The Role of Self-Disgust within Disordered Eating Behaviour

by

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ABSTRACT

Self-disgust has already been implicated within eating psychopathology (Moncrieff-Boyd & Nunn, 2014; Bell et al., 2017; Palmeria et al., 2017) and investigating this emotion may offer more of an understanding of the factors that contribute to the aetiology and maintenance of disordered eating behaviour across the spectrum of eating disorders. Therefore, the research aimed to examine the role of self-disgust within disordered eating behaviour and argues that this emotion can impact on all stages of an eating disorder.

This research employed a simple, exploratory sequential mixed-design. The first phase (Phase 1) of data collection involved a large on-line questionnaire-based study, whereby 584 participants completed measures of emotional, coping and sensory factors including self-disgust. This battery of questionnaires was completed at baseline and then 12 months later. Findings from Phase 1 indicated that those with an eating disorder experience significantly higher levels of self-disgust compared to those who have never suffered from disordered eating behaviour. Self-disgust was associated with several sensory processing patterns as well as anxiety, depression and disgust-sensitivity. Self-disgust was significantly associated with several difficulties in emotion regulation strategies and disordered eating behaviour. Self-disgust mediated the relationship between specific emotion regulation strategies and disordered eating behaviour, but this relationship was not consistent over time. Finally, although self-disgust did not predict changes in disordered eating behaviour, the relationship between these two variables did persist over 12-months.

The second phase (Phase 2) of data collection involved semi-structured interviews with 12 participants who had taken part in the previous phase and who had technically recovered. Findings from Phase 2 suggest that self-disgust is something that continues to affect a person's eating behaviour, even after clinical recovery and in turn may act as a trigger back into the cycle of disordered eating behaviour. Specifically, four superordinate themes *"The Volume of the Voice" "Trapped in a body you do not want" "Disgust as a trigger"* and *"If I am not the eating disorder what am I?"* are discussed. The findings have both academic and clinical relevance and provide compelling evidence that self-disgust is implicated within disordered eating behaviour and is an emotion that continues to affect a person even following recovery.

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List of Abbreviations

Acronym	Full Word
ADHD	Attention deficit hyperactivity disorder
AN	Anorexia Nervosa
ARFID	Avoidant/restrictive food intake disorder
BED	Binge Eating Disorder
BMI	Body Mass Index
BN	Bulimia Nervosa
BPD	Borderline Personality Disorder
CBT	Cognitive Behavioural Therapy
CBT-E	Enhanced Cognitive Behavioural Therapy
DERS	Difficulties in Emotion Regulation
DSM-V	Diagnostic and Statistical Manual of Mental Disorders
EDNOS	Eating Disorder not otherwise specified
ERA	Lack of emotional awareness
ERC	Lack of emotional clarity
ERG	Difficulty with goal-directed behaviour in the context of emotional distress
ERI	Difficulty controlling behaviours when upset
ERNA	Non-acceptance of emotional states
ERS	Limited access to adaptive emotion regulation skills
ICD-10-CM	International Statistical Classification of Diseases and Related Health Problems
IPA	Interpretative Phenomenological Analysis
NICE	The National Institute for Health and Care Excellence
OCD	Obsessive-Compulsive Disorder
OSFED	Other specified feeding or eating disorders
PTSD	Post-Traumatic Stress Disorder
UFED	Unspecified feeding or eating disorder

CHAPTER 1 LITERATURE REVIEW

1.1 LITERATURE REVIEW STRATEGY

This thesis takes an in-depth look at the relationship between self-disgust and disordered eating behaviour. Using a mixed-methods approach, it aimed to provide an understanding of what makes someone more vulnerable to experiencing self-disgust, whether self-disgust contributes to the maintenance of disordered eating behaviour and the impact that this emotion can have when recovering from an eating disorder. This narrative literature review (Grant & Booth, 2009) examined peer-reviewed literature currently available on self-disgust within eating disorders and the role it plays within other psychopathologies. This approach was chosen as it provided a background of the current literature within the area of self-disgust and disordered eating behaviour (Booth, Sutton & Papaioannou, 2016) while allowing for refinement of the overall research questions of the thesis (Grant & Booth, 2009). This was believed to be particularly pertinent for this thesis as research focusing on self-disgust within disordered eating behaviour was in its infancy at the start of this review. Specific attention was given to ensure the literature review was conducted explicitly and transparently as narrative reviews are argued to be less rigorous than a systematic review (Booth, Sutton & Papaioannou, 2016).

Key search terms included "Disgust"/"Self-Disgust"/"Disgust Sensitivity"; these were used individually and in conjunction with terms such as "Eating Disorders"/"Anorexia Nervosa"/"Bulimia Nervosa"/"Anxiety"/"Depression"/"Sensory processing"/"Emotion Regulation"/"Difficulties in Emotion Regulation" as these terms reflected the critical interests of the thesis. Given that this thesis used a mixed-methods approach, some methodological key terms were also used to ensure both quantitative and qualitative research was covered within the search. These included "Mixed-Methods"/"Quantitative"/"Qualitative"/"Interpretative Phenomenological Analysis". Databases used included Scopus, ScienceDirect, PsycARTICLES, PsycINFO, Google Scholar and MEDLINE as these were deemed to be most appropriate to focus on psychological and health research. A cut-off date of January 2018 was enforced to allow for an accurate interpretation of the data at the time.

This chapter will begin by outlining the aetiology, diagnostic and prevalence statistics on eating disorders. Both externally and inwardly driven disgust will then be defined, and research exploring these concepts will be critically analysed. The remaining sections will outline and evaluate research studies that have linked self-disgust with a range of other psychopathologies, including eating disorders and the role self-disgust may potentially play within the maintenance of disordered eating behaviour.

1.2 INTRODUCTION TO EATING DISORDERS

Eating disorders are characterised by abnormal or unhealthy eating behaviours and include a range of psychological, physical and social symptoms (NICE, 2017). Fairburn, Cooper, & Shafran (2003) describe eating disorders to be "a persistent disturbance of eating behaviour or behaviour intended to control weight, which significantly impairs physical health or psychological functioning" (p.171). Eating disorders are complex mental health conditions, and the expression and experience of suffering from an eating disorder is specific and individual for each person concerned. Anorexia Nervosa (AN) was the first eating disorder to be described throughout history. One of the first descriptions of this Disorder, cited by English physician Richard Morton, noted a woman to have symptoms of AN in 1689 (Pearce, 2004). Gull (1874) first observed the critical characteristics of anorexia nervosa by drawing attention to several women who suffered from emaciation, amenorrhoea and refusal to co-operate with treatment. Bulimia Nervosa (BN) was first noted within the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III American Psychiatric Association, 1980). Other specified feeding or eating disorders (OSFED) encompass those individuals whose symptoms fail to reach the clinical level associated with either AN or BN (Fairburn & Bohn, 2005) and now Binge Eating Disorder (BED) (APA, 2013). This group was previously called Eating Disorder Not Otherwise Specified (EDNOS), and research suggests that approximately 50% of all people affected by an eating disorder will fall into this category (Wilson, Fairburn, Agras, Walsh, & Kraemer, 2002).

1.3 DIAGNOSTIC CRITERIA AND AETIOLOGY

The most commonly referred to definitions of eating disorders are those proposed by the Diagnostic and Statistical Manual of Mental Disorders, currently in its fifth edition (DSM-V: American Psychiatric Association, 2013) and the International Statistical Classification of Diseases and Related Health Problems (ICD-10-CM, 2018). The DSM-V was updated in 2013 and now includes eight broad categories of eating disorders: AN, BN, BED, OSFED, pica, rumination disorder, and avoidant/restrictive food intake disorder (ARFID) and unspecified feeding or eating disorder (UFED) (APA, 2013). However, aspects of different types of eating disorders overlap with one another, particularly concerns surrounding weight, shape and control of eating (Fairburn & Bohn, 2005); (Fairburn et al., 2003). This is referred to as the transdiagnostic framework of conceptualising disordered eating behaviour and has influenced much of the research concerning the aetiology, maintenance and treatment of eating disorders (Fairburn et al., 2003; Murphy, Straebler, Cooper, & Fairburn, 2010; Cooper & Grave, 2017).

The condition AN (DSM-V, American Psychiatric Association, 2013) is characterised by three core attributes of disordered eating behaviour. First, a persistent restriction of energy intake, subsequent low body weight within the context of a person's age, sex and physical health. Second, an intense fear of gaining weight; which is often accompanied by behaviours that interfere with weight gain. Someone with AN may suffer from a severe disturbance in the way they experience their weight and shape, place great emphasis on the importance of body shape and weight and demonstrate a lack of recognition of the seriousness of maintaining such a low body weight. Some subtypes are recognised within the DSM-V suggest that AN can be characterised by either restriction or binging and purging and these types of behaviours are utilised to facilitate weight loss (DSM-V, American Psychiatric Association, 2013).

The ICD-10-CM (2018) criteria for AN characterises the disorder by deliberate and sustained weight loss, which can occur in both genders and within a variety of ages; however, the most reported cases are within adolescents and young women. Someone with AN is likely to have a bodyweight

maintained at least 15% below what would be expected or their Body Mass Index (BMI) is 17.5 or less. Should a patient be pre-pubertal, they may show a failure to have gained the expected amount of weight during that period of growth. A person with this diagnosis may hold specific psychopathology whereby a dread of becoming fat or flabbiness of the body persists as an intrusive and overvalued idea resulting in the person imposing low weight targets on themselves. This diagnostic manual also places focus on many physical changes such as secondary endocrine, metabolic changes and disturbance within bodily functions (excessive exercise, induced vomiting and purging and restricted dietary choice).

The diagnostic criteria for BN characterises the disorder as recurrent episodes of binge eating which involves consuming large amounts of food within two hours and experiencing a sense of lack of control during an episode (DSM-V, American Psychiatric Association, 2013). After a binging episode, someone with BN may engage in repetitive compensatory behaviour, such as purging to prevent weight gain. On average, these types of behaviours are thought to occur weekly, and evaluation of the self is greatly influenced by body shape and weight status. The ICD-10-CM (2018) describes in more detail a persistent preoccupation with eating and an intense and overbearing craving for food. The person concerned may succumb to these intense feelings with episodes of significant overeating during short periods. Similar to the DSM-V, it suggests that attempts to counteract weight gain may include starving and purging along with many other strategies. A person with BN may have a fear of fatness and, as a result of this, set themselves unhealthy weight thresholds for which they feel a strong desire to behold.

The National Institute for Health and Care Excellence (NICE) suggests that 1.6 million people in the UK are affected by an eating disorder. Out of that sample, it is estimated that 10% will suffer AN, 40% will suffer from BN, and the rest fall into a diagnosis of OSFED. NICE argues that eating disorders are most common within females, with 11% of males developing patterns of disordered eating behaviour. More recent NHS research contradicts this notion as out of the 6.4% of adults known to have developed an eating disorder, a quarter of those were male; a figure much higher than

previously shown (Adult Psychiatric Morbidity Survey, 2007). The prevalence of eating disorders in men is somewhat unclear. However, it is believed that the community of men who suffer from disordered eating behaviours are currently under-diagnosed or misunderstood by health professionals (Strother, Lemberg, Stanford, & Turberville, 2012). Evidence suggests that the rate of eating disorders among college men ranges from 4-10%, and has a female-to-male ratio of eating disorder symptoms of 3 to 1 within those who suffer from an eating disorder (Eisenburg, Nicklett, Roeder, & Kirz, 2011). Male body image concerns also appear to have increased as 43% report dissatisfaction with their bodies and such rates are comparable to those found in female populations (Garner, Rosen, & Barry, 1998; Goldfield, Blouin, & Woodside, 2006; Schooler & Ward, 2006). Men with eating disorders are also less likely to seek professional help, which is demonstrated in the gender demographics of treatment research, with male populations being under-represented (Striegel-Moore et al., 2009);(Berger, Sowa, Bormann, Brix, & Strauss, 2008).

The aetiology of developing an eating disorder can be associated with several genetic, psychological, social, environmental and biological influences (Beat, 2018) and the symptoms themselves can often overlap between different types of eating disorders. The aetiology of eating disorders is generally viewed holistically with the use of biopsychosocial factors to explain and understand the complicated nature of eating disorders (NICE, 2004). However, more recent literature has begun to emphasise the importance of understanding how dysfunctional beliefs, negative emotions and difficulties in emotion regulation can contribute to the development and maintenance of disordered eating behaviour (Harrison, Sullivan, Tchanturia, & Treasure, 2010). Fairburn, Cooper, & Shafran (2003) put forward one of the most influential models for the explanation and treatment of eating disorders. The transdiagnostic cognitive behavioural approach suggests that dysfunctional beliefs, including the over-evaluation of shape and weight and their control, is a key and central factor to the maintenance of all eating disorders (Murphy et al., 2010). Such dysfunctional beliefs are thought to result in dietary restraint and restriction, obsessional thoughts on food, eating, shape and weight, avoidance of body shape and weight or persistent checking of these and engaging in extreme methods of weight control (purging, laxatives) (Fairburn & Beglin, 1994).

The transdiagnostic cognitive behavioural approach also explains binge eating. This kind of behaviour is thought to be one feature of eating disorders that is not a direct expression of dysfunctional thoughts and psychopathologies (Fairburn et al., 2003). Cognitive Behavioural Therapy (CBT) suggests that episodes of binging may be a result of attempts to adhere to dietary rules, which are very commonly extreme and highly specific (Fairburn 2008). When the breaking of such strict rules occurs, a person with an eating disorder may react negatively and respond to their perceived lack of control by binge eating. Such behaviour can be viewed as a cycle and may maintain the core psychopathology surrounding a person's eating, shape weight and control over these (Fairburn, 2008). Fairburn et al. (2008) further their explanation for binge eating with three processes into the maintenance of such behaviour. First, life stressors and difficulties are associated with mood changes, which in turn make dietary restraint more difficult. Second, binging is thought to improve negative mood states for short periods and can become a coping mechanism. The transdiagnostic theory has formed the basis of Enhanced Cognitive Behavioural Therapy (CBT-E), which is a form of CBT therapy that focuses on the maintaining processes of eating Disorder psychopathology (Fairburn et al., 2009). CBT-E focuses on the spectrum of eating disorder symptoms rather than individual disorders. Although based on CBT, this approach uses several different procedures to address external obstacles that are core to eating disorder pathology. Examples of these are low self-esteem, perfectionism and interpersonal difficulties (Murphy et al. 2010).

The roles of personality factors and interpersonal difficulties have also been considered within the aetiology of eating disorders. Bruch (1973) implied that the characteristics of the anorexic child were dependence, perfectionism and compliance. In line with this, the Predispositional model of personality suggests that personality constructs precede and increase a person's risk of developing an eating disorder. This model suggests that personality disturbance and eating disorder symptoms are independent, and the aetiology and pathophysiology of these two commodities are distinct (Lyons et al., 1997). Strober et al. (1991) used this model in an attempt to explain the role of temperament factors in AN. It was argued that traits such as high reward dependence, high harm avoidance and low

novelty seeking (Cloninger et al., 1993) might mediate a person's environment during adolescence, which in turn may make that person more at risk for developing AN.

The first two longitudinal studies conducted on the relationship between eating disorders and personality found no personality predictors for disordered eating (Attie & Brooks- Gunn, 1989; Schlundt et al., 1990). Despite this, prospective evidence for this model has been found in multiple other studies. Leon et al. (1995) found that poor interoceptive awareness predicted eating disorder risk status within one year for teenage girls. In addition to this, negative affect predicted increased eating disorder risk after a four year follow up (Leon et al. 1999). In tone with this, Martin et al. (2000) found that high negative emotionality measured from infancy onwards was most significantly associated with eating disorder risk status at 12-13 years of age. Killen et al. (1996) found that factors such as neuroticism in conjunction with ineffectiveness and poor interoceptive awareness predicted eating disorder symptoms four years on within a large sample of high school girls, even after controlling for initial eating disorder symptoms. More recently, negative emotionality and perfectionism were found to contribute to the development of an eating disorder and may do so by increasing a person's susceptibility to internalise the thin ideal and selection of the peer environment. These self-selected peer environments are suggested to increase a person's risk of eating disorders (Keel & Forney, 2013).

Research suggests that individuals can influence which emotions they have, when they have them and how they experience and express them (Gross 1998). Emotional regulation is defined as the ability to manage emotions in the self and others (Mayer 2001), and there is now an extensive body of literature concerning eating disorders and the relevance it holds within the maintenance of such behaviour (Lee and Shafran, 2004). Models of emotional regulation associate successful emotion-regulation with positive relationships, good health outcomes and improved work and academic performance (Aldeo et al., 2010; Lopes et al. 2004; Gross et al., 2006). In contrast, difficulty in emotional regulation is associated with several mental health disorders (Berenbaum et al., 2003; Greenberg, 2002; Kring & Bachorowski, 1999; Mennin & Farach, 2007) including eating disorders (Bydlowski et al., 2005; Clyne & Blampied, 2004; Fairburn et al., 1995; McCarthy, 1990; Polivy & Herman, 2002). Research

highlights the role of emotional regulation strategies in individuals with eating disorders and shows the role of negative moods within binge eating (Wegner et al., 2002, Chua et al., 2004, Hilbert et al., 2015) and binge/purging behaviour in BN (Smyth et al., 2009). Studies also describe how patients with AN have problems identifying and regulating their experiences of negative emotions (Harrison, Sullivan, Tchanturia, & Treasure, 2010; Harrison, Sullivan, Tchanturia, & Treasure, 2009). This suggests that difficulties in emotion regulation occur across multiple eating disorders and could potentially be a transdiagnostic factor for disordered eating behaviour (Fairburn et al., 1994). Therefore, the role of emotion regulation and subsequent negative emotions within disordered eating is vitally important when considering the aetiological and maintaining factors of eating psychopathology.

Recovery rates for DSM-V AN and BN are between 55%-69% (Smink et al., 2013). Other reviews looking at research into recovery suggest that around 46% of people with a diagnosis of AN fully recover, with a third improving and 20% remaining chronically ill (Steinhausen, 2002). Research examining recovery and chronicity within BN has found that on average 60% will recover, 30% will suffer from their eating disorder chronically and 10% will crossover to another eating disorder (Steinhausen & Weber, 2009). Little is known about the course and outcome of BED within the academic community (Smink et al., 2013). Both AN and BN are associated with increased mortality (Smink et al., 2013). AN is suggested to have one of the highest mortality rates of all psychiatric illnesses (Papadopoulos, Ekbom, Brandt & Ekselius, 2009), ranging between 5 and 22% (Neiderman, 2000; Signorini et al., 2007). There is limited research into the cause of death by eating disorders; however, poorer outcomes and mortality are associated with older age at first presentation, alcohol misuse and low BMI (Arcelus et al., 2011; Fichter & Quadflig, 2004; Theander et al., 1985; Deter et al., 1994; Ben-Tovim et al., 2001).

