

Body image in patients with residual eating disorder symptoms: treatment effects of acceptance and commitment therapy and participants' reflections

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Örebro Studies in medical sciences 234



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**Body image in patients with residual eating disorder
symptoms: treatment effects of acceptance and commit-
ment therapy and participants' reflections**

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Title: Body image in patients with residual eating disorder symptoms: treatment effects of acceptance and commitment therapy and participants' reflections.

Publisher: Örebro University 2021

www.oru.se/publikationer

Print: Örebro University, Repro april/2021

ISSN 1652-4063

ISBN 978-91-7529-382-0

Abstract

Maria Fogelkvist (2021): Body image in patients with residual eating disorder symptoms: treatment effects of acceptance and commitment therapy and participants' reflections. Örebro Studies in Medicine 234.

The overall aim of this thesis was to evaluate an acceptance and commitment (ACT) group intervention targeting body image in patients with residual eating disorder (ED) symptoms, including treatment effects and participants' reflections on body image and the intervention. Studies I, II and III are based on a randomized controlled trial including 99 patients that were randomized to the ACT intervention or to continue treatment as usual (TAU). Different self-assessment questionnaires were administered before and after the intervention and at follow up by one and two years. Study IV is based on interviews with patients that had completed the intervention, and did not participate in the trial.

From written evaluations in study I body image was shown to mean different things for different individuals. This was also shown by different expectations on treatment. Study II showed that the ACT intervention was superior to TAU in reducing ED symptoms and body dissatisfaction, while care consumption was lower. In addition, ratings of dropout was low. In study III, it was shown that symptom improvement from the ACT intervention rather than TAU was more pronounced in participants with restrictive ED psychopathology. Participants who displayed binge eating and/or purging ED psychopathology, showed improvement on ED symptoms regardless of intervention. Participants younger than 25, and with lower ratings at baseline, showed no improvement on ED symptoms if continuing with TAU. From interviews with participants in study IV, the intervention was described as demanding, and participants described the importance of their own efforts. Specific processes of the intervention were helpful and the context of the group and context outside of treatment could facilitate or hinder progress. Perceived changes in body image differed between participants in study I, showing the potential breadth of the intervention.

Conclusions from this thesis was that an intervention based on ACT targeting body image was suitable and helpful for patients with residual ED symptoms. Though the intervention was demanding, dropout was low, and specific processes were described as helpful.

Keywords: Body image, body dissatisfaction, eating disorders, acceptance and commitment therapy, randomized controlled trial, qualitative research.

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Table of Contents

LIST OF PUBLICATIONS	9
ABBREVIATIONS	10
BACKGROUND	11
Introduction	11
Body image.....	12
Sociocultural perspective on body image	13
Body image from an evolutionary psychology perspective	15
Body image and psychological suffering	16
Eating disorders.....	17
Treatment for eating disorders and body image issues	19
Acceptance and Commitment Therapy (ACT)	20
An ACT-perspective on eating disorders and body image	23
Summary and rationale	24
AIMS	26
METHODS	27
Setting	27
Participants.....	27
Procedure	28
The ACT intervention	29
Samples in studies I, II and III	31
Sample in study IV.....	32
Data collection in studies I and IV	32
Open questions on body image.....	33
Interviews	33
Data collection in studies II and III.....	33
Instruments	33
<i>Eating Disorder Examination Questionnaire (EDE-Q)</i>	33
<i>Body Shape Questionnaire (BSQ)</i>	34
<i>Body Checking Questionnaire (BCQ)</i>	34
<i>Self-Concept Questionnaire (SCQ)</i>	35
<i>Mindful Awareness Attention Scale (MAAS)</i>	35
<i>Montgomery-Åsberg Depression Rating Scale, the self-rated version</i> <i>(MADRS-S)</i>	36

<i>Subjective experience of recovery</i>	36
Data analysis in studies I and IV	36
Data analyses in studies II and III	37
ETHICAL CONSIDERATIONS	40
RESULTS	41
Study I	41
The term “body image”	41
Descriptions of one’s own body image	41
Desired changes in body image	41
Perceived changes	42
Study II	42
Study III	44
Study IV	46
Summary of main findings	47
DISCUSSION	50
Reflections on main findings	50
Body image is important, elusive, stable, and changeable	50
The importance of targeted interventions	52
The usefulness of ACT	53
Methodological considerations	54
Studies I & IV	55
Studies II & III	56
Conclusions and clinical implications	57
Future research	58
SUMMARY IN SWEDISH	60
TACK (ACKNOWLEDGMENTS)	63
REFERENCES	65

List of publications

This thesis is based on four papers, which are referred to in the text by their Roman numerals.

- I. Fogelkvist, M., Parling, T., Kjellin, L., & Gustafsson, S. A. (2016). A qualitative analysis of participants' reflections on body image during participation in a randomized controlled trial of acceptance and commitment therapy. *Journal of Eating Disorders*, 4, 29. doi:10.1186/s40337-016-0120-4.
- II. Fogelkvist, M., Gustafsson, S. A., Kjellin, L., & Parling, T. (2020). Acceptance and commitment therapy to reduce eating disorder symptoms and body image problems in patients with residual eating disorder symptoms: A randomized controlled trial. *Body Image*, 32, 155-166. doi:10.1016/j.bodyim.2020.01.002.
- III. Fogelkvist, M., Gustafsson, S. A., Kjellin, L., & Parling, T. (in manuscript). Predictors of outcome following a body image treatment based on acceptance and commitment therapy for patients with an eating disorder.
- IV. Fogelkvist, M., Parling, T., Kjellin, L., & Gustafsson, S. A., (submitted). Live with your body- participants' reflections on an acceptance and commitment therapy group intervention for patients with residual eating disorder symptoms.

Abbreviations

ACT	Acceptance and Commitment Therapy
AN	Anorexia Nervosa
BCQ	Body Checking Questionnaire
BED	Binge Eating Disorder
BMI	Body Mass Index
BN	Bulimia Nervosa
BSQ	Body Shape Questionnaire
CBT	Cognitive Behavioral Therapy
DSM-III-R	Diagnostic and Statistical Manual – Third edition, revised
DSM-IV	Diagnostic and Statistical Manual – Fourth edition
DSM-5	Diagnostic and Statistical Manual – Fifth edition
ED	Eating Disorder
EDE	Eating Disorder Examination
EDE-Q	Eating Disorder Examination Questionnaire
MAAS	Mindful Awareness Attention Scale
MADRS-S	Montgomery-Åsberg Depression Rating Scale, the self-rated version
MINI KID	Mini International Neuropsychiatric Interview for Children and Adolescents
NICE	National Institute for Health and Care Excellence
RCT	Randomized Controlled Trial
RFT	Relational Frame Theory
SCID	Structured Clinical Interview for DSM-IV
SCQ	Self-Concept Questionnaire
SEDI	Structured Eating Disorder Interview
TAU	Treatment as usual
UFED	Unspecified Feeding or Eating Disorder

Background

Introduction

Over the course of life, we are in constant development. We are faced with various challenges in different contexts, which we cope with by our individual strengths and shortcomings. In Western societies, there is a focus on the individual herself to tackle the challenges that life brings. Growing up, we form a self-concept: an understanding of the self, including beliefs and attitudes (Baudson, Weber, & Freund, 2016), that is shaped by our ability to cope with those challenges. One aspect of our self-concept is how we value and evaluate our body and the various features of its appearance; in fact, many people consider it to be the most important aspect of self-concept (Baudson et al., 2016; Harter, 2012). How can we understand the importance we place on our physical appearance; are we intrinsically vain, or are there other reasons for this overvaluation? Moreover, how and why does this overvaluation contribute to psychological suffering? It was during my studies to become a psychologist that I first became curious about body image, and in particular the question of when normal becomes abnormal. To what extent is our image of ourselves normal? To what extent are our behaviors around caring for our body and appearance normal? When does our image of ourselves, or our treatment of our bodies, turn to obsession with appearances or disordered eating, and begin to affect psychosocial functioning? In my master's thesis, I explored factors that could predict stability or change in the accuracy of adolescents' perceptions of their weight status in relation to their body mass index (BMI) over time. My interest in these issues deepened, and when I started working at a child and adolescent psychiatry clinic, I conducted a brief screening on the prevalence of body image problems among adolescents seeking psychiatric care. My work in this area introduced me to a researcher from a local eating disorder clinic, who informed me of a study they had just launched, a treatment focusing on body image issues in patients with eating disorders. Thus, in January 2013 I began my PhD studies, with the opportunity to continue to learn more about body image, eating disorders, and acceptance and commitment therapy (ACT).

In this thesis, I will start by outlining some key theories on why we come to value our appearance as one of the most important aspects of our self-concept. Further, I will describe how this overvaluation of appearances can contribute to a great deal of suffering, where for some individuals it becomes a life-long struggle, with the potential to contribute to mental illnesses such as depression, anxiety, and eating disorders.

While challenges and struggles are an integral aspect of being human, we often find ourselves trying to resolve painful inner experiences in an effort to feel better. However, this struggle to eliminate painful thoughts and feelings can actually bring about even more psychological distress. Therefore, in our efforts to alleviate pain, we end up with more pain. How can we understand this contradiction? Moreover, what can we do to change how we think and feel in order to alleviate suffering? Can we let go of these struggles, accept what is given to us, and still live a valued life?

Body image

Although our bodies exist as physical objects that can be described in terms of different physical aspects, such as weight, height, circumference, and ratios between for instance chest and waist, these features are often not what we are referring to when we talk about body image, or at least not only these. Rather, body image is an elusive and complex theoretical structure, and there have been several attempts to formulate an easily understandable definition. An early definition by Schilder (1935, p. 11) describes body image as “the picture of our own body which we form in our mind, that is to say, the way in which the body appears to ourselves”. The research field of body image is diverse and multidisciplinary, spanning psychology, sociology, and biomedical sciences (Cash, 2012). Thus, our understanding of what body image is must be informed by a range of theoretical views. Researchers today agree that the concept is multifaceted; according to a more recent definition by Cash, body image “encompasses one’s body-related self-perceptions and self-attitudes, including thoughts, beliefs, feelings and behaviors” (2004), Cash’s definition covers several different aspects of experience, all of which are complex on their own. This definition can guide our understanding of diverse experiences of body image. Self-perceptions of the body include what we perceive through our senses, and sometimes these perceptions are at odds with what an observer would see from an objective stance. Perceptual disturbance, for example, involves the failure to evaluate one’s body size accurately; or a person may hold distorted beliefs about specific parts of the body, such as viewing one’s nose or thighs as disproportionately large. Our thoughts and feelings include aspects such as how we relate to and evaluate our bodies, which is influenced by our preconceptions about, and comparison with, ideal appearances. This includes aspects such as satisfaction/dissatisfaction/contempt with one’s appearance.

While the construct of body image is said to be complex, it is important to clarify that body image, as well as many other complex constructs, is not an entity

that can be located in our physical environment. Rather, body image is a theoretical concept that refers to an individual's perception or experience of their own body, as opposed to something objectively measurable residing within the individual (Gleeson & Frith, 2006). Thus, to fully grasp what body image is, how it develops, why it is valued as one of the most important aspects of our self-concept, and how and when it can affect an individual in the most detrimental ways, we need to turn to different theoretical theories from a diversity of disciplines (Cash & Smolak, 2011). In this thesis, I will mainly focus on sociocultural perspectives and an evolutionary psychological perspective. The chosen theories are commonly discussed in the context of eating disorders, and highlight that different theoretical perspectives can complement each other, although they might seem contradictory in certain ways. While these were not the only theories available, to include all relevant theories is beyond the scope of this thesis.

Sociocultural perspective on body image

In our society, we are constantly reminded of beauty, and ideals relating to bodies and attractiveness. Beauty ideals for women cover a broad range of aspects, from body size and proportions, to facial attributes such as eye size and location, to the appearance of hair and skin (Engeln-Maddox, 2006). For men, the ideal is focused on visible muscles, but which are not too large, and minimal body adiposity (Tylka, 2011). The feminine beauty ideal has shifted over time, with an emphasis on body size that has become slimmer and slimmer (Cash, 2012, p. 128). It is foremost the ideal of thinness that has been shown to have detrimental effects on women, increasing the risk for disordered eating and eating disorders (EDs) (Stice, Gau, Rohde, & Shaw, 2017). There are several forms of the sociocultural model that attempt to explain how these messages can be harmful. Tiggemann (in Cash & Smolak, 2011, p. 13) summarizes the models as describing that there exists a societal ideal of beauty, transmitted through a variety of social channels and internalized by the individual; and that the extent of the perceived agreement of individual attributes with the ideal will impact the individual's level of satisfaction with their appearance.

One sociocultural model of body image is the objectification theory (Fredrickson & Roberts, 1997), which is a feminist approach. According to this model, the female body is treated as an object in Western patriarchal societies. Through socialization, girls are taught to view their bodies as objects to be looked at and evaluated, and that the body should be controlled, sculpted, and maintained to adhere to a culturally derived ideal in order to please someone else. This leads them to adopt an observer stance towards their bodies, and to constantly monitor them. This monitoring is in a sense adaptive, since attractiveness in women has

been linked to certain advantages, such as popularity, and marriage and work opportunities. The media often serves to reinforce these messages, equating attractiveness with happiness. Through such messages, it is made clear that the individual is responsible for her own level of attractiveness, since she can always put in more effort to change her body and appearance by dieting, exercising, using beauty products, or turning to cosmetic surgery. From such a perspective, conforming to the ideals of beauty is a matter of character, or willpower, and this can bring about shame and anxiety in those who do not meet these standards. Accordingly, self-objectification can lead to a number of mental health issues, such as depression, sexual dysfunction, and EDs.

