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SELF-IMAGE AND EATING DISORDERS

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“Allvaret”, Öland, Sweden. Oil on canvas.
By Caroline Björck, 1986.

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“Psychiatry is an art, namely, the art of observing and perhaps influencing the course of mental disorders”

H S Sullivan, 1953

To Per-Olof and Olivia

ABSTRACT

Negative self-image is considered typical of eating disorders. The present thesis aimed to study clinically relevant aspects of self-image in adult patients taking part in a large naturalistic and longitudinal project at specialist units for eating disorders in Sweden. Self-image was measured using the Structural Analysis of Social Behavior (SASB), and examined together with clinical and background variables at initial presentation and at follow-up. Important aspects of treatment, such as diagnosis, treatment satisfaction, outcome and dropout were the focus of four studies. In **Study I**, eating disorder patients were found to have more negative interpersonal profiles compared to controls. When diagnostic groups were compared, patients with anorexia nervosa were more self-controlling, self-hating and self-blaming, as well as less self-emancipated and self-loving. Patients with binge eating disorder were more self-affirming than patients with anorexia nervosa and bulimia nervosa, as well as less self-controlling than patients with anorexia nervosa and patients with atypical eating disorders. In **Study II**, patients who became unsatisfied with treatment were characterised by significantly more negative self-image, as well as higher levels of eating disorder and psychiatric symptoms compared to satisfied and highly satisfied patients. Unsatisfied patients expressed higher expectations of treatment interventions focusing on insight and lower expectations of interventions focusing on control. Overall satisfaction with treatment was predicted by interventions focusing on support and control of eating problems. In **Study III**, high levels of self-hate were significantly related to poor outcome; other variables related to poor outcome included low occupational status, problematic interpersonal relationships, eating disorder symptoms, high levels of self-emancipation, and psychiatric symptoms. In **Study IV**, patients who dropped out had less negative self-image and fewer psychological problems at intake compared to patients who had completed treatment or who were still in treatment; low levels of self-blame predicted dropout. Results of these studies suggest that eating disorder patients have significant problems with negative self-image. Examining self-image at initial assessment may help to identify patients at risk for negative therapeutic interactions. It may be especially important for therapists to pay attention to underlying interpersonal dynamics, to avoid being drawn into interactions that confirm negative self-image and are detrimental to treatment.

Keywords: anorexia nervosa, bulimia nervosa, diagnosis, dropout, eating disorders, outcome, prognosis, satisfaction, self-image, treatment

LIST OF PUBLICATIONS

The present thesis is based on the following studies, which will be referred to in the text by their roman numerals:

- I. Björck, C., Clinton, D., Sohlberg, S., Hällström, T. & Norring, C. (2003) Interpersonal profiles in eating disorders: ratings of SASB self-image. *Psychology and Psychotherapy: Theory, Research and Practice*, 76, 337-349.
- II. Clinton, D., Björck, C., Sohlberg, S. & Norring, C (2004). Patient satisfaction with treatment in eating disorders: cause for complacency or concern? *European Eating Disorders Review*, 12, 240-246.
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- IV. Björck, C., Björk, T., Clinton, D., Sohlberg, S. & Norring, C. Self-image and treatment dropout in eating disorders. *Submitted for publication*.

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LIST OF ABBREVIATIONS

AN	Anorexia Nervosa
ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
BED	Binge Eating Disorder
BDI	Beck Depression Inventory
BMI	Body Mass Index
BN	Bulimia Nervosa
CBT	Cognitive Behaviour Therapy
CO-RED	Coordinated Evaluation and Research at Specialised Units for Eating Disorders
DSM	Diagnostic and Statistical Manual of Mental Disorders
EDI	Eating Disorders Inventory
EDNOS	Eating Disorder Not Otherwise Specified
EDPEX	Eating Disorder Patient's Expectations and Experiences of Treatment Questionnaire
GSI	Global Severity Index
ICD	International Classification of Mental and Behavioural Disorders
IPT	Interpersonal Psychotherapy
MC-SDS	Marlowe and Crowne Social Desirability Scale
MSEI	Multidimensional Self-Esteem Inventory
OSIQ	Offer Self-Esteem Questionnaire
PCA	Principal Components Analysis
RAB	Rating of Anorexia and Bulimia Interview
RSES	Rosenberg Self-Esteem Scale
SASB	Structural Analysis of Social Behavior
SAWBS	Shape- and Weight Based Self-Esteem
SCL	Symptom Checklist
SLCS	Self-Liking and Competence Scale
SSES	State Self-Esteem Scale
TSCS	Tennessee Self-Concept Scale
TSS	Treatment Satisfaction Scale

INTRODUCTION

Eating disorders are complex psychiatric disturbances that can cause significant physical and psychosocial suffering for those afflicted. Although associated primarily with western culture, eating disorders have been reported throughout the world in a variety of social and cultural contexts (Abou-Saleh, Yonis & Karim, 1998; Chiu, 1989; Garcia de Amusquibar, 2000; Garcia de Amusquibar & De Simone, 2003; Heine, 1996; Hoek, van Harten, van Hoecken & Susser, 1998; Nobakht & Dezhkam, 2000; Pike & Mizushima, 2005). From the time when anorexia nervosa was first reported by Gull in 1873, to 1979 when bulimia nervosa was described by Russell, eating disorders have generally been considered rare afflictions. Today, an increasing number of patients, mostly female, seek treatment for these problems, and some researchers even speak of an eating disorders “epidemic” (Hoek, 2002).

The psychopathology of eating disorders is characterised primarily by refusal to maintain normal weight in anorexia nervosa, and by binge eating and compensatory behaviour in bulimia nervosa. Some patients also become socially withdrawn and obsessed with food and dieting (Beumont, 2002). In psychological terms, what is particularly salient in patients with eating disorders is that these patients express different forms of negative self-evaluation (Bruch, 1973; Crisp, 1980; Lask, 2000; Palazzoli, 1974; Silverstone, 1990). This can be seen in such diagnostic phenomena as body image dissatisfaction and the drive for thinness (Garner, 2002; Joiner, Schmidt & Wonderlich, 1997; McFarlane, McCabe, Jarry, Olmsted & Polivy, 2001; Sands, 2000). Self-destructive behaviour may also be present (Stein, Lilenfeld, Wildman & Marcus, 2004). Negative self-image and disturbances in the psychological development of the self have also been considered typical of eating disorders (Bruch, 1973; Sands, 1991; Silverstone, 1992; Strober, 1991).

Clinically, eating disorders have often been considered difficult to treat. Most often, this is attributed to lack of motivation (Geller, Cockell & Drab, 2001; Vitousek, Watson & Wilson, 1998) or fear of gaining weight and losing control (Palmer, 2000). However, the negative self-image that characterises these patients may also explain why some are difficult to treat. Within this context, interpersonal theory can be of particular use in explaining how social and developmental factors influence self-image and behaviour in relationships. According to interpersonal theory, self-image plays a key role in determining a person’s perceptions and interpretations of interactions with others (Kiesler, 1996; Sullivan, 1953). Interpersonal problems, such as difficulties trusting and relying on others, may be linked to negative self-image. Accordingly, it could be argued that patients with eating disorders who have negative self-image may also be characterised by interpersonal problems that may be detrimental to the treatment process. This is a potentially serious problem that has not received systematic attention in the literature, and which provides an important reason for conducting the research presented in this thesis.

Fundamental aspects of treatment may be influenced by a patient’s negative self-image. For example, the decision to end treatment prematurely may be influenced by

differences in the treatment goals of patients and therapists, or it may be a result of patients' inability to trust their therapists. Underlying interpersonal dynamics may be involved, and investigation of the influence of self-image on dropout could be of both theoretical and clinical importance. Other key areas of research concern outcome and patients' satisfaction with treatment. Theoretically, eating disorder patients with negative self-image may tend to perceive therapists as critical rather than supportive, which might tend to make them less satisfied with treatment. The role of interpersonal factors in treatment satisfaction is important to investigate, since successful treatment often involves the necessity of therapist and patient working together to help the patient take difficult steps, such as gaining weight or changing eating habits. However, it is not known whether negative self-image is a common feature of eating disorders or if there are important differences between patients with different eating disorder diagnoses. Moreover, no attempts have been made to explore empirically the specific influence of negative self-image on treatment satisfaction, dropout or outcome.

Better understanding of the role of negative self-image in eating disorders could have important therapeutic implications. First, investigating the possibility of diagnostic differences in self-image could help clinicians identify distinct self-image profiles, and alert them to different types of interpersonal problems that could be expected during treatment. Secondly, better knowledge of self-image in relation to treatment satisfaction could help to increase not just treatment satisfaction but also motivation and outcome. Thirdly, greater understanding of how self-image impacts on outcome may be instrumental for providing therapists with the interpersonal tools to improve the treatment of eating disorders. Fourthly, investigation of self-image in relation to dropout could result in better understanding of how this problem can be avoided.

However, in order to gain better understanding of the role self-image in eating disorders a relevant method and theory is needed. The Structural Analysis of Social Behavior (SASB) by Benjamin (1974, 2000) offers such a method. It has been proven to provide a valid and reliable measurement of self-image, and is well grounded in interpersonal theory. SASB has shown to be clinically useful in empirical research into treatment processes and outcome in various psychotherapy settings, although none of these studies have specifically investigated self-image in relation to important aspects of treatment in eating disorders.

The present thesis aims to address questions about self-image in eating disorders that are in need of empirical investigation and that have clinical relevance. Specific areas that are examined include: (1) self-image in relation to eating disorder diagnosis; (2) treatment satisfaction and its relationship to self-image; (3) outcome and the question of self-image as a prognostic factor; and (4) self-image and treatment dropout. Before presenting the studies concerned in greater detail, an introduction is provided that allows the studies to be considered within a relevant context. Definitions of eating disorders are discussed, and a review is made of empirical research into self-image, treatment satisfaction, outcome, and dropout. A theoretical introduction to the concept of self-image and interpersonal theory follows, along with a presentation of the SASB methodology and a description of how self-image is measured. Finally, a review of results from empirical research using SASB in eating disorders research is presented.

First, however, a brief historical background to the present studies will be presented. It began when the decision was made in 1995 to include a measure of self-image in a large multi-centre project into eating disorders. The project, Co-ordinated Evaluation and Research at Specialized Units for Eating Disorders in Sweden (CO-RED), was the first in Sweden to examine eating disorders using a longitudinal and naturalistic design. The project had the ambition of including the majority of all available eating disorder centres in Sweden, and the overall aim was to follow patients from admission through treatment and into the post-treatment follow-up phase, using a battery of repeated measures. The decision to include a measure of self-image was taken relatively late in the planning process, and with some reluctance, since the project had already built up a considerable battery of proposed methods. Nevertheless, SASB promised to generate essential information with regard to what was regarded as a key feature of eating disorders, namely self-image. Looking back, it can be argued that the promise was kept, the result being, amongst other things, the studies included in this thesis. A chief focus of this thesis will be discussion of the clinical implications of these studies, as well as the advantage of using SASB to measure self-image in the treatment of eating disorders.

BACKGROUND

What is an eating disorder?

Although the clinical characteristics of eating disorders are probably well known to both clinicians and the general public, research on eating disorders has, in fact, suffered from problems of definitions of what an eating disorder actually is. It was not until relatively recently that two prominent researchers within the field, Fairburn and Walsh (2002), suggested that eating disorders could be defined as:

A persistent disturbance of eating behaviour or behaviour intended to lose weight, which significantly impairs physical health or psychosocial functioning. This disturbance should not be secondary to any recognized general medical disorder (i.e. a hypothalamic tumour) or any other psychiatric disorder (i.e. an anxiety disorder).

Within psychiatry, eating disorders are classified according to two distinct diagnostic systems, the Diagnostic and Statistical Manual of Mental Disorders or DSM-IV (American Psychiatric Association, 1994) and the International Classification of Mental and Behavioural Disorders: Diagnostic Criteria for Research or ICD-10 (World Health Organisation, 1992). According to DSM-IV, which is the most widely used system for diagnosing eating disorders in Sweden, three diagnoses are distinguished: anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (EDNOS). Anorexia nervosa is characterised by a refusal to maintain normal weight, intense fear of gaining weight or becoming fat, and disturbances of body image. Many patients tend to deny the seriousness of their low body weight. Anorexia nervosa is further divided into two subtypes: (1) the *restricting type*, when the patient is not engaged in binge eating or compensatory behaviours, such as vomiting or the use of laxatives or diuretics with the aim of losing weight, and (2) the *binge eating/purging type*, when the patient regularly engages in binge eating, or uses compensatory behaviours such as vomiting or the use of laxatives or diuretics. Bulimia nervosa is defined in terms of recurrent episodes of binge eating and compensatory behaviour, at least twice a week during a period of three months. Binge eating is characterised by the consumption of abnormally excessive amounts of food within a short space of time. These patients also experience a loss of control over what they eat and how much food they consume. In order to compensate for their binge eating patients with bulimia nervosa regularly engage behaviours such as self-induced vomiting, excessive physical exercise, and the use of laxatives or diuretics. Bulimia nervosa is also further divided into two subtypes: (1) the *purging type*, when the patient regularly engages in purging behaviours such as vomiting or use of laxatives, and (2) the *non-purging type*, when the patient regularly uses non-purging compensatory behaviours such as physical exercise or fasting. An important common characteristic of both anorexia nervosa and bulimia nervosa is that patients tend to evaluate themselves their body shape and weight, resulting in high levels of body-dissatisfaction. Putting it another way, their self-image is highly affected by their body-dissatisfaction.

The third diagnostic category of EDNOS defines atypical eating disorders that do not meet all the criteria for any of the two *specific* eating disorders (i.e. anorexia nervosa or bulimia nervosa). These patients are, nevertheless, characterised by markedly disturbed eating patterns. An atypical eating disorder is diagnosed, for example, when: (1) all criteria for AN are met except for amenorrhea, (2) all criteria for AN are met except for the patient's weight being above the anorectic threshold but still sub-normal, (3) all criteria for BN are met with the exception of binge-eating and compensatory behaviours occurring less frequently than twice a week or for a duration of less than three months, (4) a patient of normal weight uses compensatory behaviours on a regular basis even after eating small amounts of food, (5) a patient who regularly chews and spits out, but does not swallow, large amounts of food, or (6) there are recurrent episodes of binge-eating in the absence of compensatory behaviour typical for bulimia nervosa (this is also termed binge eating disorder (BED)). Binge eating disorder is presently included among the atypical eating disorders of DSM-IV as a provisional diagnosis, since the specificity of this diagnosis has not yet been established empirically. The validity of BED has been debated, since the symptoms of binge-eating can be seen in all types of eating disorders. However, recent studies have supported the validity of BED as distinct diagnosis, and in terms of clinical practice it is most often recognised as a specific eating disorder necessitating different treatment interventions (Bulik, Sullivan & Kendler, 2000; Fairburn, Cooper, Doll, Norman, & O'Connor, 2000). In the present thesis BED is treated as a specific eating disorder alongside anorexia nervosa, bulimia nervosa and EDNOS. Other related disorders, such as obesity and night eating syndrome, that are also characterised by disturbed eating patterns including binge-eating (Stunkard, 2002; Yanovski, 2002), will not be addressed here, since specialist treatment programmes in Sweden rarely include these disorders. Detailed criteria for the DSM-IV eating disorder diagnoses are presented in Appendix 1.

Negative self-image in eating disorders: What do we know? What needs to be better understood?

Negative self-image (Bruch, 1973; Casper, Offer & Ostrov, 1981; Lask, 2000; Palazzoli, 1974) and low self-esteem (Beumont, 2002; Silvera, et al., 1998; Silverstone, 1990) have been suggested to be typical of eating disorders, and a number of studies have found eating disorder patients to be characterised by more negative self-image compared to normal controls (Button, Sonuga-Barke, Davies & Thompson 1996; Casper et al., 1981; Erkolahti, Saarijarvi, Ilonen & Hagman, 2002; Geller et al., 1998; Johnsson, Smith & Amner, 2001; Lilenfeld et al., 1998; Mendelson, McLaren, Gauvin & Steiger, 2002; Sanftner & Crowther, 1998; Schupak Neuberg & Nemeroff, 1993; Sheppy, Friesen & Hakstian, 1988; Steinhausen & Vollrath, 1993; Strauss & Ryan, 1987; Wonderlich, Klein & Council, 1996). Other research suggests that low self-esteem may be a risk-factor for the development of eating disorders (Button et al., 1996; Cervera et al., 2003; Fairburn, Cooper, Doll & Welch, 1999; Fairburn, Doll, Welch, Hay, Davies & O'Connor, 1998; Fairburn, Welch, Doll, Davies & O'Connor, 1997; Ghaderi, 2003; Lilenfeld et al., 1998; Miotto, De Coppi, Frezza, Rossi & Preti, 2002; Ross & Wade, 2003; Vohs, Bardone, Joiner, Abrahamson & Heatherton, 1999).

However, most empirical studies of self-image and self-esteem have failed to elaborate on the clinical implications of negative self-image. Systematic research on self-image in eating disorders has also suffered from methodological problems, which have left the meaning and significance of previous findings unclear. Divergent methods for measuring self-image have been used. Some methods have been based on a single dimension only, such as is the case with the Rosenberg Self-Esteem Scale (RSES), which has been used in a number of studies on self-image in eating disorders (Mendelson et al., 2002; Steinhausen & Vollrath, 1993; Zaitsoff et al., 2002). In a study by Sassaroli and Ruggiero (2005) using the two-dimensional Self-liking and Competence Scale (SLCS), low self-esteem and perceptions of parental criticism were associated with symptoms of eating disorders in stressful situations. A number of more extensive methods with multiple dimensions have also been employed. For example, the Offer Self-Image Questionnaire (OSIQ) was used by Erkolathi and co-workers (2002), who found that patients with anorexia and bulimia presented with more severe self-images compared to normal controls. The Tennessee Self-Concept Scale (TSCS) was used in a study by Johnsson and co-workers (2001), who found generally low scores on the TSCS for hospitalised patients with anorexia nervosa and bulimia nervosa. The Multi-dimensional Self-Esteem Inventory (MSEI) was used by Steinberg and Shaw (1997), who found that low self-esteem was associated with more eating disorder symptoms. Using the State Self-Esteem Scale (SSES) Sanftner and Crowther (1998) found low levels of self-esteem among women who were engaged in binge-eating compared to those who did not binge. The SSES was also used by Vohs and co-workers (1999) who found that bulimic symptoms were predicted by low self-esteem and perfectionism in individuals who considered themselves to be overweight. Using the Shape- and Weight Based Self-esteem Inventory (SAWBS) Geller and co-workers (1998) found that patients with eating disorders rated their self-esteem to be more related to shape and weight compared to psychiatric and normal control groups. In a study by Miotto and co-workers (2002) using the Marlowe and Crowne Social Desirability Scale (MC-SDS) low self-esteem was found to be associated with abnormal eating patterns. In other examples, Schupak-Neuberg and Nemeroff (1997) found an overall instability of self-image in a non-clinical sample of individuals with bulimia nervosa. There are also examples of studies using self-esteem questionnaires specifically developed for Spanish populations (Cervera et al., 2003; Gual et al., 2003), where low self-esteem was found to be a risk factor for the development of eating disorders.