SENSORY PROCESSING AND DISORDERED EATING

Sensory processing is defined as "the ability to register and modulate sensory information and to organise this sensory input to respond to situational demands" (Humphry, 2002, p172), and this type of processing is suggested to form the basis of both temperament and personality (Dunn & Westman,

1997). Dunn's Model of Sensory Processing is one of the fundamental contributing theories within the field of sensory processing research and is based on the hypothesis that there is a relationship between a person's neurological thresholds and self-regulation strategies.

People are suggested to be characterised by their positioning on four major types of sensory processing, governed by two separate axes: the response threshold of the nervous system (high/low) and the strategy of response (passive/active) (Dunn, 1997; Dar, Kahn & Cameli, 2012). When both neurological thresholds and self-regulation intersect, four fundamental patterns of sensory processing emerge—first, sensation seeking, which is a result of high thresholds and an active self-regulation strategy. Individuals who score highly for sensation seeking tend to seek and enjoy sensation across modalities. Second, sensation avoiding, which includes low thresholds and an active self-regulation strategy as sensory information may bother individuals who score highly on this. Third, sensory sensitivity, which includes low thresholds and a passive self-regulation strategy. Sensitive people may detect and notice sensory information and events more. Fourth, low registration, which represents a high threshold and a passive self-regulation strategy. People who score highly on this tend to miss or take longer to respond to stimuli that others notice. It is important to note that no individual has only one pattern of sensory processing, but differing levels of processing within each of the four patterns (Dunn, 2007). These quadrants and how they may interact with one another are presented in Figure 1.1 below.

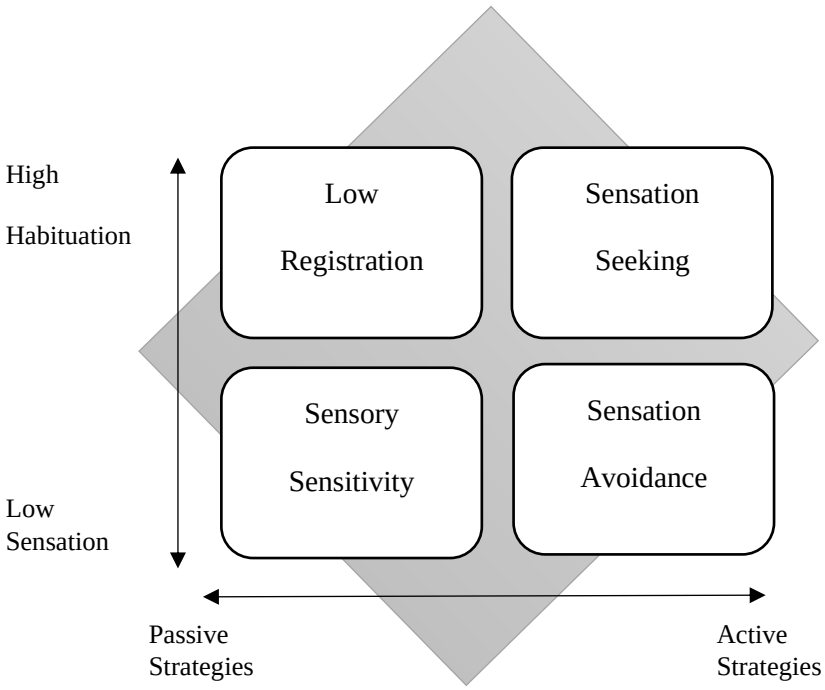


Figure 1. *Graphic Representation of Dunn and Westman's (1997) Model of Sensory Processing*

Based on extensive research, patterns of sensory processing have been found to occur in each age group, from infancy to older adulthood (Brown, Tollefson, Dunn, Cromwell, & Filion, 2001; McIntosh, Miller, Shyu, & Hagerman, 1999; McIntosh, Miller, Shyu, & Dunn, 1999), and people with specific disabilities or mental health diagnoses may have a more intense pattern of sensory processing, compared to people without. This can include people with autism (Kientz & Dunn, 2002), Asperger's syndrome (Dunn, Myles, & Orr, 1997), Attention Deficit Hyperactivity Disorder (ADHD) (Dunn & Bennett, 2002) Schizophrenia (Brown, Cromwell, Filion, Dunn, & Tollefson, 2002) and developmental and learning disabilities (Dunn & Westman, 1997; Ermer & Dunn, 1998). Anxiety disorders and sensory over-responsivity are also believed to be associated with one another (Green et al., 2012). More specifically, this association is believed to occur by (i) sensory over-responsivity causing increased anxiety, (ii) anxiety leading to increased sensory responsivity or (iii) sensory over-

responsivity and anxiety are causally unrelated. However, they may become associated with one another through diagnostic overlap or common risk factors (Green and Ben-Sasson, 2010). Finally, literature has shown that sensory processing sensitivity is also associated with harm avoidance (Hoffman and Bitran, 2007) which has been defined as being overly cautious, fearful and passive in events that do not worry other people (Cloninger et al., 1994). Harm and threat avoidance of negative emotions is known to decrease symptom improvement for a range of psychopathologies including depression (Brody et al., 2000) and generalised anxiety disorder (Allgulander et al., 1998). Therefore, considering the role of anxiety and depression when examining the associations between sensory processing and emotions such as self-disgust, is vitally important.

Zucker et al. (2013) aimed to examine the nature of disturbance in body experiences in those who have AN. The relationship between subjective reports of sensitivity and avoidance of sensory experience, body image and temperament were explored in women with a current diagnosis of AN (*n*=20), women with a prior history of AN who were now weight restored (*n*=15) and healthy controls with no history of disordered eating (*n*=24). Using the Sensory Profile (Dunn, 1999), this study established that higher sensory sensitivity and attempts to avoid sensory experiences were significantly higher in women with a current diagnosis of AN and women with a history of AN, compared to healthy controls. This included a higher sensitivity to taste, touch and vision and increased attempts to avoid sensory experiences, compared to healthy controls (Zucker et al., 2013). While this study provides novel data on the relationship between sensory processing and avoidance in those with AN and suggests that there is no difference according to recovery status, the small sample size and inclusion of weight restored (rather than fully recovered) participants limits the generalisability of the findings. In line with this, more research is needed to examine sensory processing across multiple eating disorders to identify whether those with different types of eating disorders have different sensory profiles, which in turn may impact on their eating behaviour.

Other research shows that those with AN appear to be less able to identify sensations that are related to satiety and hunger (Fassino, Piero, Gramaglia, & Abbate-Daga, 2004; Matsumoto et al., 2006; Pollatos

et al., 2008) and are less able to recognise stress symptoms within their own body, such as increased heart rate (Zonnevylle-Bender et al., 2005). Further, Zopf et al. (2016) found that multisensory body location perception (i.e. visual-proprioceptive hand location and visual-tactile touch synchrony) is different in those with AN compared to healthy controls. This study aimed to examine the relationship between explicit body perception measures and eating disorder psychopathology measures (including self-disgust) in those with AN (*n*=23) and healthy controls (*n*=23) (Zopf et al., 2016). Using the Rubber Hand Illusion Task (Botvinick, 2004), hand and body perception were measured in conjunction with disordered eating behaviour, self-disgust, anxiety, depression and body dissatisfaction. Hand perception was found to be reduced in those with AN. No associations were found between this and measures of disgust and eating psychopathology. However, the validity of these findings can be questioned because of the small sample sizes used in their study and because the specific subscales within the self-disgust questionnaire were not utilised to examine the different constructs of self-disgust. Therefore, it can be argued that more research is needed using larger samples to examine the relationship between sensory processing, self-disgust and disordered eating behaviour.

More recent studies suggest that AN may be a result of a combination of specific multisensory processing deficits and how bodily experiences are perceived and integrated. Riva and Gaudio (2018) put forward a framework based around the Allocentric Lock Hypothesis (Gaudio and Riva, 2013; Riva, 2016; Riva and Gaudio, 2012; Riva et al., 2013), which suggests two possible impairments in AN levels of sensory processing. More specifically they are (1) a deficit incorrectly linking interoceptive bodily signals to their either pleasant or aversive consequences, and (2) an impairment in updating the body's memory system with new contents from perception driven or sensory inputs. With this in mind, River & Gaudio argue that those with AN may be locked in a negative memory loop that their bodies are unable to update. Even after significant weight loss occurs, a person with AN may still experience deficits in recognising and understand interoceptive bodily signals. From this, it can be argued that more research is needed focusing on body awareness and the impact this may have on disordered eating behaviour.

1.4 DEFINING SELF-DISGUST: DISCRIMINATING BETWEEN EXTERNALLY AND INWARDLY DRIVEN DISGUST

Disgust is considered to be a fundamental and universal emotion (Darwin, 1965; Ekman, 1992), which is characterised by a feeling of revulsion or strong disapproval aroused by something unpleasant or offensive and results in distinctive facial, behavioural and physiological responses (Rozin et al., 1999). Originating as a mechanism for disease avoidance, which motivates a person to distance themselves from an object of disgust (Curtis, Aunger & Rabie, 2004; Oaten, Stevenson & Case, 2009), externally driven disgust can be explained by many broad and multifaceted elicitors with a diverse range of response patterns (Powell, Simpson & Overton, 2014; Simpson et al., 2006). Core disgust elicitors are known to be of animal origin and include certain body products, such as vomit, faeces and saliva; such elicitors are universal across cultures (Angyal, 1941; Haidt, Rozin, McCauley, & Imada, 1994). socio-moral disgust appears to occur when social or moral boundaries are violated and centres on violations of the autonomy and dignity of other people (Rozin, Haidt, & McCauley, 1999). Research has shown that several socio-moral violations are linked with core disgust (e.g. body mutilation), but they also appear to have a separate element of their own; disgust has been reported when participants were shown acts of racism, betrayal and disloyalty (Rozin et al., 1999). Understandably, these kinds of disgust reactions appear to differ across cultures (Haidt et al., 1994).

Although once considered to be the 'forgotten emotion of psychiatry' (Phillips et al., 1998), subsequent literature has found that disgust plays a significant role within several psychopathologies. These include depression (Overton et al., 2008), anxiety (Mayer et al., 2010), and eating disorders (Davey et al., 1998). The emotion itself appears to be interlinked with many other emotions, including anger, which is suggested to contribute to the expression of self-disgust (Fox & Power, 2009).

The idea that disgust can be directed towards the self has empirical origins within clinical psychology. It has been described as a "discrete, self-conscious emotion involving extreme experiences of loathing and abhorrence at the experienced self, the body in general or particular body parts and one's actions; especially those that violate the desired self" (Moncrieff- Boyd & Nunn, 2014, p.8). Self-disgust is argued to represent a response to violations of sociocultural expectations of the self and can result in

the subsequent disownment of one's body and behaviours (Moncrieff-Boyd & Nunn, 2014). This enduring self-disgust is suggested to be a by-product or 'side effect' of the adaptive disgust system. As with many adaptive human emotions, the evolved function of the disgust response has the potential for dysfunction (Power & Dalgleish, 2015; Powell, Overton & Simpson, 2015). Dysfunctional disgust reactions towards the self or external stimuli may occur for the following three reasons. First, a person may experience too little or too much disgust in response to a typical disgust eliciting stimulus within their environment (Haidt, Mccauley & Rozin, 1994). Second, a person may find a disgust experience particularly aversive and evaluate this situation over negatively (van Overveld et al., 2006). Finally, a disgust reaction may be learned and generalised to stimuli, which are not considered functional or adaptive to the person concerned (Powell, Simpson & Overton, 2014). As part of the disease-avoidance mechanism, our disgust system is fine-tuned to make more false alarms (i.e. type one errors) than misses (i.e. type two errors) (Tyber et al., 2013). Therefore, specific associations, generalisations and benign attributes that appear to share the features of abhorrent stimuli can also be disgust-inducing.

To date, research surrounding disgust has focused heavily on its role within disease avoidance. However, more recently there is an emerging line of enquiry showing that it can be directed towards oneself (Powell, Overton & Simpson, 2015) and it is suggested that focusing on self-directed disgust may be a more appropriate focus when understanding the emotion within psychopathology (Muris et al., 2000; Schienle et al., 2003). If a disgust reaction is orientated towards an attribute of the self that makes a significant contribution to an individual's enduring self-concept and is perceived as relatively consistent, uncleansable or challenging to alter (e.g. body weight), then the prolonged or repeated nature of that disgust response is hypothesised to be maladaptive (Powell et al., 2013). This enduring self-disgust is suggested to be a by-product or 'side effect' of the adaptive disgust system. In line with this, self-disgust can now be quantified into different subcategories as the Self-Disgust Scale (Overton et al., 2008) focuses on disgust towards enduring aspects of the self and disgust towards the way an individual behaves.

It has been argued that the experience of shame and self-disgust may be similar, particularly within those who are suffering from an eating disorder (Fox et al., 2012). They are both emotions that involve avoidance and feelings of pushing away or social rejection (Chapman et al., 2009) and often result in a person withdrawing quickly from aversive situations (Powell, Overton & Simpson, 2015). However, when examining the two emotions further, self-disgust is suggested to differ from other negative emotions, such as shame, guilt and self-loathing, because of the unique feelings of revulsion experienced when interacting with something perceived to be disgusting (Powell, Overton & Simpson, 2015). Although the two emotions may occur alongside one another, they appear to have different cognitive-affective content, with shame being characterised by feelings of hierarchical submission and diminished social rank (Gilbert, 2009; Powell, Overton & Simpson, 2015). Therefore, the individual constructs of self-disgust and how they affect eating behaviour warrant further investigation as a separate entity away from other negative emotions, such as shame. Over two decades of clinical research have now implicated maladaptive disgust responses within a range of mental health problems (Olatunji & McKay, 2007; Olatunji & Sawchuk, 2005), and therefore disgust appears to now be a well-established emotional response that is susceptible to maladaptive change (Power & Dalgleish, 2016).

1.5 ADAPTIVE DISGUST RESPONSES

The literature suggests that we are predisposed to acquire adaptive disgust reactions to a core set of stimuli (Curtis & Biran, 2001). Disgust elicitors include a range of physically undesirable or socially unacceptable stimuli (such as decaying or spoiled organic material, individual animals and their secretions, sociomoral violations or immoral character traits) (Rozin, Haidt & McCauley, 1999). This type of evolutionary adaptive response is described to be flexible, shaped around our sociocultural learning and it is believed that the disgust response is an "acquired emotional gauge" of what is and is not acceptable within a person's social and cultural surroundings (Power & Dalgleish, 2016). Therefore, a functional disgust response is not only believed to contribute to our biological survival but also a person's social success.

Similar to other adaptive emotions, disgust also has the potential to become dysfunctional (Power & Dalgleish, 2016). This may occur by someone having a heightened or lowered propensity to experiencing too much or too little disgust, which in turn, is known to be associated with several anxiety disorders and poor regulation of food consumption (Haidt, McCauley & Rozin, 1994; Olatunji & Mckay, 2007; Houben & Havermans, 2012). Someone may also have a heightened sensitivity to experiencing disgust and in turn, experience this emotion intensely and evaluate it as distressing (van Overveld et al., 2006). Finally, disgust reactions can also be learned or acquired to certain stimuli, which are not deemed to be adaptive (Powell, Simpson & Overton, 2013) and it is argued that this can include certain aspects or features of the self (Power & Dalgleish, 2016). Powell et al. (2014) suggest that social comparison and internalising other people's reactions and criticisms are contributing factors to the development of self-disgust. In comparison to adaptive disgust responses, the development of self-directed disgust is dependent on having self-awareness and a symbolic representation of oneself. This is believed to be true for other more complex emotions such as shame, embarrassment and guilt (Power and Dalgleish, 2016; Tracy and Robins, 2004).

Dysfunctional self-disgust has been theorised to be "a maladaptive and persistent, self-focused or internalisation of the otherwise adaptive disgust response" (Powell, Overton & Simpson, 2015, p.4). The development of self-directed disgust appears to be facilitated by a person's evolved adaptive disgust system combined with a complex human self-representation, whereby a person has acquired maladaptive disgust reactions towards themselves (i.e. parts of their body or behaviour and physically or socially repugnant). Interestingly, not all self-direct disgust responses are believed to be dysfunctional. For example, experiencing a disgust reaction if a part of the self becomes physically dirtied or contaminated could be functional (Curtis, Danquah & Aunger, 2009) or if the parts of the self considered to be disgusting are not deemed essential to one's self-image.

The factors that contribute to the emergence of self-disgust are likely to involve a combination of individual characteristics, a person's sociocultural environment and learning/rearing experiences from childhood (Power & Dalgleish, 2016). Furthermore, it is suggested that feelings of disgust directed

towards the self may begin to occur in childhood, as this time corresponds with stronger sociocultural influences; this idea has been supported by preliminary qualitative data (Power & Dalgleish, 2016; Powell, Overton et al., 2014). However, Powell et al. (2015) suggest that a dysfunctional self-disgust response may occur at any age if a specific change occurs within the self (e.g., weight gain, trauma or psychological distress). Self-disgust has also been found to be associated with trait propensity to externally elicited disgust, suggesting that having an underlying tendency to experience disgust may act as an antecedent to self-directed disgust (Overton et al., 2008). Finally, it is argued that disgust propensity must be combined with other precipitants such as individual characteristics and learning history to produce self-disgust (Powell et al., 2015).

An increased propensity to experiencing disgust may not be the only factor that contributes to the development of self-disgust. Evidence has shown that social learning experiences and childhood trauma (Sanders & Becker-Lausen, 1995) are associated with self-disgust. These types of experiences are likely to be affected by biases in the way information is appraised or perceived, suggesting that self-disgust is a complex schematic construct that has the potential to be enduring (Powell et al., 2015; Izard, 2007, 2009). An emotion schema is believed to form throughout childhood through learned associations and the combination of appraisals, perception, emotion and higher cognition (Izard, 2007). A combination of underlying feelings with cognitive processes is suggested to contribute to the perpetual duration of a schema which can have a continual influence on actions. In-line with this, an emotion schema is believed to be activated by a person's thoughts, memories, cognitive processes such as appraisals and environmental triggers (Izard, 2007, 2009).

Powell et al. (2015) were the first to provide a theoretical explanation for the maladaptive psychological phenomena of self-disgust, suggesting that it is an emotion schema. It was proposed that this emotion schema is formed by the interaction between disgust-based feelings and cognitive components, focusing on features of the self. It is postulated that cognitive higher-order content is involved in a lasting appraisal of the self as repulsive and can influence how further information is processed. The experience of self-disgust is not described as a constant, conscious emotion but rather

something that can be activated, resulting in a range of negative thoughts and beliefs. The interaction between state and trait cognitive-affective elements is believed to involve similar cognitive, physiological and behavioural responses to that of the primary emotion of disgust (Olatunji & Sawchuk, 2005). If this disgust appraisal remains intact with the eliciting stimuli, then state disgust responses are thought to become dysfunctional because of the repeated exposure from the original elicitor. Interestingly, it is also suggested that this type of reaction can expand from the original elicitor to include learned associations, memories and generalisations; this is believed to result in longer-lasting disgust responses to the self (Powell et al., 2015). Recent evidence has demonstrated that a disgust-based reaction towards aspects of self can be enduring (Powell, Overton et al., 2008) and is stable over 12 months (Powell, Simpson et al., (2013).