There has been substantial research attention given to the objectification theory since its first publication, strengthening its usefulness in different contexts. In a meta-analysis by Schaefer and Thompson (2018), it was shown that greater self-objectification was related to higher levels of disordered eating attitudes and behaviors. Further, different factors moderated this effect, such as gender, ethnicity, and mode of measurement, where women were more at risk; Caucasian and Asian women were more at risk than African-American women; and habitual monitoring was more predictive of EDs than was a belief in the importance of appearance over competence-based traits.

Another sociocultural model is the tripartite influence model of body image and eating disturbance (Thompson, 1999). This model proposes three influential factors on body image and eating attitudes: peers, family, and the media. Further, the model suggests two mechanisms through which these factors assert their influence: internalization of the thin-ideal, and appearance comparison. Internalization of the thin-ideal refers to the extent to which an individual adheres to societal guidelines and values regarding attractiveness, and “buys into” them as their own. From a social-psychological perspective, social comparison can be thought of as a result of our innate human drive to evaluate ourselves by comparing ourselves to others (Festinger, 1954). Comparing one’s physical attributes to those of another is a way of determining one’s “standing” in relation to the prevailing ideals of beauty. Depending on how this social comparison is carried out, and in what context, it can either enhance or reduce self-esteem, motivation, and mood (Fardouly, Pinkus, & Vartanian, 2017). For instance, comparison may be made with someone who is regarded as either successful or lacking in the attribute of comparison, which is called upward or downward comparison. Further, comparisons can be made in various contexts, e.g. with peers, fashion models, or individuals on social media. Fardouly et al. (2017) found that women most often compare themselves to friends or peers, followed by social media and television, and rarely by magazines. Satisfaction with appearance was reduced irrespective of

context of comparison, although more when comparison were made on social media. They hypothesize that the reason is that social media presents images that are idealized, obscuring or enhancing unfavorable aspects of appearance leading to a greater discrepancy than when comparing oneself to friends or peers.

The tripartite model has been suggested to benefit from an extension including biological and psychological factors (Rodgers, Paxton, & McLean, 2014). Research has shown that aspects such as genetics (Suisman et al., 2012), low self-esteem, and negative affect (Bearman, Martinez, Stice, & Presnell, 2006) are also considered risk factors for developing body image issues. According to one study investigating a biopsychosocial model, adolescent girls with higher depressive symptoms and low self-esteem were more susceptible to internalization of societal ideals and appearance comparisons, which in turn increased the risk for body image and eating concerns (Rodgers et al., 2014). The model also suggested that higher BMI was a risk factor for body image concerns and negative affect. Thus, the addition of psychological factors and BMI can improve our understanding of how body image issues develop.

Body image from an evolutionary psychology perspective

Since physical attributes are so highly valued in society, one might ask whether there exist evolutionary advantages connected to appearances. Evolutionary psychology attempts to explain human behaviors as motivated by enhancing the odds for survival and reproduction. Through such a lens, attributes of beauty in women are to some extent visual cues of fertility. For instance, levels of estrogen do seem to influence facial features that to some extent determine attractiveness, such as the size of lips, jaws, and chin (Buss & Schmitt, 2019). In addition, men tend to marry younger women, which is theorized to be based upon youth as a cue to fertility. In a review by Ferguson, Winegard, and Winegard (2011), a model is proposed that explains women's heightened risk for body dissatisfaction from an evolutionary perspective. The importance of attractiveness is discussed from the perspective of mating value, where males choose mates who possess physical attributes indicating health and fertility. Females are less prone to choose mates according to physical characteristics, but rather according to factors such as social status and resource-procuring potential. Attributes valued in women are harder to control than attributes valued in men, such as youth and attractiveness as compared to industriousness and status. This reality has been proposed as serving as an uncontrollable stressor on women, which may induce negative mood, low self-esteem, helplessness, and depression (Ben Hamida, Mineka, & Bailey, 1998). Moreover, as already mentioned, individuals who are perceived as attractive do

receive some advantages in life. Further, individuals who are seen as attractive are treated more positively than unattractive peers, are more positively judged by others, and display more positive behaviors and traits (Langlois et al., 2000). Research on aspects of female attractiveness from a perspective of mating value often focuses on the waist-to-hip ratio; however, there are critiques of this theory, and more rigorousness is needed to understand the potential effect of features that might affect mating value (Bovet, 2019). In addition, it has been suggested that traits considered attractive in women, such as lower BMI, are actually associated with lower fertility (Lassek & Gaulin, 2018). It should be noted that much of the research on evolutionary theories of attractiveness has been carried out on subjects living in modern cultures, which are very different from those contexts in which adaptations were first evolved (Goetz, Pillsworth, Buss, & Conroy-Beam, 2019).

Body image and psychological suffering

Since body image is a multifaceted concept, body image issues may present in various ways, such as dissatisfaction, different behavioral manifestations, and perceptual disturbances. It has been suggested that dissatisfaction with the body is normative in women and to a growing extent also for men (Tantleff-Dunn, Barnes, & Larose, 2011). Body dissatisfaction seems to become a stable trait during adolescence (Carlson Jones, 2004), with only small changes in mean levels from adolescence until midlife (Webster & Tiggemann, 2003). However, although body dissatisfaction seems to remain stable over time, its influence on self-concept reduces (Tiggemann, 2004; Webster & Tiggemann, 2003). Individuals who are dissatisfied with their bodies often display behavioral manifestations of this dissatisfaction, including various body-checking and avoidance strategies (Fairburn, Cooper, & Shafran, 2003). Further, it seems that the more an individual scrutinizes, controls, or checks their body, the more dissatisfied with the body they become (Stefano, Hudson, Whisenhunt, Buchanan, & Latner, 2016).

Body dissatisfaction has been associated with elevated ratings of emotional eating, bulimic symptoms, low self-esteem, and depression (Johnson & Wardle, 2005). Another behavioral manifestation of body dissatisfaction is dieting. From a socio-cultural perspective, pressure from friends, family, the media, and thin-ideal internalization often provide motivation for going on a diet in order to improve one's appearance. However, dieting has actually been linked to weight gain and an increased risk for disordered eating behaviors (Keel, Baxter, Heatherton, & Joiner, 2007). Disordered eating includes restrictions on food intake, such as fasting or skipping meals or enforcing a strict diet; bingeing; and purging behaviors such as self-induced vomiting, without meeting the criteria for an ED. These

behaviors have been shown to be quite common among the general population, however should be considered as more maladaptive than mere benign rules of eating (Reba-Harrelson et al., 2009; Torstveit, Aagedal-Mortensen, & Stea, 2015).

Issues in perception of body image have been well researched in the context of anorexia nervosa (AN), where individuals tend to overestimate their body size (Gardner & Brown, 2014). When comparing body size estimation in healthy female adolescents with individuals with AN or bulimia nervosa (BN), individuals with EDs show greater overestimation, in particular regarding the waist and thighs (Schneider, Frieler, Pfeiffer, Lehmkuhl, & Salbach-Andrae, 2009). Body image issues are related to impaired quality of life, such as aspects of mental health and social functioning, in women either with (Latner, Mond, Vallance, Gleaves, & Buckett, 2013) or without an ED (Mond et al., 2013).

Eating disorders

It is evident from the discussion above that issues related to body image are an integral aspect of EDs, acting as both risk factors for developing an ED and factors that maintain the ED (Fairburn et al., 2003). Some researchers have proposed that EDs, at least AN, are in fact disorders of body image (Phillipou, Castle, & Rossell, 2018).

EDs are mental disorders where patterns of eating are affected, impairing both physical and psychosocial functioning (Bohn et al., 2008). Food intake in these disorders is often associated with fear of weight gain and feelings of distress, which leads individuals to set rules around eating. The result may be excessive weight loss, which can become life-threatening. Self-imposed restrictions might also lead to bingeing episodes, when the individual can no longer follow the restrictions (Fairburn et al., 2003). The current Diagnostic and Statistical Manual of Mental Disorders (5th edition; DSM-5; American Psychiatric Association, 2013) identifies three specific categories of ED: AN, BN, and binge eating disorder (BED). Further, it includes other specified feeding and eating disorders, such as subclinical manifestations of the main diagnoses, and purging disorder, and unspecified feeding or eating disorder (UFED). AN is characterized by excessive restriction of food intake, leading to low weight ($BMI < 17.5$). The individual shows an intense fear of weight gain or becoming overweight. Further, there is a disturbance in the way the individual experiences their body weight or shape, and self-evaluation is unduly influenced by perception of these attributes. Often the seriousness of the illness is non-concerning for the affected individual, while parents, siblings, and friends might be very worried. Atypical AN, a subtype of AN, is defined as an ED wherein all the criteria for AN are met, except that “despite

significant weight loss, the individual's weight is within or above the normal range". BN is characterized by recurrent binge eating, where the individual eats an excessive amount of food in a short time and experiences a loss of control over their eating. The individual then compensates for the overeating by behaviors such as self-induced vomiting, fasting, laxative use, or excessive exercise. Further, self-evaluation is unduly influenced by body weight or shape. Less frequent bingeing and compensatory behaviors, i.e. occurring less than once a week, or for a shorter duration than three months, characterize the subtype of BN. BED is characterized by recurrent binge eating and feelings of loss of control over eating, but without compensatory behaviors following the binge episode. Purging disorder entails recurrent use of purging behaviors, in the absence of bingeing, to influence body weight or shape, such as self-induced vomiting even after intake of only small amounts of food.

The prevalence rate of each specific ED in women in Europe ranges from <1-4%, and for men is about 0.3% (Keski-Rahkonen & Mustelin, 2016). However, these numbers show considerable variation by age group, area, and ethnicity. Risk factors for developing an ED include both cultural and biological factors that affect an individual's behaviors and attitudes (Striegel-Moore & Bulik, 2007). Risk factors that are commonly associated with an ED are thin-ideal internalization (Cafri, Yamamiya, Brannick, & Thompson, 2005; Stice et al., 2017), body dissatisfaction (Stice, 2002), and dieting (Keel et al., 2007). However, as noted by Stice, Ng, and Shaw (2010), although they may constitute prodromal ED symptoms, these risk factors are also common in adolescent girls, where only a few go on to develop an ED. Further risk factors include negative affect and interpersonal dysfunction. While body dissatisfaction is common in both adolescent girls and boys, it is not to be disregarded as benign, since it does have the potential to bring about detrimental effects such as increased risk for EDs (Stice & Desjardins, 2018; Stice et al., 2017), and is correlated with lower ratings of quality of life (Mond et al., 2013; Wagner, Stefano, Cicero, Latner, & Mond, 2016).

Although characteristics and risk factors differ between ED diagnoses, they share some similarities. Further, patients with the same diagnosis often display different manifestations of the disorder, and migration between diagnoses has been shown to be common (Fairburn & Harrison, 2003). According to the trans-diagnostic view of EDs, irrespective of specific ED diagnosis, individuals share an overvaluation of body weight or shape or control over eating in their self-evaluation (Fairburn et al., 2003). This overvaluation is hypothesized to drive the different manifestations of the ED, such as strict dieting or other weight-control behaviors in order to improve, or maintain, their self-worth.

Treatment for eating disorders and body image issues

Guidelines for treatment of EDs are available (e.g. National Institute for Health and Care Excellence (NICE), 2017), and these often suggest interventions based on specific ED diagnoses. There are also guidelines on severity specifiers for considering inpatient care; however, in most cases outpatient care is recommended as a first step in treatment. For instance, for patients with AN, family-based approaches are recommended for younger patients, while individual therapy - often but not exclusively cognitive behavioral therapy (CBT) - is recommended for adults. In patients with BN or BED, CBT is often recommended (Hilbert, Hoek, & Schmidt, 2017). In CBT for EDs (Fairburn, 2008), therapy starts with a conceptualization of the individual's ED symptom presentation. This intends to create an understanding of what drives the rigid rules of e.g. dieting or bingeing episodes. Treatment then proceeds with psychoeducation and behavioral change activities regarding patterns of eating. In addition, after achieving a somewhat regular pattern of eating, treatment turns to the underlying mechanisms of the disorder, such as body image issues or low self-esteem.

Studies on outcomes following ED treatment suggest that remission rates differ depending on diagnosis (Keel & Brown, 2010), definition of remission/recovery (Dingemans et al., 2016), and length of follow-up (Eddy et al., 2017). Patients with AN show lower rates of remission than patients with BN; however, at 22-year follow-up, remission rates appears more or less equivalent and about two thirds of patients reaches recovery (Eddy et al., 2017). Severity of symptoms - such as binge/purge behaviors, depression, and body weight and shape concerns - is predictive of poor outcome and dropout from treatment programs (Vall & Wade, 2015). Dropout from ED treatment is common (Fassino, Piero, Tomba, & Abbate-Daga, 2009), where a lack of motivation has been described as one reason (Gómez Del Barrio et al., 2019). Thus, there is a need to continue the development of interventions for patients with EDs, with long-term follow-up (Eddy et al., 2017; Treasure, Duarte, & Schmidt, 2020).

Looking at the diagnostic criteria for EDs, it is apparent that body image issues are an integral aspect at least in AN, BN, and purging disorder. It has been suggested that in patients with BED, these issues may be just as important (Lewer, Bauer, Hartmann, & Vocks, 2017), although they are not part of the diagnostic criteria. Studies on ED relapse suggest that body image continues to be problematic and is associated with relapse following treatment (Bardone-Cone et al., 2010; Keel, Dorer, Franko, Jackson, & Herzog, 2005). While body image issues are common among the general population (Tantleff-Dunn et al., 2011), lingering body dissatisfaction following ED treatment might be interpreted as the patient

having reached only partial and not full remission (Bardone-Cone, Hunt, & Watson, 2018). Treatments for body image issues are often an integral part of ED treatment protocols (e.g. Fairburn, 2008), although treatment is not limited to these. There are several different body image treatments available, such as mirror exposure (Griffen, Naumann, & Hildebrandt, 2018) and the use of virtual reality (Marco, Perpina, & Botella, 2013). In a meta-analytic review on treatments to improve body image in individuals with or without an ED, only small changes in body image were found at the end of treatment, and no studies followed individuals further than three months (Alleva, Sheeran, Webb, Martijn, & Miles, 2015).