Another problem in research on self-image in eating disorders is that studies have been focused on patients with anorexia nervosa or bulimia nervosa (Button & Warren, 2002; Erkolathi et al., 2002; Fairburn, et al., 1999; Johnsson et al., 2001; Schupac-Neuberg & Nemeroff, 1993). Few studies have included other important diagnostic categories, such as patients with EDNOS or BED. Those reports that have examined EDNOS or BED (Geller et al., 1998; Mendelson et al., 2002) have investigated only a small number of patients recruited from a single tertiary treatment centre. Since EDNOS may comprise as much as half of all patients seeking treatment for eating disorders (Fairburn & Harrison, 2003; Fairburn & Walsh, 2002), a large proportion of cases may have been ignored. There may also be a problem with the fact that many studies have investigated self-image in non-clinical groups that have been screened for eating disorder symptoms and that have not been part of any treatment programme

(Cervera et al., 2003; Gual et al., 2002; Miotto et al., 2002; Sanftner & Crowther, 1998; Sassaroli & Ruggiero, 2005; Schupak-Neuberg & Nemeroff, 1993; Steinberg & Shaw, 1997; Vohs et al., 1999). Results from such studies have at best limited value when it comes to understanding self-image in patients with eating disorders who are being treated at specialist clinics. Generally, there is a lack of knowledge about the possible clinical implications of negative self-image in the treatment of eating disorders. In order to understand the clinical implications of negative self-image in eating disorders, studies need to focus specifically on important aspects of treatment that could be influenced by patients' negative self-image, such as satisfaction with treatment, outcome, and dropout.

Patient satisfaction with treatment: an underestimated aspect of outcome in eating disorders?

Satisfaction with treatment may play a key role in outcome in eating disorders. Using SASB, Rudy and colleagues (1986) found that patients' ratings of their therapists as actively listening, accepting, affirming, and showing empathy and warmth was associated with positive outcome. Patients in this study also reported greater satisfaction with treatment. What's more, when both patients and therapists rated the interpersonal interaction in therapy to be reciprocal in terms of openness and friendliness, more successful outcome was achieved. The study by Rudy et al. (1986) underlines the importance of investigating patients' satisfaction with treatment in relation to interpersonal issues. Examining the influence of self-image on perceptions of therapist behaviour in treatment may also help us to understand the mechanisms involved in satisfaction with treatment. Understanding what makes eating disorder patients satisfied with treatment is important, and may be necessary in order to improve motivation and treatment compliance as well as reduce the risk of dropout and poor outcome.

The concept of satisfaction has been suggested to comprise aspects such as interpersonal relationships, communications, involvement in treatment, support, and respect for confidentiality (Gerber & Prince, 1999; Hardy, West, & Hill, 1996; Parker, Wright, Robertson, & Gladstone, 1996; Sixma, Spreeuwenberg, & van der Pasch, 1998; Williams, Coyle, & Healy, 1998). It could be argued that eating disorder patients with negative self-image may be more vulnerable to negative experiences in treatment, and to becoming less satisfied with treatment. Research suggests that eating disorder patients are often sent from one treatment to another and can develop distrust of new treatment settings, while their negative attitudes can be reinforced by therapists who see them as chronic (Nordenbos, Jacobs & Hertzberger, 1998). Negative self-image can make a person more interpersonally sensitive to the statements and actions of others that are perceived as confirming their negative self-image. It may be essential for therapists take into account that a patient's perception of the quality of interpersonal relationships may to a considerable extent influence how these patients react to the treatment they receive. In fact, one study reported that treatment dissatisfaction was predicted by eating disorder patients' perceptions that staff did not pay sufficient attention to them and failed to explain procedures and tests that were used in treatment (Yarnold, Michelson, Thompson & Adams, 1998). Although such results underscore the importance of being careful and focused on eating disorder patients' experiences of treat-

ment, negative experiences in treatment could be influenced by negative self-image. Better knowledge of treatment satisfaction could also aid both overall treatment evaluation and individual treatment planning. If negative self-image was found to influence satisfaction with treatment, this could indicate that important underlying interpersonal issues need to be taken into account in order to improve satisfaction and even outcome in the treatment of eating disorders.

The importance of investigating self-image in relation to outcome in eating disorders

Although eating disorder patients may recover in terms of key diagnostic symptoms, they often continue to suffer from residual features of their disorders, such as over concern about body shape and weight as well as low self-esteem (Button & Warren, 2002; Sullivan, 2002). Some patients experience a short period of illness, while others are at risk of life-long suffering. In reviews of the literature only 50% of patients with anorexia nervosa and 70% of patients with bulimia nervosa have been judged recovered at intermediate- and long-term follow-up (i.e. < 10 years) (Sullivan, 2002). Approximately 10-20% of patients with anorexia nervosa are suggested to be at risk for a chronic state of the disorder (Fairburn & Harrison, 2003). Another difficulty that concerns research on outcome is that some patients “change” diagnostic status during the course of their illness. Although more research is needed with regard to this issue of “crossover”, about 15% of patients with anorexia nervosa and about 1% of patients with bulimia nervosa (Sullivan, 2002) may change diagnosis. This is problematic, especially in regard to patients with anorexia nervosa, since many outcome studies are based on measures of whether patients retain their initial diagnosis, and fail to report cases of crossover to another eating disorder diagnosis during the follow-up period. Identifying outcome predictors is important for all types of treatment, since it may help us to understand the course of illness and provide knowledge that clinicians can use for improving the treatment of individual patients.

Research on outcome in eating disorders also suffers from a number of methodological problems. For example, the use of different outcome measures has been cited as one explanation of the wide variability in outcome rates found in eating disorders (Clausen, 2004; Keel, Mitchell, Davies, Fieselman & Crow, 2000; Quadflieg & Fichter, 2003; Vaz, 1998). Another methodological problem is the fact that most outcome measures have been categorical, and based purely on expert ratings of key diagnostic symptoms. Few studies have attempted to include measures of general psychiatric morbidity, psychological symptoms, interpersonal relationships and occupational status in a general measure of outcome. This is unfortunate, since analysing multiple outcomes may be essential for making relevant predictions in the real world (Fisher, 2003). What is also important, and often overlooked, is the need for a clinically meaningful theory to put into perspective why some patients remain ill despite valiant treatment efforts. As noted previously, a general problem in research on treatment of eating disorders is that most studies have focused on the two major eating disorders, anorexia nervosa and bulimia nervosa. Few outcome studies have focused on large groups of eating disorder patients suffering from EDNOS and BED.

Since negative self-image may remain a problem despite the amelioration of key diagnostic symptoms (Sullivan, 2002; Button & Warren, 2002), it is imperative to systematically investigate if, and more importantly how, negative self-image can predict outcome. What's more, it is important to address this issue in a sample that includes all groups of eating disorder patients, and to focus especially on using an appropriate outcome measure that encompasses not only clinical symptoms, but also other relevant domains, such as interpersonal relationships, socio-demographic factors, psychiatric symptoms, and psychological symptoms.

Can self-image and interpersonal theory help to explain why patients with eating disorders drop out of treatment?

Eating disorders are often considered to be difficult to treatment because of deficient motivation, often related to mixed feelings about changing eating habits. Treatment often challenges a patient's fear of losing control and gaining weight in anorexia nervosa, or a fear of exposing shameful behaviour, such as vomiting in bulimia nervosa. The importance of establishing a therapeutic alliance is, therefore, an essential prerequisite to treatment and necessary for maintaining motivation for change (Palmer, 2002). Negative self-image may, however, prove to be a serious hinder to engaging patients in treatment, and could mean increased risk for negative therapeutic reactions leading to the premature termination of treatment. Dropout from treatment often occurs in eating disorders (Agras et al., 2000), and studies suggest that up to 57% of patients terminate treatment prematurely (Di Pietro, Valoroso, Fichelle, Bruno & Sorge, 2002). This is a serious clinical problem, and there is a need for more studies in this area. More specifically, there is a need for studies that use theoretical frameworks focusing on relational and attachment patterns in order to better understand interpersonal factors in what makes certain patients vulnerable to dropout (Mahon, 2000).

Research suggests that dropout in eating disorders is associated with different forms of psychopathology (Baran, Weltzin & Kaye, 1995; Fassino, Abbate Daga, Piero & Rovera, 2002; Fassino, Abbate Daga, Piero & Rovera, 2003; Steel et al., 2000; Strober, Freeman & Morell, 1997; Vandereycken & Pierloot, 1983; Waller, 1996; Woodside, Carter & Blackmore, 2004). However, only a few studies have examined the possibility that important interpersonal issues may be involved. Divergence in treatment expectations between patients and their therapists has been related to dropout (Clinton, 1996), as well as discrepancies between what patients expect from treatment and what they actually receive (Walsh, Fairburn, Mickley, Sysko & Parides, 2004). Lack of motivation to change (Geller *et al.*, 2001), difficulties trusting and relating to others (Blouin et al., 1995) and social insecurity (Fassino et al., 2002) have also been found to be important factors in the decision to end treatment prematurely. All of these factors have important interpersonal underpinnings, yet they have not been systematically explored within the context of an empirically valid interpersonal theory.

Other serious problems with previous research concern the definition of dropout and the use of appropriate comparison groups. Patients who are classified as having dropped out may have done so early within the first sessions (Clinton, 1996) or relatively late, such as 9 months into treatment (Vandereycken & Pierloot, 1983). Other

studies combine early and late dropout (Eivors, Button, Warner & Turner, 2003), or have failed to report data on time in treatment prior to dropout (Blouin et al., 1995; Favaro & Santonastaso, 2000; Franzén, Backmund & Gerlinghoff, 2004; Surgenor, Maguire & Beumont, 2004; Tasca, Taylor, Ritchie & Balfour, 2004). This is problematic since it makes between-study comparisons difficult. Another methodological problem concerns the comparison groups that have been used in earlier research. Patients who drop out tend to be compared with those who have not dropped out at the time of the study in question, i.e. comparisons are made with patients who remain in treatment. However, it is not known whether these treatment remainers dropped out at a later stage. If dropouts are not compared with remainers, they tend to be compared with patients who have completed treatment, and the question of comparisons with those who remain in treatment is ignored. A better approach would compare dropouts with both those who remain in treatment and those who have completed treatment. Results of such work could help clinicians limit dropout caused by underlying interpersonal issues related to self-image.

The development of self-image and its influence on interpersonal interactions: perspectives from interpersonal theory

As previously stated, better knowledge self-image may improve treatment, since self-image may influence interpersonal relationships, especially those experienced in treatment. The following section will consider how self-image, according to contemporary interpersonal theory (Kiesler, 1996) and the interpersonal theory of psychiatry as described by Sullivan (1953), could be of central importance when it comes to understanding the influence of self-image on interpersonal interactions. From an interpersonal perspective, the concept of self is suggested to be interpersonal and transactional in terms of its development and functioning (Kiesler, 1996). For example, self-image, in contrast to the psychoanalytical concept of “ego”, should not be understood as a separate entity, but is better understood as a *dynamic system* in the sense that it not only reflects early experiences of interpersonal relationships but also serves as an “organizer” for the perceptions of self and others in social interactions (Sullivan, 1953).

Interpersonal behaviours in social situations can be divided into *overt* behaviours and *covert* behaviours (subjective and private expectations and fantasies about relationships); and three levels of interpersonal interactions can be distinguished: 1) observable actions, 2) individual perceptions of self and others, and 3) unconscious perceptions of self and others. Self-image can be said to comprise covert behaviour at both conscious and unconscious levels. In other words, self-image can be seen as a picture of a relationship, always including another person. Moreover, self-image can be seen as organising all interpersonal experiences in a way that is predominantly unconscious and automatic. According to Sullivan, the fundamental purpose of this organisation is to reduce anxiety in terms of interpersonal insecurity. Such insecurity may be experienced when self-image is not confirmed in relationships with others. A person’s basic striving is therefore to minimize interpersonal insecurity that may result in lack of identification or recognition of self. We consequently attempt to influence others into interactions that tend to confirm our self-image.

Three basic interpersonal learning experiences can be distinguished in the formation of the self-image. Proceeding from the earliest relationship between caregiver and infant, experiences of satisfaction, tenderness, and appreciation from the caregiver ultimately result in a pleasant feeling in the child, which serves to induce “good me” personifications. However, when experiences of tension, rejection, or denial are present this may engender negative feelings that the infant can interpret as induced by the caregiver, which subsequently induces another type of personification, namely the “bad me”. A third type of personification, “not me”, is created in circumstances that are outside the normal range of experience, such as when the caregiver has a serious disturbance of personality (Sullivan, 1953). Interpersonal theory assumes that self-image is grounded in these different types of subjective experience of interpersonal relationships.

If the interpersonal environment is perceived as predominantly negative, e.g. in terms of parental hostility, neglect or criticism, the basic needs of attachment and autonomy may not be met. Pathological interpersonal patterns may ensue, which could be seen in, for example, internalised expectations of others’ hostility, a tendency to react in a submissive manner or introjected actions towards the self, such as self-blame or self-neglect. Other examples of pathological interpersonal functioning are the inability to separate one’s own actions from those of others, and when the child believes him- or herself to be the cause of parental conflicts. Interpersonal anxiety is avoided by strivings toward being “good me”, which is thought to be an essential wish in all humans. However, self-representations of “bad me” and “not me” are also present in interpersonal relationships, which means that situations that individuals encounter, will be also be perceived from the perspective of how to avoid feelings of “bad-me” or “not me”. This can happen when an interpersonal situation results in the individual being reminded of “the self that I dislike and do not want to be” (i.e. bad me). Such personifications can be said to represent behaviours that are inconsistent with the “good me” representation (i.e. “the one I wish to be and most often am”), and can therefore induce imbalance between the need to be confirmed and the interpersonal experience. When two people interact and their interpersonal behaviours are congruent or matched, self-image can be confirmed, and the risk of feeling disapproval, or reminded of the self that is not tolerated, can be avoided. Such congruent behaviour also makes interpersonal situations more predictable.

Behavioural matching is important for understanding how interpersonal interactions strive toward congruence. The process has been termed “the principle of reciprocal interpersonal relations”, or “complementarity”, and means that any interpersonal act is designed to *pull for* a predictable reaction that confirms, reinforces or validates behaviour. Interpersonal matching also occurs when a person with negative self-image experiences reactions such as blame or criticism. In such instances, self-image is identified as “the one I recognize and most often identify myself with” or, in other words, the one that often is to blame, and has to be controlled or even defeated. This can be said to represent a pathological self-personification. In situations that engender such reactions, blame from others may be perceived as matching internalised blame. At the same time, interpersonal insecurity is avoided, and the situation becomes predictable. Put another way, self-image will always strive to validate itself, regardless of whether or not it is

positive or negative, in order to minimize mismatching interpersonal experiences. Normally, most of us have flexible ways of using a wide range of interpersonal behaviours that help us to cope with a variety of interpersonal experiences. But the more pathological a person's self-image is, the more rigid it also is, and the greater the pull to make interpersonal interactions match established pathological patterns (Kiesler, 1996).

Structural analysis of social behavior (SASB)

The SASB model (Benjamin, 1974) is a circumplex structure aimed at measuring self-image and interpersonal interactions. The background to circumplex models of interpersonal behaviour dates back to the 1950's, when Leary and co-workers presented a two-dimensional circumplex model that arranged interpersonal behaviour around two axes: control (dominance – submission) and affiliation (hostile – friendly) (Plutchik & Conte, 1997). Empirical research also suggests a circular ordering of interpersonal behaviours around two basic dimensions of control and affiliation (Gurtman, 1997; Lorr, 1997). Circumplex models have made important contributions to personality theory in terms of understanding the interpersonal functions of personality. They also offer practical methods for describing interpersonal relations within the range of normal to pathological interpersonal patterns (Plutchik & Conte, 1997).

An important contribution to interpersonal circumplex models was made by Schaefer, who suggested a separate circumplex for parental behaviours. The poles in the control dimension were instead suggested to be “autonomy giving” as opposed to “control taking” (rather than control/dominance as opposed to submission) (Schaefer, 1997). The validity of this function of parental behaviour, as described in Schaefer's model has been confirmed across cultures (Benjamin, 1996). The SASB model combines the important contributions made by Leary's circumplex structure for interpersonal behaviour and Schaefer's elaboration of the control dimension. A specific focus (a third circumplex surface) for covert interpersonal behaviours is also included in the SASB model (see Figure 1). SASB is founded on interpersonal theory, in particular Sullivan's hypothesis that self-image is formed by interpersonal experiences with significant others. The model also includes the key contributions by Leary and Schaefer with regard to circumplex models of interpersonal behaviour. SASB measurement methodology includes both interpersonal interactions and self-image. It has the advantage of being both empirically well grounded (Pincus, Newes, Dickinson & Ruiz, 1998; Ruiz, Pincus & Bedics, 1999) and clinically useful within the context of different forms of psychotherapy (Henry, 1996; Henry, Schacht & Strupp, 1986, 1990; Henry, Schacht, Strupp, Butler & Binder, 1993; Hilliard, Henry & Strupp, 2000).

The SASB model, like most interpersonal models, is built around two axes, in this case interdependence and affiliation. Interpersonal behaviours are seen as being organised in terms of three distinct dimensions, which is a unique feature in the SASB model. These dimensions (or *surfaces* as they are termed within the model) each have a specific interpersonal focus. The first surface defines perceptions of the *actions* of others. The second surface concerns one's own *reactions* to the actions of others, while the third surface comprises what can be termed “the introject” or *self-image*. All three surfaces are theoretically linked. The perceived actions of others (Surface 1) are seen as

representative of early experiences of interpersonal interactions with parents that may result in “introjected” or internalized actions towards the self (Surface 3, i.e. self-image). Perceptions of parental blame are seen as resulting in subsequent internalised self-blame. The theoretical link between Surfaces 1 and 2 can be described in terms of complementarity. Behaviours that are defined on Surface 2 can represent the complementary (childlike) reactions of (parent-like) actions described on Surface 1, and vice versa. Schematically, these complementary behaviours can be identified at the same position on Surface 1 and 2. For example, dominant behaviour (at the bottom of the interdependence dimension on Surface 1) invites reactions that are submissive (these reactions are positioned at the bottom of the interdependence dimension on Surface 2). In other words, Surfaces 1 and 2 could be said to mirror each other in terms of behavioural matching. Accordingly, the SASB model has a special advantage in that it combines both overt (Surfaces 1 and 2) and covert behaviours such as self-image (Surface 3). An important advantage of the SASB model is that covert and overt behaviours are measured separately, which allows for a more specific empirical investigation of self-image not found in other interpersonal methods, such as the Inventory of Interpersonal Problems (IIP; Horowitz, 2000), where aspects of self-image are included in the measurement of general interpersonal problems. The SASB model is presented graphically in Figure 1.

