, self-control and self-blame showed acceptable levels (Cronbach's  $\alpha > 0.50$ ). Based on the participant's answers, the eight SASB self-image clusters were calculated. The SASB-I questionnaire was given to the participants at the start and at the end of treatment.

---

Insert table 3 about here

---

## Outcome measures

**Symptom Checklist 90 - Revised (SCL-90-R).** The Symptom Checklist 90 - Revised (SCL-90-R) was used as a measure of symptom level (Derogatis, 1983). The participants rated 90 statements regarding how affected they have felt by psychopathological symptoms in the last seven days, using a five point Likert scale, ranging from 0 (not at all) to 4 (very much). In the present study, the SCL-90-R total score, also called Global Severity Index (GSI) was used as a measure of the participants' psychiatric symptoms. The SCL-90-R has shown good psychometric properties (Schmitz et al., 2000). The Norwegian version of the questionnaire was used (Nielsen & Vassend, 1994). The SCL-90-R questionnaire was given to the participants at the start and at the end of treatment.

**Inventory of Interpersonal problems, circumplex version (IIP64-C).** The Inventory of Interpersonal problems, circumplex version (IIP64-C) (Alden, Wiggins, & Pincus, 1990; Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988) was used as a measure of interpersonal problems. The participant rated 64 statements regarding how troublesome a problem regarding a significant person in their life had been, using a five point Likert scale, ranging from 0 (not at all) to 4 (very much). In the present study the IIP64-C total score was used as a measure of the participants' level of interpersonal problems. The IIP64-C has shown good psychometric properties (Horowitz et al., 1988). The Norwegian version of the questionnaire was used (Stiles & Hoglend, 1994). The IIP64-C questionnaire was given to the participants at the start and at the end of treatment.

## Analysis

The statistical analyses were performed in SPSS/PASW (IBM, 2009). An outlier detection was done on the data, using the outlier labeling rule, with outliers being labeled as such if their value was larger than 2.2 times the distance between the first and the third quartile above the third quartile value, or this distance below the first quartile value

(Hoaglin & Iglewicz, 1987; Hoaglin, Iglewicz, & Tukey, 1986; Tukey, 1977). If the outliers were determined to be due to data input error, and it was possible to find the correct value, the value was changed to the correct one. If not, the values were windsorized, e.g. set to be equal to the highest value which was determined not to be an outlier.

Treatment effect, i.e. changes in SLC-90-R global severity index, IIP64-C total score and SASB clusters from pre-treatment to post-treatment were analyzed using paired t-tests. Effect sizes for paired samples were calculated with a formula derived from (Morris & DeShon, 2002, equation 8).

Bivariate correlations between pre-treatment SASB clusters, pre-post-treatment change in SASB clusters and pre and post-treatment symptom levels and level of interpersonal functioning were calculated. To investigate whether the predictors in the following regression analysis had multicollinearity, variation inflation factors (VIF) were calculated for the correlations. The variance inflation factors (VIF) levels indicated that there were no problems with multicollinearity.

To investigate the relationship between post-treatment symptom level and SASB self-image, a regression analysis was performed. To reduce the number of predictors, and thereby the chance of interaction effects, we performed eight separate regressions with the eight SASB clusters first. Those clusters which showed a significant relationship ( $p < 0.1$ ) with the symptom level on it's own were included in the further analysis. We then performed a forward multiple regression, with post-treatment symptom level as criterion, and the SASB self-image clusters as predictors, controlling for pre-treatment symptom level. To investigate the relationship between post-treatment level of interpersonal problems and pre-treatment SASB self-image, the analysis described above was performed, but with post-treatment interpersonal problems as criterion, and controlling for pre-treatment level of interpersonal problems.

To investigate the relationship between post-treatment symptom level and change in SASB self-image, the same analysis as described above was performed, but with change in

SASB self-image clusters as predictors. To investigate the relationship between post-treatment interpersonal problems and change in self-image, the same analysis was performed with level of interpersonal problems as criterion, and SASB self-image cluster change as predictors.

To investigate the difference between the role of self-image in anxiety versus depression, two diagnostic groups were identified. The participants in the first group (n=34) had been diagnosed by their therapists as having an "affective disorder" (diagnoses F30-39 in the ICD-10), The participants in the other group (n=64) had been diagnosed as having a "neurotic, stress-related or somatoform disorder" (diagnoses F40-48 in the ICD-10). The participants (n=28) who were diagnosed with disorders from both diagnostic groups (i.e. a comorbidity of both a disorder in the group F30-39 and a disorder from the group F40-48) were excluded from this part of the study. One participant diagnosed with "mixed depressive and anxiety episode" was also excluded for theoretical reasons. A summary of the diagnostic status of both groups is shown in table 4.

The groups were equivalent regarding pre-treatment symptom level ( $t(96) = 1.58, p > 0.05$ ) and pre-treatment level of interpersonal problems ( $t(96) = 1.58, p > 0.05$ ). We then investigated the hypothesis that self-image change is more important of treatment outcome in depression than in anxiety disorders. To reduce the number of predictors, a self-image composite was computed, composed by adding the three most important predictors from the previous regressions together. We then performed a hierarchic multiple regression, with post-treatment symptom level as criterion, and the interaction between diagnostic status (dummy variable: anxiety= -1, depression=1) and change in the self-image composite as predictor, controlling for pre-treatment symptom level, diagnostic status and self-image composite change. A second analysis was then performed with level of interpersonal problems as criterion.



---

Insert table 4 about here

---

For all multiple regressions, the significance levels used were Bonferroni corrected according to the number of predictors entered into the model (0.05/number of predictors). The Durbin Watson test for autocorrelation was performed for all regressions to investigate the independence of errors in the regressions. There was no significant dependence of errors in the data. Examining the residuals scatterplots for the regressions (as described in Tabachnick and Fidell (2001)), we judged that there where no violation of the normality assumption. There were however significant problems with heteroscedasticity. Statistical tests (Breusch-Pagan test and Koenker test) confirmed this fact. All forward regressions were therefore heteroscedasticity corrected, using a method and software provided by Hayes and Cai (2007). This software did not support hierarchical regression, so the hierarchical regressions were not heteroscedasticity corrected.