Since body image issues are common, mediated and maintained through society and the media, and often become a stable trait from adolescence on-wards, such issues could be seen as unsolvable. An alternative approach to attempting to change or fix poor body image is to help the individual accept their body, and to learn to simply observe thoughts, feelings, and evaluations regarding the body, while persisting in behaviors that are in accordance with their values. This is the focus of Acceptance and Commitment Therapy (ACT), a transdiagnostic approach to psychological suffering.

Acceptance and Commitment Therapy (ACT)

ACT is part of what has been called the third wave of CBT (Hayes, 2004; Hayes & Hofmann, 2017). It has its root in cognitive and behavioral learning processes and in the acquisition of language, according to relational frame theory (RFT) (Hayes & Wilson, 1993; Törneke, 2014). From an RFT perspective, the ways in which we use language can contribute to our own suffering: by regarding our internal thoughts as truths, we can lose contact with experiences as they occur in the present moment. For instance, some behaviors are “rule-governed”, rather than stemming from conclusions drawn from experience. One example is “if/then” rules, such as “if I lose weight, then I can be happy and hang out with my friends”. In ACT, the main goal is to improve psychological flexibility (Hayes, Strosahl, & Wilson, 2012). Psychological flexibility is the ability to make contact with the present moment and, based on the situation, to persist in or change one’s behavior in accordance with personal values. From an ACT perspective, painful inner experiences are seen as inevitable consequences of living. However, we are often taught not to feel psychological pain, and when we do, it is perceived as if there is something wrong, something to be fixed. Attempting to “fix” psychological suffering is a thorny business, where common behaviors such as avoidance or control strategies often bring about further suffering. Thus, in our efforts to alleviate pain, we may actually end up experiencing even more pain. Common avoidance strategies include avoiding situations that we have previously

experienced as painful or anxiety-provoking, or avoiding people with whom we have come into conflict. Control strategies comprise behaviors that aim to reduce or avoid psychological suffering, such as suppressing feelings of anxiety by “bottling them up”. One essential component of ACT is helping the person to recognize the unworkability of their control agenda or efforts to “fix” their suffering. Are their attempts to control these private events (thoughts, feelings, memories, or bodily sensations) working, in the sense that they have alleviated the suffering? On the other hand, is there a cost to their behavior? Is the constant struggle leading them down a path in life that inhibits functioning and the living of a valued life (Hayes & Wilson, 1994)? To enhance psychological flexibility, six core processes are addressed in ACT: values, acceptance, committed action, self-as-context, cognitive defusion, and being present. These processes are related and overlapping, and are sometimes grouped into two broader processes: mindfulness and acceptance processes (acceptance, cognitive defusion, self-as-context, and being present), and committed action and behavioral change processes (values, committed action, self-as-context, and being present) (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

Values in the context of ACT have been defined as “freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish predominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral pattern itself” (Wilson & DuFrene, 2008, p. 64). Plumb, Stewart, Dahl, and Lundgren (2009) refer to aspects of this definition, and highlight the usefulness of work on values to inspire motivation for behavioral change. Working with values allows the individual to examine and define the different areas of life that are important to them, such as career, family life, spirituality, physical activity, and so on. The aim of working with values – rather than, say, goals, which can be completed and ticked off a list - is to help the person to determine a direction in life; to ask, what should life be all about – according to the client?

Committed action refers to engaging in behavioral change strategies, where the individual commits to behaviors targeting certain goals that are in line with their values. This can include processes also seen in traditional behavior therapy, such as goal setting, exposure exercises, and skills training (Twohig, 2012).

Acceptance means taking an open and welcoming stance towards all inner experiences, even painful ones. Further, acceptance involves a flexible and non-judgmental stance on those experiences. Acceptance should not be confused with tolerance, or approval; rather, it is a willingness allow experiences to occur in the present moment, without active attempts to change them. Fostering acceptance is seen as a means for engaging in values-based activities (Hayes et al., 2006).

Self-as-context is the ability to take a step back from one's conceptualized self. Through our experience, we form ideas about who we are, and what we are capable of, into a conceptualized self. These descriptions of the self can become self-fulfilling prophecies, since we often try to protect our self-descriptions, and give meaning to our behaviors from a perspective of who we are. An example is given by Twohig (2012) of a depressed individual who engages in behaviors that maintain their self-description, for instance: "I can't get out of bed because I am depressed". To work with self-as-context is to take the stance of an observing self, one that describes thoughts, feelings, and behaviors as they occur from an I/here/now perspective, without perceiving these events as defining the self.

Cognitive defusion involves techniques that aim to change the function of negative thoughts, feelings, or bodily sensations. Rather than attempting to change the form or frequency of thoughts, these techniques focus on changing the impact of them. When we are "fused" with thoughts and feelings, we experience them as reality, and our actions are based on our internal experience rather than what is actually occurring in the world. The work of cognitive defusion aims at detaching from our thoughts and observing them without getting caught up in them. For instance, one kind of cognitive defusion exercise involves converting a statement such as "I am useless" into "I am having the thought that I am useless", and noticing the difference.

Being present refers to the practice of being aware and flexible in the present moment. Much of our experience is filtered through our language, and as a result, we easily become preoccupied with the past or the future rather than the here and now. Being present involves using language to describe an event as it is unfolding rather than letting the mind engage in the past or future through making comparisons, problem solving, etc. One way of training the ability to pay attention to the present is through mindfulness exercises.

Psychological flexibility can be seen as a fundamental aspect of psychological health (Kashdan & Rottenberg, 2010), since psychological inflexibility is present in many aspects of psychopathology. ACT is a transdiagnostic treatment, and therefore theoretically applicable for any state of psychological distress. Research on ACT has covered a range of different manifestations of suffering, from anxiety and depression (Twohig & Levin, 2017) to long-term conditions such as cancer and epilepsy (Graham, Gouick, Krahe, & Gillanders, 2016). In the context of EDs, ACT is currently gaining momentum.

An ACT-perspective on eating disorders and body image

ACT has been suggested as a suitable treatment for patients with EDs, since many behaviors that are common among individuals with EDs are aimed at controlling or avoiding inner experience (Heffner, Sperry, Eifert, & Detweiler, 2002; Juarascio, Forman, & Herbert, 2010), which are targeted in ACT. From a CBT perspective (Fairburn et al., 2003), an ED patient's self-worth is highly dependent on their evaluation of their body shape and/or weight, and the ability to control eating. By succeeding in following rigid rules around food consumption, the individual achieves a sense of being in control. However, this feeling of control is elusive, and is in fact related to greater fears of losing self-control (Foreich, Vartanian, Grisham, & Touyz, 2016; Tiggemann & Raven, 1998). Patterns of eating are also influenced by changes in emotional state; thus disordered patterns of eating may be used as an emotion regulation strategy, to avoid negative feelings (Wildes, Ringham, & Marcus, 2010). Further, ED patients seem to be "fused" with verbal rules (Merwin et al., 2011), such as those related to eating expectancies ("if/then") and preoccupation with thinness (Hohlstein, Smith, & Atlas, 1998). To be fused with thoughts and feelings related to body weight or shape tends to diminish present-moment awareness (Manlick, Cochran, & Koon, 2013). Patients with AN often value the disorder (Schmidt & Treasure, 2006), and the AN is seen as consistent with their sense of self, in which case the disorder is described as being *egosyntonic* - a characteristic associated with low motivation to participate in therapy (Bardone-Cone, Thompson, & Miller, 2020; Gregertsen, Mandy, & Serpell, 2017). From an ACT perspective, the egosyntonic nature of AN can be described as a strong attachment to a conceptualized self (Hayes & Pankey, 2002; Juarascio, Shaw, Forman, Timko, Herbert, Butryn, & Lowe, 2013), where the patient adheres to behaviors that help to maintain their self-description and sense of self. Thus, we can expect that techniques focused on developing psychological flexibility should be well suited for patients with an ED.

There are several case studies demonstrating the usefulness of ACT treatment for patients with AN, BN, and BED (Berman, Boutelle, & Crow, 2009; Heffner et al., 2002; Hill, Masuda, Melcher, Morgan, & Twohig, 2015; Juarascio, Shaw, Forman, Timko, Herbert, Butryn, & Lowe, 2013). For adolescents with AN, a modified family-based version has been developed (Merwin, Zucker, & Timko, 2013), initially tested on six adolescents with positive results. The program was further investigated in 47 adolescents and families, leading to full remission in almost half of the subjects (Timko, Zucker, Herbert, Rodriguez, & Merwin, 2015). In adults with AN, one trial included 43 participants comparing ACT with treatment as usual (TAU) with follow-up at five years; no differences in outcome

were found between groups (Parling, Cernvall, Ramklint, Holmgren, & Ghaderi, 2016). Another randomized controlled trial (RCT), including patients with AN- and BN-spectrum disorders, compared TAU with or without the addition of ACT (Juarascio, Shaw, Forman, Timko, Herbert, Butryn, Bunnell, et al., 2013). Though the results indicated an additional effect of ACT, this did not reach statistical significance. A case series by Hill et al. (2015) presented a detailed description of the application of ACT to two patients with BED. In addition, levels of, and changes in, psychological flexibility have been found to predict outcomes in patients with EDs (Bluett et al., 2016; Lee, Ong, Twhig, Lensegrav-Benson, & Quakenbush-Roberts, 2018).

A systematic review by Griffiths, Williamson, Zucchelli, Paraskeva, and Moss (2018) described six studies on ACT for weight self-stigma in adults who were overweight or obese, or who were self-referred with body dissatisfaction. The results were deemed inconclusive, though promising; the authors concluded that research on ACT for body image issues is lacking, and that there is a need for more rigorous investigation.

Summary and rationale

Body image is a multifaceted concept (Cash, 2004) that has been suggested as the most influential aspect of how an individual evaluates herself (Harter, 2012). Self-evaluation of body image is influenced by sociocultural factors such as the objectification of the female body (Fredrickson & Roberts, 1997) and the thin-ideal, and through interactions with family and peers (Thompson, 1999). Many people develop issues with their body image, such as dissatisfaction or perceptual disturbances, and concordant behaviors such as constant monitoring of appearance, restrictive eating, binge eating, or purging. Although these traits and behaviors seem to be common among the general population, they are associated with an increased risk for developing an ED (Stice, 2002). Further, they are an integral aspect of EDs (American Psychiatric Association, 2013; Lewer et al., 2017; Phillipou et al., 2018) that can contribute to maintaining the ED (Fairburn et al., 2003) and increase the risk of relapse after recovery (Keel et al., 2005).

Remission rates following treatment for EDs suggest that about two thirds of patients remit (Eddy et al., 2017). However, dropout rates from treatment are high (Fassino et al., 2009), suggesting the need to continue to develop interventions. There are several theoretical reasons to assume that the processes targeted in ACT are suitable and beneficial for patients with EDs, and preliminary studies support these assumptions. However, ACT is not considered an evidenced-based treatment for patients with an ED, suggesting the need for further research (Pisetsky, Schaefer, Wonderlich, & Peterson, 2019). Against this background, this thesis

evaluates a group intervention based on ACT with a focus on body image issues for patients with residual ED symptoms.

Aims

The overall aim of this thesis was to evaluate an ACT group intervention targeting body image issues in patients with residual ED symptoms, including treatment effects and participants' reflections on body image and the intervention.

Specific aims of the included studies were:

- I. To investigate participants' thoughts on body image; what body image is (before and after treatment), descriptions of their own body image (before and after treatment), how they would like their body image to change after treatment, and how the participants' body images have changed after treatment.
- II. To compare the effectiveness of a group intervention, based on ACT, with TAU for patients with residual ED symptoms and body image problems.
- III. To explore differences in outcome on ED symptoms at two-year follow up in subgroups of participants attending TAU or a group intervention based on ACT targeting body image. In addition, to compare subjective experiences of recovery between groups.
- IV. To examine participants' view on helpful and hindering aspects of an ACT group intervention targeting body image in patients with residual ED symptoms.

Methods

This thesis includes four papers, in which both quantitative and qualitative research methods are used. Studies I, II and III are based on an RCT. Participants in all four studies were drawn from a specialized ED center in Sweden.

Setting

The specialized ED center is situated in central Sweden. It serves patients of all ages, covering all EDs. The ED center participates in a Swedish ED quality assurance registry, Stepwise (Birgegård, Björck, & Clinton, 2010). The Stepwise registry includes assessment both by interview and self-assessment questionnaires, and screening both for ED pathology by the structured eating disorder interview (de Man Lapidoth & Birgegård, 2010) and for common psychiatric diagnoses by the MINI-KID interview for children and adolescents (Sheehan et al., 1998) and by SCID for adults (First & Gibbon, 2004). After initial screening, an interdisciplinary team assesses the ED diagnosis and provides initial treatment suggestions. Diagnoses are assessed according to the DSM-5 (American Psychiatric Association, 2013). However, when inclusion of study participants commenced, DSM-IV (American Psychiatric Association, 2000) was still in use, and the transition to DSM-5 occurred during the research trial. To account for this, each participant's diagnosis was transferred from DSM-IV to DSM-5. No reassessment was done; instead, one of the researchers made the transition through reading each individual's case record, followed by discussion with the participant's primary therapist where necessary.

At the specialized ED clinic, there are a range of different interventions offered, both individually and in groups. Interventions include individual CBT or other psychotherapies, counselling, appointments with a physician, physiotherapy, family sessions, daycare, appointments with a dietician, and different group interventions such as CBT and meal support.