Although all three SASB surfaces are central components of a person’s interpersonal world, investigating self-image (Surface 3) is particularly important, since self-image can be seen as forming the cornerstone of a person’s ongoing interactions with others. As such, self-image can be used to better understand actions and subsequent reactions in interpersonal situations. Additionally, SASB defines a number of predictive principles that can ‘suggest what may have antedated and what may follow an interpersonal event’ (Benjamin, 1996, p. 148). As noted above, internalized self-blame may result in the establishment of a pattern in which others are perceived as blaming. Another important reason for focusing on the third surface of SASB concerns clinical utility. Pathological self-image can be approached therapeutically using interpersonal, psychodynamic, and cognitive forms of psychotherapy. Increased understanding of self-image in eating disorders could make it easier to confront, challenge, and ultimately change pathological patterns of interpersonal behaviour using a variety of psychotherapeutic orientations.

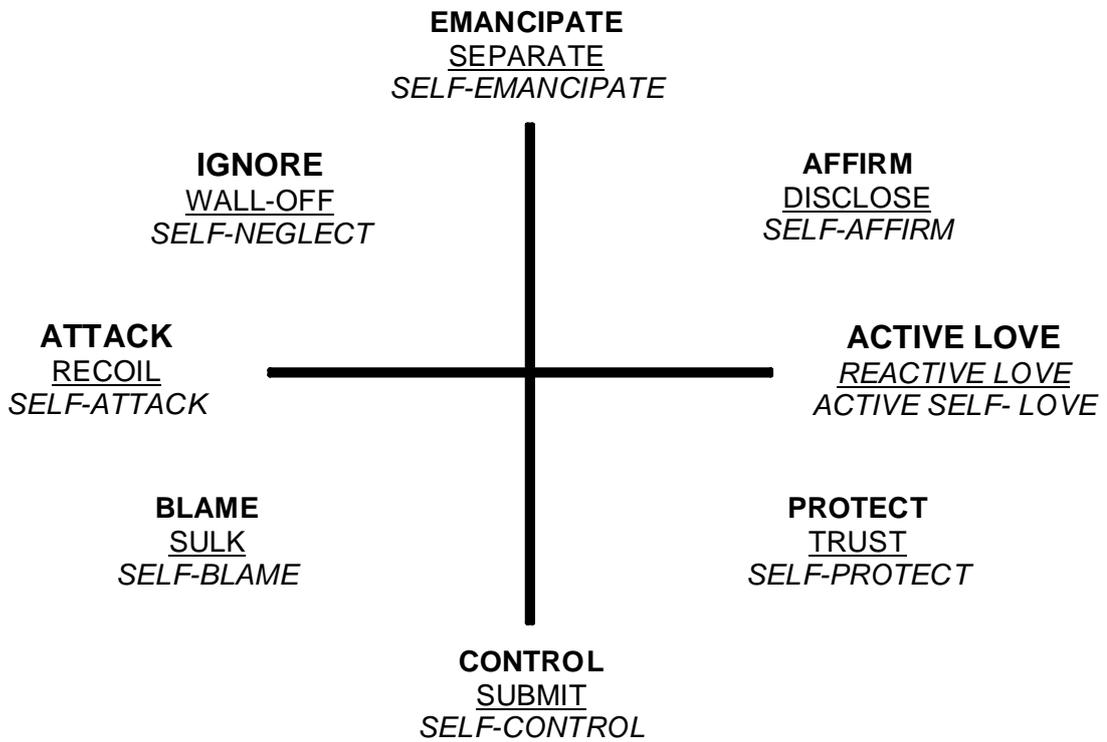


Figure 1. SASB Cluster version: surface 1 (**bold print**), surface 2 (underlined) and surface 3 (*italics*), Lorna Smith Benjamin (1996), © University of Utah.

Empirical studies using SASB methodology in eating disorders

Previous research using SASB on eating disorders has focused primarily on patients with anorexia nervosa and bulimia nervosa. It has been found that adolescent anorexics present with considerably greater negative self-image compared to controls. For example, 30 hospitalised adolescents with anorexia nervosa reported significantly more self-control and self-hate, in addition to less self-love compared to age-matched normal controls (Swift et al, 1986). These results lend support to the theoretical postulates of Bruch (1973), who claimed that anorexia nervosa is characterised by aggression turned inwards toward the self. Sheppy and co-workers (1988) studied 30 patients with anorexia nervosa, aged between 15 and 23, together with their parents, in an outpatient setting. Patients reported low affiliation scores (i.e. high levels of self-hate and low levels of self-love) compared to normal controls; they also rated their mothers as expressing less love and more control. Researchers concluded that results were in support of earlier observations (e.g. Palazzoli, 1978) that patients with anorexia nervosa often experience low self-esteem and lack of self-worth. In a study by Strauss and Ryan

(1987), 21 patients with anorexia nervosa purging subtype and 19 patients of the non-purging subtype aged between 16 and 31 years were compared to normal controls. Patients had greater disturbances of autonomy in terms of more self-control and poorer differentiation of self and other; they also reported more pathological family communication.

In a study investigating 25 adult patients with bulimia nervosa using SASB methodology Wonderlich and colleagues (1996) found patients to have more negative self-image, in particular higher self-directed hostility and lower self-love, compared to normal controls. Patients also tended to rate their parents as being unfriendly and interpersonally disengaged. In an earlier study, both anorexics and bulimics reported hostile interpersonal interactions with their parents, although this finding failed to attain statistical significance when states of depressed mood were controlled for (Wonderlich & Swift, 1990). In their discussion of these findings the researchers emphasised the importance of conducting more sophisticated analyses of the relationship between depressed mood and perceptions of hostile interpersonal interactions, since it could not be concluded whether hostile interpersonal interactions had caused depressed mood, or vice versa. Only one paper has included patients with BED in a study of family interactions and views of self using SASB (Friedman, Wilfley, Welch & Kuncze, 1997). When 37 patients with BED were compared with bulimics, a group of overweight individuals and a group of normal controls, it was found that patients with BED and bulimics reported significantly greater self-directed hostility. Patients with bulimia nervosa also reported higher levels of hostile family functioning compared to non-bulimic control groups.

Humphrey and co-workers (1986) found that the self-images of anorexia nervosa purging subtype were more self-blaming, self-hating, and self-neglecting, as well as less self-exploring, self-loving, and self-protecting compared normal controls. Additionally, these patients rated their mothers and fathers as more blaming (Surface 1), and they reported that they often reacted by sulking and appeasing (Surface 2) in interpersonal interactions. These results were also supported when interactions between family members were directly observed and coded using SASB methodology. Parents were found to often give contradictory interpersonal messages, in terms of both taking control and encouraging autonomy. This study, in particular, exemplifies the interrelationships between surfaces in the SASB model, suggesting that the use of Surface 3 (self-image) may have important clinical implications.

In a further study by Humphrey (1987), 16 families with a daughter suffering from anorexia nervosa purging subtype were compared with 24 normal families. It was found that parents of anorexics showed more complex communications in terms of ignoring and disregarding compared to control parents. In another study (Humphrey, 1989), of 74 families with anorexic or bulimic daughters it was found that parents of anorexics communicated more mixed messages, such as nurturant affection in combination with neglect in relation to their daughters' needs to express themselves. The interpersonal interactions of parents with bulimic daughters were instead characterized by more hostile enmeshment, which tended to undermine their daughters needs for separation. A similar pattern of results was also found in a study comparing families with a

bulimic daughter, families with a drug-dependent daughter, and normal families (Ratti, Humphrey & Lyons, 1996). Families with bulimic or drug-dependent daughters were characterized by interpersonal interactions that were predominantly hostile. Although these studies are clearly a step in the right direction, and suggest that self-image and dysfunctional interpersonal family patterns are related to the aetiology and maintenance of eating disorders, no study using SASB methodology has aimed at better understanding the clinical implications of negative self-image in eating disorders.

AIMS

The present thesis aimed to study self-image in eating disorders and its relationship to important aspects of treatment, such as diagnosis, treatment satisfaction, outcome and dropout. Using the Structural Analysis of Social Behavior (SASB), a theoretically well founded, empirically validated and clinically useful method for measuring self-image, adult eating disorder patients at specialised treatment units in Sweden were examined in four studies, each with specific aims.

STUDY I

The aim of this study was to explore interpersonal profiles, as defined by ratings of SASB self-image in eating disorders, to make comparisons between patients and relevant controls and to examine differences across diagnostic groups. In particular, the study attempted to examine whether negative self-image is a general characteristic of eating disorders, or a dimensional phenomenon with distinct differences in self-image between diagnostic groups.

STUDY II

The main objectives of this study were to explore how satisfied eating disorder patients are with treatment, how satisfaction is related to eating disorder and concomitant psychopathology, and what predicts satisfaction.

STUDY III

This study aimed to examine the relationship between self-image and follow-up status in eating disorder patients. Intake measures of SASB self-image, eating disorder symptoms and general psychiatric symptoms were used to predict outcome at 36-month follow-up. The study also aimed to calculate and examine a general measure of outcome encompassing occupational status interpersonal, relationships and relevant clinical symptoms.

STUDY IV

This study aimed to examine whether SASB self-image and interpersonal theory could help to explain why eating disorder patients drop out of treatment. In particular, the study aimed to compare patients who dropped out with patients who completed treatment and with those who remained in treatment at follow-up, using measures of eating disorder symptoms, self-image and general psychiatric psychopathology.

METHODS AND MATERIALS

THE CO-RED PROJECT

The present research was conducted within the framework of the Co-ordinated Evaluation and Research at Specialized Units for Eating Disorders in Sweden (CO-RED) project (Norrington, Clinton, Eriksson, Enzell & Hällström, 1996; Clinton & Norring, 1999). In this naturalistic and longitudinal project, adult eating disorder patients seeking treatment at 15 specialist units for eating disorders across Sweden were followed over a three year period. The CO-RED project aimed to study central aspects of treatment among adult eating disorder patients. The clinics that took part in this project offered different forms of inpatient, day-patient and outpatient treatments, as well as individual psychotherapy, family and group therapy, psychoactive drugs, and expressive forms of treatment using dance and art. A battery of self-report and interview-based methods was used, and a repeated measures design was applied with measures obtained at intake and subsequently after 6, 12, 18 and 36 months. Data collection commenced in August 1996 and ended in December 2001. In order to be included in the CO-RED project, patients were required be 18 years of age or above, and treatment units were required to have an intent to treat a particular patient.

PARTICIPANTS

Participants in **Study I** comprised all patients who were part of the CO-RED database in August 2001, and who had completed the SASB at initial assessment ($N = 830$). The distribution of DSM-IV eating disorder diagnosis was: AN ($N=174$), BN ($N = 324$), EDNOS ($N = 282$) and BED ($N = 50$). Age ranged from 14 to 54 years ($M = 24.9$, $S.D. = 6.3$); 12 participants were male. Body Mass Index (BMI) ranged from 10.4 to 54.0 ($M = 20.6$, $S.D. = 5.6$). A group of normal controls ($N=105$) of similar age drawn from a student population in Uppsala, Sweden, was used as a comparison group on the SASB. Normal controls were female, and between 19 and 35 years of age ($M = 22.9$, $S.D. = 3.7$). Comparisons were also made with a small group of 26 female students from Uppsala between 19 and 35 years of age ($M = 22.5$, $S.D. = 3.2$) with subclinical depression. These individuals were selected using Beck Depression Inventory (BDI), and a cut-off score of 10 or above, which has been shown to indicate mild depressive symptoms (Beck and Steer, 2001).

Participants in **Study II** included all patients who had been treated at participating clinics and who had been assessed at 36-month follow-up by June 2002 ($N = 469$). The distribution of DSM-IV eating disorder diagnosis were: AN ($N = 91$), BN ($N = 175$), BED ($N = 25$) and EDNOS ($N = 175$). Age ranged from 18 to 51 years ($M = 25.4$, $S.D.= 6.5$). BMI ranged from 10.4 to 54.0 ($M = 20.6$, $S.D. = 5.6$). All participants were female with the exception of seven males. Mean duration of eating disorder at presentation was 8.4 years ($S.D.= 6.4$).

Participants in **Study III** comprised patients with complete data at intake and 36-month follow-up on variables selected for the study ($N=246$). The distribution of DSM-IV eating disorder diagnosis were: AN ($N = 52$), BN ($N = 96$), BED ($N = 14$) and EDNOS ($N = 84$). Age ranged from 18 to 51.5 years ($M = 24.9$, $S.D.= 6.3$). BMI ranged from 10.4 to 54.0 ($M = 20.6$, $S.D. = 5.6$). All participants were female. Mean duration of eating disorder at presentation was 8.4 years ($S.D. = 6.4$).

Participants in **Study IV** consisted of three equally sized groups of eating disorder patients who were actively engaged in treatment, who had completed treatment, or dropped out of treatment by 6- or 12-month follow-up. Groups of equal size were chosen following recommendations by Hair, Andersson Tatham and Black (1998) to avoid the risk of overestimating prediction accuracy in the largest group. A total of 323 patients were found to be still actively receiving treatment at 12-month follow-up. A random sample of these patients was then selected ($N = 54$). A total of 86 patients were found to have completed treatment according to plan. One was however, excluded from the study due to missing data. A random sample of the remaining patients was then selected ($N = 54$). Average length of treatment was 10.2 months ($S.D. = 5.8$). A total 56 patients had dropped out of treatment prior to follow-up at either 6 or 12 months. Two of these were excluded from the study due to missing data ($N = 54$). Length of treatment prior to dropout could not be established in 9 cases. Among the remaining 45 cases treatment had lasted on average 5.7 months ($S.D. = 3.2$).

MEASURES

Structural Analysis of Social Behavior (SASB), (Studies I – IV). Self-image was assessed using SASB (Benjamin, 1974; 2000;) intrex (3rd surface, self-image). The questionnaire comprises 36 self-referential statements. Responses are given on a scale from 0 to 100 with 10-point increments. Responses of 40 or above represent confirmation of the statement, whereas responses below 40 designate non-confirmation. The questionnaire forms eight clusters of self-image: (1) Self-emancipation, (2) Self-affirmation, (3) Active Self-love, (4) Self-protection, (5) Self-control, (7) Self-hate, and (8) Self-neglect. Cluster scores are obtained by dividing the sum of the items comprising the cluster by the number of items in the cluster. Empirical studies support the reliability of the SASB self-image questionnaire with a total alpha of $=.74$ (Lorr & Strack, 1999; Benjamin, 2000). The theoretical distribution of these clusters in relation to the model's axes is illustrated in (Figure 1, surface 3)

Rating of Anorexia and Bulimia (RAB), (Studies I – IV). The assessment of eating disorder and related psychopathology, the RAB interview was used (Clinton & Noring, 1999; Nevenon et al, 2003) The interview comprises 56 items covering a wide range of eating disorder and related psychopathology, as well as background variables and clinical expert ratings. Eating disorder variables comprise four subscales: (1) Body-Shape/Weight Preoccupation, (2) Binge-Eating, (3) Anorexic Eating Behaviour and (4) Compensatory Behaviour. The Body-Shape/Weight Preoccupation and Anorexic Eating Behaviour subscales can be combined to form an Anorexia Index, while the Binge-Eating and Compensatory Behaviour subscale can generate a Bulimia Index. Related psychopathology is covered with questions about impulse related behaviour, sexual

trauma, interpersonal relationships, heritability and treatment motivation. Internal consistency between subscales and the discriminant validity of eating disorder diagnoses obtained with the RAB has been found to be good (Clinton & Norring, 1999; Nevenon, 2003)

Background and Treatment Questionnaire (BaT), (Study III). The background and treatment questionnaire (Clinton, Norring & Eriksson, 1995) was used to measure basic socio-demographic variables, such as employment status, education, current and previous treatment. The BaT was developed specifically for the CO-RED project, and was designed to provide measures of relevant background and treatment variables.

Eating Disorders Inventory – 2 (EDI-2), (Studies I – IV). Assessment of eating disorder symptoms was made using the Eating Disorders Inventory – 2 (Garner, 1991; Nevenon, 2001). The EDI-2 is a widely used method in the study of eating disorders, and generates measures of central eating disorder symptoms and the psychological correlates of eating disorders. The EDI-2 is a 91 item questionnaire that comprises eight original subscales: (1) Drive for Thinness, (2) Bulimia, (3) Body Dissatisfaction, (4) Ineffectiveness, (5) Perfectionism, (6) Interpersonal Distrust, (7) Interoceptive Awareness and (8) Maturity Fears, as well as three provisional subscales: (1) Asceticism, (2) Impulse Regulation and (3) Social Insecurity. Subscales 1-3 can be combined to a general measure of central eating disorder symptoms and subscales 4 – 8, together with the preliminary scales, can be combined to a general measure of the psychological correlates of eating disorders. A total score on all subscales can be calculated in order to measure general eating disorder psychopathology. Items are self-referential and rated according to whether they occur “always”, “usually”, “often”, “sometimes”, “rarely” or “never”. Responses are scored from 0 to 3, where 3 represents a symptomatic response.

Symptom Checklist -63 (SCL-63). (Studies I – IV). Psychiatric symptoms were assessed with a shortened (63 item) version of the Symptom Checklist – 90 (SCL-90; Derogatis Lipman & Covi, 1973). The SCL-90 is a 90 item self-report questionnaire that comprises 9 subscales: (1) Somatization, (2) Obsessive-Compulsive Behaviour, (3) Interpersonal Sensitivity, (4) Depression, (5) Anxiety, (6) Hostility, (7) Phobic Anxiety, (8) Paranoid Ideation and (9) Psychoticism. It also provides a Global Severity Index of psychiatric symptoms. Items are formulated in a self-referential manner and individual scores are rated on a five-point scale: 0 = “not at all”, 1 = “a little bit”, 2 = “moderately”, 3 = “quite a bit” and 4 = “extremely”. In the CO-RED project, the SCL-90 was shortened by removing the subscales for Phobic Anxiety, Paranoid Ideation, Psychoticism. The reason for shortening the SCL-90 into a 63-item version was a desire to limit the total length of the assessment battery used in the CO-RED project; subscales from the SCL-90 that were judged to be least relevant for eating disorders were removed.

Eating Disorders Expectations and Experiences of Treatment Questionnaire (EDPEX), (Study II). The EDPEX (Clinton, 2001) is a 14-item questionnaire in two versions, one for expectations and one for subsequent experiences of specific treatment interventions for eating disorders. Items are grouped according to three subscales: Control of Eating Problems, Insight, and Support.