## Results

### **Effect of treatment on symptoms, interpersonal problems and self-image**

As shown in table 5, the symptom level showed a statistically significant improvement from start to end of treatment. The uncontrolled effect size for the symptom level change was  $d=0.76$ , which is considered a medium effect (Cohen, 1988). The level of interpersonal problems also showed a statistically significant improvement with an effect size of  $d=0.53$  (medium). The SASB self-image clusters showed significant improvement in five of the eight clusters. The clusters showing improvement were self-affirm, self-love, self-blame, self-attack and self-ignore. The effect sizes were in the range of 0.40-0.57, which is considered medium (Cohen, 1988).

---

Insert table 5 about here

---

### **Pre-treatment self-image as a predictor of treatment outcome**

The result of the preliminary analysis showed that all clusters except self-protect predicted post-treatment symptom level in the separate regressions, and were therefore included in the subsequent analysis. None of the pre-treatment self-image SASB cluster scores reached significance as predictors of post-treatment symptom level in the multiple regression, after controlling for pre-treatment symptom level.

Regarding interpersonal problems, all clusters except self-emancipate and self-protect predicted post-treatment level of interpersonal problems in the separate regressions, and were therefore included in the following analysis. As shown in table 6, pre-treatment self-blame was a significant predictor of post-treatment level of interpersonal problems in the multiple regression, after controlling for pre-treatment level of interpersonal problems. Pre-treatment self-blame explained 3 % of the variance.

---

Insert table 6 about here

---

### **Self-image change as a predictor of treatment outcome**

The analysis of treatment effect showed that five of the eight SASB clusters showed significant change for pre-treatment to post-treatment, namely self-affirm, self-love, self-blame, self-attack and self-ignore. Only these were included in further analysis. The result of the preliminary analysis showed that of these, only change in Self-affirm, Self-love, Self-blame and Self-attack significantly predicted post-treatment symptom level in the separate regressions, and were thus included in the further analysis. As shown in table 7,

change in self-love and self-attack predicted post-treatment symptom level in the multiple regression, after controlling for pre-treatment symptom level. Regarding the predictors unique contribution, Self-love change explained 9 % of the variance, and Self-attack 3 %.

Regarding interpersonal problems, only change in Self-affirm, Self-love and Self-attack predicted post-treatment level of interpersonal problems in the separate regressions, and were included in the further analysis. As shown in table 8, self-attack and self-affirm predicted post-treatment level of interpersonal problems in the multiple regression, after controlling for pre-treatment level. Self-attack change explained 10 % of the variance, and self-affirm change 2 %.

---

Insert table 7 about here

---

---

Insert table 8 about here

---

### **Self-image in anxiety group versus depression group**

From the previous results, we identified self-love, self-attack and self-affirm as the most important predictors of overall treatment outcome, and made a self-image composite (SIC) comprising of the scores of these clusters three added together (with self-attack reversed). As shown in table 9, the depression group showed a significantly higher level of pre-treatment self-image composite score compared to the anxiety group, with an effect size of 0.76 (medium according to Cohen (1988)), while the group difference in post-treatment self-image composite score was not significant, but showing a near significant trend towards being larger in the depression group, compared to the anxiety group ( $p=0.04$ ).

---

Insert table 9 about here

---

### **The predictive value of self-image change on treatment outcome in depression versus anxiety**

As shown in table 10, the interaction between diagnostic group and self-image change did not reach significance as a predictor of post-treatment symptom level, but showed a trend ( $p=0.06$ ) towards that the relationship between self-image change and lower symptom level is larger for participants with a depression diagnosis than for participants with an anxiety diagnosis. The interaction between diagnostic group and self-image change was not a significant predictor of post-treatment level of interpersonal problems.

---

Insert table 10 about here

---

## **Discussion**

The main purposes of the present study was to examine self-image as a predictor of treatment outcome in an outpatient sample. Three main relationships were investigated: (a) the role of self-image at the start of treatment as a predictor of treatment outcome, (b) the role of self-image improvement as a predictor of treatment outcome, and (c) whether self-image improvement is more important for outcome in patients with a depression diagnosis compared to patients with an anxiety diagnosis. Contrary to our hypothesis, the pre-treatment self-image was shown not a good predictor of symptom outcome, and only a weak predictor of interpersonal problems outcome. The self-image improvement was shown to be a good overall predictor of treatment outcome. Self-image improvement showed a non-significant trend ( $p=0.06$ ) towards being a more important predictor to treatment outcome in the depression group compared to the anxiety group.

### **Self-image improvement**

Self-image was shown to improve during the course of treatment. The improvement in self-image consisted of an increase in the levels of two of the three clusters of the attachment group (self-affirm and self-love), and an decrease in the levels of three of three clusters in the disaffiliation group (self-blame, self-attack and self-ignore). Overall, this result confirmed our with hypothesis 1. The only deviation from our hypothesis was that the increase in self-protect did not reach significance. The internal consistency of this cluster was very poor (Cronbach's  $\alpha = 0.06$ , which might explain that this cluster did not change. Monsen et al. (2007) also found that the self-protect cluster had a poor internal consistency in another sample of Norwegian patients. However, the overall results are in accordance with Benjamin's (2005) hypothesis that psychotherapy should focus on enhancing behaviors associated with the attachment group, and diminish the behaviors associated with the disaffiliative group. It is also in accordance with other studies showing that the change in SASB self-image changes along the affiliation dimension (Bedics et al., 2012; Granberg & Armelius, 2003; Junkert-Tress et al., 2001; Malmgren-Olsson et al., 2001; Svartberg et al., 1996; Vittengl et al., 2004). Based on the fact that this improvement have been found in many different treatment modalities, it seems that it is a common factor in psychotherapy.

The results indicated that the participants self-image improved during the course of psychotherapy. An improvement in self-image implies that the participants developed a better interpersonal relationship with themselves. Based on Benjamin's (Benjamin, 1988, 2005) definitions of the self-image clusters, our patients increased their self-love, which means that they learned to cherish, appreciate and value themselves more, and to take care of themself. They increased their self-affirmation, which means that they increased their knowledge of themselves, with their strengths and weaknesses, and learned to like and accept that themselves "as is". They decreased their self-attack, which means that they learned not to reject, crush and destroy themselves, or not to be their own worst enemy.

They decreased their self-blame, meaning that they learned not to punish themselves, or to put themselves down, or to blame themselves for being wrong or inferior. Lastly, the patients decreased their self-ignoring, which means that they learned not to be neglectful of themselves, or to get lost in a dream world. Generally speaking, to enhance the relationship the clients have with themselves, to reduce self-criticism and enhancing self-compassion may be seen as an important aspect for many patients, in addition to symptom reduction.