Participants

The participants were patients at the specialized ED clinic, who were recruited between 2010 and 2014. Patients were deemed as eligible if they had an ED diagnosis according to DSM-IV, had attained a somewhat regular eating pattern consisting of three meals per day, and were in the age range of 16-50 years. Patients were excluded if they had a 15% underweight or if they had a physical or psychiatric complicating factor of such severity that these conditions needed to be addressed during the treatment period. The RCT had a superiority design, where a power calculation suggested inclusion of 120 participants. An effect size

of $d=0.50$ was derived from a clinical perspective, the alpha level was set to 0.05, and the power to detect differences between groups was set to 0.80. Inclusion of participants were lower than expected, thus the timeframe for recruitment was extended, however the intended sample size was not reached.

Procedure

Each semester, all clinicians at the ED clinic were asked to report current eligible patients to the research project. An information letter was sent by mail to patients who were reported as eligible, informing them about the research project. Patients were prompted to contact their therapist if they wished to participate. In total, 260 individuals, 255 women and five men, were deemed eligible and were sent the information letter. Some received this letter several times. Patients who reported interest in the intervention were invited to an information and assessment meeting. At this meeting, they received further information on the research project and gave their written consent to participate, after the researcher had made sure that they understood both the research procedure and the consequence of randomization on further treatment. Patients were also informed of the possibility to withdraw their consent at any time. No reassessment of diagnosis or criteria for inclusion was made for the purposes of study participation. Thus, ED diagnosis at study inclusion was based on current diagnosis according to the participant's case record, and criteria for inclusion were assessed by clinicians.

At the assessment meeting, patients were randomized in blocks to either ACT or TAU. The ACT intervention was delivered over 12 group sessions, plus one individual session before commencing the intervention, and one individual follow-up session after treatment completion. At the follow-up session patients decided, in collaboration with their prior therapist, whether they had need of further interventions or could be discharged from the unit. Thus, participants in the ACT intervention could receive ACT first and TAU later if necessary. For patients randomized to TAU, treatment could include any of the standard interventions offered at the clinic and described above; they simply continued the treatment that was already planned for. Further, there was no set time frame for their treatment, in comparison to patients in ACT who received a session once weekly for 12 weeks. In TAU, individual decisions were made as to intervention type and length, and follow-ups were assessed in accordance with the ACT intervention.

When inclusion of study participants to the RCT was completed, and the last ACT group intervention was finished, the clinic decided to keep the intervention as one of their standard offerings. This made it possible for patients who were randomized to TAU to be offered the ACT intervention after the last follow-up, if appropriate. Further, it meant that we were able to continue to recruit patients

to be interviewed for study IV, without interfering with the participants in the original RCT.

The ACT intervention

The intervention was a manualized adaptation of a self-help book, “Lev med din kropp” (“Live With Your Body”) (Ghaderi & Parling, 2009). The book starts by describing the consequences of preoccupation with body image, and gives the reader the opportunity to explore their own body image and how they may have developed this view of themselves. Further, the guided treatment content is divided into seven steps. The intervention was delivered in a group format, over 12 sessions of two hours each, with four to eight participants and two group leaders. Each session included a mindfulness exercise. Between sessions, participants were asked to complete exercises and to read sections of the book.

A detailed description of the ACT intervention is provided as an additional file in study I. Below is an extract from that information.

“Before the individual introduction session participants read the introduction and the first chapter of the book. The session aims to motivate and prepare the participants for treatment. Participants also have homework to do before the initial group session, further reading and exploratory exercises.

The first step introduces values. The participants formulate values for different areas in their lives, such as work or relationships. Declaring values functions as a compass that points in the direction you want to go in your life, rather than providing explicit goals. An example of a value might be “to create warm, caring, supportive and loyal relationships with my family members”. When participants have formulated their values, they are encouraged to reflect on the extent to which these are their own values, or if they are internalized expectations from others or society. They are then encouraged to reflect over what hinders them from moving in direction of their values: What behaviors have they used that in the short run help them avoid discomfort (e.g. anxiety) but may in the long run lead away from their values? In each step throughout the treatment the participants choose an area of their life to focus on during the following step, and they formulate activities to engage in to move closer to their values in this area. In ACT this is referred to as committed action.

The second step introduces the ACT processes called present moment awareness, self as context and defusion. The principles of avoidance and negative reinforcement are described. The participants learn to recognize situations in their daily life where they are using avoidance and control strategies. The participants record these behaviors in different situations. The book explains how our minds constantly produce thoughts that we are easily caught up in, and describes our

minds as a “thought generator”. Every time the “thought generator” produces judgmental thoughts, participants are prompted to gently return to the present moment.

In the third and fourth step the participants explore what they want their self-evaluation to be based on. They formulate a hierarchy of behaviors they usually avoid, and record thoughts and consequences while performing them. This hierarchy of behaviors is used throughout the treatment and is congruent with their previous work on values. Perfectionistic behaviors are addressed, and investigated in terms of whether they take them toward or further away from their values. Participants also examine to what extent their attention is under the control of their inner dialogue, and how judgmental thoughts produced by the “thought generator” affect them in terms of behavior. The participants practice ways of gaining awareness of these judgmental thoughts. They register the thoughts and the behaviors that usually follow them.

The fifth step introduces willingness and acceptance more thoroughly. Willingness is an active choice that involves admitting all thoughts, feelings and discomfort without controlling or belittling them. Acceptance is introduced as the act of taking steps toward values in the presence of willingness. By continuing toward their values in the presence of discomfort, participants’ behavior options increase (i.e. psychological flexibility). This step also describes a difference in the way discomfort can be experienced. There is a universal kind of discomfort felt by all of us when faced with hardships in our lives. We cannot remove or reduce this kind of discomfort. However, if we devote a great deal of effort to trying to do so, it actually often causes additional discomfort. This is exemplified to the participants by an exercise in which they carry a backpack. The further it is held from the body, the heavier and more of an impediment it gets. The backpack symbolizes life’s hardships and accepting the discomfort and embracing it enables us to get in contact with more behavioral options.

Respecting and listening to each other characterize every healthy relationship and the sixth step emphasizes that this also applies to the relationship with the body. The participants record to what extent they show their body respect and care by giving it exercise, sleep, rest and nutrition. This step emphasizes the process of present moment awareness with the body and the investigation of enjoyment.

The seventh step is about sustaining changes and preventing relapses. A metaphor describes the path to values as being the driver of your own bus. You have decided on the direction towards your values, but as you drive toward these values, the passengers on the bus start voicing their discontent. They try to persuade you that you are not good/beautiful/smart enough to make the journey. If you

listen to the passengers and go back to your old routes they cool down and stop bothering you. However, this does not take you toward your values. So you decide to make a new try toward a valued life, taking note as the passengers voice their discontent but staying focused on the route you have taken, driving the bus kindly but firmly toward your goal”.

Samples in studies I, II and III

In the RCT, 102 participants were invited to the assessment meeting. However, three of these were later excluded: two were found to have severe psychiatric symptoms that were exclusion criteria, and one participant later withdrew her consent and wished to be completely removed from the study. Thus, the study sample consisted of 99 women, with an age range of 16-47 years, and BMI ranged from 16.33 to 48.55. Fifty-two were randomized to ACT and 47 to TAU. For clinical and ethical reasons, one participant who was randomized to TAU did attend the ACT intervention. However, in all analyses she was considered as randomized to TAU but not considered a treatment completer. For some of the analyses, the ACT group was divided according to intent-to-treat (ITT) or treatment completers. Of 52 patients randomized to ACT, five never began treatment, and five dropped out before finishing half of the sessions. Distribution of diagnoses according to DSM-5 can be found in table 1.

Table 1. Distribution of diagnoses, according to DSM-5, at admission by treatment allocation.

Diagnosis	ACT n(%)	TAU n(%)	Total n(%)
AN	2 (3.8)	3 (6.4)	5 (5.1)
Atypical AN	7 (13.5)	6 (12.8)	13 (13.1)
AN in partial remission	9 (17.3)	9 (19.1)	18 (18.2)
BN	8 (15.4)	4 (8.5)	12 (12.1)
low frequency/limited duration BN	4 (7.7)	3 (6.4)	7 (7.1)
BN in partial remission	6 (11.5)	2 (4.3)	8 (8.1)
BED	8 (15.4)	2 (4.3)	10 (10.1)
BED in partial remission	0 (0)	3 (6.4)	3 (3)
Purging disorder	5 (9.6)	11 (23.4)	16 (16.2)
UFED	3 (5.8)	4 (8.5)	7 (7.1)
Total	52 (100)	47 (100)	99 (100)

In study I, patients who attended ACT were given a questionnaire with three open-ended questions on body image before and after the intervention. Thirty-four participants answered the questionnaire before the intervention, and 43 after.

In study II, all 99 patients who were randomized were included in the analysis. However, analyses were run according to both ITT and completers.

In study III, only treatment completers with data at last follow-up were retained in the analysis, resulting in a total of 77 participants.

Sample in study IV

In study IV we wanted to interview patients who had attended the ACT intervention. However, interviewing participants in the RCT would have risked affecting the outcome. Since the last follow-up was two years after inclusion, participants were expected to have forgotten much of the specific content, and therefore were not considered for interview. Since the clinic continued to offer the intervention after completion of the RCT, we chose to invite participants who were not part of the RCT. There are some guidelines on deciding how many participants to include in qualitative analyses; however, there is no gold standard to rely upon (Vasileiou, Barnett, Thorpe, & Young, 2018). When deciding on how many patients we needed to include, we aimed to reach saturation; i.e. when adding new interviews into the analysis did not provide any new information beyond already identified codes. Thirteen women were included, with an age range of 24-41 years. Four had a diagnosis of AN or AN in partial remission, three had a diagnosis of BN or BN of low frequency and/or limited duration, two had a purging disorder, and four had UFED.

Data collection in studies I and IV

For qualitative analyses, we only assessed participants who had received the ACT intervention. We wanted to learn more about participants' views on the construct of body image, and on their own body image. Further, we wanted to know what changes they hoped to achieve regarding their body image by participating in the intervention, and what difference they perceived, if any, following treatment. Thus, patients who were randomized to ACT filled in a questionnaire with three open questions on body image, both before and after the intervention. We also wanted to learn more about participants' views on helpful features of the intervention, as well as factors that might have hindered their recovery. To this end, we interviewed participants a few months after completion of the intervention (these participants were not part of the original RCT).

Open questions on body image

For each stage of interviews – before and after the intervention – a questionnaire was developed with three open-ended questions on body image: 1) “What does the term ‘body image’ mean to you?”, 2) “How would you describe your body image today?”, and 3) “How would you like your body image to change following treatment completion?” (before the intervention) or “Has the treatment contributed to any changes in your body image?” (after the intervention). The questionnaire covered one page, leaving space for rather short reflections.

Interviews

An interview guide was developed, and participants were asked to describe how they perceived the intervention, what they found helpful, and whether they perceived it as having hindered their recovery in any way. Participants were prompted to clarify descriptions and give further explanations. I conducted all interviews in person, either at the clinic, the research center, or the participant’s home.

Data collection in studies II and III

For quantitative analyses, data was collected at four time points, before and after the ACT intervention, at 1-year after inclusion, and 2-year after inclusion. Assessments included self-report questionnaires of ED symptoms, body dissatisfaction, body checking behaviors, self-esteem, and mindful attention. Assessment at baseline included self-report questionnaire on depressive symptoms, and last follow up included patient-perceived remission. Data on the amount of specialized ED care each patient had received through registrations in their case records.

Instruments

Eating Disorder Examination Questionnaire (EDE-Q)

ED symptoms were assessed through the Eating Disorder Examination Questionnaire version 6.0 (EDE-Q) (Fairburn & Beglin, 1994), which has been translated into Swedish (Welch, Birgegård, Parling, & Ghaderi, 2011). The EDE-Q was developed to assess ED-specific psychopathology by self-assessment. It contains 28 items that were drawn from an ED interview, the Eating Disorder Examination (EDE) (Cooper & Fairburn, 1987). The EDE was developed from ED criteria according to the DSM-III-R (American Psychiatric Association, 1987), and was shown to be able to sort cases from non-cases (Cooper, Cooper, & Fairburn, 1989). In the self-assessment version, 22 items with responses ranging from 0-6 are arranged under four subscales: Restraint, Eating Concern, Shape Concern, and

Weight Concern. The four subscale scores add up to a global score, where a higher score indicates more severe eating psychopathology. The remaining six of the 28 items explore frequencies of eating-disordered behavior the last 28 days, such as self-induced vomiting or objective binge eating. In a review of psychometric properties (Berg, Peterson, Frazier, & Crow, 2012), test-retest correlations on the four subscales over one to 14 days ranged from .66 to .94. Internal consistency on the subscales showed alphas of .70 to .93. However, factor analysis have shown limited support for the four subscales (Berg et al., 2012; Rand-Giovannetti, Cicero, Mond, & Latner, 2020).

Body Shape Questionnaire (BSQ)

Body dissatisfaction was assessed according to the Body Shape Questionnaire (BSQ) (Cooper, Taylor, Cooper, & Fairburn, 1987). The original version consists of 34 items measuring body dissatisfaction and fear of becoming overweight. Responses range from “never” to “always” on a six-point scale and are summated into a total score. A higher score indicates more pronounced body dissatisfaction. The original 34-item version has been translated into Swedish and psychometrically evaluated (Ghaderi & Scott, 2004). Several shortened versions have been developed, containing 16, 14, or eight items (Dowson & Henderson, 2001; Evans & Dolan, 1993). When comparing the shortened versions, one of the eight-item versions has shown to be sensitive to change, and has therefore been suggested for repeated measures of therapy outcomes (Pook, Tuschen-Caffier, & Brähler, 2008). Further, the short form has the advantage of being easy to fill in, while still being able to capture the degree of body dissatisfaction. The Swedish version has been adapted into the short eight-item version that was sensitive to change, and psychometrically evaluated (Welch, Lagerstrom, & Ghaderi, 2012). The Swedish short version gives a total score ranging from eight to 48. It showed a test-retest reliability score of .95, internal consistency by Cronbach’s alpha of .92 and .93, and a confirmatory factor analysis showed acceptable model fit, confirming the unidimensionality of the scale. Thus, the short eight-item version was selected for this thesis.