Treatment Satisfaction Scale (TSS), (Study II). Satisfaction was measured using the TSS (Clinton, Björck, Sohlberg & Norring, 2004), a short questionnaire developed for the CO-RED project. Patients were asked to rate five questions about treatment satisfaction: (1) How well were you treated when you first came to the unit? (2) How suitable has the treatment programme been for you? (3) Do you think that the staff have been able to listen and understand the things that you've taken up during treatment? (4) Do you feel trust and confidence in the staff? (5) Were you and the staff in agreement about the goals of treatment? Questions were rated on a three-point scale: 0 = "Very well/in high agreement", 1 = "No opinion/to some extent", 2 "Not in agreement/insufficiently. Overall inter-item consistency was found to be high (Cronbach's Alfa = .87).

Treatment Follow-up Protocol, (Study IV). This comprised a short protocol for documenting basic aspects of the treatment process. Units used this instrument, amongst other things, to note if, when, and under what circumstances patients terminated treatment.

PROCEDURE

Overall procedure

Eating disorder and concomitant psychopathology was measured at initial assessment and subsequently at all follow-ups. The SASB self-image questionnaire was administered at intake and at 18- and 36-month follow-ups. Data was collected by staff at the participating units. For the most part these were either qualified psychiatrists or clinical psychologists with experience in the assessment and treatment of eating disorders, although other professionals, such as experienced nurses and social workers, also took part. Administration of measures took place at initial diagnostic assessment prior to the commencement of treatment, or within two (for inpatients) to four (for outpatients) weeks of commencing treatment at the latest.

Study specific procedures

In **Studies I – IV** eating disorder diagnosis was obtained using the RAB administered at initial assessment. Measures of SASB were used from initial assessment and 36-month follow-up. Measures from the EDI-2 and SCL-63 were used from initial assessment and from 12- and 36-month follow-ups. Clinical eating disorder symptoms and interpersonal relationships were rated using the RAB from initial assessment and 36-month follow-up. Occupational status was rated using the BaT at initial assessment and at a 36-month follow-up.

In **Study II**, the Treatment Satisfaction Scale (TSS) was used from 36-month follow-up. Satisfaction was analysed in two ways. First, a categorical measure was calculated in order to classify patients as either: "highly satisfied", "satisfied" or "unsatisfied". Second, a continuous measure of overall satisfaction was computed by summing the scores of individual items on the TSS. The EDPEX version for assessing treatment ex-

pectations was administered at initial assessment, while the EDPEX version focusing on treatment experiences was used from 36-month follow-up. The EDPEX was used to examine the relationship between satisfaction and both pre-treatment expectations and subsequent experiences of specific interventions.

In **Study III**, a general outcome measure was calculated based on both interview and self-report data. Variables that comprised the measure were: 1) *Key diagnostic symptoms*, comprising interview RAB measures of binge-eating, compensatory behaviour, anorexic weight, amenorrhea, fear of weight gain, body image disturbance, restricted eating, and pathological overweight; 2) *Interpersonal relationships*, comprising interview responses from the RAB about interpersonal relationships with family, peers and the opposite sex; 3) *Occupational status*, comprising answers from BaT regarding the extent to which an individual was engaged in employment or studies, as well as the extent to which they were able to support themselves independently; 4) *Eating disorder symptoms*, based on the EDI-2 subscales Drive for Thinness, Bulimia and Body Dissatisfaction; 5) *Psychological correlates of eating disorders*, comprising the remaining EDI-2 subscales; and 6) *Psychiatric symptoms* comprising a general measure of psychiatric symptoms based on the SCL-63.

In **Study IV**, the Treatment Follow-up Protocol was used to identify treatment dropouts, treatment completers and treatment remainers. Dropout was defined as termination of treatment by the patient prior to completion of the patient's agreed treatment plan. Patients who had dropped out of treatment prior to follow-up at either 6 or 12 months were selected for this study. All patients that had completed treatment according to plan were defined as completers. Patients were still actively receiving treatment at follow-up was defined as treatment remainers.

STATISTICAL ANALYSIS

Statistical analysis in **Study I** was conducted in a stepwise fashion. Initial differences between eating disorder patients and controls were first explored in terms of self-image and general clinical variables using a series of analyses of variance (ANOVA) with *post hoc* Scheffé tests. In ensuing steps, comparisons between diagnostic groups were made, and possible confounding influences on self-image were examined. This was done by computing a principal components analysis (PCA) using all eight SASB clusters plus the total scores from the EDI-2 and SCL-63. The rationale for this was that such a step would produce a large first principal component with high loadings on all 10 variables. Following recommendations by Miller and Chapman (2001), univariate ANOVA was then conducted in order to rule out possible interaction effects between component 1 and diagnosis on individual SASB clusters. Component 1 was then used as a covariate when re-analysing between-group differences on self-image with the help of analysis of covariance (ANCOVA). Effect sizes for pair-wise comparisons were evaluated by computing Cohen's *d* (Cohen, 1988).

In **Study II**, one-way ANOVA with *post hoc* Scheffé tests was used to compare groups at initial presentation and at 36-month follow-up regarding eating disorder symptoms (EDI-2), general psychiatric symptoms (SCL-63), self-image (SASB), ex-

pectations and experiences with treatment (EDPEX), eating disorder diagnosis (as assessed initially) and eating disorder symptoms and related psychopathology as measured on the RAB. In order to explore what predicted satisfaction two separate multiple regression analyses was conducted. First, the relationship between experiences of treatment interventions and satisfaction was explored with the continuous measure of satisfaction as the dependent variable and the 14 EDPEX items covering experiences of treatment as predictor variables. Second, the relationship between initial status and satisfaction was explored using 16 variables from the RAB, EDI-2, SCL and EDPEX in which significant differences were found between the three categories of satisfaction.

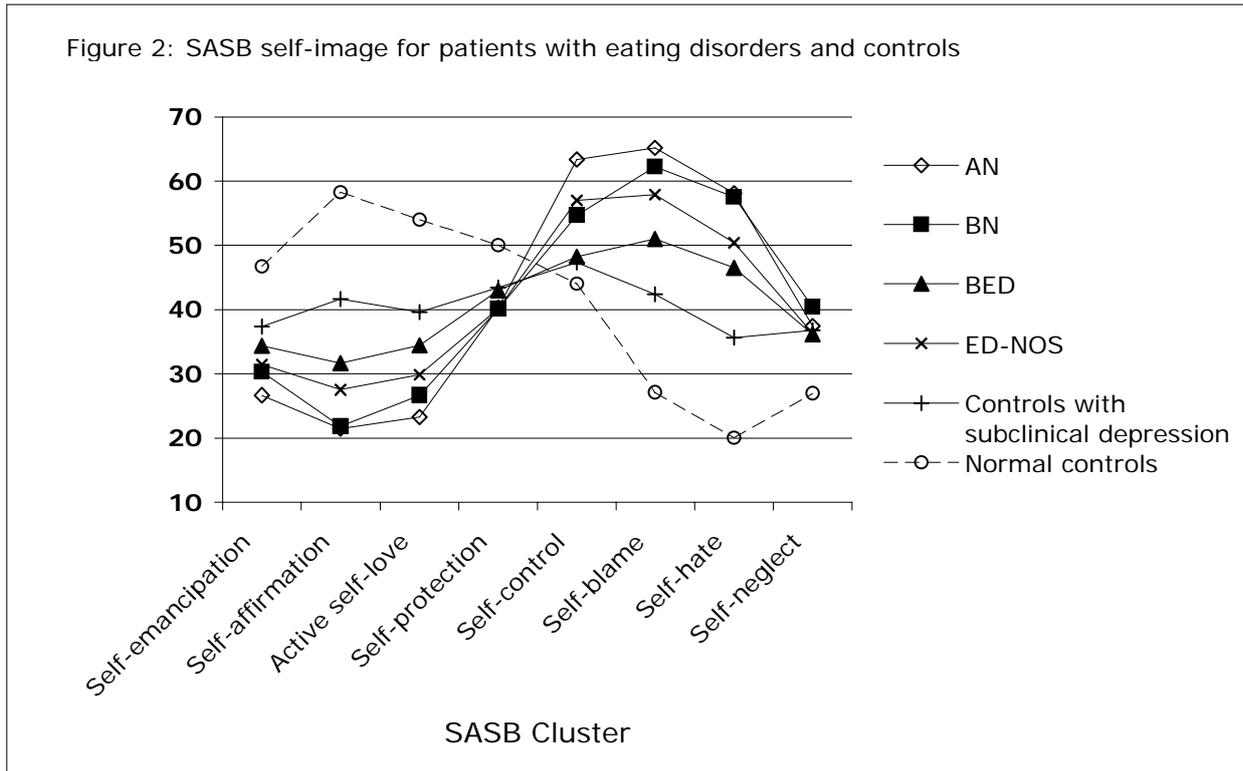
In order to examine the relationship between initial status at presentation and general outcome at 36 months in **Study III**, stepwise multiple regression analysis was used. Prior to carrying out regression analysis variables were examined to non-normality and the presence of possible outliers. Outliers were examined with partial regression plots and standardized residuals, and the recommended cut-off score of ± 2.5 for standardized residuals was used (Hair, Anderson, Tatham & Black, 1998). Validation of results was explored by analysing outcome in relation to specific domains separately, and by removing the predictor variables that also were components of the outcome measure. Results were also validated using a split sample procedure, which involved randomly splitting the sample into two sub-samples that were re-analysed.

In **Study IV** comparisons were made between patients who had dropped out, with those who had completed treatment according to plan and those who were still in treatment at follow-up on variables measured at intake. Using chi-square tests, groups were compared on eating disorder diagnosis, frequencies of binge eating, compensatory behaviours, anorexic weight and amenorrhea. Groups were also compared on age, age of onset, BMI, SASB self-image, eating disorder symptoms and psychiatric symptoms using ANOVA with post hoc Scheffé tests. Prediction of group membership (i.e. drop-outs, completers or remainers) was analysed with multiple stepwise discriminant analysis, and all eight SASB clusters as independent variables. Prior to computation of discriminant analysis, independent variables were tested for normality and outliers was examined on both univariate and multivariate levels. A recommended cut-off score of ± 2.5 for standardized residuals was used (Hair et al 1998). The validity of the results was tested using a split sample procedure. The sample was randomly divided into two sub-samples and were re-analysed. Effect sizes for pair-wise comparisons were evaluated by computing Cohen's *d* (Cohen, 1988).

RESULTS

STUDY I

Using SASB, eating disorder patients ($N = 830$) were found to present with greater negative interpersonal profiles, compared to normal controls ($N = 105$) and controls with sub-clinical depression ($N = 26$). Results are illustrated graphically in Figure 2. Mean scores and standard deviations on SASB clusters for control groups are presented separately in Appendix 2.



When eating disorder diagnoses were compared, significant differences emerged on both the affiliation and the interdependence dimension. Patients with anorexia nervosa reported significantly higher levels of self-control compared to patients with bulimia nervosa, EDNOS and BED ($d = .28$ to $.49$). They also reported lower levels of Self-emancipation compared to the other diagnostic groups ($d = -.34$ to $-.81$). On the affiliation dimension, patients with anorexia nervosa presented with less Self-affirmation and Self-love compared to patients with EDNOS and BED ($d = -.48$ to $-.60$). Patients with anorexia nervosa also reported greater Self-blame and Self-hate compared to patients with EDNOS and BED ($d = .32$ to $.60$). Patients with bulimia nervosa were presented with lower Self-affirmation compared to EDNOS ($d = -.31$) and BED ($d = -.48$), as well as higher levels of Self-blame compared to EDNOS ($d = .20$). Patients with bulimia nervosa also reported greater Self-hate compared to EDNOS ($d = .30$). Patients with EDNOS reported higher Self-control compared to patients with BED ($d = .48$). No significant differences were found between diagnostic groups on Self-protection and Self-neglect. Results are presented in Table 2.

Table 2 Initial between-group diagnostic differences on SASB clusters with ANOVA, significance of F, and post-hoc Scheffé tests.

	AN	BN	BED	ED-NOS	F	p*
	M (S.D.)	M (S.D.)	M (S.D.)	M (S.D.)		
1. Self-emancipation	26.7 (14.5)	30.3 (14.1)	34.3 (16.6)	31.4 (13.7)	5.7	a,b,c
2. Self-affirmation	21.5 (18.9)	21.9 (16.9)	31.6 (23.0)	27.5 (18.8)	8.3	b,c,d,e
3. Active self-love	23.3 (16.9)	26.7 (16.1)	34.4 (20.0)	29.8 (17.5)	7.5	b,c
4. Self-protection	40.3 (16.4)	40.1 (17.0)	43.0 (17.2)	41.1 (17.3)	0.4	-
5. Self-control	63.4 (19.1)	54.7 (17.9)	48.2 (18.4)	57.0 (18.5)	11.4	a,b,c,f
6. Self-blame	65.2 (23.3)	62.3 (21.8)	51.0 (24.3)	57.9 (22.5)	6.8	b,c,d
7. Self-hate	58.1 (23.5)	57.5 (20.7)	46.5 (25.4)	50.4 (23.5)	7.6	b,c,d
8. Self-neglect	37.4 (19.2)	40.4 (18.0)	36.1 (17.4)	36.3 (19.4)	2.6	-

*Results of post-hoc Scheffé tests ($p < .05$):

a = AN vs. BN, b = AN vs. ED-NOS, c = AN vs. BED, d = BN vs. ED-NOS, e = BN vs. BED, f = ED-NOS vs. BED.

The possible influence of general psychopathology on the results was explored using a covariate generated by principal components analysis of individual scores on SASB self-image, eating disorder symptoms (EDI-2) and psychiatric symptoms (SCL-63). PCA produced a large first component explaining 48,2 % of the variance. On the SASB, Self-affirmation, Self-love and Self-protection had high negative loadings in the first component (i.e. $< - .50$), while Self-blame, Self-hate and Self-neglect, as well as the EDI-2 and the SCL-63, had high positive loadings (i.e. $> .60$). When differences in self-image between diagnostic groups were re-analysed, results suggested that the differences in SASB self-image that were found between the eating disorder groups in the first analysis could not be accounted for by general psychopathology. Exceptions were the differences between patients with bulimia nervosa and EDNOS on Self-blame and Self-hate, which were not significant in the second analysis. Results are presented in Table 3.

Table 3. Estimated marginal means on SASB clusters and pair-wise comparisons between diagnostic groups following analysis of covariance with component 1 as covariate.

	AN	BN	BED	ED-NOS	F	p<.05
	M	M	M	M		
1. Self-emancipation	26.5	30.3	34.2	31.2	5.5	a,b,c
2. Self-affirmation	21.8	23.2	29.6	26.1	4.4	b,c,d,e
3. Active self-love	23.4	28.0	31.8	28.0	5.5	a,b,c
4. Self-protection	40.6	40.9	41.5	40.4	0.1	-
5. Self-control	63.1	54.3	49.2	57.7	11.7	a,b,c,f
6. Self-blame	64.5	59.4	56.5	61.2	6.7	a,b,c
7. Self-hate	59.7	54.4	52.4	53.9	3.2	a,b,c
8. Self-neglect	38.8	37.9	40.2	38.5	1.0	-

a = AN vs. BN, b = AN vs. ED-NOS, c = AN vs. BED, d = BN vs. ED-NOS, e = BN vs. BED, f = ED-NOS vs. BED.

STUDY II

Satisfaction with treatment was explored at 36-month follow-up (N = 469) in Study II using the Treatment Satisfaction Scale (TSS), a scale in which high scores reflect high levels of dissatisfaction with treatment. When patients were classified using the TSS 23% were found to be "unsatisfied" with treatment, while 39% were "satisfied" and 38% were "highly satisfied". When SASB profiles were examined, unsatisfied patients were characterised by greater Self-blame, Self-hate and Self-neglect, and less Self-emancipation, Self-affirmation, Self-love and Self-protection ($d = .28$ to $.50$). No significant differences between groups were found on Self-control. Compared to both satisfied and highly satisfied patients, unsatisfied patients reported higher levels of psychiatric symptoms on the SCL-63, as well as greater bulimic symptoms and problems with impulse regulation on the EDI-2 ($d = .20$ to $.70$). Unsatisfied patients also reported higher Drive for Thinness, Ineffectiveness, Asceticism, Social Insecurity and lower levels of Interoceptive Awareness on the EDI-2, compared to patients who were highly satisfied ($d = .31$ to $.70$).

When between-group differences at initial assessment were investigated, no significant differences were found on SASB self-image, psychiatric symptoms (SCL-63), or eating disorder diagnosis. However, patients who became unsatisfied reported more pathological levels of Bulimia, Perfectionism, Impulse Regulation, Social Insecurity

and Interoceptive Awareness on the EDI-2 ($d = .30$ to $.39$). Analyses of the RAB suggested that patients who became unsatisfied with treatment presented with more interpersonal problems with parents, as well as more interpersonal problems with the opposite sex ($d = .33$ to $.36$); they had also been less prepared to change eating habits, expressed less acceptance of present weight, were more focused on the importance of losing weight, and had greater problems eating regular meals ($d = .36$ to $.50$).

When stepwise multiple linear regression was used to examine the relationship between treatment experiences and satisfaction using all 14 items of the EDPEX, satisfaction was predicted by interventions that had focused on planning meals ($\beta = -.36$) and showing care and consideration ($\beta = -.30$). Together these two variables explained 31% (adjusted $R^2 = .31$, $p = < .0001$) of the variance in TSS at 36 months. When initial expectations of treatment were investigated using the EDPEX, patients who later became unsatisfied with treatment had at presentation expressed higher expectations of treatment interventions focusing on insight and lower expectations of interventions focusing on control ($d = .37$ and $-.60$) compared to the other two groups. The relationship between initial status and subsequent treatment satisfaction was further analysed by conducting stepwise multiple linear regression using 16 variables from the RAB, EDI-2, SCL and EDPEX in which significant differences were found between the three categories of satisfaction. When this was done results suggested that preparedness to change eating habits ($\beta = .16$), experiences of conflicts with fathers ($\beta = .19$), acceptability of present weight ($\beta = .19$) and expectations of receiving help to increase control over eating habits ($\beta = -.15$) explained 14% ($R = .37$, $R^2 = .14$, $p = < .0001$) of the variance in overall satisfaction.