### **The role of pre-treatment self-image as a predictor of treatment outcome**

The results showed that pre-treatment self-image did not predict symptom outcome, and it predicted only 3% of the interpersonal problems outcome. Overall, the results indicated that pre-treatment self-image was not a good predictor of treatment outcome, and disconfirmed our hypothesis 2. This result is not in accordance with previous studies on self-image as a moderator of outcome. Bjorck et al. (2007) found that pre-treatment self-hate was a strong predictor of treatment outcome in patients with eating disorders, and that pre-treatment self-emancipate also was a significant predictor. The discrepancy between the Bjorck et al. (2007) study and our results could be that the patients with eating disorders may have more stable self-image problems than the participants of the present study, which had predominantly mood and anxiety disorders. It is also possible that the negative self-image interfered in the psychotherapy process, so that those with the worst self-image problems at the start of treatment didn't benefit from the treatment (Beck et al., 2004). Halvorsen and Monsen (2007) showed that pre-treatment self-image predicted treatment result in a heterogeneous patient sample, much like our sample. Their study an ANOVA approach, where they divided the participants into groups based on their pre-treatment self-image scores, and showed that the groups demonstrated a significant difference in outcome. This method does not allow for controlling for confounding variable, and the groups differed significantly in terms of pre-treatment levels of the outcome measures. Our study showed that pre-treatment level is an important confounding variable,

and it is possible that the effect in the Halvorsen and Monsen (2007) study would disappear if they had controlled for pre-treatment levels of the outcome measures. Halvorsen and Monsen (2007) also did not report the effect size of the difference between the groups. It is possible that they found a statistically significant effect, but that it was very small, and therefore not clinically significant. In summary, the present study showed that pre-treatment self-image was not an important predictor of treatment outcome, contrary to previous results. This may be due to difference in the study sample Bjorck et al. (2007), and to methodological weaknesses in a previous study Halvorsen and Monsen (2007).

### **The role of self-image improvement as a predictor of treatment outcome**

Our hypothesis 3, saying that self-image improvement would predict treatment outcome, was confirmed. The present study is the first to show this relationship using the SASB-I questionnaire to measure self-image. This finding supports the assumption that improving the patient's relationship with themselves is an important ingredient of successful psychotherapy, thereby improving the patients' mental health and interpersonal functioning. Other studies have shown similar results using closely related constructs. Gibbons et al. (2009) showed that the improvement in the discrepancy between actual self and ideal self predicted treatment outcome in cognitive behavioral and psychodynamic therapy for a variety of disorders. Change in early maladaptive schemas have been shown to predict treatment outcome in both exposure treatment for obsessive compulsive disorder (Haaland et al., 2011) and in schema therapy for a variety of disorders (Nordahl et al., 2005). The results of the present study extends the evidence that improving self-image and related concepts is an important ingredient in a successful psychotherapy.

Our results showed that reduced self-attack was the most important predictor of symptom level at the end of treatment, while improvement in self-love was the most important predictor of interpersonal problem level at the end of treatment. This can be interpreted as showing that reducing a negative self-image is most important to getting

well in a mental illness perspective, but to function better in a relation to other people, it is more important to enhance the positive aspects of the self-image. The results also showed that both enhancing positive aspects and reducing negative aspects of the self-image are predictors of treatment outcome. This is in line with the theories of positive psychology, which state that psychotherapy should not only focus on problems, but also on enhancing the positive aspects of the person (Seligman, 2002).

### **The role of self-image improvement in depression versus anxiety**

The result that pre-treatment self-image was significantly poorer in the participants with depression compared with those with anxiety was in line our hypothesis 4. The difference was medium ( $d=0.76$ ). This supports previous findings indicating that self-image problems is more pronounced for patients with depression compared to patients with anxiety disorders (Tarlow & Haaga, 1996). The difference in the improvement in self-image across the groups was not significant, but showed a trend towards being larger in the depression group. At the end of therapy there was no difference in self-image between the groups. This result is consistent with previous research that both groups have self-image problems, but that it is more pronounced in depression (Hawke & Provencher, 2011). The self-image improvement of both groups during short term psychotherapy suggests that the theory of Beck et al. (2004) and Young et al. (2003) that Axis-I disorders are characterized by self-schema modes may be valuable. It suggests that these self-schema modes are activated during a period of illness, but can be deactivated due to psychotherapy. Both groups have self-image problems at the start of the treatment, but it is most pronounced in depression.

The trend showing that self-image improvement is more closely associated with symptom outcome in the depression group than in the anxiety group is in line with both theory and previous evidence on this subject. It means that self-image improvement is important for treatment outcome across all diagnostic groups, but may be more somewhat



more important in treatment of depression than in anxiety disorders. The difference in the role of self-image across different disorders is poorly understood, and further research could yield important results. There was no trend showing that the interaction between diagnostic group and self-image improvement was a significant predictor of post-treatment level of interpersonal problems. This result indicates that the specificity of self-image as a predictor of outcome in depression is specific to symptom outcome, and is not relevant to interpersonal problems outcome. These results may indicate the need to concentrate specifically on self-image improvement in treatment of depression.

### **Is self-image a state or trait concept?**

The results of the present study suggest that self-image changes significantly during the course of treatment. The treatment was not specifically aimed at bringing about such a change in self-image. This suggests that self-image is highly malleable, and susceptible to change as a result of short-term psychotherapy. This is contrary to the idea of self-image as a stable concept (Pincus et al., 1998). We argue that this indicates that self-image, as measured by the SASB-I questionnaire is a measure of state self-image. Our results also indicated that change in self-image was an important predictor of treatment outcome in our sample, while pre-treatment self-image was not. This is also an indication that SASB self-image is a state concept. The state part of self-image is related to self-awareness and "on-line" self-evaluation. Markus and Kunda (1986) distinguish between the a state and a trait part of the self-concept, where the state part is called the working self-concept, a central executive directing attentional processes. We argue that our results imply that self-image is most closely related to the working self-concept, and not so closely related to the stable self-concept. Working self-concept is a central executive, central in the direction of attention towards self-relevant information. Our result may indicate that improvement of the self-image involves learning to direct attention towards self-relevant information in an adaptive way, as opposed to trying to improve the stable self-concept.