Body Checking Questionnaire (BCQ)

Behavioral manifestations of body dissatisfaction were assessed according to the Body Checking Questionnaire (BCQ) (Reas, Whisenhunt, Netemeyer, & Williamson, 2002). BCQ consists of 23 items scored on a five-point scale ranging from “never” to “very often”. It was analyzed for psychometric properties, where its subscales were derived from factor analysis, and the final scale showed good model fit indices through confirmatory factor analysis. The three subscales assess

checking related to overall appearance, checking of specific body parts, and idiosyncratic checking rituals (no apparent pattern). BCQ showed test-retest reliability of .94, and internal consistency by Cronbach's alpha for subscales ranged from .83 to .92. Further, convergent validity was demonstrated by the total score on the BCQ showing a correlation of .86 with the BSQ. BCQ has been validated in an ED population, and shown to reliably distinguish patients from controls (Calugi, Grave, Ghisi, & Sanavio, 2006). BCQ is currently a widely used questionnaire (White, Claudat, Jones, Barchard, & Warren, 2015), and has been translated into several different languages. Unfortunately, this instrument has not been translated into Swedish and psychometrically evaluated. Thus, the version used for this thesis was translated from the original version by the authors of "Live With Your Body" (Ghaderi & Parling, 2009). We used the total score, ranging from 23 to 115, where a higher rating indicates more frequent body dissatisfaction behaviors.

Self-Concept Questionnaire (SCQ)

Self-esteem was assessed according to the Self-Concept Questionnaire (SCQ) (SCQ; Robson, 1989). This questionnaire contains 30 items scored on an eight-point scale, ranging from "completely disagree" to "completely agree", where higher scores indicate higher self-esteem. Robson defined self-esteem as "the sense of contentment and self-acceptance that results from a person's appraisal of his own worth, significance, attractiveness, competence, and ability to satisfy his aspirations". The items are designed to assess these different components, generating a total score for global self-esteem. A Swedish version has been assessed psychometrically, showing test-retest reliability of 0.89, and Chronbach's alpha ranged from .86 to .91 in different samples (Ghaderi, 2005). Further, a five-factor structure was suggested that to some extent seems to capture the original components suggested by Robson. Convergent validity was assessed by analyzing correlation with the Rosenberg scale of self-esteem (Rosenberg, 1965), showing correlations ranging from .65 to .81 in different samples.. In this thesis, the total score from all 30 items, ranging from zero to 210, was used for assessing global self-esteem.

Mindful Awareness Attention Scale (MAAS)

Mindful attention was assessed according to the Mindful Awareness Attention Scale (MAAS) (Brown & Ryan, 2003). MAAS assesses individual differences in the frequency of mindful states. It consists of 15 items rated on a six-point scale ranging from "almost always" to "almost never", where higher scores indicate more frequent mindful states. The items were analyzed by exploratory factor analysis, and the final scale of the 15 items showed satisfactory model fit indices by

confirmatory factor analysis. Assessment of reliability showed Cronbach's alpha of 0.82 and 0.87 in different samples, and test-retest reliability of 0.81. A Swedish version has been assessed psychometrically, where the authors found similar results as with the original version, with Cronbach's alpha ranging from .77 to .86 in different samples (Hansen, Lundh, Homman, & Wangby-Lundh, 2009).

Montgomery-Åsberg Depression Rating Scale, the self-rated version (MADRS-S)

Symptoms of depression were assessed by the Montgomery-Åsberg Depression Rating Scale, self-rated version (MADRS-S). MADRS is a ten-item questionnaire administered by interview, and was developed to be sensitive to changes brought about by treatment, rather than as a diagnostic tool (Montgomery & Åsberg, 1979). The self-rated version, developed by Svanborg and Åsberg (1994), has shown correlations of .80 to .94 with MADRS. MADRS-S has also been shown to correlate with other depression scales (Svanborg & Åsberg, 2001). It consists of nine items, assessing symptoms of depression over the last three days. Responses range from 0 to 6, and are added up to a total score ranging from zero to 54, where higher scores indicate more severe symptoms. There are different suggested cut-offs for sorting cases from non-cases (e.g. 7 or 12), and for specifying severity of depression (e.g. 17 or 20 indicating moderate depression) (Svanborg & Ekselius, 2003).

Subjective experience of recovery

Participants were given an answer sheet at last follow-up, which included a question on recovery: "Do you perceive yourself as fully recovered from your eating disorder?" The answer sheet was designed for short "yes" or "no" answers, and did not leave space for detailed descriptions. Some participants did answer in more detail; however, their answers were simply coded as "yes" or "no", and were analyzed as such.

Data analysis in studies I and IV

For data collected through participants' written evaluations in study I, conventional content analysis was conducted (Hsieh & Shannon, 2005). For interview data in study IV, thematic analysis according to Braun and Clarke (2006) was performed. These methods share many similarities (Vaismoradi, Turunen, & Bondas, 2013); for instance, searching for patterns and themes in the data, and allowing flexibility such as performing deductive or inductive analyses or searching for latent or manifest meaning. Content analysis has an advantage when there

is a large data set to be analyzed, and allows emphasis on the frequency of occurrence of codes. Thematic analysis aims at gaining a deeper understanding of the phenomenon under study, and is suitable for extracting rich descriptions.

In study I, in which participants' written evaluations on the concept of body image were analyzed, a conventional content analysis according to Hsieh and Shannon (2005) was conducted. Given the design of the questionnaire, we expected to find rather short descriptions collected from quite a large sample; however, counting the frequency of similar descriptions was not deemed as a primary aim, such as in summative content analysis, but rather we searched for information that would enhance our understanding of the construct of body image. Data were analyzed by identifying units of meaning, and coding and categorizing them in an inductive manner, derived from the data rather than from theory. Categories were labelled according to the content of the codes they were representing, thus keeping results close to the actual content of the written evaluations.

In study IV, which analyzed interviews with participants on helpful and hindering aspects of the intervention, thematic analysis according to Braun and Clarke (2006) was conducted. Although this method can be described as flexible, and quite independent from theory, there are certain decisions to be made before starting the analysis. We decided to use an inductive approach, and search for themes relating to our research question rather than covering all data. Themes were described at an interpretive level, as opposed to our approach in conventional content analysis where themes were closely related to content. Braun and Clarke (2006) provide a six-step guide for the data analysis. Depending on how well the researcher adheres to these steps, and clearly describes them in the analysis section, validity of the results can be assessed. However, they also point out that too-rigid rules for ensuring quality might stifle the analysis process. In order to judge the quality of qualitative research, validity, or trustworthiness is important to consider, and several guides are available to assess this depending on the specific qualitative method (e.g Grbich, 2013; Morrow, 2005). Thus, in the method section for both studies I and IV, the process of analysis was described in as much detail as possible, with examples of themes, codes, and extracts, and a report was provided that followed the results of the analyses.

Data analyses in studies II and III

For data collected by questionnaire, different statistical analyses were performed in IBM SPSS Statistics for Windows, version 25 (IBM Corp, 2017).

Study II. For between-group differences, we used a mixed-model repeated-measures analysis. A mixed model is appropriate for longitudinal data with repeated measures where data is nested within different levels (study group, and

individual participants; Twisk, 2013, p. 69). When data collection is repeated, the probability of an individual having missing data on at least one measurement increases. In general linear models, all individuals with any data missing are removed from the analysis unless data is imputed. A mixed model, however, handles missing data by fitting a model according to the data at hand, thus no imputation is necessary. This produces results that are more closely derived from actual data. Further, it has the advantage of modelling data on an individual level, rather than using only group means. By analyzing group means, and fitting a regression line based on those calculations, each individual's score is actually handled as a measurement error (Duncan & Duncan, 2004), since most scores are not a perfect fit to the regression line. A mixed model stipulates that individual repeated ratings are more similar to themselves than group means, and thus fits a regression line for each individual. On the other hand, a disadvantage of the mixed model is that readers may be less familiar with it, thus making results harder to interpret. However, since modern statistical software is capable of handling these advanced methods, and mixed models are increasingly being used in contemporary research, mixed model was the method decided upon for the main outcome. Further, changes in ratings over time were explored using linear, quadratic, and cubic methods, and each was reported when statistically significant. A quadratic relationship means that the shape of the regression curve shows steep change followed by a flattened curve, and might also show an incline again. A cubic relationship, on the other hand, means that the regression line has two "humps", e.g. a decline followed by an incline or loss of steepness in decline, and then a decline again. The effect size of the difference between groups at two-year follow-up was reported according to Cohen's d (Cohen, 1988), where 0.20 is considered a small effect, 0.50 a medium effect, and 0.80 a large effect.

Study III. To explore whether outcome on ED symptoms by last follow-up differed by subgroups of participants, between ACT and TAU, participants were divided into groups depending on characteristics at baseline. Selected baseline characteristics were ED subtype, age at inclusion, length of current treatment episode, self-rated depression, and ED symptoms. ED subtype was either restrictive ED psychopathology (AN spectrum) or binge/purging ED psychopathology (BN spectrum). The sample median was selected by splitting participants by age at inclusion (25 years old), self-rated depression (MADRS-S = 17), and self-rated ED symptoms (EDE-Q = 3.41). Length of current treatment episode was split by above or below one year. Changes in ED symptom scores from baseline to last follow-up, between ACT and TAU, were compared for each subgroup separately

by conducting t-tests. Further, linear regression analyses over the different subgroups were conducted to explore predictors, while adjusting for the other selected characteristics.

Ethical considerations

When conducting clinical trials involving human subjects, there are several ethical issues to be considered, such as informed consent and the possibility of withdrawing that consent in order to be removed from the study at any time. Participants in this research project were informed about the study both verbally and in writing, to be able to give their informed consent. One participant exercised her right to be completely removed from the study. Possible harm should be considered, and should be deemed to not outweigh possible benefits of the research. Although the intervention involved an element of exposure to anxiety-provoking situations, this is common in psychotherapy and is generally seen as means for creating change, and would therefore not be expected to differ between ACT and TAU. The group format also had the potential to provoke anxiety for some participants, where for instance some might find that contributions from others triggered their own ED thoughts and behaviors. It was therefore important for participants to be informed of the possibility of withdrawing from further participation at any time. Further, all participants were patients at a specialized ED clinic, with standardized procedures for patients who are seen to deteriorate and who may require more intensive care. There was a risk that participants not randomized to ACT would be disappointed. For participants randomized to TAU, participation in the study entailed going to the trouble of repeatedly answering questionnaires, without the opportunity to benefit from the ACT intervention. However, after completion of the last follow-up, all participants were offered the ACT group intervention. The regional ethical review board of Uppsala approved the research project (Reg.no. 2009/294, 2009-11-18), and the addition of qualitative interview (Reg.no. 2009/294/1, 2012-06-05).

Results

Study I

In study I, written evaluations on the concept of body image by participants in the ACT intervention were analyzed. Descriptions were analyzed and presented for each question separately. Results were found to be similar both before and after the intervention on questions on both the concept of body image and participants' own body image. Accordingly, these questions were analyzed and presented together. The final question differed before and after the intervention, so these results were analyzed separately.

The term “body image”

The results indicated that body image was perceived as a multifaceted construct that meant different things for different participants. For some, it was about the evaluative aspect, a sense of being satisfied or dissatisfied with the body. For others, it meant how well their own perception agreed with that of an outside observer, and whether their impression of their body was realistic or not. For some, body image entailed the relationship they had with their bodies, and yet others considered it in terms of how their perception of their bodies affected their overall self-evaluation.

Descriptions of one's own body image

Similar categories were identified in both the participants' descriptions of their own body image and their descriptions of the meaning of the concept. They gave an evaluation of their body or described whether they thought their impression was realistic or not. Descriptions were sometimes very harsh, giving voice to negative feelings about the body such as anxiety or disgust. Participants described how they longed for, or worried about, changes in relation to their body weight or shape. However, they also described their impressions as being highly changeable, ranging from contempt to appreciation of the body. Further, participants described feeling stuck: appearances were considered important, thus they found themselves constantly focused on thoughts or behaviors related to the body.

Desired changes in body image

Participants' descriptions of the changes they wished to see in their body image reflected the categories identified in their responses on the concept of body image. In general, participants wanted their self-evaluations to become more realistic and

accepting; to develop a more respectful relationship to their bodies; and to enhance their self-esteem. Beyond these categories, participants also expressed a desire to be less influenced by media or peers, and to be less preoccupied with the body in both thought and behavior by focusing more on other things in life.

Perceived changes

Participants described changes following completion of the intervention in terms of how they evaluated their bodies, their relationship with their bodies, and pre-occupation with the body in thought and behavior. Further, some described an enhanced understanding of themselves, while others described an ability to relate more objectively to thoughts, feelings, and perceptions, and others described an increased participation in valued activities.

Conclusions from this study were that perceptions of body image varied between participants, as did their desired outcomes following treatment. Participants' descriptions of the changes they experienced following the intervention showed that body image was responsive to treatment, and that change was perceived in different ways between participants. This diversity of experience of body image suggests the need for interventions targeting various aspects of this complex structure.