STUDY III

The influence of SASB self-image on multiple aspects of outcome was investigated at 36-month follow-up in Study III. Using stepwise multiple regression, six significant variables were entered into an equation that explained 23% of the variance in general outcome (adjusted $R^2 = .23$, $p = < .001$). High levels of SASB Self-hate at initial presentation were associated with poor outcome, explaining 11% (adjusted $R^2 = .11$, $p = < .001$) of the variance in outcome. Low occupational status explained an additional 3% (adjusted $R^2 = .14$, $p = .001$), while problematic interpersonal relationships explained an additional 3% (adjusted $R^2 = .17$, $p = .002$), self-reported eating disorder symptoms on the EDI-2 added 2% (adjusted $R^2 = .19$, $p = .004$), Self-emancipation contributed 3% (adjusted $R^2 = .22$, $p = .003$), and finally, self-rated psychiatric symptoms on the SCL-63 explained an additional 1% of the variance in outcome (adjusted $R^2 = .23$, $p = .032$). Results are presented in Table 4.

Table 4. Stepwise multiple regression of intake predictors on general outcome after 36 months: standardised beta coefficients for predictor variables.

Step:	SASB Self-hate	Low occupational status	Pathological interpersonal relationships	SASB Self-emancipation	Key diagnostic symptoms	Psychiatric symptoms	Multiple R ²	Adj. R ²	p
1	.33						.11	.11	.000
2	.29	.20					.15	.14	.001
3	.25	.19	.19				.18	.17	.002
4	.30	.22	.19	.18			.21	.19	.004
5	.26	.20	.19	.19	.18		.23	.22	.003
6	.19	.20	.18	.19	.15	.14	.25	.23	.032

The above pattern of results was confirmed, with few exceptions, in two separate regression analyses performed when the sample was split into two test samples. Self-hate was entered first, explaining 19% of the variance (adjusted $R^2 = .33$, $p < .001$) in test sample 1, and 18% of the variance (adjusted $R^2 = .32$, $p = .001$) in test sample 2. Occupational status failed to enter in test sample 1, while key diagnostic symptoms and Self-emancipation failed to enter in test sample 2. Results are presented in Tables 5 – 6 in Appendix 3.

In order to explore the association of SASB self-image in relation to the different domains of outcome included used in the multi-dimensional outcome measure, five separate multiple regression analyses were performed. SASB Self-hate was significantly associated to outcome in four of the five separate outcome domains. The measure of key diagnostic symptoms from the RAB interview at 36-month follow-up was predicted by initial status of key diagnostic symptoms and initial ratings of SASB Self-hate, which explained 10% of the variance (adjusted $R^2 = .10$, $p < .001$). Interpersonal relationships (from the RAB interview at 36-month follow-up) was predicted by initial status of interpersonal relationships and Self-hate, which explained 25% of the variance (adjusted $R^2 = .25$, $p < .001$). Occupational at 36 months was predicted by initial ratings of occupational status and psychiatric symptoms, which explained 13% of the variance (adjusted $R^2 = .13$, $p = .002$). Self-rated eating disorder symptoms from the EDI-2 at 36 months was predicted by initial levels of self-rated eating disorder symptoms and Self-hate (adjusted $R^2 = .06$, $p = .002$). Self-rated psychiatric symptoms on the SCL-63 at 36-month follow-up was predicted by initial levels of self-rated psychiatric symptoms, Self-emancipation, Self-hate and occupational status, which explained 15% of the variance (adjusted $R^2 = .15$, $p < .001$). Detailed results are presented in Tables 7 - 11 in Appendix 3.

The influence of SASB self-image on outcome was further investigated in two additional stepwise linear regression analyses, without using the follow-up values from predictor variables in the outcome measure. SASB Self-hate had a significant influence in both analyses. In the first analysis ($N = 334$), when outcome was defined in terms of a combination of interview-based key diagnostic symptoms, interpersonal relationships and occupational status, it was found that Self-hate and psychiatric symptoms explained 10% of the variance in outcome (adjusted $R^2 = .10$, $p < .001$). When outcome was defined as a combination of self-rated psychiatric symptoms from the SCL-63 and eating disorder symptoms from the EDI-2, it was found that Self-hate, Self-emancipation, interpersonal relationships and key diagnostic symptoms explained 14% of the variance in outcome (adjusted $R^2 = .14$, $p < .0001$). Detailed results are presented in Tables 12 -13 in Appendix 3.

STUDY IV

When initial ratings of SASB self-image were investigated, it was found that patients who terminated treatment prematurely had reported more Self-emancipation, Self-affirmation and less Self-blame compared to remainers and completers ($d = .53$ to $-.67$). When groups were compared on clinical variables at intake, patients who had terminated treatment prematurely scored lower on the psychological correlates of eating disorders on the EDI-2 ($d = -.57$) and lower on the SCL-63 ($d = -.64$). No significant differences were found between groups on the EDI-2 measure of eating disorder symptoms, eating disorder diagnosis, binge eating, compensatory behaviour, anorexic weight, amenorrhea, age, age of onset or BMI. Results are presented in Tables 14 and 15.

Table 14. Frequencies of eating disorder diagnoses, and numbers of patients fulfilling specific diagnostic criteria relating to BN (binge eating, compensatory behaviour) and AN (anorexic weight, amenorrhea) across groups with results of Chi-square tests.

Variables	Dropouts N=54	Completers N=54	Remainers N=54	Chi-2
<i>DSM-IV diagnoses:</i>				
Anorexia Nervosa	9	10	13	ns
Bulimia Nervosa	18	18	19	ns
EDNOS	24	22	17	ns
Binge Eating Disorder	3	4	5	ns
<i>Specific DSM-IV criteria:</i>				
Binge eating	24	28	25	ns
Compensatory behaviour	23	27	26	ns
Anorexic weight	15	12	19	ns
Amenorrhoea	14	16	14	ns

Table 15. Means and standard deviations on age, age at onset, BMI, SASB, EDI-2 and SCL-63 with ANOVA, significance of F and post hoc Scheffé tests.

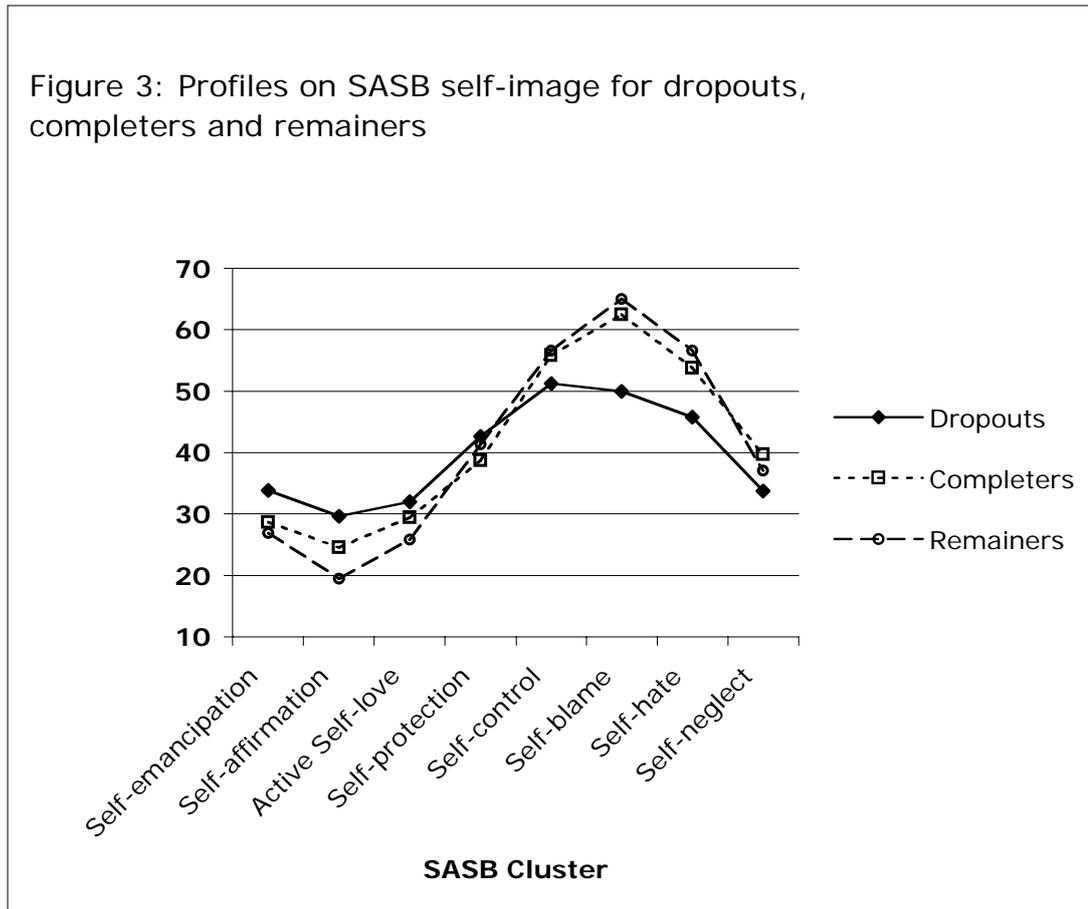
	Dropouts N=54	Completers N=54	Remainers N=54	F	p
Variables	M (SD)	M (SD)	M (SD)		
Age (years)	23.4 (5.7)	25.5 (6.9)	24.8 (6.5)	1.0	ns
Age at onset (years)	16.7 (2.8)	17.8 (4.8)	17.3 (5.9)	0.9	ns
Body Mass index (BMI)	20.4 (3.3)	22.1 (6.3)	20.5 (6.1)	1.5	ns
SASB					
Self-emancipation	33.9 (13.1)	28.8 (15.7)	26.9 (13.5)	3.4	b*
Self-affirmation	29.7 (20.3)	24.6 (22.1)	19.6 (16.1)	3.5	b*
Active self-love	32.0 (16.5)	29.4 (19.7)	25.8 (15.3)	1.7	ns
Self-protection	42.7 (16.0)	38.8 (16.5)	41.4 (15.1)	0.8	ns
Self-control	51.2 (16.2)	55.8 (19.7)	56.6 (20.1)	1.3	ns
Self-blame	50.5 (21.1)	62.5 (21.2)	65.0 (22.0)	6.8	a*, b**
Self-hate	45.8 (20.3)	53.8 (23.0)	56.6 (20.1)	3.6	b*
Self-neglect	33.7 (16.5)	39.7 (19.5)	37.1 (16.2)	1.6	ns
EDI psychological subscales	51.8 (22.8)	62.2 (26.2)	67.1 (30.5)	4.4	b*
EDI eating disorder subscales	35.2 (14.8)	38.8 (15.2)	39.1 (14.6)	1.1	ns
SCL Symptom Index	1.4 (.63)	1.6 (.64)	1.7 (.62)	3.9	b*

a = Dropouts vs. Completers, b = Dropouts vs. Remainers, c = Completers vs. Remainers

* = $p < .05$, ** = $p < .01$

The association between self-image and treatment dropout was investigated using initial ratings of SASB self-image (Clusters 1-8) as possible predictors of group membership (i.e. treatment dropouts, completers or remainers). SASB Cluster 6 (Self-blame) discriminated significantly between groups (*Wilk's lambda* = .92, $\chi^2 = 13.1$, $p = .001$). Lower self-blame was characteristic of patients who dropped out from treatment. The overall resultant discriminant function classified 44 % of the total sample ($N=162$) correctly. Dropouts were classified best with 36 of 54 (67 %). The equation correctly classified 54% (29 of 54) of the patients who were still receiving treatment, but only 9% (5 of 54) of those who had completed treatment according to plan. This finding was confirmed in two separate regression analyses performed when the sample was split into two test samples. Self-blame was significant in test sample 1, ($N = 74$), (*Wilk's lambda* = .89, $\chi^2 = 10.8$, $p < .001$) and in test sample 2, ($N = 88$), (*Wilk's lambda* = .69, $\chi^2 = 24.2$, $p < .001$). Results are presented graphically in Figure 3.

Figure 3: Profiles on SASB self-image for dropouts, completers and remainers



Dropouts were also compared with all patients who were followed up at 6 and 12 months ($N = 411$) on variables used in this study. Using t-tests dropouts were found to be more self-emancipated, self-affirming, self-loving, as well as less self-controlling, self-blaming, self-hating and self-neglecting ($d = .33 - .57$). No significant difference was found on self-protection. Dropouts also reported fewer eating disorder symptoms and psychological correlates of eating disorders according on the EDI-2 ($d = .34 - .51$), as well as fewer psychiatric symptoms on the SCL-63 ($d = .34$). No significant differences were found between groups in terms of DSM-IV eating disorder diagnosis, age, age of onset or BMI. Prediction of group membership (i.e. dropout, completer or remainder) using stepwise logistic regression with SASB Clusters 1-8 as predictor variables suggested that self-blame was significant ($B = -.03$, $Wald = 14.3$, $p < .001$). The equation classified all patients in the group of remainers/completers and none in the groups of dropouts.

DISCUSSION

The present thesis examined self-image and its relationship to important aspects of treatment in four studies of a large sample of eating disorder patients taking part in a naturalistic and longitudinal research project. Some of the most important results of the thesis were as follows. Eating disorder patients presented with more negative interpersonal profiles compared to normal controls and controls with sub-clinical depression. Patients also presented with significant differences between diagnostic categories with regard to their negative self-image. Patients who were unsatisfied with treatment at 36-month follow-up were characterized by more negative self-image and psychiatric problems compared to satisfied or highly satisfied patients. High levels of self-hate at presentation were an important predictor poor outcome at follow-up. Finally, patients who dropped out of treatment were found to have initially presented with less negative self-image, and in particular less self-blame and fewer psychological problems compared to patients who completed treatment and patients who were still in treatment at follow-up. The clinical implications of these results will now be discussed along with the strengths and weaknesses of the studies, and the need for further research.

METHODOLOGICAL CONSIDERATIONS

General aspects

Important strengths of the studies of the present thesis include the use of a large unselected sample of patients including not only patients with anorexia nervosa and bulimia nervosa but also patients with EDNOS and BED. A further strength is that all patients were diagnosed as having a clinical eating disorder and were treated at a specialist unit for eating disorders. This fact should be taken into account when comparing the present research to other studies of self-image in eating disorders that have been limited by the use of non-clinical samples (Steinberg & Shaw, 1997; Sassaroli & Ruggiero, 2005; Schupak-Neuberg & Nemeroff, 1993; Cervera et al., 2003; Gual et al., 2002; Miotto et al., 2002; Sanftner & Crowther, 1998; Vohs et al., 1999). Other important strengths include the use of SASB methodology and interpersonal theory, which adds important clinical relevance to the results. Earlier research on self-image in eating disorders has been limited by methods that lack a clinically relevant theoretical framework, which has meant that the clinical implications of patients' negative self-image has been obscured (e.g. Mendelson et al., 2002; Steinhausen & Vollrath, 1993; Zaitsoff et al., 2002).

It could be argued that failing to address the question of whether negative self-image is a cause or consequence of eating disorders is a general limitation of the present studies. According to interpersonal theory, negative self-image may be a result of dysfunctional interpersonal family patterns, suggesting that negative self-image may be a psychological trait. The question may, however, be largely irrelevant, since an important aim of the present studies was to investigate whether negative self-image has implications for treatment, regardless of the question of what causes what. A tendency to

self-blame may provoke specific complementary interpersonal interactions regardless of the cause of this tendency.

The lack of rater-based assessment of self-image and the failure to use additional measurement for interpersonal interactions (SASB Surfaces 1 and 2) can be viewed as limitations of the present studies. Although the SASB model does offer both coding procedures and self-rating questionnaires for interpersonal interaction, the use of such methods was not practicable given the large-scale naturalistic nature of the CO-RED project. Moreover, it could be argued that since self-rating procedures are less influenced by another person, such as an interviewer or observer, self-image may not necessarily be better measured using rater-based assessment. Interpersonal influences on results may in fact be minimised using self-rating procedures.

Study specific considerations

Important strengths in Study I include the use of both normal and sub-clinical control groups. Weaknesses include the size of the control groups (especially the sub-clinical control group) relative to the eating disorder group. Conclusions about eating disorder patients in relation to individuals with sub-clinical depression must therefore be considered preliminary pending future studies using larger sub-clinical or psychiatric samples. Methodologically, the use of a short questionnaire comprising only five questions rated on a three-point scale to measure satisfaction with treatment (Study II) can be seen as a limitation. Although the questionnaire had high inter-item consistency, it could have benefited from the use of a greater number of relevant questions and an increased number of response alternatives. Given the high proportion of highly satisfied patients, it would have been interesting to use a greater number of response alternatives at the positive end of the scale. Use of a better measurement would have aided analysis of the influence of self-image and interpersonal factors on treatment satisfaction.

Strengths of Study III include the use of an outcome measure that combines both self-report material and interview based material, as well as multiple aspects of outcome, such as interpersonal relationships, occupational status and clinical symptoms. Both studies II and III are limited by the amount of missing data at 36-month follow-up. However, the follow-up rate at 36 months in the CO-RED project can be considered to be in the normal range for what is found in follow-up studies of eating disorders (Björk, Clinton & Norring, 2006). Further, when specific analyses were made in Study III, and cases with missing data at follow-up were compared with those cases with no missing data, there were minimal differences. Studies III and IV are limited by the failure to examine differences between diagnostic categories. This was due to small groups of patients with anorexia nervosa and BED.

A major limitation in Study IV is that analyses at 6- and 12-month follow-up suffered from considerable missing data. A chief reason for missing data was lack of time to organise and collect data at participating clinics. Analysis of variables used in Study IV suggested no significant differences between the sample included in the study (N=162) and the remaining patients who had been followed up after 6 and 12 months (N=301). These groups were also compared to the group of patients at initial presenta-

tion (N=367) without follow-up, and no significant differences were found. Unfortunately, the possibility of finding out the actual number of patients that may have dropped out of the CO-RED project was also limited by the fact that the short treatment follow-up record was not administered at 18- and 36-month follow-up. Another limitation of Study IV was failure to obtain information about how many sessions each patient had completed. The influence of amount of therapy could therefore not be explored systematically. However, data on time in treatment suggests, that the present results primarily concern patients who terminated treatment relatively late in the treatment process, which would seem to indicate that they had received a considerable amount of treatment even though they dropped out. Nor was it possible to analyse results in relation to type of treatment, which may be an important mediating factor.

SELF-IMAGE AND EATING DISORDER DIAGNOSIS

In Study I it was found that eating disorder patients presented with negative interpersonal profiles compared to normal controls and controls with sub-clinical depression. This study included a small non-clinical control group, which means that potentially important results concerning eating disorders and sub-clinical depression must be considered preliminary pending further research. Other studies have found that affective disorders may be common to eating disorders. One review of the literature suggests that 20 – 80 percent of women with anorexia nervosa have at least one episode of major depression during their lifetime, while co-morbid affective disorder bulimia nervosa may also be high (Bulik, 2002). Since low self-esteem is a common feature of depression, it could be argued that the present findings simply reflect the fact that many eating disorder patients also have problems with depression. Keeping this in mind, it is interesting that the group with sub-clinical depression actually presented an inverted profile compared to eating disorder patients. This might suggest that the kind of self-image found here, and in particular high levels of self-hate, may actually be specific to eating disorders, and not a reflection of depression. Support for this possibility comes from a study that found significant positive correlations between depression and eating disorder symptoms, but not between self-esteem and eating disorders or between self-esteem and depression (Grubb, Sellers & Waligroski, 1993).