### **The role of self-image improvement as a potential mediator of treatment outcome**

The purpose of this study was to investigate if there is a relationship between self-image and treatment outcome, and if there is, what role does self-image have in relation to the outcome. In this context, we look at self-image as a third variable that influences the relationship between the treatment and outcome. Baron and Kenny (1986) outline two possible ways to see self-image as a third variable: as a moderator and or as a mediator. If self-image is a moderator, it means that it acts as a characteristic that affects the direction or strength of the relationship between the treatment and the outcome. Self-image could act as a characteristic in a number of ways, for instance by influencing the ability of the patient to develop a working alliance with the therapist. If self-image is a mediator, it means that it accounts for some or all of the relationship between the treatment and the outcome (Kazdin, 2007). Clearly, our research design is not appropriate to answer the question of whether self-image works as a moderator or a mediator. However, we argue that our result that self-image improvement was an important predictor of treatment outcome points in the direction that self-image is a candidate to be evaluated as a mediator of psychotherapy. The result that pre-treatment self-image was not an important predictor of treatment outcome means that self-image is not a potential moderator between the treatment and the result in this study. This implies that self-image could be a mechanism of change in psychotherapy.

### **Implications**

The results of this study may have important clinical implications. The question of self-image as a mediator is the question of how and why the treatment works (Kazdin, 2003). Our finding that self-image improvement works as a potential mediator of treatment outcome means that it could be an important mechanism of change. It is important to investigate mechanisms of change in psychotherapy to understand what are fruitful

strategies, and what is not. It can help the therapy community to concentrate their efforts on approaches that actually work, and discard the ones that don't. Understanding mechanisms of change can also make the therapists optimize therapeutic change by concentrating on maximizing mechanisms that we know work.

Our results may indicate that it is important for the therapist to monitor the self-image, and see that there is improvement during the course of treatment. The results may also indicate that the therapy should include explicit focus on self-image improvement in the treatment. Future studies should evaluate whether explicit focus on self-image leads to a better treatment result. Gibbons et al. (2009) investigated three different predictors at once: increased self-understanding, increased coping skills and improved self-image. The results showed that increased coping-skills and improved self-image were predictors of treatment outcome, but that self-understanding was not a predictor when the other two predictors were controlled for. This result contradicts a central position of most psychodynamical theories, namely that increasing self-understanding should be the goal of psychotherapy, and highlights how important self-image improvement can prove to be in psychotherapy. Research like this, exploring several different potential mechanisms of change, and whether they have unique explanatory power, is vital to the furthering of clinical psychology.

Strategically, establishing potential moderators is an important one for the choices of a clinician. The question of self-image as a moderator is the question of what works for whom. If self-image is a moderator, the implication of this result in clinical practice would be to measure the self-image pre-treatment, and offer different treatments depending on whether self-image is low or high. One example of this kind of response is the routine assessment of personality disorders before treatment of an axis I disorder, because the presence of a personality disorder has proven to be a powerful moderator of treatment outcome (Harkness & Lilienfeld, 1997; Newton-Howes, Tyrer, & Johnson, 2006). Our results indicate that self-image is not a powerful moderator of treatment outcome, and that

there is no need to measure the patient's self-image pre-treatment, and plan the treatment accordingly.

In cognitive behavioral theory, the distinction between stable schemas and schema modes are interesting. Young et al. (2003) emphasized the schema mode as a state form of the stable schema. Some schemas are active at a given moment, while others lie dormant. In therapy, one focus can be to switch from a maladaptive schema to an adaptive schema. Our results indicate that in our sample, improving the state self-image was important for a successful treatment result. This implies that teaching the patient to switch from a maladaptive to an adaptive schema mode is more fruitful than trying to change the schemas themselves. Future research should focus on the distinction between the schema mode and the stable schemas, and strategies for changing schema modes in psychotherapy.

We have argued that our results suggest that the most fruitful strategy to improve the self-image is to concentrate on self-relevant attentional processes in the working self-concept. These attentional processes are conceptually related to mindfulness and rumination. Both theory and empirical evidence suggests the importance of mindfulness and rumination prevention in treatment and prevention of psychopathology (Nolen-Hoeksema, 2000; Segal, Williams, & Teasdale, 2002; Wells, 1999). Raes (2010) found that brooding (self-critical pondering) was a mediator between self-compassion and depression symptoms, while worry was a mediator between self-compassion and anxiety symptoms. This suggests that reducing rumination and worry is a way of changing the pattern of on-line self-evaluation, and that changing this pattern is more important for mental health than changing the stable self-representations. There is a schism between the traditional cognitive behavioral therapy, where the aim is to change the maladaptive assumptions about the self, so-called self-schemas, and some new approaches, like meta-cognitive therapy, where the aim is to change the attentional processes that process self-relevant information. Our results may be interpreted as an argument for concentrating on changing the attentional processes, and not the self-schemas themselves. This

relationship between self-image improvement and mindfulness should be explored in future research.

### **Limitations**

There are some limitations to what conclusions that can be drawn from the present study. (a) The results of the present study suggest that self-image improvement acts as a mediator between psychotherapy and outcome, but the results only show that there is a relationship between self-image change and outcome. Further research is required to show that self-image change indeed is a mediator, and to show that there is a causal relationship between self-image improvement and treatment outcome (see Kazdin (2007) for a discussion of these issues). (b) The internal consistency of the self-image clusters in our sample was very low. All clusters showed a lower Cronbach's  $\alpha$  than in the Monsen et al. (2007) study. This finding reduces the reliability of the results, and thereby also the generalizability of the results. (c) The hierarchical regressions studying the predictive power of the interaction between diagnostic group and self-image improvement were not heteroscedasticity adjusted. This reduces the validity of this part of the analysis. (d) Since the treatment provided to the participants in this study was not manualized, we don't know what ingredients of the treatment that lead to self-image improvement. Future research should focus on the mechanisms that lead to self-image improvement, and to identify the causal mechanisms that lead to this change. The question of whether the findings can be generalized to other therapeutic modalities is open. However, this study has high ecological validity, based on its broad inclusion criteria, and its closeness to how psychotherapy is conducted in ordinary clinics. (e) The research design included no control group. This means that the measure effects can be caused by factors other than the treatment. (f) The study design did not include follow-up data. Therefore, we can not say anything about the effect of self-image on long term treatment outcome. (g) The present study relied exclusively on self-report measures. The validity of information from self-report measures

rely on the participants having accurate self-knowledge. The self-image may have implicit aspects, which may need other assessment methods to capture accurately. (h) The sample was from an outpatient university clinic. The generalizability to other populations remains to be investigated. The sample was Norwegian, and it remains to be investigated whether the impact of self-image on psychotherapy outcome is culturally dependent. (i) Another limitation was the rejection of 48 participants due to incomplete data registration. Most of these were due to missing SASB data. It is possible that these participants had a different self-image than those participants which completed the SASB questionnaires. (j) The sample size in the anxiety versus depression analysis was  $n = 98$ , which is a bit too small. Tabachnick and Fidell (2001) suggest a rule of thumb, where the minimum the sample size is  $n = 104 + k$ , where  $k$  is the number of predictors in the regression, ergo 105 in this analysis. The small sample size reduces the validity of the results.