Study II

In study II, the main results of the RCT were presented. The repeated ratings from self-assessment questionnaires were compared between participants who received the ACT intervention and those who received TAU. Further, amount of specialized ED care was compared between groups. There were no differences found between groups at baseline on symptom severity, distribution of ED diagnoses, age at inclusion, BMI, or length of current treatment episode. The mean levels on a selection of variables, of participants according to randomization, with significance level and Cohen's *d* from the mixed model analysis, is presented in Table 2.

Rates of dropout from the ACT intervention were low. Of 52 selected participants, 47 began the intervention and 42 completed it. Of those who dropped out before attending half of the sessions, two had severe complicating factors, one was unable to attend further sessions because she moved, and two dropped out for unknown reasons.

Results from the mixed model analysis is summated in Table 2, showing the estimated means for participants according to randomization, with significance levels from the interaction effects, and effect sizes at last follow-up. Amount of

specialized ED care during the study period is also provided. Results showed main effects of time on all outcome measures, indicating improvements for the total sample over time. Moreover, by investigating changes in outcome by randomization group, results showed significant interaction effects (group x time/group x time³) on ratings of ED symptoms, mindful attention, body image concerns, and body checking behaviours. The interaction effects showed that improvements were greater for participants in ACT rather than TAU, with small to medium effect sizes at last follow-up. In separate analyses of treatment completers, these results were strengthened, where the effect size on ED symptoms increased to a large effect. Although care consumption was higher for participants in ACT during the intervention phase, the total amount of care at follow-up was higher for participants in TAU. Amount of care consumption was a significant predictor on self-esteem outcome, implying that amount of care, rather than specific care, was associated with self-esteem outcome.

Conclusions from this study was that the ACT intervention was superior to TAU in reducing ED pathology and body image issues, in patients with residual ED symptoms. Further, participants of the ACT intervention consumed less specialised ED care during the study period of two years.

Table 2. *Estimated mean scores for participants randomized to either ACT or TAU, with significance levels from interaction effects (group x time/group x time³) and effect sizes at T4, and amount of specialized ED care consumed.*

	ACT Mean(SD)	TAU Mean(SD)	Sig. ¹	Cohen's d
EDE-Q T1	3.22 (0.86)	3.26 (0.88)		
EDE-Q T4	1.84 (1.17)	2.59 (1.16)	*	0.64
MAAS T1	51.77 (7.10)	54.33 (9.75)		
MAAS T4	59.74 (7.20)	54.97 (9.83)	**	0.56
SCQ T1	112.30 (20.39)	108.03 (19.95)		
SCQ T4	130.90 (23.94)	117.60 (21.78)		0.58
BSQ T1	33.37 (6.13)	33.20 (6.41)		
BSQ T4	24.19 (7.90)	29.37 (8.41)	**	0.64
BCQ T1	64.76 (12.80)	60.79 (14.86)		
BCQ T4	47.26 (13.65)	53.60 (16.07)	**	0.43
Total ED care T4	21.08 (15.02)	26.43 (32.67)		

¹ *p<0.05 **p<0.01

Study III

This study built upon the results from study II, in an attempt to find predictors for treatment outcomes. Results from t-tests comparing changes in ED symptom scores from baseline to two-year follow-up in ACT and in TAU are presented in Table 3. By splitting the participants by ED subtype, the results showed that participants with restrictive ED pathology showed greater improvement when attending ACT rather than TAU. In comparison, participants with BN spectrum disorders showed improvement regardless of treatment condition, see Figure 1.

Table 3. *T-test over change scores in EDE-Q from inclusion to last follow-up divided into different subgroups.*

	ACT M(SD) N	TAU M(SD) N	t(df)
Total sample	1.54 (1.34), N= 37	0.66 (1.55), N=40	-2.67 (75)**
AN spectrum	1.56 (1.34), N=17	0.47 (1.55), N=22	-2.32 (37)*
BN spectrum	1.53 (1.37), N=20	0.90 (1.55), N=18	-1.33 (36)
Age < 25	1.72 (1.22), N=19	0.00 (1.39), N=18	-4.00 (35)***
Age ≥ 25	1.36 (1.46), N=18	1.20 (1.48), N=22	-0.33 (38)
Treatment duration < 12 months	1.85 (1.32), N=24	0.73 (1.79), N=24	-2.48 (46)*
Treatment duration ≥ 12 months	0.98 (1.23), N=13	0.57 (1.13), N=16	-0.94 (27)
MADRS-S < median	1.23 (1.31), N=19	0.64 (1.38), N=22	-1.41 (39)
MADRS-S ≥ median	1.88 (1.32), N= 18	0.69 (1.78), N= 18	-2.27 (34)*
EDE-Q T1 < median	1.02 (1.01), N=18	-0.02 (1.23), N =21	-2.83 (37)**
EDE-Q T1 > median	2.05 (1.44), N=19	1.42 (1.53), N=19	-1.31 (36)
	N	N	Chi2
Subjectively recovered, Yes	23	15	4.27(1)*
Subjectively recovered, No	14	24	

For individuals with lower ED symptom ratings at baseline and with a younger age, participants attending ACT continued to improve, while participants in TAU showed no further improvement in symptoms. Participants with shorter treatment duration, and higher baseline rating of depression showed greater improvements when attending ACT rather than TAU. Moreover, participants who attended ACT were more likely to rate themselves as completely recovered than those who received TAU. The adjusted regression analyses over the stratified samples showed stability of these results.

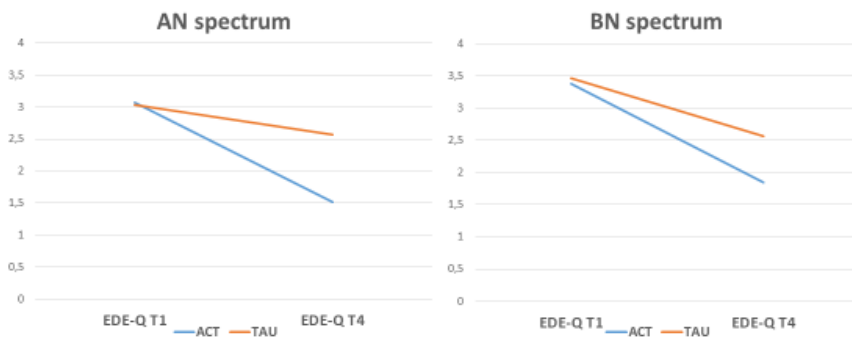


Figure 1. Mean levels on EDE-Q at T1 and T4, for participants with AN or BN spectrum disorders respectively.

Conclusions from this study were that the favorable outcome following ACT in comparison to TAU were more pronounced in participants with restrictive ED pathology, higher ratings of depression, and for participants with shorter treatment duration at baseline. Participants with lower self-rated ED symptoms and those of a younger age at the beginning of treatment showed no further improvement from TAU, suggesting the importance of targeting body image in these specific ED subgroups.

Study IV

In an effort to understand the specific features of the ACT intervention that helped or hindered treatment progress, 13 participants were interviewed. Through thematic analysis of responses, nine sub-themes were identified and categorized into three main themes. The main themes related to the individual (“Taking the plunge”), to the intervention processes (“A push toward valued ends”), and to the context (“The context matters”). A superordinate theme, which aimed to capture features that were found across themes, was named “A demanding, insightful therapeutic process, arching from session and beyond”, see Figure 2.

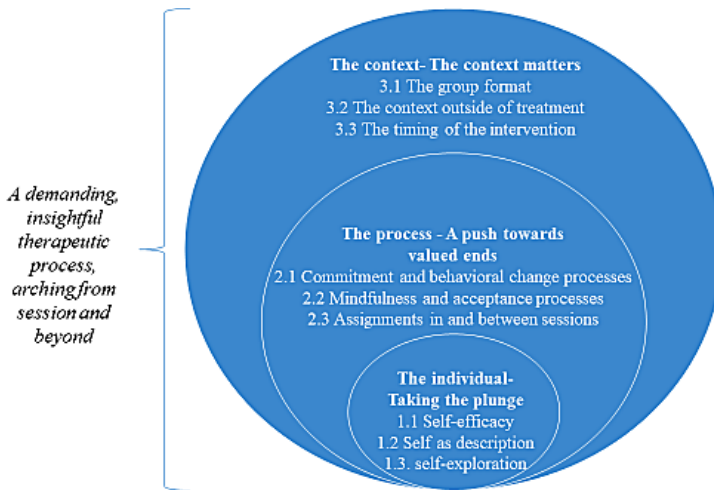


Figure 2. Superordinate theme, main themes and subthemes at different levels.

Main theme 1, “Taking the plunge”, included factors on an individual level, falling under the sub-themes of self-efficacy, self-as-description, and self-exploration. Participants described that they needed to put effort into the intervention, and that the outcome was determined by their level of commitment. Various personality traits were described as either helpful or hindering for the process. For instance, it was considered that a tendency towards perfectionism could help ensure that the individual completed the set tasks; however, this same trait also made it difficult to decide when they had put in enough work. In addition, participants described how they were required to track thoughts, feelings, and behaviors. This was sometimes experienced as anxiety provoking, but was seen as a necessary part of therapy.

Main theme 2, “A push toward valued ends”, covered features of the intervention processes, and included the following subthemes: commitment and behavioral change processes, mindfulness and acceptance processes, and assignments in and between sessions. Participants described the work on values and committed action as important for building a life beyond the ED. They also discussed both positive and negative perceptions of mindfulness. However, many experienced a change in their relationship to thoughts, feelings, memories, and bodily sensations, where they found themselves able to observe these rather than acting out of habit in response to them. The intervention entailed many different types of exercise and the use of metaphors, which were described as both helpful and demanding.

Main theme 3, “The context matters”, included factors relating to the context, including the following subthemes: the group format, the context outside of treatment, and the timing of the intervention. Participants stressed the importance of the group setting for providing support and social connectedness. Further, many participants described how their life contexts outside of treatment largely determined the effort they were able to put in - for instance, whether they worked or studied full- or part time, and whether they had supportive relationships. Participants also reflected on the timing of the intervention in relation to the previous stages of their treatment. Although both pros and cons were mentioned, overall the timing was described in positive terms.

Conclusions from this study were that participants had largely internalized the intervention, in the sense that they were able to describe the processes of treatment, and continued to make use of what they had learned even after the intervention ended. Participants were motivated to put in the necessary effort, and described specific content as helpful. This suggests that the intervention should be suitable for a transdiagnostic ED sample, where body image issues are hindering further improvement.

Summary of main findings

- Body image is a multifaceted construct, and this was reflected in the responses of individuals with an ED when asked about what aspects of body image they struggled with and wished to change, and perceived changes following an ACT intervention. (I).
- Desired changes in body image prior to engagement in the ACT intervention included: changing negative evaluations, becoming more realistic and accepting the body as it is, being less influenced by the media or

other people, shifting focus to other things in life, changing the relationship with the body, enhancing self-esteem, and reducing behaviors linked to the ED. (I)

- Perceived changes following ACT not only reflected less dissatisfaction with the body; there was also a change in the perceived consequences of being dissatisfied. Body dissatisfaction was seen as less problematic, and focus was shifted towards other areas of life that were more valued. (I).
- The ACT intervention was superior to TAU in improving ratings of ED symptoms, body dissatisfaction and mindful attention, with medium effect sizes. (II).
- Participants in the ACT intervention consumed more specialized ED care than participants in TAU during the intervention phase. However, the total amount of consumed care at end of follow up showed that participants in ACT had consumed less care. (II).
- While participants with BN spectrum disorders showed similar improvements in both treatment conditions, participants with AN spectrum psychopathology showed a greater treatment effect if attending ACT. (III).
- Participants of a younger age and with lower ED symptom ratings at baseline continued to improve if attending ACT, but showed no further improvements if attending TAU. (III).
- Participants who attended the ACT intervention were more likely to rate themselves as completely in remission at two-year follow-up. (III).
- The ACT intervention was perceived as demanding. Participants acknowledged that they were required to put in an effort to participate and complete exercises, and that this effort was related to outcome. (IV).
- Specific content of the ACT intervention was described as helpful and as providing strategies for change. These included work on values, mindfulness, committed action, and assignments in and between sessions. (IV)

- Contexts inside and outside of treatment were found to be important for facilitating or hindering the treatment process. The group format and the timing of the intervention were seen as facilitators, while family, work, or education could be either facilitating or hindering. (IV)

Discussion

Reflections on main findings

The introduction to this thesis described the multifaceted nature of body image; key theories on the development of body image issues, and on why appearances are so highly valued by many; and how body image issues relate to EDs. Accordingly, our results shows that body image meant different things to different individuals. Participants also varied in their expectations about changes following treatment. Following the ACT intervention, participants experienced changes in their body image, and improved on ED symptoms. Moreover, ACT was superior to TAU on symptom reduction. The results are discussed in more detail below under separate headings covering body image, EDs, and ACT.

Body image is important, elusive, stable, and changeable

In study I, it was made apparent that body image was important for participants, in that they described how they were enmeshed with thoughts and feelings related to their view of themselves. Body image is a complex, multifaceted construct (Cash, 2004), and this complexity was reflected in the ED patients' descriptions of the concept and of what it meant to them. Although the participants all shared a diagnosis of an ED, they each had their own view of what body image is, and were all struggling with it in different ways. Reflecting on the changes they hoped to see prior to beginning the ACT intervention, they also revealed different hopes and expectations.

Although some aspects of body image appeared to be quite resistant to change, others were more responsive. Following the ACT intervention participants generally described a continuation of negative self-evaluation of their appearance: however, they reported a greater awareness of these thoughts as thoughts rather than as truths, and the ability to relate more objectively to their bodies. Further, participants found that the importance of body image in their lives had reduced, in terms of how it affected them in day-to-day life. While body image can be thought of as a trait-like construct that is rather stable over time, this is a somewhat simplified view since body image also fluctuates in daily life (e.g. Melnyk, Cash, & Janda, 2004). From such a perspective, body dissatisfaction as a trait might be seen as resilient to change, and that continued efforts in necessary to infer change. Participants in study IV gave descriptions indicating processes of treatment that were helpful, and over time the ACT intervention was able to create change in body dissatisfaction above TAU according to the results from study II.