When between differences between diagnostic groups were examined in Study I important dimensional differences were found. Higher levels of self-control, self-blame and self-hate, along with lower levels of self-affirmation and self-love were found in patients with anorexia nervosa compared to patients with bulimia nervosa, EDNOS and BED. What's more, these differences could not be accounted for by general psychopathology, as suggested by the covariance analysis. These results reflect the classic description of primary anorexia made by Bruch (1974), when she argued that the main characteristic of anorexics is a struggle for control and extreme sensitivity to criticism. Patients with BED presented with less negative self-image compared to other eating disorder diagnoses. In particular, they rated themselves as more self-emancipating, self-affirming and self-loving, as well as less self-controlling than other groups of patients. However, this group of patients was small, and conclusions must be considered preliminary. Nonetheless, these results are in line with other studies that suggest that patients with BED have higher levels of negative self-esteem compared to non-patient

controls, but slightly lower levels compared to patients with bulimia nervosa (Grilo, 2002). The largest effect size ($d = .81$) was found on self-control between patients with anorexia nervosa and patients with BED. This is illustrative of the clinical difference between the disorders in terms of that anorexia nervosa centring more on issues of self-control, whereas BED is characterised more by problems of *losing* control over eating. Although speculative, another possible explanation why patients with BED had generally less negative interpersonal profiles could be related to their older age, a factor that has been found to differentiate patients with BED from patients with bulimia nervosa (Friedman et al., 1997). Nevertheless, it is important to remember that although important between-group differences were found, all diagnostic groups were characterised by negative self-image, which could arguably influence treatment in a negative manner.

SELF-IMAGE AND SATISFACTION WITH TREATMENT

When satisfaction with treatment was explored in the Study II it was found that patients who became unsatisfied reported greater negative self-image at follow-up. They were significantly more self-blaming, self-hating and self-neglecting, as well as less self-emancipated, self-affirming, self-loving compared to satisfied and highly satisfied patients. Unsatisfied patients also reported more eating disorder symptoms. Although initial ratings of SASB self-image was not able to predict satisfaction at follow-up, interpersonal problems, such as conflicts with parents and partners, were reported among patients who became unsatisfied, which may indicate that these patients are characterised by interpersonal problems. An implication of this could be that these patients are in need of treatment that focuses on interpersonal issues. When treatment expectations were explored it was found that unsatisfied patients tended to expect more help from interventions focusing on insight and reflection and less help from interventions focusing on control of eating problems. Preliminary results from another study outside the CO-RED project suggest a similar pattern of results; patients who still had an eating disorder diagnosis at 36-month follow-up reported that they expected to receive help from interventions focusing on insight and reflection. Even these patients reported that interventions aimed at increased control of eating habits had not been of help (Hansson, Björck, Lannfelt, Reichenwallner & Villegas, 2006). These results could also reflect lack of motivation, since unsatisfied patients in Study II were less prepared to change eating habits and accepted their weight to a lesser extent compared to satisfied and highly satisfied patients. Perhaps treatment strategies for eating disorders in general are less prepared to meet the needs of such patients. Although it may be unrealistic to expect that all patients will be satisfied with treatment, the fact that almost a quarter of patients in Study II were unsatisfied three years after beginning treatment must be considered a serious problem in need of attention.

Satisfied and highly satisfied patients presented with more positive self-image at follow-up, and they were characterized at initial presentation with fewer clinical problems. Treatment satisfaction was predicted by the experience of receiving help with planning meals and being met with care and consideration. One interpretation is that patients with fewer interpersonal or psychological problems may be more prepared to focus on working with specific eating disorder symptoms. They may, thereby, have a better chance of benefiting from available treatment methods, and become satisfied

with treatment. Since the majority of patients were satisfied or highly satisfied with treatment that was focusing on active control of eating habits and support, such methods may be sufficient for most patients. However, the negative self-image characteristic of unsatisfied patients suggests that interpersonal problems may have influenced the treatment process in a negative way for these patients. This finding underscores the importance of successfully addressing interpersonal issues at the earliest stages of treatment in order to avoid the risk of negative reactions to treatment.

SELF-IMAGE AND OUTCOME

In Study III negative self-image was significantly associated with poor outcome. More specifically, initial high levels of SASB cluster 7 (Self-hate) was the most important variable for predicting outcome. The finding that SASB cluster 1 (Self-emancipation) also added predictive power may appear contradictory, since high levels of self-emancipation normally suggest greater autonomy. However, it may be that these patients experienced self-hate without at the same time feeling concerned about it. In other words, they may not experience their self-hate as a problem. In interpersonal situations these patients may appear autonomous. This pseudo-autonomy may conceal a lack of insight regarding the patient's eating disorder, which may in turn increase the risk poor outcome. Other factors that were involved in the prediction of outcome (e.g. low occupational status, problematic interpersonal relationships and greater psychiatric problems) also suggest that poor outcome is related to more severe psychopathology.

It could be argued that the salience of self-hate in relation to poor outcome reflects a general relationship between a higher degree of initial psychopathology and negative outcome. SASB self-hate has been linked to both depression and borderline personality disorder (Benjamin; 1996, 2003). In the regression analyses other variables, such as poorer interpersonal relationships and more severe eating disorders symptoms, were also important for predicting outcome, albeit to a lesser extent than self-hate. However, self-hate was also repeatedly found to predict outcome when tested in two split-sample validation analyses, as well as in additional analyses focusing on domain-specific outcome, and analyses with alternative outcome measures in which predictor variables from intake were not components of the outcome score. This suggests that self-hate in eating disorders may reflect psychopathology specific to these disorders. Self-image that is characterised by self-hate could imply interpersonal difficulties, such as the inability to perceive positive affirmation and trusting and caring responses from therapists. Such psychopathology can gain greater clinical utility when it is interpreted within the framework of interpersonal theory.

The finding that high levels of self-hate at intake can predict outcome is important since few prognostic factors have been found that have relevance for the treatment of eating disorders (Fairburn & Harrison, 2003). Previous research has found that early age of onset and short duration of illness are positive prognostic factors for patients with anorexia nervosa, whereas extreme weight loss, long duration of illness, periods of long inpatient treatment and compensatory behaviours appear to be negative (Steinhausen, 2002). For patients with bulimia nervosa, although no specific prognostic factors have been found, childhood obesity, low self-esteem and personality disorders

have in separate studies indicated relationships with poor outcome (Fairburn & Harrison, 2003). Moreover, the findings of Study III suggest that self-hate may be important for outcome independent of clinical symptoms. Results suggest that negative self-image, and self-hate in particular, is necessary to take into account in the treatment of eating disorders. An important advantage is the fact that self-hate can be easily measured with the SASB introject.

SELF-IMAGE AND TREATMENT DROPOUT

When patients who terminated treatment prematurely were investigated, a significant relationship was found between SASB self-image and dropout. However, it was not in the direction that might be expected. Compared to patients who completed or remained in treatment, patients who terminated prematurely had presented with the least negative self-image. They reported significantly less self-blame and self-hate and significantly greater self-emancipation and self-affirmation. Dropouts also initially presented with significantly lower levels of psychological problems associated with eating disorders, as well as fewer psychiatric symptoms compared to patients who remained in treatment. SASB self-blame was found to be the most important variable for predicting dropout. However, it was less successful in predicting who remained in treatment, and immaterial in predicting who actually completed treatment. These findings can seem surprising when compared to those of others who have found that eating disorder patients who dropout tend to have more severe symptoms at presentation (Vandererkyken & Pierlot, 1983, Coker et al., 1993, Baran et al., 1995, Waller, 1997, Fassino et al., 2003, Woodside et al., 2004, Surgenon et al., 2004). Although a few studies do suggest that dropout may be unrelated, or inversely related, to symptom severity (Palmer, 2000, Kahn & Pike 2001), low social functioning (Mitchell et al., 2002) or other factors believed to be associated to poor prognosis (Di Pietro et al., 2000), the results of Study IV raise important clinical questions, and suggest that dropout in eating disorders needs to be more closely examined in systematic research.

One possible interpretation of why dropouts had less negative self-image and fewer psychological problems could be related to the fact that these patients had already received a substantial amount of treatment (on average 6 months) before terminating. Accordingly, it could be argued that that dropout actually reflected a healthy decision to end treatment at a stage when patients felt they had received sufficient help, and believed that they could continue on their own. Interestingly, this reflects ideas presented by Mahon (2000), that a patient who is registered as a dropout might in fact consider herself a “completer”, although the therapist wanted to achieve more. Dropout may, therefore, not be as pathological as it is often assumed. A similar pattern of results was, in fact, found in a different sample of eating disorder patients where dropout occurred late in the treatment process (Hansson et al., 2006). Although these results did not attain statistical significance, an interesting pattern was observed, with tendencies for patients who dropped out to report higher levels of self-love ($d = .37$) and lower self-hate ($d = -.34$), as well as fewer clinical eating disorder symptoms ($d = -.57$) and less depression ($d = -.64$) compared to those who completed treatment. There were no significant differences in outcome between dropouts and completers.

Although dropouts had less negative self-image compared to completers and remainers in Study IV, they had presented at intake with more negative self-image compared to previous studies of comparable normal controls on SASB self-image. From an interpersonal perspective, these patients' expectations of interpersonal interactions may still be centred on a tendency towards viewing therapists as critical or blaming. In this sense, dropout may be a natural decision for these patients who find it considerably demanding when therapy shifts focus to examining interpersonal dynamics and related problems in treatment, and at a time when overt eating disorder symptomatology has improved. This interpersonal interpretation of dropout is supported by findings that patients with avoidant attachment patterns have are less sensitive to positive therapeutic interactions, and more likely to disengage from a help provider (Chen & Mallinckroth, 2002). Similarly, patients with anorexia nervosa (purging subtype) and high avoidant attachment were more likely to drop out of treatment than patients with high anxious attachment (Tasca, Taylor, Ritchie & Balfour, 2004). Perhaps, however, the most reasonable explanation of these seemingly paradoxical results is that therapists underestimate the importance of investigating patients' treatment goals and how patients perceive their own ability to change. As such, eating disorder patients with moderate levels of negative self-image, and self-blame in particular, may be prone to treatment dropout when their overt eating disorder symptoms have improved.

CLINICAL IMPLICATIONS

The studies in this thesis suggest that negative self-image is an important factor in eating disorders. What's more, these studies have clear clinical implications. There appear to be subgroups of eating disorder patients with distinct interpersonal profiles that may require treatment resources that match their interpersonal needs. SASB self-image and interpersonal theory could be used in clinical practice to identify eating disorder patients at risk for poor outcome. Important treatment problems such as dropout and dissatisfaction may be better understood, and remedied, if attention is paid to underlying interpersonal issues that may be the result of negative self-image. Use of SASB could also be helpful in the process of clinical supervision by alerting therapists and staff to important interpersonal dynamics that may sabotage treatment efforts, such as behavioural complementarity. These various clinical implications will now be further elaborated.

A great challenge facing therapists working with eating disorders is to avoid falling into the trap of engaging in complementary interpersonal interactions with patients with negative self-image. As detailed in the introduction, seeking affirmation of one's self-image in relationships can be seen as a fundamental interpersonal tendency, regardless of whether or not self-image is positive or negative (Sullivan, 1953). This principle of behavioural complementarity can aid understanding of the process by which interpersonal behaviours tend to function in a congruent way. Patients with negative self-image will expect to be treated in negative ways. A patient with high levels of self-blame will tend to behave in such a way as to elicit blaming responses from others. These patients may not respond to the affirming and helping behaviour of therapists by trusting them. In these situations complementarity can be seen as exerting a powerful "pull" on behaviour, significantly impacting interpersonal exchanges, and reinforcing

previously established patterns of pathological behaviour (Benjamin, 1974; Gurtman, 2001). Most importantly, in treatment with patients characterised by high levels of self-hate, therapists will be exposed to high risks of responding to patients in negative ways. Empirical research on psychotherapy has, in fact, found that even small amounts of rejection, blaming and belittlement can be detrimental to positive outcome (Kiesler, 1996). This could mean that patients with high levels of self-hate may tend to evoke hostile reactions in their therapists, which in turn could adversely affect outcome. Research using SASB methodology has found evidence that negative interpersonal interactions in terms of hostile or controlling complementarity is present when there is little change during the course of treatment (Henry et al., 1986). The same researcher presents empirical evidence that a patient's negative self-image does tend to elicit hostile and controlling statements in the therapist (Henry et al., 1990).

Important interpersonal difficulties may even characterise eating disorder patients that present with moderately negative self-images or even positive self-images. The presence of a clinical diagnosis in patients presenting with positive self-image might reflect an overestimation these patients' self-image, or alternatively, the seemingly positive self-image could reflect difficulties tolerating affects such as anger or aggression. In these cases, patients may initially seem to respond in a therapeutically satisfactory manner, at least in terms of what they are disclosing and expressing, and how they seem to trust and rely on their therapists. However, such a seemingly solid therapeutic alliance may actually be built on weak ground, resulting in a crumbling edifice when the therapist begins to explore negative aspects of the patient's self.

In Study I patients with BED presented with less negative self-image compared to the other eating disorder diagnoses. They rated themselves as more self-empowering, self-affirming and self-loving, as well as less self-controlling than the other groups of patients. This result could appear to be a positive finding; however, it could also be indicative of clinical problems described above. Support for such an interpretation comes from a study by Madison (1997) who argued that eating disorder patients with positive interpersonal style are not necessarily easier to engage in therapy than those with negative interpersonal style. Madison and co-workers suggested that these sociable patients tend to evoke co-operative and trusting responses from therapists, which in turn could reinforce patients' underlying tendencies toward social conformity, thereby hindering change. Applied to patients with BED, this might explain why some patients show a high degree of treatment compliance but little change. Research into addictive disorders suggests that positive self-image among such patients may reflect a pathological overestimation of the patients' ability to change; in these instances engaging in treatment was seen as threatening to the patient's positive self-image (Strömberg, 2002). Nevertheless, despite appealing theoretical arguments, more systematic investigation of such possibilities is needed before firm conclusions can be drawn.

THE NEED FOR FURTHER RESEARCH

Understanding self-image in eating disorders can improve both treatment and outcome. Important issues, nevertheless, remain to be better understood in future re-

search. Patients with eating disorders need be compared with larger psychiatric control groups, such as patients with depression who are often characterised by negative self-image. Results from such work would help us to understand the specificity of negative self-image in eating disorders. Using the SASB methodology, future research could explore if, how, and for whom self-image changes during the course of treatment. Results from a study outside the CO-RED project suggest that reduction of self-hate during the initial 12 months of treatment is a key factor for predicting positive outcome after 36 months (Hansson et al, 2006).

Future research also needs to address the implications of the present work on treatment satisfaction. If unsatisfied patients have more interpersonal problems in addition to higher expectations of treatment interventions focusing on insight rather than control of eating habits, then it may be important to investigate whether satisfaction, and ultimately outcome, can be improved by allocating patients to appropriate therapies on the basis of their expectations. Patients with high expectations of insight could, for example, be allocated to psychodynamic psychotherapy, while patients with high expectations of symptom-focused strategies could be allocated to treatments focusing on behavioural issues. The outcome of such studies could also help us to understand whether treatment should focus more on interpersonal issues related to patients' treatment expectations.

Patients with high levels of self-hate appear to be at risk for poor outcome. Nevertheless, more empirical research is needed in order to fully understand the extent of this prognostic factor in eating disorders. For example, it will be important to understand whether self-hate is related to poor outcome in different diagnostic groups of eating disorder patients. Such studies could investigate patients that do not cross over to another diagnosis during their course of illness.

More research on dropout in eating disorders is also clearly needed. The influence of interpersonal problems on dropout could be further explored in studies using the SASB methodology. It will be especially important to explore differences with regard to self-image profiles between patients who dropout early (i.e. within the first sessions) and those who dropout after having received a significant amount of treatment. Another important area of research will be outcome among patients who drop out. The CO-RED database actually contains data on patients who prematurely terminated their treatment but were nonetheless followed up. It will also be important to examine differences between early and late dropout, which could help to understand if late dropout does in fact represent a healthy decision to end treatment from the patient's perspective.

Investigating self-image and interpersonal problems in eating disorders may also improve knowledge about the effectiveness of evidence-based treatments, such as cognitive behavioural therapy (CBT) and interpersonal psychotherapy (IPT). Although CBT is suggested to be the treatment of choice for eating disorder patients with bulimic symptoms (Fairburn, 2003), some data suggest that IPT has equally good effects on eating disorder symptoms in the long run (Fairburn, Jones, Peveler, Hope & O'Connor, 1993). A randomized controlled trial comparing CBT and IPT, including measures of self-image and interpersonal interactions using the SASB methodology, could allow us

to test whether patients with high levels of self-hate are more suitable for IPT. If SASB methodology could be used to identify patients that would have better chances of success with IPT as opposed to CBT, then individual treatment planning could be considerably improved.

CONCLUSIONS

- I. Eating disorder patients appear to have more negative interpersonal profiles compared to normal controls and controls with sub-clinical depression. Patients with anorexia nervosa appear to be more self-controlling, self-hating, self-blaming, as well as less self-emancipated and self-loving. Patients with BED appear to be more self-affirming than patients with anorexia nervosa and bulimia nervosa, as well as less self-controlling than patients with anorexia nervosa and EDNOS. Examining self-image at initial assessment may help to identify patients at risk for negative therapeutic interactions.
- II. Patients who become unsatisfied with treatment appear to also be more self-blaming, self-hating, self-neglecting, as well as less self-affirming and self-loving. They also appear to have more eating disorder and psychiatric symptoms. Patients who become unsatisfied with treatment may initially have higher expectations of treatment interventions focusing on insight and lower expectations on interventions focusing on control. The treatment of eating disorders may be less successful with patients who need to explore psychological issues rather than focus on the control of eating behaviour.
- III. Eating disorder patients with high levels of self-hate may have a greater risk for poor outcome regardless of their clinical symptoms. Staff involved in treating eating disorders need to be attuned to the potential risk of being perceived as critical and blaming by these patients. Such interpersonal interactions may tend to confirm patients' negative self-image and lead to unwanted setbacks during treatment.
- IV. Patients who decide to end treatment prematurely appear to have less negative self-image in terms of more self-emancipation, self-affirmation, less self-blame and less psychological problems at intake. Therapists may need to pay closer attention to patients that seem to be confident and manage on their own when clinical symptoms have improved.