## Conclusions

In summary, self-image improvement was shown to predict of treatment outcome in our outpatient sample. Self-image improvement also showed a non-significant trend towards being a more important predictor in the patients with a depression diagnosis than in patients with an anxiety diagnosis. The possible implications of these results are that self-image improvement is an important mechanism of change in psychotherapy, and imply that concentrating on changing the attentional processes involving self-evaluation may be more fruitful than trying to change the stable self-concept. Future research is needed to explore these possible implications.

## References

- Alden, L. E., Wiggins, J. S., & Pincus, A. L. (1990). Construction of circumplex scales for the inventory of interpersonal problems. *Journal of Personality Assessment*, *55*(3-4), 521–536.
- Baddeley, A. D., & Hitch, G. J. L. (1974). Working memory. In G. A. Bower (Ed.), *The psychology of learning and motivation: advances in research and theory* (pp. 47–89). New York: Academic Press.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182.
- Beck, A. T. (1967). *Depression: clinical, experimental, and theoretical aspects*. New York: Harper & Row.
- Beck, A. T., Freeman, A. M., & Davis, D. D. (2004). *Cognitive therapy of personality disorders*. New York: The Guilford Press.
- Bedics, J. D., Atkins, D. C., Comtois, K. A., & Linehan, M. M. (2012). Treatment differences in the therapeutic relationship and introject during a 2-year randomized controlled trial of dialectical behavior therapy versus nonbehavioral psychotherapy experts for borderline personality disorder. *Journal of Consulting and Clinical Psychology*, *80*(1), 66–77.
- Benjamin, L. S. (1974). Structural analysis of social behavior. *Psychological Review*, *81*(5), 392–425.
- Benjamin, L. S. (1984). Principles of prediction using structural analysis of social behavior, In *Personality and the prediction of behavior*. New York: Academic Press.
- Benjamin, L. S. (1988). Intrex users manual. *Intrex Institute*.
- Benjamin, L. S. (1996). *Interpersonal diagnosis and treatment of personality disorders* (2nd ed.). New York: Guilford Press.

- Benjamin, L. S. (2005). Interpersonal theory of personality disorders. The structural analysis of social behavior and interpersonal reconstructive therapy. In M. F. Lenzenweger & J. F. Clarkin (Eds.), *Major theories of personality disorder*. New York: Guilford Press.
- Bjorck, C., Clinton, D., Sohlberg, S., & Norring, C. (2007). Negative self-image and outcome in eating disorders: results at 3-year follow-up. *Eating Behaviors, 8*(3), 398–406.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.
- Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review, 107*(2), 261–288.
- Derogatis, L. R. (1983). *SCL-90-R revised manual*. Baltimore: Johns Hopkins University School of Medicine.
- Fonagy, P., Gyorgy, G., & Jurist, E. L. (2004). *Affect regulation, mentalization, and the development of the self*. Karnac Books.
- Gailliot, M. T., Mead, N. L., & Baumeister, R. F. (2008). Self-regulation. *Handbook of personality: Theory and research, 472–491*.
- Gibbons, M. B. C., Crits-Christoph, P., Barber, J. P., Wiltsey Stirman, S., Gallop, R., Goldstein, L. A., . . . Ring-Kurtz, S. (2009). Unique and common mechanisms of change across cognitive and dynamic psychotherapies. *Journal of consulting and clinical psychology, 77*(5), 801–813.
- Gilbert, P. (2005). Compassion and cruelty: a biopsychosocial approach, In *Compassion: conceptualisations, research and use in psychotherapy* (pp. 9–74). London, UK: Psychology Press.
- Gilbert, P. (2009). *Compassion focused therapy: distinctive features*. London, UK: Taylor & Francis.



- Gilbert, P., & Irons, C. (2005). Focused therapies and compassionate mind training for shame and self-attacking, In *Compassion: conceptualisations, research and use in psychotherapy* (pp. 263–325). London, UK: Psychology Press.
- Granberg, Å., & Armelius, K. (2003). Change of self-image in patients with neurotic, borderline and psychotic disturbances. *Clinical Psychology & Psychotherapy*, *10*(4), 228–237.
- Haaland, A. T., Vogel, P. A., Launes, G., Haaland, V., Hansen, B., Solem, S., & Himle, J. A. (2011). The role of early maladaptive schemas in predicting exposure and response prevention outcome for obsessive-compulsive disorder. *Behaviour research and therapy*, *49*(11), 781–788.
- Halvorsen, M. S., & Monsen, J. T. (2007). Self-image as a moderator of change in psychotherapy. *Psychotherapy Research*, *17*(2), 205–217.
- Harkness, A. R., & Lilienfeld, S. O. (1997). Individual differences science for treatment planning: personality traits. *9*(4), 349–360.
- Hawke, L. D., & Provencher, M. D. (2011). Schema theory and schema therapy in mood and anxiety disorders: a review. *Journal of Cognitive Psychotherapy*, *25*(4), 257–276.
- Hayes, A. F., & Cai, L. (2007). Using heteroskedasticity-consistent standard error estimators in OLS regression: an introduction and software implementation. *Behavior Research Methods*, *39*(4), 709–722.
- Henry, W. P., Schacht, T. E., & Strupp, H. H. (1990). Patient and therapist introject, interpersonal process, and differential psychotherapy outcome. *Journal of Consulting and Clinical Psychology*, *58*(6), 768–774.
- Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological review*, *94*(3), 319–340.
- Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-concept discrepancy theory: a psychological model for distinguishing among different aspects of depression and anxiety. *Social cognition*, *3*(1), 51–76.