Some of the responses in study I indicated that participants experienced great variability in their perceptions of themselves, regarding both the perceived size of the body, and satisfaction with the body, indicating that body image is a state that fluctuates. Though the relationship between trait and state body dissatisfaction is not clear (Espeset, Gulliksen, Nordbo, Skarderud, & Holte, 2012; Fuller-Tyszkiewicz, Richardson, Lewis, Smyth, & Krug, 2018), these aspects could be seen as another indicator of the complexity of the structure of body image, and the difference in manifestation between individuals. This again highlights the need for interventions that are capable of targeting different aspects of suffering in the context of body image.

Looking at the tripartite influence model of body image (Thompson, 1999), which proposes three main sources of influence - the media, family, and peers - thin-ideal internalization might seem difficult to combat. It is important to remember that these messages are embedded in our society, and cannot be altered simply by changing attitudes on an individual level. Research has shown that people who are deemed attractive do receive advantages over their less attractive peers, which could be an aspect of mating value from an evolutionary perspective. Perhaps there is nothing wrong, nothing to be fixed, with being dissatisfied with one's body for not fulfilling society's demands of what beauty should look like. Perhaps it is not the dissatisfaction that is problematic, but how this dissatisfaction is evaluated and acted upon. This appeared to be what our participants experienced after the ACT intervention, where they described a shift of focus away from the body and towards other things in life. Of course, they continued to be part of wider society and to receive the same messages about the importance of appearances and thinness; but perhaps they had become more resilient to these messages through an increased awareness of what they valued most in life.

Another change that many of the participants wished to see was to achieve a more realistic view of their bodies, an integration of the objective "truth" and their own view. However, an objective view of the body may be considered unobtainable. Our bodies are actually more easily observed by others than by ourselves. This can give rise to uncertainty, and fear of having our appearance evaluated in social situations. Intolerance of uncertainty has been shown to be associated with both social anxiety and body dissatisfaction (Bijsterbosch, van den Brink, Vollmann, Boelen, & Sternheim, 2020). Further, intolerance of uncertainty is high in patients with EDs (Williams & Levinson, 2020), and uncertainty has been suggested to motivate patients into behaviors aimed at control, such as rigid dieting and purging (Renjan, McEvoy, Handley, & Fursland, 2016). Fear of negative evaluation based on one's appearance has been suggested to increase endorsement

of ED symptoms by amplifying the sociocultural impact of thin-ideal internalization (Christian, Ngo, Brosos, & Levinson, 2020). In the written evaluations after the intervention, participants did not specifically mention having attained a more realistic body image. However, they did describe an enhanced ability to describe their bodies less evaluatively, from a more objective stance. Moreover, they reported an enhanced openness for participating in uncomfortable situations they had previously avoided, and that negative thoughts did not need to be acted upon. This could be indicative of an improved psychological flexibility whereby, when faced with uncertainty, participants could use their ability to describe rather than pass judgment, thus avoiding fueling feelings of distress.

The importance of targeted interventions

The results of study II showed that the ACT for body image intervention demonstrated superiority over TAU in symptom improvement, and care consumption was lower. Moreover, in the results of study III, it was shown that continuation of TAU did not produce further reductions in ED symptoms in participants with lower baseline severity of symptoms, while they continued to improve if attending the ACT intervention. This observation suggests that for the study sample, including patients that had received prior treatment and had somewhat regular patterns in eating, targeting the maintaining factor of body image was important to reach further improvement.

Continuation of treatment that has no effect on symptoms is sometimes necessary from a clinical perspective, such as in AN patients with low weight where recurrent appointments with a physician are required to assess the need for inpatient care, or where other risk factors need to be monitored. Further, self-assessment questionnaires might not be used on a regular basis, obscuring non-responsiveness. However, there is a risk that continuation of treatment might actually have a negative impact on recovery (Wonderlich et al., 2012).

In study III, participants with AN spectrum disorders showed greater reductions in ED symptoms when attending the ACT intervention rather than TAU, while participants with BN showed improvement irrespective of treatment type. These results are important to investigate further, since patients with AN are often reported to be reluctant to change (Abbate-Daga, Amianto, Delsedime, De-Bacco, & Fassino, 2013) and show slower rates of remission (Eddy et al., 2017). In study IV, helpful factors for change were investigated, and ACT specific components were described as important. This could be indicative of the usefulness of ACT specific components targeting body image in individuals with EDs, and combined with results from Study III, this could be particularly important for individuals with AN spectrum disorders.

There have been several attempts to achieve consensus on criteria for remission in the field of EDs, and it has been suggested to consider aspects of the patient's experience in addition to weight status and patterns of eating (Bardone-Cone et al., 2018). Though remission was not assessed in the current research project, participants were asked to rate whether they considered themselves fully recovered. Participants who completed the ACT intervention showed lower ratings on ED symptoms, and were also more likely to report a subjective experience of full recovery, compared to participants receiving TAU.

Rates of dropout have been reported to be high in studies including patients with EDs. However, rates of dropout from the ACT intervention were relatively low, which indicates that the intervention was acceptable and relevant for the targeted population. Participants in study IV described the importance of the timing of the intervention. Results from study III indicated that participants with a shorter treatment duration showed greater symptom reductions if attending ACT. These results, in combination with the non-response to TAU in younger participants, could point to the importance of not protracting a shift in treatment towards maintaining factors, in this case targeting body image. The ACT intervention investigated in this thesis is certainly one option to offer patients with residual ED symptoms. Participants reported various kinds of changes in body image after participation in ACT, and that the content of the intervention had been effective in providing strategies for change.

The usefulness of ACT

As a transdiagnostic approach, ACT has the potential to be adapted to address specific presenting problems. Further, ACT promotes behaviors that aim at building a valued life, and foster psychological flexibility. As described in the introduction, the processes of ACT are theorized to be well suited for patients with EDs. Accordingly, in the written reflections by participants on perceived changes in body image in study I, ACT was shown to produce different outcomes between participants. This suggests that the intervention was able to tap into different aspects of body image. Further, from participants' descriptions of helpful features of the intervention in study IV, themes related to the ACT-specific processes were identified. Participants described improvements in present-moment awareness and the ability to defuse from the literal content of thoughts and feelings; to observe rather than react. This result was also evident in participants' ratings of improvement in mindful attention, presented in study II. Further, participants described the importance of the work on values and committed action, and how this helped in shifting the focus away from the ED and toward areas of life that they

valued. This might indicate that the intervention was helpful in that it enhanced psychological flexibility.

Participants described that although the intervention came with a heavy workload, and they were exposed to discomfort and anxiety, they still felt motivated enough to put in the necessary effort. There are several possible reasons for this level of motivation. One reason is the name of the intervention, “Live With Your Body”. This gives a hint as to what to expect from treatment, and participants signing up for the intervention, whether they were part of the RCT or not, were perhaps motivated to work on body image even before commencing the intervention. In qualitative analysis on helpful aspects of treatment for ED, some ED patients stressed the importance of focusing on psychological issues rather than solely on food and weight (Reid, Burr, Williams, & Hammersley, 2008). In addition, patients described feeling ambivalent as to whether there was a problem to treat, and a need for balancing control and directedness during treatment. From this perspective, the focus on values in the ACT intervention might have attenuated ambivalence about ED treatment, by shifting the focus from the presenting problem toward living their lives. Further, the ACT intervention does not focus on patterns of eating, or place demands on the individual to monitor their weight. Rather, the intervention aims to tap into the psychological issues that ED patients need and want to work on. While a sense of control is highly valued in individuals with EDs, ACT sees the attempt to maintain control as a potential route to suffering. We did not identify any specific theme regarding control from participants’ descriptions of the intervention. However, neither did we search for such a theme, and it cannot be ruled out that letting go of the control agenda was part of what made the intervention both demanding and strenuous, and, in the end, helpful.

These results add to previous studies on ACT for individuals with EDs. Such studies have shown ACT to be helpful, although not able to show superiority over other interventions (Juarascio, Shaw, Forman, Timko, Herbert, Butryn, Bunnell, et al., 2013; Parling et al., 2016). Despite these prior results, we expected to find superiority of the ACT intervention over TAU. This hypothesis was based on the fact that the intervention was targeted toward body image, which is a central aspect in all ED diagnoses. Moreover, participants in the ACT intervention consumed less specialized ED care over the study period of two years.

Methodological considerations

It is important to reflect on the role of the researcher throughout the research process, from study design to method of analysis, presentation of results, and conclusions drawn. In studies designed as RCT, it has been suggested that allegiance

effects on part of the researcher have an impact on study design and results, highlighting the need to clearly state the researcher's allegiance in psychotherapy research (Dragioti, Dimoliatis, Fountoulakis, & Evangelou, 2015). In a similar vein, in qualitative research, it is recommended that researchers show reflexivity, in order to enhance credibility of results (Dodgson, 2019). Accordingly, my interest in the thesis might have biased the results of the papers included, and the conclusions drawn. About eight years ago, when I was given the opportunity to commence my doctoral studies, I had only a few years of experience of working as a clinical psychologist at a child and adolescent psychiatry clinic. My main interest in psychotherapy was influenced by my educational background with an integrative focus on therapy. My prior knowledge and interest in ACT prior to my doctoral studies were limited; however, I was curious to learn more. My main research interest was in body image and relevant psychological treatments. These aspects of my background have of course had an impact on my research. Though ACT was not initially my main interest when commencing my doctoral studies, one could argue that as a researcher, there is always a bias toward produce research that strengthens one's hypotheses. I do believe that the results presented are well supported and grounded in theory. The following is a further description of methodological considerations in each of the studies.

Studies I & IV

Qualitative studies aim to capture an in-depth understanding of a specific issue from the perspective of participants - in this case, patients with EDs. There are different qualitative methods to choose from depending on the research question. As already discussed, there are several similarities between conventional content analysis and thematic analysis; however, one or the other may be deemed more appropriate depending on the context. Further, both thematic and content analysis have been suggested to be suitable for inexperienced qualitative researchers (Vaismoradi et al., 2013), since they are relatively free from theory, and many other methods use the steps of thematic analysis in the process of searching for codes and themes. However, this should not be taken to mean that these qualitative methods are less rigorous, or produce less depth in their results. In studies II and IV, the decision was made to use these methods since they were deemed suitable for the particular research question. The validity of qualitative studies is assessed by their level of trustworthiness. Trustworthiness includes the criteria of reflexivity, credibility, transferability, dependability, and confirmability (Korstjens & Moser, 2018). Accordingly, we have taken measures to ensure trustworthiness. The questionnaire on body image, as well as the interview guide, included open-ended questions, in an effort to generate spontaneous descriptions

from participants. In the interviews, prompts were used to elicit more in-depth information. In addition, I as the researcher conducting the interviews had no prior knowledge about the participants. I had read the self-help book on which the intervention was based, but I had not served as a group leader or observed the actual treatment being given. I believe this to be a strength: had my knowledge been more extensive, my preconceptions might have been harder to bridle, and questions may have become more deductive. We aimed to capture helpful and hindering aspects of the treatment, rather than to search for specific ACT processes, which would have necessitated other methodological approaches. Further, in study I we provided tables showing the categories derived from the content analysis, with a summary and quotes, and a figure illustrating themes and subthemes in study IV. Further, a summary and quotes were provided for each subtheme to strengthen the link between the actual data and the results presented. Analyses were made by two researchers both independently and in collaboration, and results were checked in relation to the complete data set, in a back-and-forth manner. The study sampling was purposive, thus participants constituted a selected subset of patients with an ED and body image issues, all of whom were about to participate in, or had completed, a group intervention based on ACT targeting body image.

Studies II & III

Studies with an RCT design are useful for examining causal relationships. By randomization, (hopefully) the only variable that differs between groups is the variable of interest; or at least the impact of bias from other known, and unknown, variables (or confounders) is reduced or balanced between groups. Further, RCTs are prospective, in that individuals are followed over time. Studies may differ widely in nature, thus calling a study an RCT is not enough to ensure the validity and generalizability of results. It is important to clearly describe the research process, the selection of the study sample, and how the randomization was carried out. It is also important to describe allegiance effects, and treatment integrity. In this research project, there was an obvious source of potential bias, since one of the supervisors had also co-authored the book that the intervention was based upon. However, it is of course common in psychotherapy research when designing new treatment models that a person involved in creating the treatment manual also has an interest in researching its applicability and usefulness. Moreover, results from one RCT are not enough to infer causation; instead, results should be carefully interpreted whether they show a positive outcome or not, and it is important that results are thoroughly discussed, theorized, and compared to similar research studies. Accordingly, in study II where main results were presented, the

criteria for inclusion and exclusion was clearly stated, as well as randomization procedures. This should make it possible to judge selection of patients, and to whom results generalize. Further, the methodology should provide enough information for the study to be replicated.

The RCT did not reach the intended sample size, however it was still able to show differences in outcome. Adhering to intended sample size is important for ethical reasons, however the rate of dropout was lower than anticipated. While selecting patients irrespective of specific ED was decided upon since they shared body image concerns, questions regarding outcome for specific disorders cannot be answered. However, at a group level, irrespective of specific ED, the ACT intervention was more helpful than TAU. Moreover, the transdiagnostic view on ED suggests that irrespective of ED subtype, patients share more similarities than differences. Results from this thesis indicates the benefit of body image interventions across ED subtypes.