Emotion schemas are suggested to lead to psychopathology, and there is an emerging body of literature that self-disgust may be a characteristic feature of a range of mental health problems (Izard, 2007, 2009; Davey, 2011; Olatunji & McKay 2007). The mental health problems are thought to include (but are not limited to) depression (Overton et al., 2008; Simpson et al., 2010), anxiety (Amir et al., 2010) and eating disorders (Espeset et al., 2012). With this in mind, the subsequent subsections will focus on critically evaluating the literature within these areas to understand the field's current position on how self-disgust may impact on such mental health conditions.

1.6 DISGUST AND PSYCHOPATHOLOGY

DISGUST AND DEPRESSION

Depression, or major depressive disorder, is a common and severe mental health condition. It is characterised by persistent feelings of sadness, hopelessness and diminished interest in activities that were once enjoyed (DSM-V, 2013). To receive a diagnosis of clinical depression a person must also demonstrate symptoms of fatigue, diminished ability to think or concentrate, increased/decreased appetite and recurrent thoughts of death or suicidal ideation (DSM-V, 2013). Depression and mood disorders are known to be associated with disordered eating behaviour, with significant evidence

suggesting that depression may precede as well as follow the onset of disordered eating behaviour (Bulik, 2002; Godard et al., 2015). Globally, evidence demonstrates that those with an eating disorder experience depression more frequently than healthy controls (Godard et al., 2015). Statistics on lifetime prevalence of mood disorders within those who have AN or BN vary (Godart et al., 2007), with estimates ranging from 31% (Laessle et al., 1987) to 88.9% (Fornari et al., 1992) in those with a diagnosis of AN and 4% (Hatsukami et al., 1984) to 90% (Hudson et al., 1988) in those with BN (Godard et al., 2015). Given the high rates of depression within eating disorders and the impact it has on the development and maintenance of disordered eating behaviour, considering low mood (and the negative emotions and cognitions associated with it) is vitally important when examining the relationship between self-disgust and disordered eating behaviour.

Depression has a complex aetiology, with biological, genetic, social and psychological components known to contribute to the development of the disorder (Kendler & Prescott, 1999; Brown & Harris, 1978; Beck, 1967; Power & Dalgleish, 2016). Within psychology, Beck's diathesis-stress model (1967/1976) has been most dominant in explaining the development and maintenance of the Disorder. In brief, this model suggests that individuals who possess negative self-schema are likely to manifest these into dysfunctional attitudes and beliefs, and as a result of this, have a heightened vulnerability to depression. Depression itself is likely to be triggered by an adverse life event or stressor, which the individual interprets with negatively biased views (Beck, 1967; Alloy et al., 2008). Although influential, more recent research is now considering emotional factors within the aetiology and maintenance of depression and other mental health disorders, which includes the prevalence and understanding of disgust (Power & Dalgleish, 2016). More specifically, Whelton and Greenberg (2005) argue the importance of early experiences and the role they play within the development of dysfunctional cognition and self-criticism. Furthermore, it is suggested that self-disgust leads to low mood or experiences of depression and this maladaptive reaction may shape a child's emotion schema resulting in feelings of failure and high self-criticism of the future self (Greenberg, Watson, & Goldman, 1998; Whelton & Greenberg 2005).

The current evidence assessing the role of externally elicited disgust within depression appears to be inconsistent as several studies have shown contradictory findings on whether self-reported disgust, external elicitors and depressive symptoms are associated with one another. In line with this, other factors such as harm avoidance appear to contribute to this paradigm, making it difficult to determine whether externally elicited disgust may be associated with depression and other psychopathologies. For example, Olatunjui et al. (2009) examined the relationship between disgust sensitivity and several psychopathologies, including depression, within a non-clinical population. Using the Disgust Scale-2 (Haidt et al., 2004), significant associations between depression and disgust sensitivity were found, and this relationship was partially mediated by harm avoidance. Therefore, this suggests that factors such as avoiding punishment and behavioural inhibition (which contribute to an expression of harm avoidance) may account for this association, rather than disgust alone. However, further clarification of these findings is needed within clinical populations.

The relationship between disgust, depression and other emotions such as anger has also been investigated in those with disordered eating behaviour. Fox and Harrison (2008) examined whether disgust, anger and depression were associated with one another by collecting questionnaire data before and after an anger-inducing experimental task given to participants (n=25) who had higher levels of eating psychopathology. Using the Disgust Sensitivity Scale to measure disgust (Haidt, McCauley, & Rozin, 1994), results showed that as anger increased, so did disgust, and depression was found to contribute to this increase. Those with eating pathology were less likely to express their anger within the experimental task, despite reporting high levels of it within the questionnaires. From this, it was argued that increased disgust and the inhibition of anger can lead to the development of eating disorder symptoms, but may also play a role in the development of co-morbid depression. However, further evidence using larger sample sizes is needed to confirm these findings. Finally, using the Questionnaire for the Assessment of Disgust Sensitivity (QADS, Schienle et al., 2002) Schienle & Shafer (2003) found no heightened reaction to externally elicited disgust stimuli within clinically depressed groups.

In light of the inconsistent evidence noted above, it seems fitting to emphasise Power and Dalgleish's (1997) argument that self-disgust may be more related to depression than disgust per se (Alanzi et al., 2015). Overton et al. (2008) aimed to investigate whether self-disgust acted as a negative emotional mediator between dysfunctional cognitions and depressive symptoms. Using a novel self-report scale (The Self-Disgust Scale [SDS], Overton et al., 2008), data from 111 undergraduate students was used to analyse this relationship. Results showed that self-disgust was significantly and positively correlated with two measures of depression and provided evidence for a partial mediation; dysfunctional cognitions may lead to self-disgust, which in turn is associated with depression. This evidence has been extended by Simpson et al. (2010) by demonstrating the roles of both self-disgust and self-esteem in the mediating pathway from dysfunctional thoughts to depression.

More recent research has aimed to examine the relationship between self-disgust, depression and dysfunctional thoughts longitudinally. Powell et al. (2013) collected self-report data on self-disgust (SDS; Overton, 2008), dysfunctional cognitions and depressive symptoms within a non-clinical sample with follow-ups conducted at six and twelve months. The main findings showed that depressive symptoms were significantly predicted by trait self-disgust over time, but this relationship was not found to be significant when reversed. However, the mediating role of self-disgust was too simplistic, as dysfunctional thoughts and self-disgust interacted with one another over time. Therefore, this suggests that disgust directed towards the physical aspects of the self, rather than one's behaviour, was more critical when considering the temporal predictors of depressive symptoms. These findings also imply that self-disgust may be an antecedent of a depressive episode and support the notion that self-disgust may act as an emotional schematic construct stemming from learned associations throughout development (Izard, 2007).

In recent qualitative research, Powell et al. (2014) aimed to provide a further understanding of the experience of self-disgust within female participants with clinical depression. Semi-structured interviews showed emergent themes around how self-disgust was perceived as a visceral and consuming personal experience. The origins of self-disgust were described as stemming from

experiences within the participants' early lives, such as critical others, negative comparisons and internalisation of those reactions within themselves. The consequences of self-disgust were described as strong urges to cleanse the self and perceiving the self as repulsive and undesirable. The final theme demonstrated how self-disgust was often linked with other emotional states and separating states from one another appeared to be difficult for one participant in particular: "I mean, I think if they are separate, I think I feel all of them; dislike, hate, disgust. Um, but it is hard to extract one from the other because I think it all goes kind of hand-in-hand" (Powell et al., 2014 p6). This, therefore, demonstrates that self-disgust is something that those with depression experience and that it can result in a range of negative and emotional consequences and as links between eating psychopathology and depression have already been established (Power & Dalgleish, 1997); the role of self-disgust within this paradigm warrants further investigation.

Interestingly, some literature has begun to examine the predictive role of self-disgust within the development of depression in the context of physical health, specifically in people who have a cancer diagnosis. Using a cross-sectional examination, Powell et al. (2016) found that self-disgust mediated the relationship between depression symptomology and disgust-related cancer side effects in patients who scored highly in measures of disgust sensitivity. Disgust directed towards the physical self and one's behaviour showed significant direct increases in depression. In line with this, Azlan et al. (2017) found that disgust directed towards the physical self was associated with symptoms of depression in people with a cancer diagnosis. With these findings in mind, self-disgust appears to be a contributor and maintaining factor within the aetiology of mood disorders and is a construct that may affect multiple health and psychological conditions. Self-disgust appears to be something that occurs when abnormal changes happen in the body (such as the development of cancer) and could be a result of perceived risk or harm from one's own body. However, maladaptive self-disgust responses (i.e. responses in the absence of actual threat) are known to affect a range of psychopathologies including depression and eating disorders (Overton et al., 2008; Power & Dalgleish, 1997). More research is needed to understand the impact this can have on the development and maintenance of such disorders

In sum, based on the majority of the evidence presented above, self- disgust has been found to play a role in depression and is suggested to act as an antecedent to a depressive experience (Overton et al., 2008). Furthermore, self-disgust is thought to play a fundamental role in the experience of depression itself (Power & Dalglish, 2007). Qualitative research demonstrates that self-disgust can be particularly visceral for the person concerned and the emotions that occur as a result of this are still not fully understood (Powell et al., 2014). Interestingly, self-disgust may persist in the absence of a depressive episode, which suggests that the feelings of disgust may exist as a stable vulnerability factor for particular instances of depression and depressive relapse (Powell et al., 2013; Power, 1999). Additionally, self-disgust directed towards aspects of the physical self (rather than behaviour) have been found to be predictors of depressive symptoms (Powell et al., 2013). Therefore, the suggestion that self-disgust is implicated and integrated into a range of mental health problems, particularly eating disorders (Fox and 2009), is an avenue for exploration and may suggest a shared emotional component between the two psychopathologies (Powell, Overton & Simpson, 2013).

DISGUST AND ANXIETY

Generalised Anxiety Disorder (GAD) is a long-term mental health condition that is characterised by excessive anxiety and worry relating to several events or activities in a person's life (DSM-V). Some people experiencing this type of anxiety will find it difficult to control and are likely also to experience symptoms of restlessness, fatigue, irritability, sleep disturbance and difficulty concentrating. Experiencing anxiety over a more extended period is known to cause significant distress and social impairment and can impact on critical areas of day-to-day functioning (DSM-V, 2013). Anxiety can be experienced in a range of other mental health conditions including obsessive-compulsive disorder, panic disorder, post-traumatic stress disorder and social phobia disorder. When considering the aetiology of anxiety, evidence suggests that multiple factors combined can result in increased anxiety levels and in-turn could progress into a more chronic disorder such as those mentioned above (APA, 2013). These factors include genetic predispositions, life experiences, brain chemistry and family background (DSM-V, 2013).

Those who experience anxiety are more likely to show increased activity when responding to emotional stimuli within the amygdala (Nolen-Hoeksema, 2013). In line with this, it is also argued that anxiety can lead to overactivity within the limbic system which in turn may increase the likely-hood of future experiences of anxiety (Harris et al., 1998; Fricchione, 2011). Other cognitive and psychological factors have also been associated with aetiology and maintenance of anxiety. These include poor problem solving, avoidance, negative thoughts and pessimistic outcome expectancy (APA, 2013). Finally, lifestyle or social risk factors for anxiety are thought to include a history of trauma or specific traumatic events, parental style and lack of emotional validation and socio-economical factors such poverty and unemployment (O'Connel & Warner, 2009).

Over the past decade, there has been a growing interest in the role of disgust within anxious psychopathology (Woody & Teachman, 2000). Both disgust and disgust-sensitivity appear to have wider implication for anxiety problems. It is suggested that the more sensitive to disgust a person is, the more likely they are to engage in avoidance reactions (McNally, 2002). Contamination concerns and avoidance as a result of this are thought to be central to the model of disease avoidance (Oaten et al., 2009). It is suggested that a person who is more sensitive to disgust may be unable to rationally process potential contaminates within our environment and, therefore, attach a more catastrophising meaning to the experiences of disgust (Mckay & Presti, 2015; McNally, 2002). The disease avoidance model suggests that disgust may develop as a form of protection from perceived disease or harm. Rozin & Fallon (1987) assert that disgust is related to three motivations for avoidance. These include a sensory-affective attribution of physical experience to an emotional state, anticipation of harm following a particular stimulus, and finally, ideation of disgust, which relates to the cultural origins of stimuli.

Avoidance because of disgust and the perceived fear of contamination is particularly pertinent in the explanation of phobias, such as fear of insects and animals (Davey & Marzillier, 2009). For example, individuals have been shown to endorse the emotion disgust within their reaction to spiders (de Jong & Muris, 2002) and high disgust sensitivity is associated to small animal phobias (Davey, 1994; Mulkens

et al., 1996). Oaten et al. (2009) found strong support for the correspondence between disgust elicitors and disease predicting cues and for the ability of cross-contamination between disgust-evoking cues to other objects (i.e. the spreading of disgust). Finally, feelings of disgust are elicited in participants by association (rather than the presence of perceived disgusting object itself) (van Overveld et al., 2006), suggesting that once a stimulus is perceived to be contaminated, it will always remain contaminated (Rozin & Fallon, 1987).

The role of disgust within obsessive-compulsive disorder (OCD) has also been established, with feelings of disgust and dirtiness shown to promote ritualistic cleaning behaviours, even in the absence of visible dirt (Rachman, 1994). Contact with objects perceived to be contaminated are appraised as disgusting, and this is thought to drive feelings of self-disgust within those affected by OCD (Rachman, 1994). Furthermore, moderate associations have been found between disgust and OCD symptoms in those that are contamination based or have a religious focus and neuroimaging findings confirm associations between contamination focused OCD and activity within the insula cortex (Berle & Phillips, 2006). More recently, research has indicated that self-disgust may impact those with OCD more compared to post-traumatic stress disorder (PTSD) after a physical or sexual assault. However, more research is needed to quantify this (Badour et al., 2012). Women with borderline personality disorder (BPD) have also been found to report more disgust sensitivity than controls. Concordantly, those with both BPD and PTSD did not differ significantly in self-reporting disgust levels, which suggests that disgust appears to be elevated at both an implicit and explicit level in trauma-related disorders (Rusch et al., 2011). The act of self-harm is also suggested to be associated with feelings of disgust, with integral (i.e. disgust that is elicited by the perceived self) self-disgust motivating the act of self-harm and moral self-disgust (i.e. behaviour that contradicts societal norms and values) affecting the person after the event (Benson, Boden & Vitali, 2015).

The comorbidity between anxiety and eating disorders has been well established (Kaye et al., 2013/2014). Because of the link between disgust, food choice and rejection (which appear to be critical factors of eating psychopathology), it can be argued that these three components may be

related (Martins & Pliner, 2005; Mayer, Muris, Bos, & Suijkerbuijk, 2008). Davey and Chapman (2009) aimed to assess the relationship between disgust sensitivity and eating psychopathology while controlling for trait anxiety. Using the Disgust Propensity and Sensitivity Scale-Revised (DPSS-R) (van Overveld, de Jong, Peters, Cavanagh, & Davey, 2006), 100 female participants with no history of an ED completed measures of disgust, eating disorder symptomology and anxiety. Results revealed that disgust did not significantly predict any variance within eating symptomology after controlling for trait anxiety or anxiety sensitivity. This suggests that disgust sensitivity and propensity may not act as predictors for eating behaviour that is independent of anxiety. However, given the nature of the disgust-sensitivity and anxiety measures, it could be argued that using a measure of disgust focused on the self (i.e. self-disgust) may be a more appropriate focus when examining this relationship within psychopathology.

Following on from this, Mayer et al. (2008) examined the relationship between disgust and eating psychopathology in a sample of female undergraduate students. Participants completed measures on disgust sensitivity using the Disgust Sensitivity Questionnaire (DSQ) (Rozin, Fallon, & Mandell, 1984), and eating disorder symptomology as well as completing an experimental task, whereby bad smelling odours induced feelings of disgust. Results demonstrated that induced feelings of disgust did not elevate levels of disordered eating symptoms as no significant associations were found between disgust sensitivity and external eating behaviour. These findings support previous evidence which suggests that disgust is not associated with disordered eating behaviour (Murris et al., 2000; Mayer et al., 2008). However, as a non-clinical sample was used, these findings cannot be generalised to a clinical population. In-line with this, the variety of measures used to measure disgust could explain some of the variability within the findings. With this in mind, more research is needed that focuses on specific measures of self-disgust within disordered eating behaviour and examining the role anxiety may play within this.

In sum, the role of disgust and disgust sensitivity within anxiety psychopathologies has been well established across several mental health disorders, including OCD (Muris, 2006), PTSD (Badour et al.,

2008) and BPD and appears to be underpinned theoretically by the disease avoidance model. Concerning eating disorders, the role of anxiety within externally elicited disgust is yet to be established, as limited associations between disgust sensitivity and eating psychopathology have been found when controlling for anxiety (Davey & Chapman, 2009; Mayer et al., 2008). More evidence is needed that uses larger, clinical samples as well as evidence that focuses on self-directed disgust. Eating disorders may manifest from a more general level of self-oriented disgust of a more global psychological disturbance consisting of many emotional components (McKay & Lo Presti, 2015).

DISGUST VS SELF-DISGUST AND EATING BEHAVIOURS

To date, there is limited research investigating the role of self-disgust within eating psychopathology and literature has focused heavily on externally driven disgust (e.g. food, blood, insects) (Power & Dagleish, 2007). Davey, Buckland, Tantow and Dallos (1998) were one of the first to investigate the relationship between disgust and eating disorders. Using the DSQ (Rozin, Fallon & Mandell, 1984) and standardised measures of eating psychopathology among a student population, significant positive associations between levels of disgust and measures were found after controlling for anxiety and depression, but this was only present within a female population. A later study was conducted within a small group of participants (n=10) who were diagnosed with either AN or BN (Davey et al., 1998). Compared to non-clinical participants, those with an eating disorder had significantly higher scores of disgust; however, no relationship was found between eating disorder symptoms and disgust sensitivity within the clinical groups. Therefore, this suggests that measures of disordered eating behaviour may not be associated with disgust sensitivity and propensity. Despite this, participants with an eating disorder diagnosis have demonstrated more disgust towards body products, food, sexual practices and death, compared to non-clinical controls (Troop et al., 2000; Troop et al., 2002). People with an eating disorder also appear to be more disgusted by high-calorie foods and overweight body shapes (Harvey, 2002). Based on these findings, the relationship between disgust and eating disorders is unclear, and it could be argued that the smaller sample sizes and range of questionnaires used to measure disgust may account for the variance within this relationship.

In contrast to the above findings, Muris et al. (2000) examined the relationship between disgust sensitivity and a range of psychopathologies including phobias, OCD symptoms, depression and ED within a non-clinical sample. Using the Disgust Sensitivity Questionnaire (Rozin, Fallon, & Mandell, 1984) results showed that disgust was only related to specific phobias and OCD symptoms. In contrast to previous literature, disgust was not found to be associated with disordered eating behaviours or scores of depression. However, later evidence has shown that disgust sensitivity was positively associated with symptoms of specific phobias, OCD and eating problems after accounting for neuroticism within a sample of non-clinical children aged 9–13 years (Muris et al., 2008). More recently, Aharoni and Hertz (2011), who focused specifically on participants with AN and used a slightly larger sample size (*n*=62), found that those with AN scored consistently higher on all domains of disgust sensitivity compared to a non-clinical sample (*n*=62). From this, it has been argued that the lack of associations between measures of eating disorder and disgust identified above may be a result of methodological shortcomings (e.g. the use of non-clinical groups, sample size), rather than the lack of a relationship (Fox, Grange & Power, 2015).