- Hoaglin, D. C., & Iglewicz, B. (1987). Fine-tuning some resistant rules for outlier labeling. *Journal of the American Statistical Association*, 1147–1149.
- Hoaglin, D. C., Iglewicz, B., & Tukey, J. W. (1986). Performance of some resistant rules for outlier labeling. *Journal of the American Statistical Association*, 991–999.
- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureño, G., & Villaseñor, V. S. (1988). Inventory of interpersonal problems: psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, 56(6), 885–892.
- IBM. (2009). PASW statistics 18. IBM.
- Junkert-Tress, B., Schnierda, U., Hartkamp, N., Schmitz, N., & Tress, W. (2001). Effects of short-term dynamic psychotherapy for neurotic, somatoform, and personality disorders: a prospective 1-year follow-up study. *Psychotherapy Research*, 11(2), 187–200.
- Kazdin, A. E. (2003). *Research design in clinical psychology* (4th edition).
- Kazdin, A. E. (2007). Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology*, 3, 1–27.
- Leary, M. R. (2003). *Handbook of self and identity*. The Guilford Press.
- Malmgren-Olsson, E. B., Armelius, B. A., & Armelius, K. (2001). A comparative outcome study of body awareness therapy, feldenkrais, and conventional physiotherapy for patients with nonspecific musculoskeletal disorders: changes in psychological symptoms, pain, and self-image. *Physiotherapy Theory and Practice*, 17(2), 77–95.
- Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of Personality and Social Psychology*, 51(4), 858–866.
- McCullough, L., Kuhn, N., Andrews, S., Kaplan, A., Wolf, J., & Hurley, C. L. (2003). *Treating affect phobia: a manual for short-term dynamic psychotherapy*. New York: The Guilford Press.

- Monsen, J. T., von der Lippe, A. L., Havik, O. E., Halvorsen, M. S., & Eilertsen, D. E. (2007). Validation of the SASB introject surface in a Norwegian clinical and nonclinical sample. *Journal of personality assessment*, *88*(2), 235–245.
- Morris, S. B., & DeShon, R. P. (2002). Combining effect size estimates in meta-analysis with repeated measures and independent-groups designs. *Psychological Methods*, *7*(1), 105–125.
- Neff, K. (2003). Self-compassion: an alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*(2), 85–101.
- Newton-Howes, G., Tyrer, P., & Johnson, T. (2006). Personality disorder and the outcome of depression: meta-analysis of published studies. *British Journal of Psychiatry*, *188*, 13–20.
- Nielsen, G., & Vassend, O. (1994). SCL-90-R - norsk oversettelse [SCL-90-R - Norwegian translation].
- Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. *Journal of abnormal psychology*, *109*(3), 504–511.
- Nordahl, H. M., Holthe, H., & Haugum, J. A. (2005). Early maladaptive schemas in patients with or without personality disorders: does schema modification predict symptomatic relief? *Clinical Psychology & Psychotherapy*, *12*(2), 142–149.
- Pincus, A. L., Gurtman, M. B., & Ruiz, M. A. (1998). Structural analysis of social behavior (SASB): circumplex analyses and structural relations with the interpersonal circle and the five-factor model of personality. *Journal of Personality and Social Psychology*, *74*(6), 1629–1645.
- Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, *48*(6), 757–761.

- Robins, R. W., Tracy, J. L., & Trzesniewski, K. H. (2008). Naturalizing the self. In O. P. John, R. W. Robins & L. A. Pervin (Eds.), *Handbook of personality: theory and research*. New York: Guilford press.
- Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology, 21*(2), 95–103.
- Ryum, T., Stiles, T. C., & Vogel, P. A. (2007). Effektivitet ved psykoterapeutisk behandling gjort av viderekomne studenter [effectiveness of psychotherapeutic treatment by graduate level students]. *Tidsskrift for Norsk Psykologforening [Journal for the Norwegian Association of Clinical Psychologists], 44*, 1005–1011.
- Schanche, E., Stiles, T. C., McCullough, L., Svartberg, M., & Nielsen, G. H. (2011). The relationship between activating affects, inhibitory affects, and self-compassion in patients with Cluster C personality disorders. *Psychotherapy, 48*(3), 293.
- Schmitz, N., Hartkamp, N., Kiuse, J., Franke, G. H., Reister, G., & Tress, W. (2000). The Symptom check-list-90-r (SCL-90-R): a German validation study. *Quality of Life Research, 9*(2), 185–193.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: a new approach to preventing relapse*. The Guilford Press.
- Seligman, M. E. P. (2002). Positive psychology, positive prevention, and positive therapy. *Handbook of positive psychology, 2*, 3–12.
- Sheenan, D. V., Lecrubier, Y., Sheenan, K. H., Amorim, P., Janavs, J., Weiller, E., . . . Dunbar, G. C. (1998). The mini-international neuropsychiatric interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry, 59*[supplement 20], 22–23.
- Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist, 32*(9), 752–760.
- Stiles, T. C., & Hoglend, P. A. (1994). IIP64-C - norsk oversettelse [IIP64-C - Norwegian translation].

- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: WW Norton & Co.
- Svartberg, M. (1994). SASB introjekt - norsk oversettelse [SASB introject - Norwegian translation].
- Svartberg, M., Seltzer, M., & Stiles, T. (1996). Self-concept improvement during and after short-term anxiety-provoking psychotherapy: a preliminary growth curve study. *Psychotherapy Research, 6*(1), 43–55.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics*. Boston, USA: Allyn and Bacon.
- Tarlow, E. M., & Haaga, D. A. F. (1996). Negative self-concept: specificity to depressive symptoms and relation to positive and negative affectivity. *Journal of Research in Personality, 30*, 120–127.
- Tukey, J. W. (1977). *Exploratory data analysis*. Reading, MA: Addison-Wesley.
- Vittengl, J. R., Clark, L. A., & Jarrett, R. B. (2004). Self-directed affiliation and autonomy across acute and continuation phase cognitive therapy for recurrent depression. *Journal of personality assessment, 83*(3), 235–247.
- Wells, A. (1999). A metacognitive model and therapy for generalized anxiety disorder. *Clinical Psychology & Psychotherapy, 6*(2), 86–95.
- Wiggins, J. S. (1982). Circumplex models of interpersonal behavior in clinical psychology. In P. C. Kendall & J. N. Butcher (Eds.), *Handbook of research methods in clinical psychology* (pp. 183–221). New York: Wiley.
- Wiggins, J. S., & Pincus, A. L. (1992). Personality: structure and assessment. *Annual Review of Psychology, 43*(1), 473–504.
- World Health Organization. (1993). *The ICD-10 classification of mental and behavioural disorders*. World Health Organization.
- Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: a practitioner's guide*. New York, USA: Guilford Press.