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REFERENCES

- Abou-Saleh, M. T., Younis, Y., & Karim, L. (1998). Anorexia nervosa in an arab culture. *International Journal of Eating Disorders*, 23(2), 207-212.
- Agras, W. S., Crow, S. J., Halmi, K. A., Mitchell, J. E., Wilson, G. T., & Kraemer, H. C. (2000). Outcome predictors for the cognitive behavior treatment of bulimia nervosa: Data from a multisite study. *American Journal of Psychiatry*, 157 (8), 1302-1308.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders, fourth edition (DSM-IV)*. Washington, DC: American Psychiatric Association.
- Baran, S. A., Weltzin, T. E., & Kaye, W. H. (1995). Low discharge weight and outcome in anorexia nervosa. *American Journal of Psychiatry*, 152 (7), 1070-1072.
- Beck, A. T., & Steer, R. A. (2001). *BDI, Beck Depression Inventory. Manual, Swedish version*. Stockholm: Psykologiförlaget AB.
- Benjamin, L. S. (1974). Structural analysis of social behavior. *Psychological Review*, 81 (5), 392-425.
- Benjamin, L. S. (1996). *Interpersonal diagnosis and treatment of personality disorders, 2nd ed.* New York: The Guilford Press.
- Benjamin, L. S. (2000). *SASB intrex user's manual*: University of Utah.
- Beumont, P. J. V. (2002). Clinical presentation of anorexia nervosa and bulimia nervosa. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (2nd ed., pp. 162-171). New York: The Guilford Press.
- Björk, T., Clinton, D., & Norring, C. (2006). Reasons for non-participation in follow-up follow-up research on eating disorders (in Press) *Eating and Weight Disorders*.
- Blouin, J., Schnarre, K., Carter, J., Blouin, A., Tener, L., Zuro, C., et al. (1995). Factors affecting dropout rate from cognitive-behavioral group treatment for bulimia nervosa. *International Journal of Eating Disorders*, 17(4), 323-329.
- Bruch, H. (1973). *Eating disorders. obesity, anorexia nervosa, and the person within*. New York: Basic Books.
- Bulik, C. M. (2002). Anxiety, Depression and Eating Disorders. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (2nd ed., pp. 193-199). New York: The Guilford Press.
- Bulik, C. M., Sullivan, P. F., Fear, J. L., & Pickering, A. (2000). Outcome of anorexia nervosa: eating attitudes, personality and parental bonding. *International Journal of eating disorders*, 28, 139-147.
- Bulik, C. M., Sullivan, P. F., Joyce, P. R., Carter, F. A., & McIntosh, W. V. (1998). Predictors of 1-year treatment outcome in bulimia nervosa. *Comprehensive Psychiatry*, 39 (4), 206-214.
- Bulik, C. M., Sullivan, P. F., & Kendler, K. S. (2000). An empirical study of the classification of eating disorders. *American Journal of Psychiatry*, 157, 886-895.
- Button, E. J., Sonuga-Barke, E. J., Davies, J., & Thompson, M. (1996). A prospective study of self-esteem in the prediction of eating problems in adolescent school-girls: Questionnaire findings. *British Journal of Clinical Psychology*, 35 (2), 193-203.
- Button, E. J., & Warren, R. L. (2002). Self-image and anorexia nervosa 7.5 Years after initial presentation to a specialized eating disorders service. *European Eating Disorders Review*, 10, 399-412.
- Casper, R. C., Offer, D., & Ostrov, E. (1981). The self-image of adolescents with acute anorexia nervosa. *J Pediatr*, 98(4), 656-661.
- Cervera, S., Lahortiga, F., Martinez-Gonzalez, M. A., Gual, P., de Irala-Estevez, J., & Alonso, Y. (2003). Neuroticism and low self-esteem as risk factors for incident eating disorders in a prospective cohort study. *International Journal of Eating Disorders*, 33(3), 271-280.

- Chen, E. C., & Mallincrodth, B. (2002). Attachment, group attraction, and self-other agreement in interpersonal circumplex problems and perceptions of group members. *Group Dynamics*, 6, 311-324.
- Chiu, L. P. (1989). Anorexia nervosa in a young chinese woman in Hong kong. *Canadian Journal of Psychiatry*, 34(2), 162-163.
- Clausen, L. (2004). Time course of symptom remission in eating disorders. *International Journal of Eating Disorders*, 36 (3), 296-306.
- Clinton, D. N. (1996). Why do eating disorder patients drop-out? Evaluating the role of patient-therapist frames of reference. *Psychotherapy and Psychosomatics*, 65, 29-35.
- Clinton, D., & Norring, C. (1999). The rating of anorexia and bulimia (RAB) interview: development and preliminary validation. *European Eating Disorders Review*, 7(5), 362-371.
- Clinton, D. (2001). Assessing expectations and experiences of treatment in eating disorders. *Eating Disorders - The Journal of Treatment and Prevention*, 9, 361-371.
- Clinton, D., Björck, C., Sohlberg, S., & Norring, C. (2004). Patient satisfaction with treatment in eating disorders: cause for complacency of concern? *European Eating Disorders Review*, 21, 240-246.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (second edition). Hillsdale, NJ: Erlbaum.
- Coker, S., Vize, C., Wade, T., & Cooper, P. J. (1993). Patients with bulimia nervosa who fail to engage in cognitive behavior therapy. *International Journal of Eating Disorders*, 13(1), 35-40.
- Crisp, A. H. (1980). *Anorexia nervosa: let me be*. London: Academic Press.
- Derogatis, L. R., Lipman, R. S., & Covi, L. (1973). SCL-90: and outpatient psychiatric rating scale - preliminary report. *Psychopharmacology*, 9, 13-28.
- Di Pietro, G., Valoroso, L., Fichelle, M., Bruno, C., & Sorge, F. (2002). What happens to eating disorder outpatients who withdrew from therapy? *Eating and Weight Disorders*, 7(4), 298-303.
- Eivors, A., Button, E., Warner, S., & Turner, K. (2002). Understanding the experience of drop-out from treatment for anorexia nervosa. *European Eating Disorders Review*, 11, 90-107.
- Erkolahti, R. K., Saarijarvi, S., Ilonen, T., & Hagman, H. (2002). Self-image of anorexic and bulimic female adolescents. *Nordic Journal of Psychiatry*, 56(6), 447-450.
- Fairburn, C. G., Cooper, Z., Doll, H. A., Norman, P., & O'Connor, M. (2000). The natural course of bulimia nervosa and binge eating disorder in young women. *Archives of General Psychiatry*, 57, 659-665.
- Fairburn, C. G., Cooper, Z., Doll, H. A., & Welch, S. L. (1999). Risk factors for anorexia nervosa: three integrated case-control comparisons. *Archives of General Psychiatry*, 56(5), 468-476.
- Fairburn, C. G., Doll, H. A., Welch, S. L., Hay, P. J., Davies, B. A., & O'Connor, M. E. (1998). Risk factors for binge eating disorder: a community-based, case-control study. *Archives of General Psychiatry*, 55(5), 425-432.
- Fairburn, C. G., Jones, R., Peveler, R. C., Hope, R. A., & O'Connor, M. E. (1993). Psychotherapy for bulimia nervosa: longer-term effects of interpersonal psychotherapy, behavior therapy, and cognitive behavior therapy. *Archives of General Psychiatry*, 50, 419-428.
- Fairburn, C. G., & Harrison, P. J. (2003). Eating disorders. *Lancet*, 361 (9355), 407-416.
- Fairburn, C. G., & Walsh, T. (2002). Atypical eating disorders (Eating Disorder Not Otherwise Specified). In C. G. Fairburn & K. D. Brownell (Eds.), *Eating disorders and obesity. A comprehensive handbook* (2nd ed., pp. 171-178). New York: The Guilford Press.
- Fairburn, C. G., Welch, S. L., Doll, H. A., Davies, B. A., & O'Connor, M. E. (1997). Risk factors for bulimia nervosa. A community-based case-control study. *Archives of General Psychiatry*, 54(6), 509-517.

- Fassino, S., Abbate Daga, G., Piero, A., & Rovera, G. G. (2002). Dropout from brief psychotherapy in anorexia nervosa. *Psychotherapy and Psychosomatics*, 71(4), 200-206.
- Fassino, S., Abbate Daga, G., Piero, A., & Rovera, G. G. (2003). Dropout from brief psychotherapy within combination treatment in bulimia nervosa: role of personality and anger. *Psychotherapy and Psychosomatics*, 72, 203-210.
- Favaro, A., & Santonastaso, P. (2000). Self-injurious behavior in anorexia nervosa. *The Journal of Nervous and Mental Disease*, 188 (8), 537-542.
- Fisher, M. (2003). The course and outcome of eating disorders in adults and in adolescents: A review. *Adolescent Medicine*, 14 (1), 149-158.
- Franzén, U., Backmund, H., & Gerlinghoff, M. (2004). Day treatment group programme for eating disorders: reasons for drop-out. *European Eating Disorders Review*, 12, 153-158.
- Friedman, M. A., Wilfley, D. E., Welch, R. R., & Kuncze, J. T. (1997). Self-directed hostility and family functioning in normal-weight bulimics and overweight binge eaters. *Addictive Behaviors*, 22 (3), 367-375.
- Garcia de Amusquibar, A. M. (2000). Interdisciplinary team for the treatment of eating disorders. *Eating and Weight Disorders*, 5 (4), 223-227.
- Garcia de Amusquibar, A. M., & De Simone, C. J. (2003). Some features of mothers of patients with eating disorders. *Eating and Weight Disorders*, 8(3), 225-230.
- Garner, D. M. (1991). *EDI-2, Eating Disorder Inventory - 2. Professional Manual*. Odessa: Psychological Assessment Resources, Inc.
- Garner, D. M. (2002). Measurement of eating disorder psychopathology. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating disorders and obesity. A comprehensive handbook* (2nd ed pp. 141-151). New York: The Guilford Press.
- Geller, J., Cockell, S. J., & Drab, D. L. (2001). Assessing readiness for change in the eating disorders: The psychometric properties of the readiness and motivation interview. *Psychological Assessment*, 13(2), 189-198.
- Geller, J., Johnston, C., Madsen, K., Goldner, E. M., Remick, R. A., & Birmingham, C. L. (1998). Shape- and weight-based self-esteem and the eating disorders. *International Journal of Eating Disorders*, 24(3), 285-298.
- Ghaderi, A. (2003). Structural modeling analysis of prospective risk factors for eating disorder. *Eating Behaviors*, 3(4), 387-396.
- Grilo, C. M. (2002). Binge eating disorder. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (2nd ed., pp. 178-183). New York: The Guilford Press.
- Grubb, H. J., Sellers, M. I., & Waligroski, K. (1993). Factors related to depression and eating disorders: Self-esteem, body image, and attractiveness. *Psychological Report*, 72, 1003-1010.
- Gual, P., Pérez-Gaspar, M., Martínez-González, M. A., Lahortiga, F., de Irala-Estévez, J., & Cervera-Enguix, S. (2002). Self-Esteem, Personality, and Eating Disorders: Baseline Assessment of a Prospective Population-based Cohort. *International Journal of Eating Disorders*, 31, 261-273.
- Gull, W. W. (1873). Anorexia hysterica. *British Medical Journal* (2), 527-529.
- Gurtman, M. B. (1997). Studying personality traits: the circular way.. In R. P. Plutchik & H. R. Conte (Eds.). *Circumplex Models of Personality and Emotions* (pp. 81-103). Washington, DC, American Psychological Association.
- Gurtman, M. B. (2001). Interpersonal complementarity: integrating interpersonal measurement with interpersonal models. *Journal of Counseling Psychology*, 48 (1), 97-110.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (Fifth edition). New Jersey: Prentice-Hall, Inc.
- Hansson, L., Björck, C., Lannfelt, E., Reichenwallner, M., & Villegas, E. (2006). *SUSÄTS. Samordnad utvärdering vid specialenheter för ätstörningar inom Stockholms läns landsting*. Research rapport. Resource Centre for Eating Disorders, Huddinge, Sweden.
- Hardy, G. E., West, M. A., & Hill, F. (1996). Components and predictors of patient satisfaction. *British Journal of Health Psychology*, 1, 65-85.
- Heine, S. F. (1996). [insufficient knowledge about eating disorders in russia. There is an anorexia clinic in moscow]. *Lakartidningen*, 93(35), 2907-2909.

- Henry, W. P. (1996). Structural analysis of social behavior as a common metric for programmatic psychopathology and psychotherapy research. *Journal of Consulting and Clinical Psychology, 64*(6), 1263-1275.
- Henry, W. P., Schacht, T. E., & Strupp, H. H. (1986). Structural analysis of social behavior: Application to a study of interpersonal process in differential psychotherapeutic outcome. *Journal of Consulting and Clinical Psychology, 54* (1), 27-31.
- 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.
- Henry, W. P., Schacht, T. E., Strupp, H. H., Butler, S. F., & Binder, J. L. (1993). Effects of training in time-limited dynamic psychotherapy: Mediators of therapists' responses to training. *Journal of Consulting and Clinical Psychology, 61*(3), 441-447.
- Herzog, D. B., Keller, M. B., Lavori, P. W., & Sacks, N. R. (1998). The course and outcome of bulimia nervosa. *Journal of Clinical Psychiatry, 52* (10), 4-8.
- Hilliard, R. B., Henry, W. P., & Strupp, H. H. (2000). An interpersonal model of psychotherapy: Linking patient and therapist developmental history, therapeutic process, and types of outcome. *Journal of Consulting and Clinical Psychology, 68*(1), 125-133.
- Hoek, H. W. (2002). Distribution of eating disorders. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (2nd ed., pp. 233-237). New York: The Guilford Press.
- Hoek, H. W., van Harten, P. N., van Hoeken, D., & Susser, E. (1998). Lack of relation between culture and anorexia nervosa--results of an incidence study on curacao. *New England Journal of Medicine, 338*(17), 1231-1232.
- Horowitz (2000) Inventory of interpersonal problems (IIP). Manual. Swedish version. Stockholm; Psykologiförlaget AB.
- Humphrey, L. L., Apple, R. F., & Kirschenbaum, D. S. (1986). Differentiating bulimic-anorexic from normal families using interpersonal and behavioral observational systems. *Journal of Consulting and Clinical Psychology, 54*(2), 190-195.
- Humphrey, L. L. (1987). Comparison of bulimic-anorectic and nondistressed families using structural analysis of social behavior. *The American Academy of Child and Adolescent Psychiatry, 26*(2), 248-255.
- Humphrey, L. L. (1989). Observed family interactions among subtypes of eating disorders using structural analysis of social behavior. *Journal of Consulting and Clinical Psychology, 57* (2), 206-214.
- Johnsson, P., Smith, G. J., & Amner, G. (2001). The troubled self in women with severe eating disorders (anorexia nervosa and bulimia nervosa). A study using interviews, self-reports, and percept-genetic methods. *Nordic Journal of Psychiatry, 55*(5), 343-349.
- Joiner, T. E., Jr., Schmidt, N. B., & Wonderlich, S. A. (1997). Global self-esteem as contingent on body satisfaction among patients with bulimia nervosa: Lack of diagnostic specificity? *International Journal of Eating Disorders, 21*(1), 67-76.
- Kahn, C., & Pike, K. M. (2001). In search of predictors of dropout from inpatients treatment for anorexia nervosa. *International Journal of Eating Disorders, 30* (3), 237-244.
- Keel, P. K., Mitchell, J. E., Davis, T. L., Fieselman, S., & Crow, S. J. (2000). Impact of definitions on the description and prediction of bulimia nervosa outcome. *International Journal of Eating Disorders, 28*(4), 377-386.
- Kiesler, D. J. (Ed.). (1996). *Contemporary interpersonal theory and research*. New York: John Wiley & Sons, Inc.
- Lask, B. (2000). Aetiology. In B. Bryant-Waugh & Lask, R. (Eds.), *Anorexia Nervosa and Related Eating Disorders in Childhood and Adolescence* (2nd ed., pp. 66). East Sussex: Psychology Press Ltd.
- Le Grange, D., & Lock, J. (2005). The dearth of psychological treatment studies for anorexia nervosa. *International Journal of Eating Disorders, 37*(2), 79-91.
- Lilenfeld, L. R., Kaye, W. H., Greeno, C. G., Merikangas, K. R., Plotnicov, K., Pollice, C., et al. (1998). A controlled family study of anorexia nervosa and bulimia

- nervosa: Psychiatric disorders in first-degree relatives and effects of proband comorbidity. *Archives of General Psychiatry*, 55(7), 603-610.
- Lorr, M., & Strack, S. (1999). A study of Benjamin's eight-facet structural analysis of social behavior (SASB) model. *Journal of Clinical Psychology*, 55(82), 207-215.
- Lorr, M. (1997). The circumplex model applied to interpersonal behavior, affect, and psychotic syndromes. In R. P. Plutchik & H. R. Conte (Eds.), *Circumplex Models of Personality and Emotions* (pp. 47-57). Washington, DC, American Psychological Association.
- Madison, J. K. (1997). Interpersonal assessment and therapy of eating disorders: a clinical application of a circumplex model. In R. P. Plutchik & H. R. Conte (Eds.), *Circumplex Models of Personality and Emotions* (pp. 431-447). Washington, DC, American Psychological Association
- Mahon, J. (2000). Dropping out from psychological treatment for eating disorders: what are the issues? *European Eating Disorders Review*, 8, 198-216.
- Mahon, J., Winston, A. P., Palmer, R. L., & Harvey, P. K. (2001). Do broken relationships in childhood relate to bulimic women breaking off psychotherapy in adulthood? *International Journal of Eating Disorders*, 29, 139-149.
- McFarlane, T., McCabe, R. E., Jarry, J., Olmsted, M. P., & Polivy, J. (2001). Weight-related and shape-related self-evaluation in eating-disordered and non-eating-disordered women. *International Journal of Eating Disorders*, 29(3), 328-335.
- Mendelson, B. K., McLaren, L., Gauvin, L., & Steiger, H. (2002). The relationship of self-esteem and body esteem in women with and without eating disorders. *International Journal of Eating Disorders*, 31(3), 318-323.
- Miotto, P., De Coppi, M., Frezza, M., Rossi, M., & Preti, A. (2002). Social desirability and eating disorders. A community study of an Italian school-aged sample. *Acta Psychiatrica Scandinavica*, 105(5), 372-377.
- Mitchell, J. E., Halmi, K., Wilson, T. G., Agras, S. W., Kraemer, H., & Crow, S. (2002). A randomized secondary treatment study of women with bulimia nervosa who fail to respond to CBT. *International Journal of Eating Disorders*, 32, 271-281.
- Nevonen, L., & Broberg, A. G. (2000). Validating the Eating Disorder Inventory-2 (EDI-2) in Sweden. *Eating and Weight Disorders*, 6, 59-67.
- Nevonen, L., Broberg, A. G., Clinton, D., & Norring, C. (2003). A measure for the assessment of eating disorders: Reliability and validity studies of the Rating of Anorexia and Bulimia interview - revised version (RAB-R). *Scandinavian Journal of Psychology*, 44, 303-310.
- Nobakht, M., & Dezhkam, M. (2000). An epidemiological study of eating disorders in Iran. *International Journal of Eating Disorders*, 28(3), 265-271.
- Noordenbos, G., Jacobs, M., & Hertzberger, E. (1998). Chronic eating disorders: The patients' view of their treatment history. *Eating Disorders - The Journal of Treatment and Prevention*, 6, 217-223.
- Norring, C., Clinton, D., Eriksson, B., Enzell, K., & Hällström, T. (1996). *SUSFA: Samordnad utvärdering och forskning vid specialenheter för anorexi/bulimi*. Project plan.. Huddinge, Stockholm
- North, C., & Gowers, S. (1999). Anorexia nervosa, psychopathology, and outcome. *International Journal of Eating Disorders*, 26, 386-391.
- Palazzoli, M. S. (1974). *Self-starvation*. London: Chaucer Publishing Co Ltd.
- Palmer, R. L. (2000). *Helping people with eating disorders: A clinical guide to assessment and treatment*. Chichester: John Wiley & Sons.
- Palmer, R. L. (2002). Clinical assessment of patients with eating disorders. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (2nd ed., pp. 298-301). New York: The Guilford Press.
- Parker, G., Wright, M., Robertson, S., & Gladstone, G. (1996). The development of patient satisfaction measure for psychiatric outpatients. *Australian and New Zealand Journal of Psychiatry*, 30, 343-349.
- Pike, K. M., & Mizushima, H. (2005). The clinical presentation of Japanese women with anorexia nervosa and bulimia nervosa: A study of the eating disorders inventory-2. *International Journal of Eating Disorders*, 37(1), 26-31.