The role of the maladaptive disgust response within eating disorders, when focusing on externally driven disgust, appears to be unclear. However, more recent research focusing on self-directed disgust appears to be a promising new avenue in explaining the factors that contribute to the development and maintenance of disordered eating. One of the first studies to examine self-disgust across multiple mental health disorders was conducted by Ille and colleagues (2014). In a sample of 112 participants with a diagnosis of either depression, schizophrenia, BPD, spider phobias and eating disorders. Measures of disgust (the Questionnaire for the Assessment of Self-Disgust (QASD; Schienle et al. 2015) and the Brief Symptom Inventory (BSI; Derogatis, 1993) were administered to provide an overview of psychological problems and their intensity. Results showed that compared to the non-clinical group, self-disgust was elevated across all mental health disorders, and those with BPD and eating disorders scored the highest.

In line with this, Moncrieff-Boyd and Nunn (2014) administered a revised version of the SDS (Overton et al., 2008) to 746 university undergraduates and examined self-disgust with scores of eating behaviour using the Eating Disorder Examination Questionnaire (Fairburn, 1994). Results showed a significant positive relationship between levels of self-disgust and the presence of disordered eating behaviour. When using this scale within clinical samples, no significant differences were found between levels of self-disgust in those who had AN(*n*=16), BN (*n*=35) and OSFED (*n*=17). Interestingly, the association between self-disgust and disordered eating behaviour was consistent after controlling for self-esteem (Moncrieff-Boyd et al., 2016). These findings provide support for the distinctiveness of the construct self-disgust and suggest that it may be experienced across the spectrum of eating psychopathology rather than within specific eating disorders.

Qualitative research focusing on 'internal voices' of those with a diagnosis of AN demonstrate a potential influence of self-disgust. Tierney and Fox (2010) asked participants to submit narratives and descriptions to describe their inner anorexic voice and their relationship with it. Thematic analysis showed how participants described their relationship with this voice as challenging and at times difficult to manage, with the voice described as critical and emotionally hurtful. Interestingly this voice did appear to induce self-disgust, but participants reported feeling a sense of loyalty to it and a fear of losing it. These authors argue that this internalisation of negative voices leads to the development of an on-going dialogue with an eating disorder voice, which is thought to continue to direct disgust towards the self (Fox, Federici & Power, 2012; Tierney & Fox, 2010). There are parallels between these findings and those who have linked self-disgust, dysfunctional cognitions and depression (Overton et al., 2008), suggesting that self-disgust may be something that occurs across a range of psychopathologies.

Some literature has begun to examine the mediating role that self-disgust may play within disordered eating behaviour and other variables known to be associated with this condition. Olatunji, Cox and Kim (2015) investigated the relationship between shame, symptoms of OCD, general anxiety and symptoms of BN, and explored whether self-disgust (as measured by the Self-Disgust Scale, Overton

et al., 2008) acted as a mediator between these different types of psychopathology. Self-disgust was found to predict symptoms of BN independently from shame and acted as a mediator between shame and BN. From this, it could be suggested that a negative appraisal of the self in response to experiencing the emotion of shame may lead to increased feelings of self-disgust. This, in turn, may make someone more vulnerable to developing BN and obsessive-compulsive traits. However, more research within clinical samples is needed to verify these findings, and the cross-sectional nature of the data makes it difficult to state definitive relationships between the variables investigated within this study.

Further literature has also found that those with an eating disorder and body dysmorphic symptoms report significantly higher levels of disgust compared to controls in measures of self-disgust (Ille et al., 2014) and when focusing on their bodies (Bornholt et al., 2005; Neziroglu et al., 2010). Furthermore, Chu et al. (2015) have proposed links between self-disgust, disordered eating behaviour and suicide ideation. Within a large non-clinical sample (n=341), risk of suicidal ideation was found to be elevated when disgust was directed towards the self, and positive relationships were found between self-disgust and levels of eating disorder symptomology. Finally, disordered eating behaviours were found to be associated with a higher risk of suicide ideation among individuals with higher levels of self-disgust, after controlling for anxiety and depression (Chu et al., 2015). These findings imply that self-disgust may underpin a more severe and enduring manifestation of disordered eating behaviours and may be one mechanism that contributes to the risk of suicidality among individuals with eating problems. However, similar to previous findings, the use of non-clinical samples dictates that the results should be interpreted with caution and future replication of this study within clinical samples is required to understand further the role of self-disgust with suicide ideation and disordered eating behaviour.

Theoretically, the role of disgust has also been considered with other, more complex and intertwining emotions within eating psychopathology. Fox and Power (2009) developed the SPAARS-ED model based on the Schematic, Propositional, Analogical and Associative Representation System (SPAARS) model of emotion (Power & Dagleish, 2007/2015). This model proposes that the function of an eating

disorder is to avoid painful emotions through behaviours such as restriction, binging or purging. However, this results in negative emotions being redirected internally, manifesting in self-disgust. It is proposed that a person with an eating disorder has three domains of knowledge, which include information about themselves, others and the world.

Regarding themselves to be 'bad' and placing other people within important positions combined with the fear that they will be rejected, may lead to a perception that the world is unsafe or unpredictable (Fox & Power, 2009). Furthermore, Power and Fox argue that disgust may be used within disordered eating behaviour to suppress and 'redirect' the emotion of anger, which, when combined with continued weight loss, leads to a coupling of the two emotions. There is a small amount of evidence to support this suggested "coupling". Fox and colleagues (Fox, 2009; Fox & Harrison, 2008; Fox et al., 2013) were able to demonstrate a significant increase in levels of disgust within a group of participants with a diagnosis of BN after an anger-inducing task. This result was later replicated with a group of participants with a diagnosis of AN (Fox et al., 2013), with participants reporting significantly higher levels of disgust and body size estimates, compared to controls.

Little research has examined ways to manage or alleviate feelings of self-disgust in those who experience it as a symptom within their eating disorder, and to date, assessing or examining self-disgust is not routinely carried out within clinical practice. Palmeira, Pinto-Gouveia and Cunha (2017) looked into possible therapeutic strategies to attenuate the effects of self-disgust and explored the relationship between self-disgust, body/weight concerns and whether self-compassion acted as a mediator between these variables. Using a sample of participants (n=203) who were classified as overweight or obese (as measured by BMI), results showed that self-disgust was positively associated with eating problems and that being able to have a compassionate relationship with oneself was negatively associated with feelings of self-disgust and disordered eating behaviours. These findings are consistent with previous research in suggesting that individuals who experience more self-disgust thoughts and emotions may be more vulnerable to disordered eating behaviour (Moncrieff-Boyd et al., 2016; Esperset et al., 2012) and this, in part, may be mediated by a person's ability to be

compassionate towards themselves. Therefore, looking into emotional and regulatory factors that may help someone to be more compassionate towards themselves and experience self-disgust less is highly pertinent.

1.7 RATIONALE AND RESEARCH QUESTIONS

Research into the role of self-disgust within eating psychopathology is still in its infancy. However, several research studies have begun to demonstrate that self-disgust may be a characteristic of several psychopathologies, including eating disorders (Ille et al., 2014, Overton et al., 2014; Moncrieff-Boyd & Nunn, 2014). Some research has highlighted that self-disgust may act as an enduring mechanism or mediator between negative cognitions/psychological distress and disordered eating behaviour. However, more research is needed, particularly in more extensive clinical samples, to verify to nature of this relationship. To date, the factors that may make someone vulnerable to experiencing more self-disgust and the effect that this can have on maintaining disordered eating behaviour and impacting recovery are unknown.

Additionally, the impact that possible confounding variables, such as emotion regulation, can have on the relationship between self-disgust and disordered eating behaviour is unclear and more longitudinal research is needed to determine the directionality of the associations found previously. Self-disgust appears to be an enduring emotion and has the potential to influence all stages of disordered eating behaviour. With this in mind, the current programme of research employed a mixed-methods approach to address the following questions:

I. Are patterns of sensory processing and self-disgust associated with another within groups of people who suffer from disordered eating behaviour?
II. Are scores of difficulties in emotion regulation associated with disordered eating behaviour and does self-disgust mediate this relationship?
III. What are the longitudinal effects of self-disgust on emotional regulation within groups of people who suffer from disordered eating behaviour?

IV. How do emotions such as self-disgust shape the experiences of recovery from an eating disorder?

1.8 OVERVIEW OF THE THESIS

The next chapter of this thesis provides an overview of the methodological approach and epistemological position within this program of research. Chapter 3 explains how all the quantitative data was collected and documents Study 1. Study 1 was a cross-sectional correlation study examining the relationship between self-disgust, disgust sensitivity, scores of sensory processing, anxiety, depression and anger. The analysis examined whether those with an eating disorder experience higher levels of self-disgust, compared to those with no history of disordered eating, as well as identifying possible predictors for increased levels of self-disgust. Study 2 is reported in Chapter 4, which examined the associations between self-disgust and emotion dysregulation in those who have an eating disorder to identify whether self-disgust mediates the relationship between difficulties in emotion regulation and disordered eating.

Study 3, reported in Chapter 5, employed a longitudinal design, enabling the quantitative assessment of self-disgust and emotional regulation variables at two-time points. Participants were asked to complete the same battery of questionnaires from Studies 1 & 2 twelve months later to examine whether measures of self-disgust, anxiety, depression and emotional regulation could predict eating psychopathology and disordered eating behaviour over time. Finally, Study 4 (Chapter 6) was a qualitative study using data gathered from semi-structured interviews with 12 participants who had taken part in all previous studies. All 12 participants had previously reported having a diagnosis of either anorexia nervosa or bulimia nervosa but were technically now recovered (based on follow up EDE-Q Scores from Study 3). This approach provided individual accounts of recovering from an eating disorder and how self-disgust and emotion regulation may impact on this. Data were analysed and interpreted using Interpretative Phenomenological Analysis (IPA), in a two-stage process. The final discussion and conclusions drawn from the research are reported in Chapter 7.

CHAPTER 2 METHODOLOGY

This research adopted a mixed-methods sequential approach to address the identified research questions. The process of mixed methods research is defined as a procedure for collecting, analysing and integrating both quantitative and qualitative data during a research project, with the overall aim of gaining a better understanding of the identified research problem (Tashakkori & Teddlie, 2010; Creswell, 2005). It is argued that mixed methods research attempts to respect the viewpoints of both quantitative and qualitative data gathering while aiming to seek a workable or pragmatic solution for many research questions and hypotheses (Bryman, 2007). The primary philosophical position of mixed methods research is pragmatism, and this approach is based on the premise that there are many different ways of researching to interpret the world and environment around us and that there is no single viewpoint to explain the multiple realities within our environment (Saunders et al., 2012). Generally speaking, this approach to theory and practice (i.e. knowledge) considers multiple viewpoints and perspectives while always including the standpoints of qualitative and quantitative research (Bryman, 2007). Pragmatism is believed to provide a framework for combining both qualitative and quantitative approaches (Cornish and Gillespie, 2009; Morgan, 2014). Given the drastic differences between assumptions and aims of each approach, pragmatism aims to ask the question "What can we learn from each perspective?" (Eisner, 2003; Willig and Rogers, 2015). Inquiry within a pragmatic approach aims to achieve a richer experience and understanding of certain phenomena through scientific analysis, exploration or a combination of different approaches (Maxcy, 2003). However, if the different aims and assumptions are not acknowledged when mixing the two approaches, those aims are likely to be violated (Yardley and Bishop, 2015).

Using multiple research methods involves more than one research method to determine whether the variability is a result of the phenomenon itself and not quantitative or qualitative methods (Campbell & Fiske, 1959). Furthermore, the process of using multiple methods within research is believed to "enhance our beliefs that the results are valid and not a methodological artefact" (Bouchard, 1976, p. 268). The use of mixed methods within this research programme has allowed the researcher to firstly quantify whether those with an eating disorder experience higher levels of self-disgust than those

without, which is yet to be established within the current literature (Muris et al., 2000; Schienle et al., 2003). Secondly, variables that may make someone more vulnerable to increased self-disgust were also able to be identified, as well as establishing the mediating role of self-disgust within eating psychopathology. Finally, the qualitative enquiry, which was informed by these findings, was able to explore the role of self-disgust when recovering from an eating disorder by focusing on the of twelve participants who had taken part in each stage of data collection. This chapter will discuss the epistemological underpinnings of the quantitative and qualitative approaches, as well as their strengths and weaknesses. The appropriateness of using mixed methods, following a pragmatic framework will be discussed as well as the quantitative versus qualitative debate that continues to divide researchers today (Niglas, 2008; Bryman, 2007).

2.1 QUANTITATIVE RESEARCH

This research employed a simple, sequential mixed-design, with previous investigations informing subsequent or following ones (Teddlie & Tashakkori, 2010). Guided by Morse's (2009, 2014) notions of design for mixed-methods, the investigations reported within this thesis employed a sequential QUAN-qual approach whereby findings from initial quantitative analysis informed the following qualitative study. QUAN is presented in uppercase letters to indicate a higher level of dominance in the overall thesis position compared to the qualitative.

The epistemological approach of positivism guided the quantitative data collection. Founded by Comte (1884) (Delayne, 2003), positivism is a philosophical theory that argues that specific knowledge is based on natural phenomena and interpreted through reason and logic. Positivism advocates that valid knowledge can only be found in theories that are informed by empirical evidence. Within Psychology, this approach was influential in the development of operationism and emphasised the importance of observable facts in the valid accumulation of knowledge (Koch, 1992). Quantitative research is widely used within social sciences and particularly within clinical psychology research (Punch, 1998; Barker et al., 2015). Quantitative methods involve those that use numbers, and it is

argued that this enables a higher precision of measurement, as there are now well-developed theories of reliability and validity to assess errors across multiple measures of quantitative data collection (Koch, 1992). Quantitative methods are believed to fit well with deductive approaches, therefore allowing researchers to suggest hypothesised relationships between variables. Data of this kind can also be generalised beyond the used sample to a broader population, thus allowing for a better understanding and treatment of psychopathology (Barker et al., 2015).

In the current research, psychometrics fundamentally informed the use of questionnaire methods through a cross-sectional study, which resulted in the collection of an extensive, primarily ordinal data set. Questionnaire research aims to describe a particular population, identify specific characteristics of a group or explain how variables are related (Buchannan & Hvizdak, 2009). The use of questionnaires within this research allowed for measures of self-disgust and other emotion variables to be quantified at two-time points. For Studies 1-3, all data were collected online. Within quantitative research, the internet is being increasingly used to recruit participants and collect data (Ramsey et al., 2016). A range of research methods are now used online, with questionnaires and surveys predominately being used in this way (Buchannan & Hvizdak, 2009; Krantz & Williams, 2010; Reips, 2012). Advantages of using this approach include rapid access to large groups of participants, increased flexibility, reduced cost and reduced social desirability (Tuten, 2010; Hewson & Laurent, 2008). The use of online surveys within clinical psychology, and explicitly eating disorders research, has snowballed over the last ten years, with this method being used within individual research projects and national surveys assessing the prevalence and co-morbidities of disordered eating in adults and adolescents (Hudson et al., 2007; Swanson et al., 2011; Udo et al., 2018).

There are several limitations worth noting when using quantitative methods alone. First, quantitative approaches can often ignore concepts of individuality and free will and therefore, may exclude accounts based on lived experience (Cohen et al., 2000). In line with this, the complexity of the human psyche means that the reliability of quantitative psychological investigations that measure or manipulate variables are threatened by numerous confounding factors (Howitt & Cramer, 2005). The

philosophical underpinnings of quantitative approaches (i.e. being scientific, interpretive, and critical) are often overlooked when findings are interpreted, which leads many to suggest that qualitative methods may be more appropriate (Chomsky, 2012; Silverman, 2000). In line with the disadvantages of using quantitative methods alone, some research has reported substantive differences and more errors in studies that utilise the internet for data collection, compared to measures being completed in person. Ramsey et al. (2016) support the use of the internet for sampling purposes and administration but suggest that researchers use extra care when providing instructions to participants.

Similarly, Burchanan (2003) agreed that online tests should be used within clinical research, but researchers should not rely on normative data. Finally, ethical issues associated with online data collection require considerations. The British Psychological Society (2017) suggest four fundamental ethical cornerstones to consider when conducting research online; these include (1) respect for the autonomy, privacy and dignity of individuals and communities, (2) scientific integrity, (3) social responsibility and (4) maximising benefits and minimising harm. Concerns around consent, privacy and confidentiality add new methodological complexities to the data collection process and need to be considered differently, compared to methods that are conducted in laboratory settings (Burchanan and Huizdah, 2009). An outline of how this was considered can be found in Chapters 3,4 and 5.

2.2 QUALITATIVE RESEARCH

The qualitative data collection for this thesis was fundamentally grounded in phenomenology. Phenomenology (Husserl, 1900) is the study of how things appear to a person at a conscious level and is a route to proving in-depth understanding of phenomena through interaction with a single person or group of people with subjective experiences (Hicks, 2004; Robinson & Groves, 1999). It is argued that through careful interpretation, researchers can understand an individual's experience. The philosophy of phenomenology is often viewed as an on-going project, how the world (or phenomena) is formed and experienced (Willig & Rogers, 2017). It was anticipated that this epistemological approach would allow a unique insight into the experiences of people recovering from disordered eating with particular

focus or spotlight on how emotions, such as self-disgust, are perceived and how they may impact on recovery.

In order to collect a diverse and detailed data set, semi-structured interviews were utilised. A semi-structured interview is a flexible, open conversation between the interviewer and interviewee, which generally has a framework of themes to be explored within the chosen phenomenon (Holland, 2013). Based on findings from studies 1,2 &3 and already published literature, a series of questions was devised to explore the role of self-disgust within recovering from an eating disorder. By using semi-structured interviews, the participant was able to be viewed as the experiential expert (Smith & Osborn, 2003) and the researcher role was to enable the storytelling process. The method of semi-structured interviews was chosen as it allowed for real-time interaction with participants who had an eating disorder, and it is a flexible approach to explore the lived experienced (Willig & Rogers, 2017). Given the nature of chosen phenomena and that semi-structured interviews are commonly used within clinical psychology (Willig & Rogers, 2017), this method was believed to be the most appropriate.