Table 1

*Sample items for each cluster from the SASB-I Questionnaire.*

Cluster	Item
Self-emancipate	Without concern I just let myself be free to turn into whatever I will.
Self-affirm	Knowing both my faults and strong points I comfortably let myself be "as is."
Self-love	I like myself very much and feel very good when I have a chance to be with myself.
Self-protect	I practice and work on developing worthwhile skills, ways of being.
Self-control	I have a habit of keeping very tight control over myself.
Self-blame	I accuse and blame myself until I feel guilty, bad, and ashamed.
Self-attack	I harshly punish myself, take it out on myself.
Self-ignore	Instead of getting around to doing what I really need to do for myself, I let myself go and just daydream.

Table 2

*Summary of the participant's demographic and diagnostic status (N=170)*

Variable	Scores
Mean (SD)	
Age	34.5 (12.4)
% (n)	
Female gender	72.3 (123)
Affective disorder	19.4 (33)
Anxiety, stress-related or somatorform disorder	37.1 (63)
Eating disorder	2.9 (5)
Personality disorder	5.9 (10)
Other	5.9 (10)
Comorbidity	13.5 (23)
No diagnosis	15.3 (26)

Table 3

*Internal consistency of the self-image clusters measured pre-treatment (N=170)*

Self-image cluster	Cronbach's $\alpha$
Self-emancipate	0.19
Self-affirm	0.60
Self-love	0.38
Self-protect	0.06
Self-control	0.68
Self-blame	0.77
Self-attack	0.18
Self-ignore	0.16



Table 4

*Summary of the ICD-10 diagnostic status of the two groups*

Depression group (n=34)			Anxiety group (n=54)		
Diagnosis	%	n	Diagnosis	%	n
Other specific bipolar disorder	3	1	Agoraphobia	20	11
Mild depressive episode	26	9	Social phobia	33	18
Moderate depressive episode	35	12	Specific phobias	4	2
Severe depressive episode	6	2	Panic disorder	19	10
without psychotic symptoms			Generalized anxiety disorder	17	9
Recurrent depressive disorder, current episode mild	3	1	Obsessive compulsive disorder	9	5
Recurrent depressive disorder, current episode moderate	24	8	Post-traumatic stress disorder	6	3
Recurrent depressive disorder, current episode severe without psychotic symptoms	6	2	Adjustment disorder	17	9
Dysthymia	6	2	Somatization disorder	2	1
			Hypochondriacal disorder	7	4

Table 5

*Results of paired sample t-tests on change in symptom level, level of interpersonal problems and self-image from pre-treatment to post-treatment (N=170).*

Measure	Pre		Post		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
SCL	1.15	0.66	0.74	0.60	10.05**	0.76
IIP	1.30	0.60	1.07	0.57	6.98**	0.53
Self-emancipate	2.95	1.53	3.21	1.43	ns.	ns.
Self-affirm	3.90	2.41	5.03	2.47	6.90**	0.40
Self-love	4.32	2.18	5.24	2.24	6.26**	0.48
Self-protect	5.95	1.68	6.20	1.68	ns.	ns.
Self-control	4.47	2.30	4.10	2.32	ns.	ns.
Self-blame	3.58	2.61	2.50	2.48	-7.46**	-0.57
Self-attack	3.44	2.07	2.45	1.98	-7.03**	-0.54
Self-ignore	2.73	2.19	1.94	1.86	-5.68**	-0.44

Notes: SCL=Symptoms Checklist - 90 - Revised, Global Severity Index. IIP=Inventory of Interpersonal Problems, circumplex version, Total Score. SASB=Structural Analysis of Social Behavior. *d*=Cohen's effect size, corrected for correlation between the means (Morris & DeShon, 2002, p. equation 8). ns.=non-significant. \*\**p* < 0.001 (two-tailed)

Table 6

*Results of linear forward regression with post-treatment level of interpersonal problems as criterion, and pre-treatment SASB self-image clusters as predictors, controlling for pre-treatment level of interpersonal problems (N=170).*

		Criterion: IIP64-C post-treatment					
Model	Predictor	Model parameters		Predictor parameters			
		$R^2$ change	$F$ change	$B$	$SEB$	$t$	$d$
1		0.53	168.23**				
	IIP64-C pre-treatment			0.69	0.05	12.97**	2.00
2		0.03	11.15*				
	IIP64-C pre-treatment			0.58	0.06	9.05**	1.40
	Self-blame pre-treatment			0.04	0.01	3.34*	0.52

Notes: IIP=Inventory of interpersonal problems, circumplex version, total score. SASB=Structural Analysis of Social Behavior.  $\Delta$ =change from pre-treatment to post-treatment.  $d$ =Cohen's effect size ( $d = 2t/\sqrt{df}$ ). \* $p < 0.006$  (two-tailed)(i.e.  $\alpha = 0.05$  Bonferroni corrected for 8 predictors). \*\* $p < 0.001$  (two-tailed). The predictors which did not reach significance are not included in the table.

Table 7

*Results of linear forward regression with post-treatment symptom level as criterion, and SASB self-image change as predictors, controlling for pre-treatment symptom level (N=170).*

		Criterion: SCL-90-R post-treatment					
Model	Predictor	Model parameters		Predictor parameters			
		$R^2$ change	$F$ change	$B$	SEB	$t$	$d$
1		0.41	70.05**				
	SCL-90-R pre-treatment			0.59	0.07	8.37**	1.29
2		0.09	16.45**				
	SCL-90-R pre-treatment			0.62	0.07	9.50**	1.47
	$\Delta$ Self-love			-0.09	0.02	-4.06**	-0.63
3		0.03	10.87*				
	SCL-90-R pre-treatment			0.64	0.06	10.52**	1.63
	$\Delta$ Self-Love			-0.06	0.02	-2.07*	-0.32
	$\Delta$ Self-attack			0.07	0.02	3.30*	0.51

Notes: SCL-90-R = Symptom Checklist - 90 - Revised, Global Severity Index. SASB=Structural Analysis of Social Behavior.  $\Delta$ =change from pre-treatment to post-treatment.  $d$ =Cohen's effect size ( $d = 2t/\sqrt{(df)}$ ). \* $p < 0.01$  (two-tailed)(i.e.  $\alpha = 0.05$  Bonferroni corrected for 5 predictors). \*\* $p < 0.001$  (two-tailed). The predictors which did not reach significance are not included in the table.