- Pincus, A. L., Newes, S. L., Dickinson, K. A., & Ruiz, M. A. (1998). A comparison of three indexes to assess the dimensions of structural analysis of social behavior. *Journal of Personality Assessment, 70*(1), 145-170.
- Plutchik, R. & Conte, H. R. (Eds.) (1997). *Circumplex models of personality and emotions*. Washington, DC: American Psychological Association.
- Quadflieg, N., & Fichter, M. M. (2003). The course and outcome of bulimia nervosa. *European Child & Adolescent Psychiatry, 12*, 199-109.
- Ratti, L. A., Humphrey, L. L., & Lyons, J. S. (1996). Structural analysis of families with a polydrug-dependent, bulimic, or normal adolescent daughter. *Journal of Consulting and Clinical Psychology, 64*(6), 1255-1262.
- Reas, D. L., Schoemaker, C., Zipfel, S., & Williamson, D. A. (2001). Prognostic value of duration of illness and early intervention in bulimia nervosa: A systematic review of the outcome literature. *International Journal of Eating Disorders, 31*, 1-10.
- Reas, D. L., Williamson, D. A., Martin, C. K., & Zucker, N. I. (2000). Duration of illness predicts outcome for bulimia nervosa: a long-term follow-up. *International Journal of Eating Disorders, 27*, 428-434.
- Ross, M., & Wade, T. (2003). Shape and weight concern and self-esteem as mediators of externalized self-perception, dietary restraint and uncontrolled eating. *European Eating Disorders Review*.
- Rudy, J. P., McLemore, C. W., & Gorsuch, R. L. (1985). Interpersonal Behavior and Therapeutic Progress: Therapists and Clients Rate Themselves and Each Other. *Psychiatry, 48*, 264-281.
- Ruiz, M. A., Pincus, A. L., & Bedics, J. B. (1999). Using the structural analysis of social behavior (SASB) to differentiate young adults with borderline personality disorder features. *Journal of Personality Disorders, 13*(2), 187-198.
- Sands, R. (2000). Reconceptualization of body image and drive for thinness. *International Journal of Eating Disorders, 28*(4), 397-407.
- Sands, S. (1991). Bulimia: A displacement from psychological self to body self. In C. Johnson (Ed.), *Psychodynamic Treatment of Anorexia nervosa and Bulimia* (pp. 35-49). New York: The Guilford Press.
- Sanftner, J. L., & Crowther, J. H. (1998). Variability in self-esteem, mood, shame, and guilt in women who binge. *International Journal of Eating Disorders, 23*(4), 390-397.
- Sassaroli, S., & Ruggiero, G. M. (2005). The role of stress in the association between low self-esteem, perfectionism and worry, in eating disorders. *International Journal of Eating Disorders, 37*(2), 135-141.
- Schaefer, E. S. (1997). Integration of configurational and factorial models for family relationships and child behavior. In R. Plutchik and H. R. Conte (Eds.). *Circumplex Models of Personality and Emotions* (pp. 133- 155).
- Schupak Neuberger, E., & Nemeroff, C. J. (1993). Disturbances in identity and self-regulation in bulimia nervosa: Implications for a metaphorical perspective of "body as self". *International Journal of Eating Disorders, 13*(4), 335-347.
- Sheppy, M., Friesen, J., & Hakstian, A. (1988). Eco-systemic analysis of anorexia nervosa. *Journal of Adolescence, 11*(4), 373-391.
- Silvera, D. H., Bergersen, T. D., Bjorgum, L., Perry, J. A., Rosenvinge, J. H., & Holte, A. (1998). Analyzing the relation between self-esteem and eating disorders: Differential effects of self-liking and self-competence. *Eating and Weight Disorders, 3*(2), 95-99.
- Silverstone, P. (1990). Low self-esteem in eating disordered patients in the absence of depression. *Psychological Report, 67* (1), 276-278.
- Silverstone, P. (1992). Is chronic low self-esteem the cause of eating disorders? *Medical Hypotheses, 39*(4), 311-315.
- Sixma, H. J., Spreeuwenberg, P. M. M., & van der Pasch, M. A. A. (1998). Patient satisfaction with the general practitioner: A two-level analysis. *Medical Care, 36*, 212-229.
- Steel, Z., Jones, J., Adcock, S., Clancy., Bridgford-West, L., & Austin, J. (2000). Why the high rate of dropout from individualized cognitive-behavior therapy for bulimia nervosa? *International Journal of Eating Disorders, 28*(2), 209-214.

- Stein, D., Lilienfeld, L. R., Wildman, P. C., & Marcus, M. D. (2004). Attempted suicide and self-injury in patients diagnosed with eating disorders. *Comprehensive Psychiatry*, 45 (6), 447-451.
- Steinberg, B. E., & Shaw, R. J. (1997). Bulimia as disturbance of narcissism: self-esteem and the capacity to self-soothe. *Addictive Behaviors*, 22(5), 699-710.
- Steinhausen, H. C. (2002). The outcome of anorexia nervosa in the 20th century. *American Journal of Psychiatry*, 159(8), 1284-1293.
- Steinhausen, H. C., & Vollrath, M. (1993). The self-image of adolescent patients with eating disorders. *International Journal of Eating Disorders*, 13(2), 221-227.
- Strauss, J., & Ryan, R. (1987). Autonomy disturbances in subtypes of anorexia nervosa. *Journal of Abnormal Psychology*, 96(3), 254-258.
- Strober, M. (1991). Disorders of the self in anorexia nervosa: An organismic-developmental paradigm. In C. Johnson (Ed.), *Psychodynamic Treatment of Anorexia nervosa and Bulimia*. New York: Guilford Press.
- Strober, M., Freeman, R., & Morrell, W. (1997). The long-term course of severe anorexia nervosa in adolescents: survival analysis of recovery, relapse, and outcome predictors over 10-15 years in a prospective study. *International Journal of Eating Disorders*, 22(4), 339-360.
- Stunkard, A. J. (2002). Night eating syndrome. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (pp. 183 - 188). New York: The Guilford Press.
- Strömberg, U. (2002). Missbrukare med psykisk störning: positiv självbild kan försvåra behandling. *Psykologtidningen*, 10, 4-7.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.
- Sullivan, P. F. (2002). Course and outcome of anorexia nervosa and bulimia nervosa. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (2nd ed., pp. 221-230). New York: The Guilford Press.
- Surgenor, L. J., Maguire, S., & Beumont, P. J. V. (2004). Drop-out from inpatient treatment for anorexia nervosa: can risk factors be identified at point of admission. *European Eating Disorders Review*, 12, 94 -100.
- Swift, W. J., Bushnell, N. J., Hanson, P. & Logeman, T. (1986). Self-Concept in adolescent anorexics. *Journal of the American Academy of Child Psychiatry*, 25 (6) 826-835.
- Tasca, G. A., Taylor, D., Ritchie, K., & Balfour, L. (2004). Attachment predicts treatment completion in an eating disorders partial hospital program among women with anorexia nervosa. *Journal of Personality Assessment*, 83(3), 201-212.
- Tozzi, F., Thornton, L. M., Klump, K. L., Fichter, M. M., Halmi, K. A., Kaplan, A. S., et al. (2005). Symptom fluctuation in eating disorders: Correlates of diagnostic crossover. *American Journal of Psychiatry*, 162(4), 732-740.
- Treasure, J. L., Katzman, M., Schmidt, U., Troop, N., Todd, G., & de Silva, P. (1999). Engagement and outcome in the treatment of bulimia nervosa: first phase of a sequential design comparing motivation enhancement therapy and cognitive behavioural therapy. *Behaviour Research and Therapy*, 37, 405-418.
- Yanovski, S. Z. (2002). Binge eating in obese persons. In C. G. Fairburn & K. D. Brownell (Eds.), *Eating Disorders and Obesity. A Comprehensive Handbook* (2nd ed., pp. 403 -411). New York: The Guilford Press.
- Vandereycken, W., & Pierloot, R. (1983). Drop-out during in-patient treatment of anorexia nervosa: A clinical study of 133 patients. *British Journal of Medical Psychology*, 56(2), 145-156.
- Vaz, F. J. (1998). Outcome of bulimia nervosa: Prognostic indicators. *Journal of Psychosomatic Research*, 45(5), 391-400.
- Vitousek, K., Watson, S., & Wilson, G. T. (1998). Enhancing motivation for change in treatment-resistant eating disorders. *Clinical Psychology Review*, 18(4), 391-420.
- Vohs, K. D., Bardone, A. M., Joiner, T. E., Jr., Abramson, L. Y., & Heatherton, T. F. (1999). Perfectionism, perceived weight status, and self-esteem interact to predict bulimic symptoms: A model of bulimic symptom development. *Journal of Abnormal Psychology*, 108(4), 695-700.

- Waller, G. (1996). Drop-out and failure to engage in individual outpatient cognitive behaviour therapy for bulimic disorders. *International Journal of Eating Disorders*, 22, 35-41.
- Walsh, B. T., Fairburn, C. G., Mickley, D., Sysko, R., & Parides, M. K. (2004). Treatment of bulimia nervosa in a primary care setting. *American Journal of Psychiatry*, 161(3), 556-561.
- Vandereycken, W., & Pierloot, R. (1983). Drop-out during in-patient treatment of anorexia nervosa: a clinical study of 133 patients. *British Journal of Medical Psychology*, 56, 145-16.
- Woodside, B. D., Carter, F. C., & Blackmore, E. (2004). Predictors of premature termination of inpatient treatment for anorexia nervosa. *American Journal of Psychiatry*, 162(12), 2277-2281.
- Wonderlich, S. A., & Swift, W. J. (1990). Perceptions of parental relationships in the eating disorders: The Relevance of Depressed Mood. *Journal of Abnormal Psychology*, 99(4), 353-360.
- Wonderlich, S. A., Klein, M. H., & Council, J. R. (1996). Relationship of social perceptions and self-concept in bulimia nervosa. *Journal of Consulting and Clinical Psychology*, 64(6), 1231-1237.
- Zaitzoff, S. L., Geller, J. & Strikameswaran, S. (2002). Silencing the self and suppressed anger: relationship to eating disorder symptoms in adolescent females. *European Eating Disorders Review*, 10, 51-60.

APPENDIX 1

DSM-IV Diagnostic Criteria for Eating Disorders

307.1 Anorexia Nervosa (AN)

- A. Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g. weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).
- B. Intense fear of gaining weight or becoming fat, even though underweight.
- C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current body weight.
- D. In postmenarcheal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g. oestrogen, administration.)

Specify type:

Restricting Type: during the current episode of Anorexia Nervosa, the person has not regularly engaged in binge-eating or purging behaviour (i.e. self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

Binge-Eating/Purging Type: during the current episode of Anorexia Nervosa, the person has regularly engaged in binge-eating or purging behaviour (i.e. self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

307.51 Bulimia Nervosa (BN)

- A. Recurrent episodes of binge eating. An episode of binge eating is characterised by both the following:
 - (1) eating, in a discrete period of time (e.g. within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances
 - (2) a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop what or how much one is eating)
- B. Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.
- C. The binge eating and inappropriate compensatory behaviours both occur, on average, at least twice a week for 3 months
- D. Self-evaluation is unduly influenced by body shape and weight.
- E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

Specify type:

Purging Type: during the current episode of Bulimia Nervosa, the Person has regularly engaged in self-induced vomiting or the misuse of Laxatives, diuretics or enemas.

Nonpurging Type: during the current episode of Bulimia Nervosa, the

Person has used other inappropriate compensatory behaviours, such as fasting or excessive exercise but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics or enemas.

307.50 Eating Disorder Not Otherwise Specified (EDNOS)

1. For females, all of the criteria for Anorexia Nervosa are met except that the individual has regular menses.
2. All of the criteria for Anorexia Nervosa are met except that, despite significant weight loss, the individual's current weight is in the normal range.
3. All of the criteria for Bulimia Nervosa are met except that the binge eating and inappropriate compensatory mechanisms occur at a frequency less than twice a week or for a period of less than 3 months.
4. The regular use of inappropriate compensatory behaviour by an individual of normal body weight after eating small amounts of food (e.g., self-induced vomiting after the consumption of two cookies).
5. Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
6. Binge-eating disorder: recurrent episodes of binge eating in the absence of the regular use of inappropriate compensatory behaviours characteristic of Bulimia Nervosa.

APPENDIX 2

Table 1: Study I

Mean scores and standard deviations on SASB self-image for normal controls ($N=105$) and controls with subclinical depression ($N=26$)

	Normal controls	Controls with subclinical depression
	M (SD)	M (SD)
1. Self-emancipation	46.6 (12.4)	37.3 (12.9)
2. Self-affirmation	58.3 (19.9)	41.6 (18.3)
3. Active self-love	53.9 (17.1)	39.6 (16.5)
4. Self-protection	49.9 (13.3)	43.4 (13.1)
5. Self-control	46.9 (14.5)	47.3 (16.8)
6. Self-blame	27.1 (19.6)	42.5 (21.9)
7. Self-hate	20.1 (17.0)	35.6 (20.1)
8. Self-neglect	27.8 (14.7)	36.7 (14.4)

APPENDIX 3

Tables 5-13 (Study III)

Table 5. Results of stepwise multiple regression of intake predictors on general outcome in test sample 1 (N=125): standardised beta coefficients for predictor variables.

Step:	SASB Self-hate	Key diagnostic symptoms	SASB Self-emancipation	Pathological interpersonal relationships	Psychiatric symptoms	Multiple R ²	Adj. R ²	p
1	.44					.19	.18	.000
2	.37	.26				.25	.24	.002
3	.43	.26	.21			.30	.28	.007
4	.37	.25	.24	.21		.34	.32	.008
5	.29	.24	.24	.20	.18	.36	.33	.045

Table 6. Stepwise multiple regression of intake predictors on general outcome in test sample 2 (N=121): standardised beta coefficients for predictor variables.

Step:	SASB Self-hate	Low occupational status	Pathological interpersonal relationships	Psychiatric symptoms	Multiple R ²	Adj. R ²	p
1	.43				.18	.18	.000
2	.36	.30			.27	.25	.000
3	.31	.29	.22		.31	.25	.007
4	.20	.28	.22	.20	.34	.32	.027

Table 7. Stepwise multiple regression of intake predictors on key diagnostic symptoms at 36-month follow-up (N = 331): standardised beta coefficients.

Step:	Key diagnostic symptoms	SASB Self-hate	Multiple R ²	Adj. R ²	p
1	.30		.08	.08	.001
2	.26	.12	.10	.10	.001

Table 8. Stepwise multiple regression of intake predictors on interpersonal relationships at 36-month follow-up (N = 305): standardised beta coefficients.

Step:	Pathological interpersonal relationships	SASB Self-hate	Multiple R ²	Adj. R ²	p
1	.43		.19	.18	.000
2	.41	.26	.25	.25	.001

Table 9. Stepwise multiple regression of intake predictors on occupational status at 36-month follow-up (N = 284): standardised beta coefficients.

Step:	Low occupational status	Psychiatric symptoms	Multiple R ²	Adj. R ²	p
1	.32		.10	.10	.030
2	.30	.17	.13	.13	.002

Table 10. Stepwise multiple regression of intake predictors on Eating disorder symptoms (EDI-2) at 36 months follow-up (N = 275): standardised beta coefficients.

Step:	Eating disorder symptoms (EDI-2)	SASB Self-hate	Multiple R ²	Adj. R ²	p
1	.22		.05	.05	.002
2	.19	.14	.07	.06	.001

Table 11. Stepwise multiple regression of intake predictors on psychiatric symptoms (SCL-63) at 36-month follow-up (N = 286): standardised beta coefficients.

Step:	Psychiatric symptoms	SASB Self- emanciation	SASB Self- hate	Low occupa- tional status	Multiple R ²	Adj. R ²	p
1	.32				.11	.11	.001
2	.35	.14			.13	.12	.001
3	.25	.18	.19		.15	.14	.010
4	.25	.20	.12	.12	.17	.15	.040

Table 12. Stepwise multiple regression of intake predictors (self-image, eating disorder symptoms, psychological correlates of eating disorder and psychiatric symptoms) on key diagnostic symptoms, interpersonal relationships and occupational status at 36-month follow-up (N = 334): standardised beta coefficients.

Step:	SASB Self-hate)	Psychiatric symptoms	Mul- tipleR ²	Adj. R ²	p
1	.19		.06	.05	.002
2	.18	.14	.06	.06	.001

Table 13. Stepwise multiple regression of intake predictors (self-image, key diagnostic Symptoms, interpersonal relationships and occupational status) on psychiatric symptoms (SCL-63) and eating disorder symptoms (EDI-2) at 36-month follow-up (N = 280): standardised beta coefficients.

Step:	SASB Self-hate	SASB Self- emancipation	Pathological interpersonal relationships	Key diagnos- tic symptoms	Multiple R ²	Adj. R ²	p
1	.26				.11	.11	.001
2	.22	.20			.12	.12	.001
3	.25	.21	.18		.15	.14	.010
4	.22	.19	.18	.12	.17	.15	.040