This research employed one line of qualitative analysis, Interpretative Phenomenological Analysis (IPA). Interpretative Phenomenological Analysis is argued to be a more theoretically specific form of qualitative data analysis, which is embedded in phenomenological epistemology (Smith, 1999; 2008). IPA is grounded in the origins of phenomenology and hermeneutics. This two-fold interpretative perspective emphasises the importance of firstly seeing and observing the phenomena and then offering an interpretation based on individual experience (Dilthey, 1976; Eatough & Smith, 2008), commitment to examine a topic, in its terms as far as possible (Eatough & Smith, 2008). IPA originated in the UK within the 1990s and was initially used as an approach to understanding psychological experiences in health and clinical psychology. However, it is now one of the most highly regarded qualitative approaches throughout the world (Willig & Rogers, 2017). The primary interest or focus of IPA is the person's experience of the phenomenon and how they make sense of it rather than the phenomenon itself (Smith, 2008). Finally, IPA is argued to be resolutely idiographic as

it promotes intensive examinations of the individual perspective and any generalisations made, helping focus on maintaining the integrity of the person (Harre, 1979; Eatough & Smith, 2015).

Interpretative Phenomenological Analysis (IPA) has particular relevance within Health Psychology (Smith et al., 1999; Brocki & Wearden, 2006). With many researchers moving away from traditional medical models, the emphasis has now been placed on how illness is constructed and interpreted within health and clinical psychology (Leventhal et al., 1984). Smith and Osborn (2004) suggest that IPA is "especially useful when one is concerned with complexity, process or novelty" (p53) and the emphasis is always placed on the importance of narrative portrayal, with the final analysis providing a detailed and interpretative analysis of themes (Brocki & Wearden, 2006). Within the field of eating disorders, the use of IPA studies has provided an in-depth understanding of what eating disorders mean to individual participants (Fox et al., 2011; Kally et al., 2008; Robinson et al., 2013), experiences of going through hospitalisation and therapeutic intervention (Leavey et al., 2011; Rance et al., 2017) and explored experiences of groups of people who suffer from disordered eating who are currently under-researched within the field (Dagliesh & Nunn, 2013; Kalley et al., 2008).

Achieving trustworthiness or rigour within qualitative data collection and analysis has been a topic of debate within the approach. Traditionally, validity, reliability and generalisability were concepts that were widely accepted within quantitative research but were believed to be lacking within qualitative research (Koch, 1992). However, significant developments within the approach now mean that qualitative researchers have a series of strategies for determining rigour within qualitative enquiry (Onwuegbuzie & Leech, 2007; Morse, 2015). These include (but are not limited to) ensuring an appropriate form of operationalism occurs relevant to qualitative research to ensure that the research conducted represents the phenomena accurately. Examples of these include triangulation, developing a coding system and the acknowledgement of researcher bias. Finally, it is argued that researcher bias or prejudice may not always be inherently detrimental to rigour within qualitative research. Instead, it is something to be acknowledged and reflected upon rather than assuming that it will impact on reliability and validity (Willig, 2015).

Furthermore, Yardley (2008) suggests four key dimensions that can be used to enhance the quality of qualitative research. These include (1) sensitivity to context, whereby the researcher shows awareness of the participant's perspective, background and setting; (2) commitment and rigour, which is heavily dependent on the skills of the researcher and involves an in-depth engagement with the topic, expertise in the method of data collection and thorough analysis; (3) transparency, which suggests the reader should see how interpretations were derived from the data, and finally, (4) impact, which states all researchers are required to generate knowledge that is useful in terms of informing practise, future research or even individual opinion. These criteria are intended to be flexible and aim to guide qualitative researchers while encouraging justification of methods and reflection on how they are carried out and how the data are interpreted (Yardley, 2003; 2008).

2.3 A MIXED- METHODS APPROACH

Using quantitative and qualitative methods together may enable researchers to take advantage of the strengths of each method and allow for a more robust analysis (Miles & Huberman, 1994; Green & Caracelli, 1997; Tashakkori & Teddlie, 1998). Mixed methods may also add value to research by the collection of the second data source, increasing the validity of findings and further assisting in the creation of knowledge (Humerinta-Peltomaki & Nummela, 2006). Studies have also found that mixed methods research may receive more citations than studies that do not utilise mixed methods, which could suggest that the findings from mixed methods research may be more valuable (Molina-Azorin, 2011). Mixed methods research is argued to combine the strengths of each methodology and minimise the weaknesses (Creswell & Plano Clark, 2007) while allowing for a more meaningful interpretation of data (Toomela, 2008). Finally, mixed methods research is argued to be critical in helping to understand complex phenomena as it provides data that is richer in breadth and depth, compared to either quantitative or qualitative methods alone (Schulze, 2003; Mckim, 2017).

As with any research approach, there are many reasons or rationales for the use of the mixed methods approach. Sechrest & Sidana (1995) put forward four reasons for using quantitative and qualitative

methods together: (1) to verify a problem or phenomena, (2) to estimate possible errors in the underlying measures, (3) to allow more accurate monitoring of data collection, and (4) to probe a data set to determine its meaning. Complementary ideas are proposed by Dzurec and Abraham (1993), who list six pursuits that link the two approaches together. These include mastery of the self and the world, understanding through recomposition, complexity reduction to enhance understanding, innovation, meaningfulness and truthfulness. Finally, Collins et al. (2006) argue that conducting mixed methods research allows for increased participant enrichment, instrument creation and fidelity, treatment integrity and significant enhancement of richness of data and interpretation of findings. A mixed-methods approach was chosen for this programme of research as it would facilitate the collection of both quantitative and qualitative data on the role of self-disgust within disordered eating behaviour. Using this approach would allow the researcher to verify quantitative findings in more detail and give a voice to some of the participants who had taken part in all stages of the research.

Within mixed-methods research, several epistemological approaches inform how a research project can be designed and conducted. The pragmatic perspective suggests that there are no contradictions between qualitative and quantitative approaches, but instead, there are single or multiple realities to investigate with empirical inquiry (Creswell and Clark, 2011). With this in mind, pragmatists accept paradigm assumptions but argue that researchers should use multiple methods to obtain knowledge and do not oppose switching between alternative paradigms (Teddlie & Tashakkori, 2019; Johnson & Onwuegbuzie, 2004). A fundamental underpinning of the pragmatic approach is that knowledge is a continuum and is based on beliefs that habits are socially constructed within our reality (Yefimov, 2003). Knowledge and perceptions of the world are believed to be influenced by social experiences and are unique to each individual. However, some of this knowledge is shared through the creation of socially shared experiences (Morgan, 2014). Knowledge is not a reality, but rather, its purpose is to take part in the world and more effectively manage one's existence (Rorty, 1980; Goldkuhl, 2012).

Dewey's theory of social inquiry has been applied to pragmatism (Hickman and Alexander, 1998). Dewey suggests that by using a pragmatic methodological approach, problems or phenomena for

investigation are part of social situations which can be defined and then investigated. This theoretical framework suggests that a research problem should only be investigated if it is of social relevance; the inquiries themselves are natural and grounded within the identified problem. It also posits that inquiries are evaluations of both theory and practice, and sound investigated can only occur if a clear understanding of the problem has been obtained. If the researcher can define the dimensions of a particular problem clearly, this should be investigated from various perspectives (Dillon et al., 2006). Finally, a vital underpinning of the pragmatic approach is that knowledge is a continuum and is based on beliefs that habits that are socially constructed within our reality (Yefimov, 2003).

A vital idea of the pragmatic perspective is that there are no contradictions between qualitative and quantitative approaches. Pragmatists would argue that the processing of gaining knowledge is a continuum, rather than the two opposing positions described as objectivity and subjectivity (Goldkuhl, 2012). In line with this, pragmatism embraces both deductive and inductive reasoning, which is argued to be a more flexible approach to designing research (Morgan, 2014). In line with this, the researcher's worldview is likely to be affected by adopting a pragmatic approach, and this can, therefore, influence the way a research project is conducted (McEvoy, 2007). When considering how a research question is formulated, Kuhn's (1970) concept of paradigms suggests that not all research questions are essential. Therefore, the methodologies attached to them might not necessarily be appropriate (Morgan, 2014). The research question chosen is likely to be affected by the belief system, personal history and socio-political location of the researcher (Morgan, 2014).

Many have questioned the effectiveness of using a pragmatic approach to investigate a topic with multiple layers (Feilzer, 2010). As the quantitative paradigm is believed to still be dominant within the field of psychological research (Pidgeon & Henwood, 2004), many argue that by using a pragmatic framework the qualitative contributions may become lost if the differences between the two approaches are not considered (Rabinowitz and Weseen, 2001). In line with this, combining positivist and interpretive approaches and the data they produce is argued to be difficult because of the

conflicting epistemological assumptions. Therefore, it has proven difficult to link interpretive findings with empirical generalisations (Bryman, 2007).

Some scholars would argue that critical realism may be a more effective framework for conducting mixed methods research (Bhaskar, 1978). Critical realism places importance on recognising the differences between the real and observable world. This type of ideology suggests that the real world cannot be observed, but rather our understanding of the world is constructed through perspective and experiences of the observable. Furthermore, this ideology suggests that there are three domains; the real, the actual and the empirical. Entities are described as structural mechanisms that have the potential to generate into phenomena, phenomena that occur and finally, phenomena that are experienced (Bhaskar, 1978; Delorme, 1999). Finally, critical realists would argue that using this approach may prevent many of the issues associated with switching between positivist and constructionist paradigms (Mcevoy & Richards, 2006).

The benefits of mixed methods research can only be utilised if sound methodological principles are incorporated at each stage of the design process (Abowitz & Toole, 2009). Within the methodological literature, specific issues have been identified as critical areas to consider when combing the two approaches. For example, issues such as the sequence of data collection and analysis, the priority or weight given to the quantitative and qualitative data collection and analysis, and finally, the connection between the two methods and at what stage this occurs during the project (Morgan, 1998; Creswell et al., 2003). Pragmatists would argue that we can achieve this by conducting the project reasonably and practically and ensure the correct method had been chosen. It is argued that the best method to use is the one (or many) that will answer the question most effectively (Teddlie & Tashakkori, 2019).

Furthermore, it is believed to be essential to focus on methodology as a tool to connect knowledge and the production of it rather than separating the philosophical positions from the research design (Morgan 2007). Following a pragmatic approach, this research programme followed a sequential

mixed-design with quantitative investigations informing subsequent qualitative enquiry (QUAN-qual). The methodological differences between the two approaches were considered throughout, and careful consideration was given to ensure that bringing them together was an accurate and authentic representation of the data. Chapter 3 outlines Study 1, which explored self-disgust within different groups of people who suffer from an eating disorder and investigates the associations of this with anxiety, depression, disgust sensitivity and sensory processing. It provides a general overview of the literature within this area followed by the method, results and discussion sections. Results from this investigation were used to inform quantitative Chapters 4 and 5.

CHAPTER 3: SELF-DISGUST WITHIN EATING PSYCHOPATHOLOGY- ASSOCIATIONS WITH DISGUST SENSITIVITY, DEPRESSION, ANXIETY AND SENSORY PROCESSING STYLES.

The factors that may contribute to the emergence of self-disgust within disordered eating behaviour are only beginning to be established. Several studies have examined the development of this emotion in the context of other types of psychopathology, and it is argued that the combination of individual characteristics such as temperament, sociocultural environment, personal learning and childhood rearing experiences may explain how this emotion can develop (Powell et al., 2015). Self-disgust has been conceptualized as an emotion schema, whereby emotions and cognitions interact with one another as a result of learned associations (Powell et al., 2015). Self-disgust may not be experienced continuously at a conscious level, but it can be intensified by specific triggers or events within a person's environment (Powell et al., 2014). It is believed that emotion schemas such as this have the potential to develop into a form of distress (Izard, 2009) and expressions of this emotion from other people have the potential to trigger relapses within vulnerable people (Rozin et al, 1999). The literature demonstrates that self-disgust is a consuming emotion that is associated with several different types of psychopathologies including anxiety, depression and eating problems (Overton et al., 2008; Simpson et al., 2010; Amir et al., 2010; Espeset et al., 2012) and an underlying tendency to experience disgust may act as an antecedent to experiencing self-disgust (Powell et al., 2015). Therefore, understanding the factors that may contribute to increased experiences of this emotion in those with an ED is highly pertinent.

Power and Dalgleish (1997, 2007) have hypothesised that feelings of self-disgust are likely to develop throughout childhood and adolescence, with preliminary qualitative evidence showing that self-disgust may be more likely to be rooted during this period of development (Powell, Overton, & Simpson, 2014). Furthermore, evidence has shown that the experiences of disgust, anxiety and interoceptive awareness are both regulated and modulated within the insula (Nunn, Frampton, Fuglset, Törzsök-Sonnevend, & Lask, 2011). Recent neuroimaging studies have demonstrated that specific brain

regions implicated in emotion perception may partly overlap with interoceptive and sensory awareness (Critchley, 2018, 2007). For example, influential theoretical models emphasise the importance of sensory signals within the expression of emotion and emotional states as the insula and orbitofrontal cortices have been implicated in generating and mapping visceral responses (Critchley, 2005). It has already been shown that those with a diagnosis of AN may have multisensory impairments concerning body perception, which involves a combination of tactile and proprioceptive sensory components (Gaudio et al., 2014). Indeed, those with restrictive AN have revealed over responsiveness in somatosensory/tactile modalities compared to both controls and individuals with bulimia nervosa (Brand-Gothelf et al., 2015). Given the visceral nature of experiencing self-disgust, it can be argued that this emotion and sensory processing may, in turn, be associated with one another, and, as higher scores of disgust have been recorded within people with an eating disorder (Moncrieff-Boyd et al., 2014; Nunn et al., 2011), this relationship warrants further investigation.

Disgust originated as a way of avoiding harm. The disease avoidance model suggests that disgust is related to three motivations for rejection (sensory affective behaviours, the anticipation of harm and ideation (Rozin & Fallon, 1987; Rozin, Haidt & McCauley, 2009). Sensory affective is the attribution of the physical experience to an emotional state—the anticipation of harm results in experiencing the emotion disgust after ingesting something questionable. Finally, the ideational disgust is related to the origins of the disgusting stimuli, and it is argued that this is linked to a personals social or cultural standard (Rozin & Fallon, 1987). Disgust may affect the way people interact with their environment and has the potential to be transferred to objects, other individuals and towards the self. Self-directed disgust has been described as an emotion schema and one that can be maladaptive, persistent of the otherwise adaptive disgust response (Powell, Overton & Simpson, 2014). We are aware that being more likely to experience disgust may be an antecedent to experiencing self-disgust. However, it is argued that this propensity must be combined with other factors such as individual-specific characteristics and learning history (Powell, Overton & Simpson, 2014). Given the origins of disgust (avoidance) and the sensory affective attribution of the physical experience to an emotional state, it

could be argued that specific sensory processing patterns may make someone more vulnerable to developing this emotion schema.

Dunn's model of sensory processing proposes that there are four primary patterns of sensory processing: sensation seeking, sensation avoiding, sensory sensitivity and low registration. Two separate axes govern these four patterns: the response threshold of the nervous system (high/low) and the strategy of response (passive/active) (Dunn, 2002). When examining the relationship between sensory processing and disordered eating behaviour, considering threshold perception alone may be too simplistic, but instead, it is essential to consider how we attend and respond to sensation in our environment. Some evidence has suggested that sensory sensitivity may interact with emotional factors such as anxiety and eating behaviour (Zickgraf & Elkins, 2018) and avoidance has also been found to be associated with sensory processing (Hoffman & Bitran, 2007). Green & Ben-Sasson (2012) propose that there is a bi-directional relationship between sensory sensitivity and negative emotional states such as anxiety. Sensory sensitivity causes individuals to notice changes in their sensory world more readily and find them aversive, whereas anxiety causes hypervigilance and may accentuate sensory sensitivity.

Furthermore, cognitive reactivity has been theoretically linked to understanding the association between sensory processing and psychological distress (Wyller et al., 2017). Cognitive reactivity is described as the tendency to react to psychological problems, typically trying to change or get rid of them, which may maintain or exacerbate psychological distress (Wyller et al., 2017). Cognitive reactivity explains the link between the content of dysfunctional thoughts and maladaptive strategies to process information (Teasdale, 1988) and may be particularly relevant in understanding this link as it emphasises initial bottom-up reactivity to certain stimuli is associated with bidirectional top-down processes. Sensory processing and perceived sensitivity is argued to be hardwired and difficult to modify; however, cognitive reactivity (as a secondary reaction) may have the potential to be malleable (Wyller et al., 2017). Therefore, it is likely that there is a biological component to the development of sensory processing patterns within eating behaviours (i.e.in relation to sensory evaluation of food and

the eating process). However, psychological factors may determine our responses to those physical factors. We are aware that disgust reactions have the potential to be turned on ourselves (Rozin & Fallon, 1987; Powell et al., 2015) and sensory, affective reactions may be part of a paradigm that contributes to experiencing self-disgust. It could be that people with specific sensory processing patterns may be more vulnerable to the emotion of self-disgust, and this, in turn, could lead to maladaptive coping strategies, such as disordered eating behaviour.

AIMS AND HYPOTHESES

It has been suggested that a bottom-up approach addressing the sensory processing deficits underlying cognitive and emotional issues in people with mental health problems, and in particular eating disorders, maybe a logical first step when considering the contributing and maintaining factors of such illnesses (Javitt, 2009). Characterising disturbances within subjective body experiences and the emotions that arise from these among individuals with and without eating disorders is critical to understanding and altering the pathophysiology of disordered eating. Both the relentless pursuit of an unhealthy body weight and disordered eating behaviours may be motivated, in part, by a desire to alter body experience – not merely body appearance (Cserjési et al., 2010; Sachdev, Mondraty, Wen, & Gulliford, 2008; Zucker et al., 2013). In line with this, considering the role of other co-morbidities such as anxiety, depression and disgust sensitivity, which are known to be associated with self-disgust and sensory process (Allgulander et al., 1998; Overton et al., 2008) may offer a more in-depth explanation of the relationship between sensory processing and self-disgust. To address the identified gaps in the research literature, this study aimed to assess the relationship between self-disgust and sensory processing, while controlling for possible confounding variables, such as anxiety, depression and disgust sensitivity. Based on previous literature, the following aims and hypotheses were employed:

I. It was hypothesised that there would be significant differences in self-disgust between those who have an eating disorder and those with no history of disordered eating behaviour.

II. Significant associations will be found between self-disgust and sensory variables within those with a diagnosis of either AN, BN or no previous history of an eating disorder. However, as previous studies have not addressed this potential relationship, no directionality was inferred, and analysis was conducted between groups.