Table 8

*Results of linear forward regression with post-treatment level of interpersonal problems as criterion, and SASB self-image change as predictors, controlling for pre-treatment level of interpersonal problems (N=170).*

		Criterion: IIP64-C post-treatment					
Model	Predictor	Model parameters		Predictor parameters			
		$R^2$ change	$F$ change	$B$	SEB	$t$	$d$
1		0.53	168.23**				
	IIP64-C pre-treatment			0.69	0.05	12.97**	2.00
2		0.10	38.69**				
	IIP64-C pre-treatment			0.73	0.05	15.17**	2.35
	$\Delta$ Self-attack			0.10	0.02	6.22**	0.96
3		0.02	10.25*				
	IIP64-C pre-treatment			0.74	0.05	15.20**	2.36
	$\Delta$ Self-attack			0.08	0.02	5.18**	0.80
	$\Delta$ Self-affirm			-0.04	0.01	-3.20*	-0.50

Notes: IIP64-C=Inventory of Interpersonal Problems, circumplex version, total score. SASB=Structural Analysis of Social Behavior.  $\Delta$ =change from pre-treatment to post-treatment.  $d$ =Cohen's effect size ( $d = 2t/\sqrt{df}$ ). \* $p < 0.01$  (two-tailed)(i.e.  $\alpha = 0.05$  Bonferroni corrected for 5 predictors), \*\* $p < 0.001$  (two-tailed). The predictors which did not reach significance are not included in the table.

Table 9

*Results of independent t-tests comparing the self-image composite (SIC) in the anxiety group (N=64) versus the depression group (N=34).*

Measure	Depression		Anxiety		Comparison	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>d</i>
Self-image composite (SIC)						
pre	1.97	5.36	5.91	5.00	3.61**	0.76
post	6.76	5.71	8.62	5.58	ns.	ns.
change	4.79	5.06	2.71	4.34	2.12 <sup>†</sup>	ns.

Notes:  $d$ =Cohen's effect size ( $d = (M_1 - M_2)/SD_{pooled}$ ). ns.=non-significant at significance level 0.02 ( $\alpha = 0.05$  Bonferroni corrected for 3 comparisons). \*\*Significant with  $p < 0.001$  (two-tailed). <sup>†</sup> $p = 0.04$  (two-tailed).

Table 10

*Summary of results for hierarchical multiple regression with post-treatment symptom level as criterion and the interaction between group membership and SASB self-image change as predictor, controlling for pre-treatment symptom level, diagnosis, and self-image change (N=98).*

Model	Predictor	Criterion: SCL-90-R post-treatment					
		Model parameters		Predictor parameters			
		$R^2$ change	$F$ change	$B$	SEB	$t$	$d$
1		0.40	64.31**				
	SCL-90-R pre-treatment			0.56	0.07	8.02**	1.65
2		0.00	0.16				
	SCL-90-R pre-treatment			0.62	0.06	9.97**	2.07
	Diagnosis			0.07	0.04	1.49	ns.
3		0.15	32.37**				
	SCL-90-R pre-treatment			0.65	0.06	9.97**	2.07
	Diagnostic group			0.07	0.04	1.49	ns.
	$\Delta$ SIC			-0.05	0.01	-5.69**	-1.19
4		0.02	3.58 <sup>†</sup>				
	SCL-90-R pre-treatment			0.65	0.06	10.29**	2.16
	Diagnostic group			-0.00	0.06	-0.07	ns.
	$\Delta$ SIC			-0.05	0.01	-5.47**	-1.15
	Diagnostic group $\times$ $\Delta$ SIC			0.02	0.01	1.89 <sup>†</sup>	0.40

Notes: SCL-90-R=Symptom Checklist - 90 - Revised, Global Severity Index. SASB=Structural analysis of social behavior. Diagnostic group: anxiety group=-1, depression group= 1.  $\Delta$ SIC= Change in Self-image composite from pre-treatment to post-treatment.  $d$ =Cohen's effect size ( $d = 2t/\sqrt{(df)}$ ). ns.=non-significant at 0.05 level. \* $p < 0.05$  (two-tailed), \*\* $p < 0.001$  (two-tailed), <sup>†</sup> $p = 0.06$  (two-tailed).

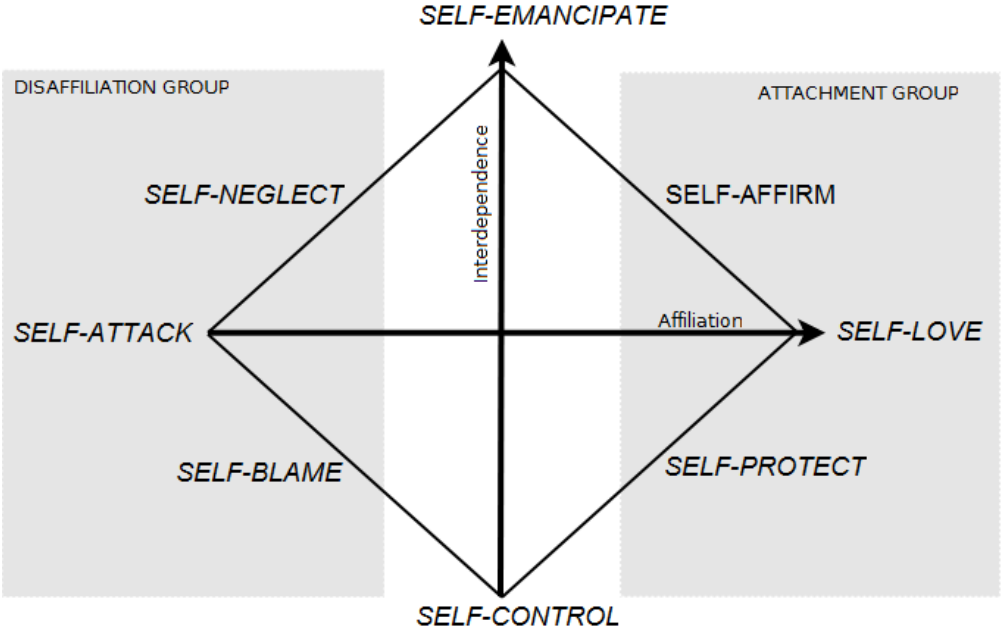


Figure 1. SASB self-image cluster model.