The included instruments for assessing outcome poses some additional consideration. While EDE-Q is an instrument that is suitable for assessing ED specific psychopathology, and is relatively short, the subscales are less potent to capture the constructs to which they are referring. Moreover, we included a measure of body checking that has not been psychometrically evaluated in its translated version. Even though translated version might seem appropriate, its ability to capture the intended construct and provide reliable ratings needs to be psychometrically evaluated. Considering this, results from EDE-Q were mainly reported by its global score, as indicative of ED psychopathology which it is appropriate for. Moreover, it is one of the most used instrument in the research field of ED making comparisons between studies and clinical settings possible. The BCQ intends to capture behavioral manifestations of body dissatisfaction, and as such is an important instrument, that could be a topic for further investigation.

Conclusions and clinical implications

In this thesis, the focus was on body image and psychological suffering, specifically in the context of EDs. The introduction discussed why appearances are so highly valued in society, presenting theories on how standards of beauty can contribute to suffering, and how this relates to patients with EDs. The case was made for targeting body image issues in such individuals, and why ACT could be hypothesized to be helpful.

In conclusion, through the use of both quantitative and qualitative methods, an intervention based on ACT that targeted body image issues was shown to be helpful for patients with residual ED symptoms. Although body image issues differ between ED patients, this intervention was able to produce change across a range

of diagnoses on aspects such as dissatisfaction and overvaluation. Our results also showed that it is important to offer targeted interventions, since there is a risk of non-response associated with continuation with TAU in younger patients and patients with lower ED symptom ratings. The ACT intervention was experienced as demanding by participants; however, it seemed to have provided both motivation and strategies for change. Thus, clinical implications suggest the usefulness of the intervention in a transdiagnostic sample. Although participants consumed more care during the intervention phase, and the intervention came with a heavy workload, the intervention was found to have potential to provide patients with strategies to reach full recovery, and to reduce the need for specialized care over time.

Future research

The results of this thesis indicate the usefulness of a body image intervention based on ACT in the context of EDs. The results also highlight the following areas for further research.

- Since ACT is not an evidence-based intervention for patients with EDs, this study both adds to the research base, and suggests the importance of continuing to research ACT in the context of EDs.
- Issues with body image have been found to have detrimental effects on quality of life. It would therefore be interesting to investigate outcomes on quality of life following the ACT intervention.
- Since this research project began, ACT has become more well researched in EDs, thus the knowledge base has evolved, as have the opportunities for measuring different aspects of psychological flexibility. It would therefore be interesting to investigate changes in psychological flexibility following the ACT intervention.
- Another aspect of body image that is gaining attention is the concept of positive body image: it would be interesting to investigate this concept and whether the ACT intervention is able to foster positive attitudes as well as reducing negative ones.
- Body image was identified as a maintaining factor in the study sample. It would be interesting to investigate the potential of ACT in targeting other maintaining factors in EDs, such as perfectionism or emotional regulation.
- Comorbid psychopathology is common in patients with EDs, thus it would be interesting to further investigate symptoms of depression and how they relate to the ACT intervention.

- Intolerance for uncertainty in the context of body image in patients with an ED would be interesting to continue to research, and if ACT has potential to reduce uncertainty or suffering caused by such uncertainty.

Summary in Swedish

Det övergripande syftet med denna avhandling var att undersöka en gruppbehandling baserad på Acceptance and Commitment therapy (ACT) för patienter med kvarvarande kroppsmissnöje och andra ätstörningssymtom, gällande utfall och deltagarnas reflektioner om kroppsuppfattning och behandlingen. För att undersöka detta utforskades först hur konceptet kroppsuppfattning uppfattas av patienter som ska påbörja en intervention där kroppsuppfattning är i fokus, och om de upplevde någon förändring i sin kroppsuppfattning efter interventionen. För att ta reda på om ACT interventionen gav bättre resultat än sedvanlig behandling gällande bland annat symtom av ätstörning och kroppsmissnöje genomfördes en randomiserad kontrollerad studie (RCT), där 99 patienter med ätstörning slumpmässigt fördelades till ACT interventionen eller till att fortsätta i sedvanlig behandling. Vidare undersöktes om det fanns några grupper av patienter som hade bättre eller sämre effekt på utfall beroende av om de fick ACT eller sedvanlig behandling. Slutligen undersöktes vad patienter uppfattade som hjälpsamt och hindrande när de genomgick ACT interventionen.

Studie I, II och III utgår från data från de 99 deltagarna i RCT:n. Samtliga deltagare fyllde i självskattningsformulär vid fyra olika tillfällen, före behandlingen, efter behandlingen, samt uppföljning vid ett och två år efter behandlingsstart. Självskattningsformulären avsåg att mäta grad av ätstörning, kroppsmissnöje, kroppskontrollerande beteenden, medveten närvaro, samt självförtroende. Efter att de sista patienterna inkluderats och genomgått ACT interventionen, så fortsatte interventionen att erbjudas på den aktuella ätstörningsmottagningen. Studie IV inkluderade patienter som fått ACT interventionen efter att RCT:n avslutat inkluderingen av patienter.

Studie I undersökte hur deltagarna som slumpats till ACT-interventionen skriftligen reflekterade kring begreppet kroppsuppfattning, både före och efter interventionen. Utvärderingarna analyserades genom kvalitativ innehållsanalys enligt Hsieh and Shannon (2005). Studie II och III använde olika statistiska metoder för att undersöka om utfall över tid var olika för deltagare i ACT eller sedvanlig behandling, samt om det fanns faktorer vid inklusion som hade betydelse för utfall vid sista uppföljningen. Studie IV inkluderade 13 patienter som intervjuades efter att ha genomgått ACT interventionen, med avseende att fånga hjälpsamma och försvärande aspekter av behandlingen. Intervjuerna analyserades utifrån tematisk analys enligt Braun and Clarke (2006).

Resultaten från Studie I visade att begreppet kroppsuppfattning uppfattades olika mellan individer. Deltagarna lyfte fram olika aspekter när de beskrev sin egen kroppsuppfattning, och även vilka aspekter de önskade skulle förändras som

följd av ACT interventionen. Till exempel ville en del förändra sin negativa värdering av kroppen, medan andra ville uppnå en mer objektivt realistisk kroppsuppfattning, och det fanns också en önskan om att bli mindre upptagen av kropp och vikt. Många deltagare beskrev negativa aspekter av sin kropp både före och efter interventionen, och samtidigt gav de beskrivningar av förändringar i kroppsuppfattningen. Förändringarna var delvis i samklang med förväntningar inför interventionen, där deltagarna beskrev en ökad förståelse för sig själva, och att de kunde förhålla sig mer objektivt till tankar och känslor, samt att de kunnat öka deltagande i aktiviteter eller situationer som de värdesatte.

Studie II visade att de deltagare som fått ACT interventionen förbättrades i större utsträckning än de som fått sedvanlig behandling, bland annat gällande självskattade symtom på ätstörning och kroppsmisnöje. De som fått ACT interventionen konsumerade specialiserad ätstörningsvård i mindre utsträckning totalt sett. Andelen som hoppade av behandlingen var också relativt låg. Studie III visade att speciellt patienter med restriktiv ätstörningsproblematik fick ett bättre utfall om de deltog i ACT än i sedvanlig behandling. Patienter med hetsättnings- störnings- och/eller självrensande problematik förbättrades oavsett behandling, medan yngre patienter och patienter med lägre självskattade ätstörningssymtom inte visade någon förbättring på ätstörningssymtom om de fortsatte i TAU.

Studie IV undersökte både hjälpsamma och hindrande aspekter av ACT interventionen från ett patientperspektiv. Interventionen beskrevs som krävande, och flera av de ACT-specifika processerna beskrevs som hjälpsamma både under behandlingen men också under tiden efter behandlingen. Nio teman identifierades och sorterades in i tre olika huvudteman. Ett huvudtema handlade om vikten av individens eget bidrag till behandlingen, och där ingick teman som handlade om den egna förmågan, själv-som-beskrivning, och självutforskning. Det andra huvudtemat handlade om de behandlingsspecifika processerna, och inkluderade temana åtagande och beteendeförändring, mindfulness och acceptans, och även övningar inom och mellan sessioner. Det sista huvudtemat handlade om kontextspecifika aspekter, och inkluderade teman om gruppformatet, livssituationen utanför behandlingen, samt timing för interventionen. Sammanfattningsvis beskrev patienterna att behandlingens processer var betydelsefulla för att skapa förändring, och att det var upp till individen själv att medverka i och bidra till sin egen process, samtidigt som gruppformatet men också livssituationen i övrigt påverkade medverkan. En del aspekter återkom i samtliga teman, och sammanfattades i ett övergripande tema: ”En krävande och insiktsfull terapeutisk process, som sträcker sig från sessionerna och vidare”.

Resultaten av den här avhandlingen visar att även om kroppsuppfattning är ett svårdefinierat begrepp, som kan uppfattas olika mellan individer med olika ätstörningsdiagnoser, så kan en behandling som bygger på ACT leda till förändring av kroppsuppfattning och/eller effekten som denna uppfattning har på individens livskvalitet. Dessutom visade sig behandlingen ge bättre effekt än sedvanlig ätstörningsbehandling gällande bland annat självskattade symtom av ätstörning och kroppsmisshöje. Detta visar på att behandling riktad mot kvarvarande kroppsmisshöje i slutfasen av ätstörningsvården på sikt kan leda till förbättrad livskvalitet och minskad total vårdkonsumtion även om insatsen på kort sikt kan uppfattas oproportionerlig till behovet. De patienter som deltagit i studierna uppvisade olika symtom på ätstörning, men delade upplevelsen av problematik kopplad till kroppen som hindrande för fortsatt förändringsarbete. Just för dessa patienter så var en intervention riktad mot kroppsuppfattning hjälpsam. Deltagarna lyfte dessutom specifika processer i ACT som hjälpsamma, och även om interventionen var krävande så var de motiverade att genomgå behandlingen och arbeta med sig själva. Resultaten styrker att ACT-interventionen som komplement till befintlig behandling kan hjälpa deltagarna att utveckla ett mer flexibelt förhållningssätt till sin kropp, där tankar om kropp och vikt inte längre utövar samma påverkan på deras funktion och mående.

Tack (Acknowledgments)

Ett stort tack till alla som på olika sätt funnits med och stöttat mig under mina år som doktorand.

Ett särskilt tack till:

Alla fantastiska studiedeltagare, för engagemanget och tålamodet att delta forskning.

Alla som på olika sätt gjort det möjligt för forskningsprojektet att bli av, från planering till genomförandet, analyser och slutresultat.

Mina handledare:

Sanna Aila Gustafsson, du har förmågan att alltid lyfta fram det som är positivt, du har genomgående visat ett stort engagerad för mina forskarstudier, varit stötande och tillgänglig utöver det som förväntats. Du är också rak och ärlig när så behövs. Du är på många sätt en förebild, med brett kunnande både kliniskt och inom forskning, samtidigt som du är nyfiken, kvick, klok, och får saker gjorda.

Lars Kjellin, för att du skapat lugn och förmedlat trygghet i forskningsprocessen. Du har varit engagerad, noggrann, och alltid varit snabb på att ge feedback, och alltid på ett fint och stöttande sätt.

Thomas Parling, för att du stått på dig och stöttat mig genom otaliga statistiska analyser, det har varit lärorikt och svårt. Du har lyckats förmedla ett lugn även kring saker som är svåra, och varit engagerad och delat med dig av din kunskap.

Ingemar Engström, som från början gav mig möjlighet att påbörja forskarutbildningen, vid dåvarande PCF. Stort tack också för tiden du lade ner på att granska min avhandling, och för den fina diskussionen som följde vid mitt kappa-seminarium.

Margerata Möller, som blev min chef när UFC blev till. Tack för ditt engagemang, för stödet du gav via UFC, och för fortsatt visat intresse för mina doktorandstudier.

Kristina Arnrup, för engagemang och stöttning i mina doktorandstudier. Tack också för möjligheten till fortsatt anknytning till UFC, via trainee-projektet inom psykometri.

PFC, UFC, Örebro Universitet och forskningskommittén i Region Örebro län för finansiellt stöd i forskningsarbetet.

Kollegorna och doktorandnätverket, nuvarande och tidigare, från UFC (och också PFC), jag är så tacksam för möjligheten jag fick 2013, att bli antagen som doktorand och ha tillgång till denna arbetsplats. Det finns så många kloka och engagerade kollegor och administratörer, sådan bredd i forskningen, och en bra struktur till exempel genom stöttning vid seminarier. Att medverka i seminarier, fått en inblick i andra forskares studier, och också engagemanget från andra som granskat mina alster, otroligt värdefullt.

Katarina Lindstedt, min tidigare mentor vid PFC, du har varit en förebild för mig, och en viktig person under hela mina forskarstudier. Det har varit så hjälpsamt att kunna vända sig till dig, med stort som smått, och du har bidragit till att göra åren, och alla erfarenheter, roligare. Ett stort tack också för tiden du har lagt ner på att granska min avhandling.

Kollegorna från ätstörningsmottagningen och från BUP Örebromottagningen, för att ni visat intresse och engagemang genom åren. Tack också till enhets- och verksamhetscheferna för förtroendet och att ni möjliggjort för mig att genomföra mina forskarstudier.

Mina fantastiska vänner, som följt min resa genom åren. ”Torsdagsmiddagsgänget” för de välkomna avbrotten i vardagen, och ni som fanns med under mina ”pauser” från studier under föräldraledigheten. Susanne, du är en klippa, stort tack för dina noggranna genomläsning av min avhandling och dina kloka kommentarer. Anna, du finns alltid där, tack för alla pratstunder under långa härliga skogspromenader, peppen när den behövs, och för stöd i Excel.

Och slutligen tack till de allra närmaste, till mamma och pappa för tiden vi fick, till moster Eva för att du alltid finns där. Tack till min älskade familj, Peter, Emilia och Freddie, för att ni finns, ni är mina bästa!

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