III. Finally, if associations are found between self-disgust and the sensory processing variables, this study aimed to identify whether sensory variables were able to predict self-disgust above and beyond the identified confounding variables statistically

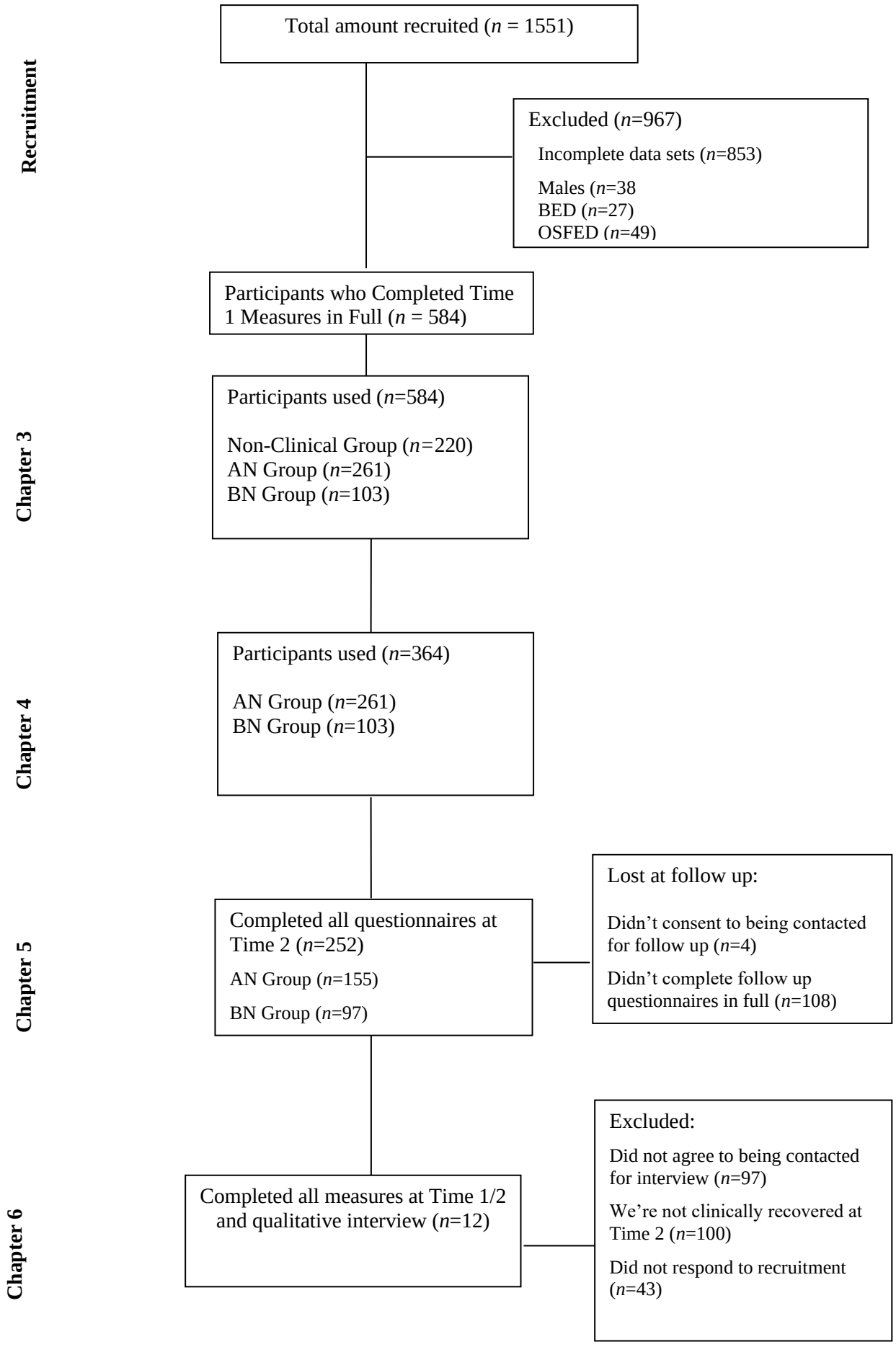
3.2 METHOD

PARTICIPANTS

An initial sample of 1551 participants were recruited on-line through the De Montfort University research participation scheme and a charity eating disorder website (B-EAT). Of those 698 participants (45%) completed the questionnaire pack in full and were considered for inclusion. This dropout rate was in line with other studies that have used an online method of data collection (Granello & Wheaton, 2004), and was therefore not thought to be problematic. See Figure 3.1 for a full outline of how many participants took part in each stage of data collection.

Figure 3.1

Flow Chart of Participants Through All Studies



Two G Power Prior calculations were conducted to determine the required sample sizes for each analysis. One was conducted, based on the largest ANOVA analysis (using three groups). The second was conducted based on the largest hierarchal regression analysis. A prior calculation for ANOVA (Fixed effects, one-way) revealed that a total sample of 159 was required for a medium effect size (alpha=.05, power=.80). A prior calculation for Linear Multiple Regression (Fixed model) revealed that a total sample of 55 was required for a medium effect size (alpha=.05), power=.80). Therefore males (*n*=38), those with binge eating disorder (*n*=27) or Other Specified Feeding and Eating Disorder (*n*=49) were excluded from the final sample as analyses were conducted between groups.

The final sample comprised of 584 women with a self-reported diagnosis of AN (*n*=261) or BN (*n*=103), or who had no previous history of an eating disorder (*n*=220). Participants ranged in age between 18-70 years (*M*=25.36, *SD*= 9.57) with 67% self-identifying as White British, 8.5% British Asian, 7.5% Hispanic, 6.5% Indian, 6.5% African American, and 4% Black Caribbean. Table 3.1 includes all participant details and an outline of the analyses conducted to examine differences between the three groups.

Table 3.1

Demographic data for 584 female participants, with a diagnosis of anorexia nervosa (n=261), bulimia nervosa (n=103) or no previous history of disordered eating behaviour (n=220).

	Non-Clinical (*n*=220)	Anorexia Nervosa (*n*=261)	Bulimia Nervosa (*n*=103)	Analysis
Age	23.84 (9.98)	24.50 (7.47)	26.58 (8.32)	F=3.62* Brown –Forsythe =3.67*
GCSE's	16 (7.27%)	20 (7.66%)	10 (9.70%)	
A-Levels	117 (53.18%)	96 (36.78%)	28 (27.18%)	
Degree	51 (23.18%)	110 (42.14%)	53 (51.45%)	
Post Graduate	36 (16.36%)	35 (13.40%)	12 (11.65%)	X^2 (8, N= 584) = 35.99**
White British	156 (70.90%)	248 (95.01%)	100 (97%)	
British Asian	16 (7.27%)	3 (1.14%)	1 (1%)	
Hispanic	15 (6.81%)	7 (2.68%)	1 (1%)	
Indian	11 (5%)	2 (0.76%)	0 (0%)	
African American	16 (7.27%)	0 (0%)	1 (1%)	
Black Caribbean	4 (1.81%)	1(0.38%)	0 (0%)	X^2 (10, N= 584) = 77.00**
Engaged in Treatment	n/a	241 (91.6%)	83 (80.58%)	
Not Engagement in Treatment	n/a	20 (24.2%)	20 (19.41%)	

*** p< .001 * p< .005*

Participants were recruited online using several sources. Some participants were invited to participate through a University-based research participation scheme, in which students volunteer to take part in studies in return for course credit. Other participants were invited to take part through other sources, which included the charity Beat Eating Disorders' (B:EAT) research participation scheme, Call for Participants or Facebook support groups. Full permission was gained from the organisers of each scheme before recruitment began. Participants who did not receive course credit were allowed to opt-in for a £10 Amazon card prize draw as reimbursement for their time.

DESIGN

The current study employed a between participants, questionnaire design, in which self-reported eating disorder diagnosis with three levels (AN, BN and no history of disordered eating) acted as the between participants factor. Reported self-disgust was used as the outcome variable, and scores of disgust sensitivity, sensory sensitivity, sensation avoidance, low registration, sensation seeking, anxiety and depression were also measured. Individual measures were presented in a randomised order via the Qualtrics software programme (Qualtrics Copyright © 2015) in order to limit potential effects of order and fatigue.

MATERIALS

Materials used in all quantitative investigations are reported here and in Appendix E.

The Eating Disorder Examination Questionnaire (EDE-Q; Fairburn, 1994).

The EDE-Q is a 41 item, self-report measure examining eating behaviour in conjunction with scores on four other subscales (restraint, shape concern, weight concern and eating concern). All subscales contain five items except shape concern which have eight. Participants rate the majority of statements on a 7-point Likert type scale assessing on how many days per month, certain behaviours occur (None-Everyday). A global score of eating behaviour (Maximum score=120) can be found by summing scores to the 41 statements, with higher scores indicating higher levels of disordered eating behaviour. The EDE-Q has been found to have excellent interrater reliability and test-retest reliability and to discriminate between eating disordered individuals and controls (Fairburn & Cooper, 1993; Stice et al., 2001; Williamson et al., 2004). Each subscale has also been shown to demonstrate excellent reliability and validity (Belgin & Fairburn, 1992; Luce & Crowther, 1999; Mond, Hay et al., 2004).

The Self Disgust Scale (SDS; Overton et al., 2008).

The SDS is an 18- item self-report questionnaire that measures disgust towards physical self-image and behaviour. Participants rate each statement (i.e. *I find myself repulsive, It bothers me to look at myself* etc.) on a 7-point Likert-type scale (1 = strongly agree, 7 = strongly disagree). A total self-disgust score is found by summing scores to the 18 statements relating to the three self-disgust

constructs. A higher score indicates higher levels of self-disgust (maximum score = 84, minimum score = 12). This scale also contains two subscales which focus on disgust towards aspects of the self and disgust towards the way an individual acts (maximum score=35, minimum score =5). Excellent scores of reliability and validity have been found for this questionnaire, particularly for internal consistency (a=.91) and one-week test-retest reliability (r=.94, p<.001) (Overton et al., 2008).

Disgust Propensity and Sensitivity Scale-Revised (DPSS-R; Fergus & Valentiner, 2009).

The DPSS-R is a 12-item measure designed to examine the frequency of disgust experiences (propensity) and the emotional impact of those experiences (sensitivity). Participants rate each statement on a 5-point Likert-type scale (1 = never, 5 = always). A total score can be found by summing the score of the 12 statements, and individual scores can be found for both disgust propensity (sum of items 1, 4, 5, 6, 8, 10) and disgust sensitivity (sum of items 2, 3, 7, 9, 11, 12). Good scores of reliability and validity have been found for this questionnaire (Fergus & Valentiner, 2009). Scores range from 12-60, with higher scores indicating higher levels of disgust sensitivity and propensity

Sensory Profile, Adolescent and Adult Report Version— (SP; Dunn, 1999).

The Adult Sensory Profile is a 60–item scale that measures the subjective experience of sensation across multiple sensory domains as well as the behavioural response to sensation. Participants rate each statement on a 5-point Likert Scale (1=almost never, 2= rarely, 3= sometimes, 4=often and 5= almost always) to generate a total score of sensory processing and scores for Sensory Sensitivity, Low Registration, Sensation Seeking and Sensation Avoidance. These subscales are designed to assess dimensions of habituation and sensitisation by asking individuals how rapidly they notice and accommodate to sensations across sensory domains. This questionnaire has moderate-good internal consistency, with coefficient alpha values of .69 for Low Registration, .64 for Sensation Seeking, .66 for Sensory Sensitivity and .70 for Sensation Avoiding (Pohl et al., 2003). Participant's scores are divided into four quadrants with resultant scores from each ranging from 5 to 75. Higher scores indicate higher sensory processing of that style.

The Beck Depression Inventory-II (BDI-II: Beck et al., 1961)

The BDI-II is a revised version of the original BDI-I, which reflects the diagnostic criteria for major depressive disorder as reported by the DSM-V (APA, 2013). This is a 21-item self-report questionnaire in which each item consists of four statements (scored from 0-3) indicating different levels of severity of a particular symptom experienced over the past two weeks (E.g. Sadness, I do not feel sad (o), I feel said some of the time (1), I am sad all of the time (2), I am so sad and unhappy that I cannot stand it (3). This measure was used as a continuous variable throughout the study, with scores for all 21 items summed to total a single depression score (maximum 63). Scores between 0-13 indicate minimal depression, 14-19 indicate mild depression, 20-28 indicate moderate depression and 29-63 indicate severe depression. The internal reliability and validity of the scale is adequate within several different samples (Gloria et al., 2012).

The Beck Anxiety Inventory (BAI: Beck, 1988)

The BAI was developed to measure anxiety symptoms with a minimal overlap with symptoms of depression. Each item consists of four statements indicating different levels of severity of a particular symptom experienced over the past two weeks (i.e. *Numbness or tingling, Fear of dying,* etc.), with 21 items in total. Items are rated on a 0-3 Likert-type scale (0=Not at all, 1=Mildly but it did not bother me much, 2=Moderately, it was not pleasant at times, 3=Severely, it bothered me a lot) to create a total sum of anxiety (0-63). This measure was used as a continuous variable throughout the study with the severity of anxiety determined by score brackets of minimal (0-7), mild (8-15), moderate (16-25) and severe (26-63) (Beck & Steer, 1993). Research using this measure has shown strong evidence of reliability, construct validity and internal consistency (Beck et al., 1998).

Difficulties in Emotion Regulation Scale (DERS: Gratz & Roemer, 2004)

The DERS is a 36-item self-report measure developed to examine difficulties in the ability to regulate emotions. The measure provides a total score and six subscale scores: non-acceptance (non-acceptance of emotional states), strategies (limited access to adaptive emotion regulation skills), goals (difficulty with goal-directed behaviour in the context of emotional distress), impulse (difficulty controlling behaviours when upset), clarity (lack of emotional clarity), and awareness (lack of emotional

awareness). Items are rated on 5-point Likert-type scale (1=Almost never, 2=Sometimes, 3=About half the time, 4=Most of the time, 5=Almost always) and are summed such that higher scores indicate more significant emotion dysregulation. The measure has demonstrated good validity and reliability in past research (Gratz & Roemer, 2004), including in studies with ED samples (Harrison et al., 2010; Racine & Wildes, 2013).

The Clinical Anger Scale (CAS: Snell et al., 1995)

The CAS is a 21-item self-report questionnaire that was designed to measure clinical anger. Each item contains four statements on different areas of anger and the experience of it, which are measured using a Likert-type scale (0-3) (E.g. 0= I do not feel angry, 1= I feel angry, 2= I am angry most of the time now, 3= I am so angry and hostile all the time that I cannot stand it). This measure was used as a continuous variable throughout the study and scoring from this can be calculated to provide measures of severity of anger, which include minimal (0-13), mild (14-19), moderate (20-28) and severe (29-73). Previous research has confirmed the reliability, validity and internal consistency of this measure (Snell et al., 1995).

PROCEDURE

Participants who were interested in taking part in the study were asked to follow the web-link within the advertisement created using the Qualtrics software (Qualtrics Copyright © 2015). This web-link led to them to an information screen (Appendix A) which explained in detail the nature of this study and provided contact details for the researcher, so participants had the opportunity to ask questions before taking part. Participants were able to leave the host-site and return at a later date if necessary. The next screen was the consent form (Appendix B), which was a series of checkbox questions which participants were required to complete before gaining access to the study questionnaires. Full ethical approval for this project was provided by the Ethics Committee of the Department of Health and Life Sciences within De Montfort University. Once full consent was gained, participants completed a series of online self-report measures. A debrief form (Appendix A) was then presented to participants who had completed the study and was available via email if requested.

DATA COLLATION AND ANALYSIS

Before the analysis was conducted, the data were collated to create total and subscale scores for each variable. Total EDE-Q scores were created by summing the four subscales and dividing by this amount (i.e. 4). Subscale scores were also created for Restraint (Items 1,2,3,4,5), Eating Concern (Items 7,9,19,21,20), Shape Concern (Items 6,8,23,10,26,27,28,11) and Weight Concern (Items 8,12,22,24,25). Self-disgust scores was found by summing items 1, 2, 3, 4, 6, 7, 9, 10, 12, 15, 17, & 18 after reverse coding several variables (Items 1, 3, 4, 7, 10, 12, 15, 17, 18). Two subscales scores were also created which focused on disgust towards aspects of the self (Items 1, 4, 6, 10 & 15) and disgust towards the way an individual acts (Items 3, 9, 12, 17 & 18). Total scores of Sensory processing and subscales for each quadrant were also created (See appendix C for more detail). Finally, total scores for Disgust Sensitivity, Anxiety and Depression were created by summing the total amount for each questionnaire.

Shapiro-Wilk tests revealed that data measuring the disgust, anxiety, depression and sensory variables were not normally distributed ($p<.05$), except for the disgust sensitivity data ($p>.05$) From this, tests were conducted to assess whether the data met the assumptions for multiple regression. An analysis of standard residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -2.316, Std. Residual Max = 3.808). The data also met the assumption of independent errors (Durbin-Watson value = 1.91). The histogram of standardised residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardised residuals. Finally, the scatterplot of standardised, predicted values showed that the data met the assumptions of homogeneity of variance and linearity. As all assumptions were met for multiple regressions, this analysis was carried out with bootstrapping to account for possible distortions.

Statistical analysis was carried out using IBM SPSS 25, and a large quantitative data set was created to form the results for Studies 1&2. Specifically, for Study 1, data were analysed in four phases. First, descriptive statistics of the disgust, anxiety, depression and sensory variables were generated, outlining the overall scores and means for each measure. Second, a series of one-way unrelated

Analyses of Variance (ANOVAs) were conducted to explore differences in means between the three groups (anorexia nervosa, bulimia nervosa and no history of disordered eating) on measures of disgust, anxiety, depression and sensory variables. Third, Spearman's correlations between disgust, anxiety, depression and sensory variables were conducted to identify relationships between these variables. Finally, hierarchal regressions were conducted across all three groups to identify whether scores of sensory processing could predict total scores of self-disgust above and beyond the other emotional variables of anxiety, depression and disgust sensitivity. Within Model 1, Anxiety, Depression and Disgust Sensitivity were entered to examine their relationship with Self-Disgusts. In model 2, these emotional variables and all scores of Sensory Processing were then entered. The hierarchal regressions were bootstrapped to account for errors that may have occurred as a result of the lack of normality within the data.

3.4 RESULTS

DIFFERENCES IN SELF-DISGUST, ANXIETY, DEPRESSION, DISGUST SENSITIVITY AND SENSORY PROCESSING ACCORDING TO ED DIAGNOSIS

A series of one-way unrelated Analyses of Variance (ANOVAs) were conducted to explore differences in means between the three groups (AN, BN and no history of disordered eating) on measures of disgust, anxiety, depression and sensory variables. These means and accompanying statistics are presented in Table 3.2. There were statistically significant differences between levels of self-disgust, anxiety, depression, disgust sensitivity and all sensory variables ($p<.001$). Bonferroni post hoc tests were conducted to analyse the differences for all variables between each group, and these revealed a significant difference between the control group and AN group and between the control group and the BN group for all measures ($p<.001$). No significant differences were found between the AN and BN group ($p>.05$) when examining total scores of Self-Disgust, however there were significant differences between the two subscales of Self-Disgust ($p<.05$). Those with a diagnosis of AN were more likely to report significantly higher levels of disgust towards the way an individual behaves (SD-B) and lower levels of disgust towards aspects of the self (SD-S). Those with a diagnosis of BN were more likely to report significantly lower levels of disgust towards the way an individual

behaves (SD-B) and higher levels of disgust towards aspects of the self (SD-S). Within the EDE-Q measures, significant differences were found between eating concern, weight concern, restraint, and Total EDE-Q scores between the three groups. No significant differences were found between shape concerns between the three groups.

Table 3.2

Differences in Disgust, Disordered Eating Anxiety, Depression and Sensory Processing in a Sample of 584 female participants with either a diagnosis of Anorexia Nervosa, Bulimia Nervosa or No Previous History of an Eating Disorder.

	Non-clinical *n*=216 Mean (SD)	Anorexia Nervosa *n*= 264 Mean (SD)	Bulimia Nervosa *n*= 103 Mean (SD)	(Brown-Forsythe)
Self-disgust	33.88 (14.44)	60.02(13.45)	61.95(13.70)	252.28**
Self-Disgust Self	12.18(7.38)	21.90(6.76)	23.94(8.09)	130.08**
Self-Disgust Behaviour	16.72(7.23)	29.88(6.44)	27.45(6.80)	230.72**
EDE-Q Total	11.57 (3.72)	21.04 (4.42)	22.77 (3.54)	70.06**
Restriction	1.59 (1.05)	3.43 (1.28)	3.98 (1.34)	77.60**
Weight Concern	2.42 (1.22)	6.10 (1.79)	6.59 (1.09)	170.16**
Shape Concern	2.59 (1.77)	2.56 (1.80)	2.77 (1.36)	0.90
Eating Concern	1.17 (0.24)	3.05 (1.16)	3.45 (1.49)	94.11**
Anxiety	15.39 (11.98)	31.62(13.47)	31.86(13.93)	102.72**
Depression	14.06 (12.72)	31.18 (15.58)	29.70 (16.88)	78.55**
Disgust Sensitivity	28.28 (7.75)	34.11 (8.81)	33.22(9.47)	27.54**
Low Registration	35.44(9.03)	37.68(10.52)	38.85(10.81)	4.64*
Sensory Sensitivity	38.02(9.29)	46.20(11.64)	46.22(12.55)	34.29**
Sensation Seeking	45.63(8.38)	41.32(9.77))	41.21(11.21)	12.47**
Sensation Avoidant	38.29(9.67)	45.20(11.88)	44.38(13.04)	21.48**

*** p< .001 * p< .005*

SPEARMAN'S CORRELATIONS IN SELF-DISGUST, ANXIETY, DEPRESSION, DISGUST SENSITIVITY AND SENSORY PROCESSING ACCORDING TO ED DIAGNOSIS

To examine associations between scores of self-disgust, emotion and sensory variables, a series of Spearman's Correlations were conducted. Table 3.3 presents all correlations between the variables within the three groups. These show that self-disgust was significantly and positively correlated with all of the disgust, anxiety and depression variables (*ps*<.001). Significant positive correlations were also found between three of the sensory variables (low registration, sensory sensitivity and sensation

avoidant; *ps*<.001) and significantly negatively correlated with sensation seeking (*p*<.001), except for sensation avoidance and SD-B within the Non-Clinical Group (*p*>.05).

Table 3.3

Associations between Disgust, Anxiety, Depression and Sensory Variables measured in a sample of 584 female participants with either a Self- diagnosis of Anorexia Nervosa, Bulimia Nervosa or no previous history of an Eating Disorder.

	NC Group (*n*=216)			AN Group (*n*=264)			BN Group (*n*=103)		
	SD	SD-S	SD-B	SD	SD-S	SD-B	SD	SD-S	SD-B
Age	-.037	.021	-.067	-.014	.056	.087	-.142	-.006	.169
Anxiety	.424**	.343**	.332**	.447**	.309**	.265**	.459**	.337**	.487**
Depression	.608**	.454**	.513**	.697**	.557**	.380**	.628**	.500**	.522**
Disgust Sensitivity	.315**	.226**	.270**	.282**	.225**	.188*	.460**	.369**	.435**
Low Registration	.347**	.207**	.299**	.357**	.273**	.262**	.475**	.356**	.456**
Sensory Sensitivity	.319**	.285**	.231**	.341**	.266**	.194**	.502**	.409**	.450**
Sensation Seeking	-.305**	-.266**	-.236**	-.255*	-.223	-.179**	-.314**	-.237**	-.242**
Sensation Avoidance	.366**	.349**	.283	.336**	.279**	.225**	.524**	.397**	.476**

*** p< .001 * p< .005*

ASSOCIATIONS BETWEEN SELF-DISGUST AND SENSORY VARIABLES ACROSS THE THREE GROUPS

Hierarchical regressions were conducted across all three groups to identify whether scores of sensory processing could predict total scores of self-disgust above and beyond the other emotional variables of anxiety, depression and disgust sensitivity. This analysis also aimed to identify whether these associations were significantly different between those with an eating disorder and those without. In model 1, it was found that measures of anxiety, depression and disgust sensitivity explained a significant amount of the variance across the three groups $F(3, 587)= 231.99$, $p<.001$, $R^2=.542$, R^2 Adjusted =.540, and all three variables were found to be significantly associated with Self-Disgust (*ps*<.001).

In model 2, it was found that measures of anxiety, depression, disgust sensitivity and scores of sensory processing explained a significant amount of the variance across the three groups $F(4, 583)= 113.40$, $p<.001$, $R^2=.577$, R^2 Adjusted =.571. Measures of Anxiety, Depression, Disgust Sensitivity and Sensation Seeking were all found to be significantly associated with Self-Disgust (*ps*<.001) however measures of Low Registration (*p*=.95), Sensory Sensitivity (*p*=.83) and Sensation Avoidance (*p*=.71) were not found to be significantly associated with Self-Disgust. All results for this analysis, along with bootstrap confidence levels, are displayed in Table 3.4 below.

Table 3.4

Hierarchical Regression Analysis to Examine Whether Sensory Variables are Related to Self-Disgust after Controlling for Anxiety, Depression and Disgust Sensitivity a sample of 584 Female Participants with a Diagnosis of Anorexia Nervosa, Bulimia Nervosa or No previous History of Disordered Eating Behaviour.

Model 1	B	Std Error	β	Bootstrap CI
Anxiety	.284	.048	.227	(.191, .378)**
Depression	.639	.040	.563	(.561, .717)**
Disgust Sensitivity	.197	.068	.093	(.063, .313)**
Model 2[a]				
Anxiety	.257	.048	.205	(.163, .351)**
Depression	.593	.042	.523	(.511, .676)**
Disgust Sensitivity	.205	.070	.096	(.066, .343)**
Low Registration	-.004	.070	-.002	(-.141, .133)
Sensation Seeking	-.259	.057	-.131	(-.371, -.147)**
Sensory Sensitivity	.019	.089	.011	(-.155, 193)
Sensation Avoidance	.030	.082	.018	(-.130, .191)

[a] *F change (4, 583) = 11.72, p<.001.*
*** p< .001 * p< .005*

3.5 DISCUSSION

This study provides novel evidence examining the severity of self-disgust, and its associated variables, within groups of women with AN, BN and those with no history of disordered eating. First, the hypothesis that there would be differences in reports of self-disgust between those groups of people with a self-diagnosis of AN, BN or no history of disordered eating was supported. This is the first study to use The Self Disgust Scale (Overton, Markland, Taggart, Bagshaw, & Simpson, 2008) in a sample of participants with different types of eating disorder, while controlling for anxiety, depression and disgust sensitivity. Results showed statistically significant differences between those who have a diagnosis of an eating disorder and those who have no previous history of an eating disorder on measures of self-disgust. Further support for the notion that those with an eating disorder experience more self-disgust was also found in the regression analyses, as those categorised as having an eating

disorder were more likely to show higher levels of self-disgust compared to those with no previous history of an eating disorder.

When examining the different subtypes of self-disgust, some variations in associations were found between those with a diagnosis of AN compared to those with a diagnosis of BN. When looking at total scores of self-disgust, no significant differences were found between those with a self-diagnosis of AN and those with a self-diagnosis of BN. However, those with a diagnosis of AN were more likely to report significantly higher levels of disgust towards the way an individual behaves and lower levels of disgust towards aspects of the self, compared to those with BN. Therefore, this suggests that those with an eating disorder do experience higher levels of self-disgust, and this may be something that is experienced across the spectrum of disordered eating behaviours. However, certain eating disorders may experience or understand the emotion differently.

In the second hypothesis, it was proposed that significant associations would be found between self-disgust and sensory variables within those with a diagnosis of either AN, BN or no previous history of an eating disorder. However, as previous studies have not addressed this potential relationship, no directionality was inferred. This hypothesis was supported as significant associations were found between total and subscales scores of self-disgust and all sensory processing variables. These findings support previous literature that suggests those with an eating disorder may experience difficulties in sensory processing (Zucker et al., 2013) and these difficulties are something that is experienced across a range of eating disorders (Brand-Gothelf et al., 2015). However, they add to our knowledge by demonstrating that levels of sensory processing are associated with higher self-disgust scores as well as measures of anxiety, depression and disgust sensitivity.

Finally, if associations were found between self-disgust and the sensory processing variables, regression analyses aimed to identify whether sensory variables were able to statistically predict self-disgust above and beyond the identified covariates of anxiety, depression and disgust sensitivity. Results showed that lower sensation-seeking scores were more strongly associated with self-disgust

after controlling for anxiety, depression and disgust sensitivity. This implies that a person with an eating disorder may have potentially passive strategies to cope with their sensory environment (Dunn & Westman, 1997). This is line with recent theoretical research underpinning the core impairment of interoception among individuals with this eating disorder (Kaye, Wierenga, Bailer, Simmons, & Bischoff-Grethe, 2013; Nunn, Frampton, Fuglset, Törzsök-Sonnevend, & Lask, 2011). From this, it can be suggested that the process of being less likely to seek sensation within a given environment actively may contribute to feelings of self-disgust above and beyond general feelings of disgust sensitivity. More research is needed within clinical samples to identify whether self-disgust and sensory processing are related to the different symptoms of each specific disorder or subtype and the role these variables play in the maintenance of disordered eating. In line with this, it can be argued that acknowledging clinical groups have higher sensory processing differences may be relevant when designing therapeutic interventions, especially for those which relate to eating, which is known to be more problematic for those with sensory processing differences (Coulthard & Blissett, 2009).

There could be several possible reasons for the observed similarities in relation to self-disgust within the two groups with a diagnosis of an eating disorder. First, when considering the possible precursors of experiencing the emotion self-disgust within eating psychopathology, measures of anxiety, depression and particular components of sensory processes may precede the onset of disordered eating. They may even be factors that contribute to its onset. To date, there is limited evidence assessing the relationship between sensory processing and disordered eating. However, data from this study support the few published studies that highlight the significant difference between sensitivity to sensation and attempts to avoid sensory experience between individuals with anorexia nervosa and healthy controls (Zucker et al., 2013). Also, when considering the role of self-disgust, literature assessing the role of self-disgust within disease avoidance highlights how humans have evolved to react in this way when an object is perceived to be disgusting or harmful (Rozin, Lowery, Imada, & Haidt, 1999). Therefore, considering self-disgust as related to sensation avoidance may offer a potential explanation for the associations observed within people with a diagnosis of AN and BN.

The findings from the current study support the notion that self-disgust may be a characteristic feature pertinent to several psychopathologies. Depression was found to be a consistent statistical predictor for levels of self-disgust in both groups who self-identify as having AN and BN. The relationship between self-disgust and depression has already been established (Overton et al., 2008), with self-disgust being shown to mediate the relationship between depressive symptoms and dysfunctional cognitions. In line with this, physical self-disgust (as measured by the SDS, Overton et al., 2008) is a more reliable predictor of depression over six months, compared to behavioural disgust. Within the current study, significant associations were found between the different subtypes of self-disgust and the other emotion and sensory variables. However, depression and levels of psychological distress are already well-known antecedents, and moderators of disordered eating behaviour (Stice et al., 2017) and the possibility of total scores of self-disgust being intertwined within this offers potential avenues for future research. For example, with understanding how individuals cope and manage these different types of emotions and emotional distress warrants further investigation

This study is not without limitations. Although the overall sample size was appropriate, replication of our findings within different eating disorders such as BED or OSFED (APA, 2013) would be useful to validate these findings. Utilising an online recruitment and data collection method was more efficient and allowed for broader access to participants. However, the response rates and dropouts were still in-line with other types of questionnaire data collection (Evans & Mathur, 2005; Wilson & Laskey, 2003). Finally, this study was only able to use one scale to measure self-disgust (Self-Disgust Scale, Overton et al., 2008) which implies the need for a more specific self-disgust measurement tools, particularly within a clinical and eating disorder setting. However, as this measure demonstrates excellent reliability and internal validity (Overton et al., 2008), it was believed to be appropriate for the current study.

To date, there have been limited investigations into the associating factors with self-disgust in eating psychopathology, and this study provides novel evidence looking at the severity of self-disgust between those with a self-diagnosis of AN, BN or those with no previous history of an eating disorder

and whether self-disgust was associated with emotional and sensory variables. The results suggest that those with either AN or BN do experience higher levels of self-disgust, compared to those with no history of an eating disorder, and self-disgust, in turn, has associations with disgust sensitivity, anxiety and depression. In line with this, those who have specific sensory regulatory patterns may potentially be vulnerable to experiencing the emotion of self-disgust. Research focusing on emotional coping styles and particularly avoidant coping strategies in relation to self-disgust may offer further explanation on the shared emotional component between anxiety, depression and disordered eating (McKay & Presti, 2015; Powell, Simpson, & Overton, 2013). The next chapter provides a general overview of the literature within the field of emotion regulation and coping styles across the spectrum of eating psychopathology and proposes several research questions to be explored in Study 2.

CHAPTER 4 SELF-DISGUST MEDIATES THE RELATIONSHIP BETWEEN EMOTION REGULATION AND EATING DISORDER SYMPTOMS.

Emotional coping styles and the process of emotion regulation concerns our attempts to influence which emotions we have and how these emotions are expressed (Gross & Levenson, 1993). The term emotion regulation is often used to refer to either the regulation (such as stressful situations or demands) or the regulation of emotions themselves, and these two phenomena are suggested to impact on cognition, mental processes and behaviour (Shepps, Suri & Gross, 2015). Specific emotions themselves are argued to be biologically based reactions that coordinate a person to respond to opportunities and challenges within a particular environment (Levenson, 1994; Tooby & Cosmides, 1990). Emotions often operate outside of awareness, and each appears to address a different adaptive problem (Ekman, 1992; Frijda, 1988; Izard, 1992; Plutchik, 1980).

Difficulties in emotion regulation is widely recognised as predisposing factor to various forms of psychopathology (Shepps, Suri & Gross, 2015), including anxiety, depression and disordered eating behaviour (Sloan et al., 2017). There is now an established body of literature demonstrating that those with an eating disorder have elevated scores in difficulties with emotion regulation, (Beadle, Paradiso, Salerno, & McCormick, 2013), describing feelings (Speranza et al., 2005) and identifying and expressing feelings (Eizaguirre et al., 2004; Sexton et al., 1998). However, there has been little attention paid to possible mediators that would explain this relationship (Cooper & Wade, 2015). Some literature has suggested that useful appraisal and emotion regulation skills are necessary to regulate distress while experiencing disgust (Olatunji et al., 2017), and as established in the previous chapter, the role of self-disgust within avoidant and dysfunctional emotion regulation styles warrants further investigation. This chapter aims to identify whether self-disgust and difficulties in emotion are associated with one another in participants with a diagnosis of AN or BN. As well as this, this chapter also aimed to examine whether self-disgust acts as mediator between difficulties in emotion regulation (ER) and disordered eating behaviour and this opening section will outline the literature examining the process of ER, how it links to psychopathology and, in particular, disordered eating behaviour.

Definitions of ER, particularly concerning the conceptualisation of difficulties in ER are a prominent concern within the field of clinical psychology (Berking & Wupperman, 2012; Sloan et al., 2017). It is suggested that current definitions of ER may be too broad, but the concept itself appears to have particular value when researching factors that maintain psychopathology and the treatment of disorders themselves (Berking & Wupperman, 2012). The Process Model of ER (Gross, 1998a; 1998b) is one of the most widely used models explaining the process of ER. Emotion generation and regulation are argued to occur sequentially; involving an emotionally relevant situation, the focus of our attention to that situation and finally appraisal of that situation through interpretation and evaluation. This model places focus on the role of feedback from situational changes based on a person's emotional response and suggests that this kind of feedback may be ongoing and dynamic. Five different types of emotion regulation are suggested to correspond with the regulation of a particular point in the emotion generation process: situation selection and modification, attentional deployment, cognition change and response modulation (Koole, 2009). Finally, the process model also divides emotion regulation strategies into two categories; antecedent-focused strategies (which occur before an emotional response is entirely generated) and response-focused strategies (which occur after an emotional response is entirely generated).

There is a substantial body of literature which supports the view that both AN and BN are broadly characterised by emotion dysregulation, with certain types of dysregulation appearing to be present across both disorders (Lavender et al., 2015). This is now referred to as the transdiagnostic view of ER and can be understood by examining a person's ability in (i) awareness and understanding of emotions, (ii) acceptance of both positive and negative emotions, (iii) ability to manage and regulate behaviour when experiencing negative emotions and (iv) the ability to use ER strategies flexibility and effectively (Gratz & Roemer, 2004). Research has demonstrated significant positive associations between difficulties in emotion expression and EDE-Q scores of disordered eating behaviour, with those who scored higher on EDE-Q eating, shape and weight subscales believing that displaying emotion was a sign of weakness (Meyer et al., 2008). Individuals experiencing high levels of emotional distress may also ignore and avoid their feelings and in turn focus their attention on weight,

eating and shape. More specifically, emotion avoidance is significantly associated with depression and anxiety symptoms within eating disorder psychopathology and is now being investigated as a target for potential therapeutic intervention (Wildes et al., 2010; 2011).

Another, competing model of emotional regulation was put forward by Gratz and Roemer (2004) and this model is argued to be more clinically focused and emphasises adaptive responding to emotional distress versus efforts to rigidly control or suppress emotion arousal (Lavender et al., 2015). This model proposes that emotional regulation involves the modulation of emotional arousal as well as awareness, understanding, and acceptance of emotions and the ability to act in desired ways without being affected by particular emotional states. Through this model, The Difficulties in Emotion Regulation Scale was developed, which has been used to assess difficulties in emotion regulation within eating disorder populations (e.g., Brockmeyer et al., 2012; Harrison, Sullivan, Tchanturia, & Treasure, 2009; Harrison, Sullivan, Tchanturia, & Treasure, 2010; Racine & Wildes, 2013). The DERS is a self-report measure that assesses emotional regulation within the following domains: (1) awareness and understanding of emotions, (2) acceptance of emotions (3) the ability to engage in goal-directed behaviour and (4) access to emotion regulation strategies perceived as competent.

Using the DERS, Brockmeyer et al. (2014) examined ER problems across different ED subtypes. One hundred and twenty participants with either AN-R, AN-BP, BN and BED were included, with 60 normal healthy weight and 29 healthy over-weight controls included for comparison. Results showed that all eating disorder subtypes reported significantly higher levels of ER difficulties across all subscales of experiencing, recognising and regulation negative emotions compared to healthy controls. Lavender et al. (2014) aimed to examine associations between difficulties in ER, eating disorder symptoms and, specifically, symptoms of BN. A sample of 80 adults with full or subthreshold BN completed the DERS and the Eating Disorders Examination (EDE) interview. Results showed that EDE scores were significantly positively correlated with the DERS total score, as well as several DERS subscales: non-acceptance, impulse and strategies.

Furthermore, the DERS goals subscale was found to be uniquely associated with the frequency of purging and driven exercise, although none of the subscales were associated with frequency of objective binge eating. These findings are consistent with previous literature which shows those with ED's have elevated levels of emotion dysregulation and that difficulties in ER may contribute to ED psychopathology (Harrison, Sullivan, et al., 2010; Svaldi et al., 2012; Haynos & Fruzzetti, 2011; Wildes, Ringham, & Marcus, 2010; Wonderlich et al., 2014). However, replication of these findings in larger sample sizes is still required, and we are still unaware of the factors that may mediate the relationship between ER and disordered eating behaviour.

Svaldi et al (2012) examined whether difficulties in ER vary across different sub-types of eating disorder in a sample of 136 participants with either AN (*n*=20), BN (*n*=18), BED (*n*=25), MDD (*n*=16) or healthy controls (*n*=42). Results showed that those with an ED reported significantly higher levels of all DERS subtypes, including measures of emotion intensity, less acceptance, awareness and clarity of emotions, and they had more self-reported emotion regulation problems and dysfunctional emotion regulation strategies compared to healthy controls. When comparing the differences between the ED groups, no significant differences emerged for most of the emotion regulation variables. Interestingly, no differences were found between those who have BPD and MDD, suggesting that ER difficulties may be an indicator of psychopathology in general rather than disorder specific.

Experimentally, the relationship between non-acceptance of emotional responses and disordered eating behaviour has also recently been investigated. Naumann et al. (2016) examined the usage of spontaneous emotion regulation in those with AN, BN or healthy controls. Participants were asked to watch a sad film clip and indicate on analogue scales to what extent they had used methods of emotion regulation during this film. In line with previous research (Svaldi et al., 2012; Brockmeyer et al., 2014), results showed no differences between the eating disorder groups when assessing levels of reappraisal, and both used more rumination and suppression and less acceptance, compared to healthy controls. Further analysis found that eating disorder severity was predicted by spontaneous rumination and suppression. These results suggest that those with AN and BN may be more likely to engage in

maladaptive emotion regulation and suppression and rumination appear to be associated with ED pathology.

The typical action tendency associated with disgust is one of rejection and avoidance (Rozin, Haidt and McCauley, 1999). However, this reaction is impaired when the stimulus producing the disgust is internal or part of the self. Self-disgust has been theorized as an emotion schema (Powell et al., 2014), which has the potential to be enduring. Similar responses to adaptive disgust experiences are thought to occur when experiencing self-directed disgust such as repulsion or nausea and behavioural responses such as avoidance and rejection (Powell et al., 2014). Individuals who experience self-disgust may engage in some degree of avoidance or engage in distracting cognitive techniques in an attempt to cleanse or rid themselves of the perceived disgusting stimulus (i.e. themselves or part of themselves) (Powell, 2014; Espeset 2012). Recent theoretical models also suggest that eating disorders may be conceptualized as a disturbed sense of self that results in emotional responses characterized by disgust and abhorrence of the self (Moncrieff-Boyd, Byrne, & Nunn, 2014). Moncrieff-Boyd et al. (2014) propose that experiencing self-directed disgust may occur because of an inability to discriminate between the self and non-self. Furthermore, viewing the self as the non-self, combined with a disgust-based rejection of parts of the self may explain why self-disgust occurs in those with AN. Consistent with this view, Ille and colleagues (2014) found that patients with an eating disorder reported more self-disgust than those with other disorders.

The role of self-disgust within emotion regulation has also been considered within other more complex emotions such as anger. The SPAARS-ED model (Fox and Power, 2009) argues that the function of an ED is to avoid painful emotions and behaviours such as restriction, binging or purging facilitate that avoidance. As a result of this, negative emotions such as anger may manifest into self-disgust (Fox & Power, 2009). Research supports the associations between self-disgust and anger (Fox, 2009; Fox & Harrison, 2008; Fox et al., 2013) and given that associations have been found across multiple disorders, it can be argued that this emotional coupling may occur across the spectrum of disordered eating behaviour. Finally, given that anxiety and depression have already been implicated within self-

disgust (Overton et al., 2008; Amir et al., 2010) and difficulties in emotion regulation (Wildes et al., 2010; 2011); more evidence is needed to specify the type of role self-disgust may play within these already identified associations.

The associations between difficulties in emotion regulation and disordered eating behaviour have already been well established (Lavender et al., 2015). However, the factors that maintain this relationship are less clear. Individuals with an ED who have difficulty in regulating emotions may be more likely to engage in avoidance, have difficulty understanding distressing emotions and internalize emotions (Gratz & Roemer, 2004; Lavender et al., 2015). The more sensitive someone is to disgust, the more likely they are to engage in avoidance restrictions (McNally, 2002). With this in mind, they may be more likely to experience self-disgust and develop maladaptive responses to this emotion. Self-disgust has been shown to mediate the relationship between dysfunctional thoughts and depression (Overton et al., 2008). As self-disgust appears to be something that occurs across multiple psychopathologies (Ille et al., 2014) it is argued that this emotion is an "enduring dysfunctional phenomenon" and the emotion itself may play a functional role in the maintenance of disordered eating beviour. If difficulties in emotion regulation contribute to the development of disordered eating behaviour and those with an eating disorder are more likely to experienced self-directed disgust than those who do not; self-disgust may potentially explain the association between difficulties in emotion regulation and disordered eating behaviour.

AIMS AND HYPOTHESES

It can be argued that there is a substantial body of literature supporting the view that both AN and BN are broadly characterised by emotion dysregulation, with certain types of dysregulation appearing to be present across both AN and BN (Lavender et al., 2015). Emotions, such as self-disgust, are implicated in eating psychopathology (Bell et al., 2017; Palmeria et al., 2017), and individuals with high levels of self-disgust may be unwilling to engage or understand other negative emotions and thus may be motivated to engage in behaviours that function to escape or gain control of these emotions. In line with this, other emotions and co-morbidities such as anxiety, depression and the emotion anger have been implicated within the experience of self-disgust and difficulties within emotion regulation

(Wildes et al., 2010; 2011). With this in mind, this study aimed to examine the relationship between self-disgust, emotion regulation and disordered eating behaviour. Associations between specific emotional dysregulation dimensions and eating psychopathology were examined as well as other established covariates of anxiety, depression and anger. In line with this, this study aimed to examine whether self-disgust could uniquely predict disordered eating behaviour after accounting for difficulties in emotion regulation and whether this emotion mediated the relationship between difficulties in emotion regulation and disordered eating behaviour. It was hypothesised that:

I. Self-Disgust and Difficulties in Emotion Regulation would be significantly associated with one another.

II. Self-Disgust would be uniquely associated with disordered eating after controlling for anxiety, depression, anger and ER strategies in hierarchical regressions.

III. Self-Disgust would mediate the associations between different ER strategies and eating psychopathology.

4.2 METHOD

PARTICIPANTS

Within Study 1, significant differences were found in levels of self-disgust between the clinical and non-clinical group. Because of this, the non-clinical group was excluded from further analysis. The sample within this study consisted of 364 participants with a diagnosis of AN (*n*=261) or BN (*n*=103). Age ranged between 18-56 (*Mean*=25.08, *SD* 7.76. Details on ethnicity, education and involvement in treatment can be found in section 3.2.

DESIGN

This was a cross-sectional correlation study which used measures of eating disorder symptoms as the dependent variable and scores of self-disgust, difficulties in emotional regulation, anxiety, depression and anger as the measured variables. Questionnaires were presented in a randomised order via the Qualtrics software programme (Qualtrics Copyright © 2015) in order to limit potential effects of order and fatigue.

MATERIALS

Details on the measures used can be found in section 3.2 and Appendix E.

PROCEDURE

Procedural details for this investigation can be found in section 3.4.

DATA COLLATION AND ANALYSIS

Scores for Disordered Eating Behaviour, Self-Disgust, Anxiety and Depression were collated as per the description given in Section 3.2. Scores for Anger were collated from the Clinical Anger Scale (Snell et al., 2004) by summing all scored, with higher scores corresponded to greater clinical anger (21 items; range 0 - 63). Subscale scores were also collated from the Difficulties in Emotion Regulation Scale (Gratz and Roemer, 2004). Scores were generated for Nonacceptance of emotional states (ERNA), Difficulty with goal-directed behaviour in the context of emotional distress (ERG), Difficulty controlling behaviours when upset (ERI), Lack of emotional awareness (ERA), Limited access to adaptive emotion regulation skills (ERS) and Lack of emotional clarity (ERC). Scores for ERNA are generated by summing items 11,12,21,23,25 & 29. Scores for ERG are generated by summing items 13,18,20 and 26. Item 20 is reverse scored. Scores for ERI are generated by summing items 3,14,19,24,27 and 32. Items 24 are reversed scored. Scores for ERA are generated by summing items 2,6,8,10,17 and 34. All of these items are reversed scored. Scores of ERS are generated by summing items 15,16,22,28,30,31,35 and 36. Item 22 is reversed scored. Finally, scores for ERC are generated by summing items 1,4,5,7, and 9 with items 1 and 7 reversed scored.

Statistical analysis was carried out using IBM SPSS 25, with the inclusion of a PROCESS Macro (Hayes, 2012). Data were analysed in four phases. First, descriptive statistics of the eating disorder, disgust and difficulties in emotional regulation variables were generated, outlining the overall scores and means for each measure. Second, Spearman's correlations between eating disorder, disgust and difficulties in emotional regulation variables were conducted to identify potential associations. Third, hierarchical regressions were conducted. Within Model 1, anxiety, depression and anger were entered as these variables have already been established to be associated with disordered eating behaviour within the literature (Wildes et al., 2010/2011; Waller et al., 2003). Within Model 2, Difficulties in

Emotion Regulation were then entered. Finally, in Model 3, Self-Disgust was entered to examine whether it was associated with disordered eating behaviour after accounting for anxiety, depression, anger and difficulties in emotion regulation. The final phase of analysis involved mediation analysis. These were conducted using significant variables from the hierarchal regression analysis (i.e. the ones identified in Model 3) to examine whether self-disgust mediated the relation between these variables and disordered eating behaviour. All hierarchical and mediation analyses were bootstrapped to account for errors that may have occurred as a result of the lack of normality within the data.

4.3 RESULTS

DESCRIPTIVE STATISTICS IN SELF-DISGUST, ANXIETY, DEPRESSION, ANGER AND ALL EMOTION REGULATION VARIABLES

Descriptive data for measures of self-disgust, anxiety, depression, anger and all measures of difficulties in emotion regulation are presented in Table 4.1 below

Table 4.1

Descriptive Statistics of the Disgust, Anger and Difficulties in Emotional Regulation Variables measured in a sample of 364 female participants with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	Mean	SD
Self Disgust	50.67	18.93
Self Disgust-Self	18.65	8.80
Self Disgust- Behaviour	24.57	9.12
Anxiety	25.60	15.20
Depression	24.40	16.87
Anger	11.22	11.07
ERNA	18.21	8.33
ERG	17.25	6.18
ERI	16.92	7.60
ERA	17.85	6.53
ERS	24.02	10.33
ERC	14.21	5.69

SPEARMAN'S CORRELATIONS IN SELF-DISGUST, ANXIETY, DEPRESSION, ANGER AND ALL EMOTION REGULATION VARIABLES

Correlations between the variables within the combined eating disorder group are presented in Table 4.2 below. These show that self- disgust was significantly and positively correlated with all anxiety, depression and anger variables (p<.001). Significant positive correlations were also found between all of the difficulties in emotion regulation strategies (p<.001) between the two groups.

Table 4.2

One-tailed Spearman's Correlations between of the Disgust, Anxiety, Anger, Depression and Emotion Regulation Strategies measured in a sample of 364 Female Participants with either a Diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	SD-Total	SD-S	SD-B	Anxiety	Depression	Anger	ERNA	ERG	ERI	ERA	ERS	ERC
Age	-.058	-.053	-.085	-.135*	-.107*	-.116*	-.034	-.165**	-.130*	.027	-.189**	-.144
SD-Total		.870**	.834**	.637**	.665**	.501**	.522**	.403**	.514**	.325**	.542**	.508**
SD-Self			.577**	.548**	.620**	.450**	.530**	.409**	.544**	.308**	.564**	.503**
SD-Behaviour				.576**	.625**	.474**	.523**	.397**	.511**	.342**	.539**	.510**
Anxiety					.602**	.478**	.496**	.378**	.498**	.270**	.502**	.485**
Depression						.803**	.755**	.659**	.741**	.563**	.797**	.733**
Anger							.636**	.598**	.691**	.445**	.691**	.641**
ERNA								.700**	.766**	.488**	.798**	.728**
ERG									.782**	.364**	.821**	.619**
ERI										.467**	.864**	.728**
ERA											.495**	.682**
ERS												.744**

*** p< .001, *p<.005*

ASSOCIATIONS BETWEEN SELF-DISGUST AND EMOTION REGULATION ACROSS THE TWO GROUPS

Using the enter method, hierarchical regressions were conducted to identify whether self-disgust could predict total EDE-Q scores above and beyond the other variables of anxiety, depression, anger and difficulties in emotion regulation. Further analysis focusing on the subscales of Self-Disgust can be found in Appendix K. In model 1, it was found that measures of anxiety, depression and anger explained a significant amount of the variance across the clinical group $F(3, 361)= 223.05$, $p<.001$, $R^2=.553$, R^2 Adjusted =.551. Anxiety and Depression were found to be significantly associated with Total EDE-Q Scores ($ps<.001$) but Anger was not ($p=.352$).

In model 2, it was found that measures of anxiety, depression, anger and variables of difficulty in emotion regulation explained a significant amount of the variance across the two groups $F(9, 355)= 81.42$, $p<.001$, $R^2=.578$, R^2 Adjusted =.571, $p<.001$. Measures of Anxiety, Depression, Non-acceptance of emotional states, Difficulty controlling behaviours when upset and Lack of emotional clarity were all found to be significantly associated with Total EDE-Q Scores ($ps<.001$). However, Anger ($p=.125$) Difficulty with goal-directed behaviour in the context of emotional distress ($p=.636$), Limited access to adaptive emotion regulation skills ($p=.360$), Lack of emotional awareness ($p=.910$) were not found to be significantly associated with Total EDE-Q Scores.

Finally, in Model 3 measures of self-disgust, anxiety, depression, anger and variables of difficulty in emotion regulation explained a significant amount of the variance across the two groups $F(10, 354)= 87.08$, $p<.001$, $R^2=.620$, R^2 Adjusted =.631, $p<.001$. Measures of Self, Disgust, Anxiety, Depression, Non-acceptance of emotional states and Lack of emotional clarity were all found to be significantly associated with Total EDE-Q Scores ($ps<.001$). Anger ($p=.229$) Difficulty with goal-directed behaviour in the context of emotional distress ($p=.526$), Limited access to adaptive emotion regulation skills ($p=.627$), Lack of emotional awareness ($p=.061$) and Difficulty controlling behaviours when upset ($p=.232$) were not found to be significantly associated with Total EDE-Q Scores. Most importantly, Self-Disgust was found to act as a predictor for Total-EDE-Q after accounting for all

other emotion and difficulty in emotion regulation variables (p<.001). These are displayed in Table 4.3.

Table 4. 3

Hierarchical Regression Analysis to Examine whether Self-Disgust is related to Disordered Eating Behaviour after controlling for Anxiety, Depression and Variables of Emotion Dysregulation in a sample of 364 female participants with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	B	Std Error	β	Bootstrap CI
Model 1				
Anxiety	.412	.091	.150	(.234, .590)**
Depression	1.671	.082	.677	(1.511, 1.832)**
Anger	-.148	.149	-.038	(-.441, .145)
Model 2[a]				
Anxiety	.432	.090	.158	(.256, .608)**
Depression	1.107	.115	.448	(.881, 1.333)**
Anger	-.192	.146	-.049	(-.479, .095)
ERNA	.909	.228	.201	(.461, 1357)**
ERG	.241	.306	.043	(-.360, .842)
ERI	.594	.292	.120	(.021, 1.166)*
ERA	.473	.219	.088	(.042, .903)
ERS	-.089	.262	-.025	(-.603, .425)
ERC	-.656	.351	-.103	(-1.346, .033)*
Model 3[b]				
Anxiety	.260	.093	.095	(.076, .443)**
Depression	.882	.120	.357	(.646, 1.118)**
Anger	-.161	.143	-.041	(-442, .120)
ERNA	.845	.224	.186	(.406, 1.283)**
ERG	.457	.302	.081	(-.136, 1.050)
ERI	.547	.285	.111	(-.014, 1.107)
ERA	.532	.215	.099	(.110, .954)
ERS	-.144	.256	-.040	(-.648, 3.59)
ERC	-.693	.344	-.109	(-1.368, -.018)*
Self-Disgust	.402	.076	.192	(.253, .551)**

[a] *F change (6, 324) = 3.62, p<.001.*
[b] *F change (1, 323)= 14.49, p<.001.*
*** p< .001, *p<.005*

MEDIATION ANALYSES

For the analysis, SPSS Process Macro (Hayes & Rockworth, 2016; Hayes, 2018) was used to enable effect size comparisons. Analysis with 5000 resamples and 95% confidence intervals (CIs) was used to test whether the relationship between Anxiety, Depression, ERNA and ERC (x's) and Total EDE-Q (y) was mediated by Self-Disgust (m). Therefore four individual mediation analyses were run using Process model 4. See Figure 4.1 for the hypothesised mediation for each analysis.

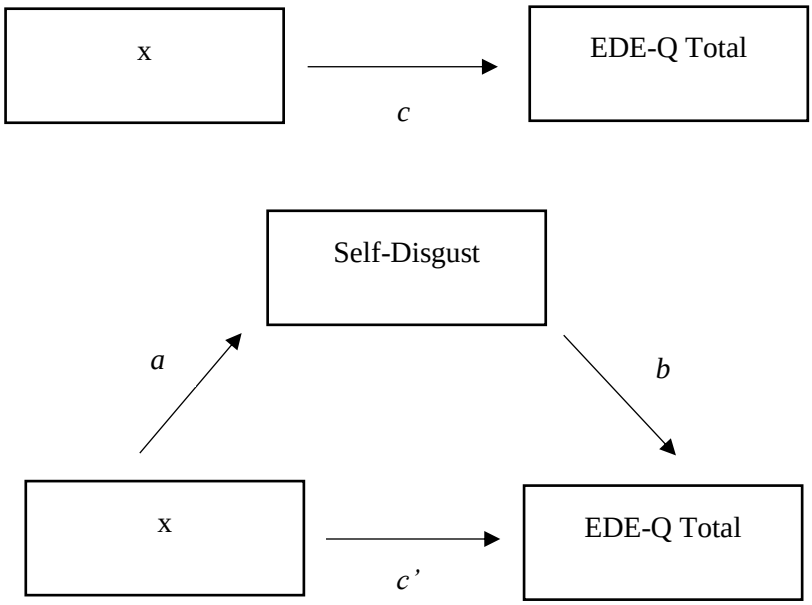


Figure 4.1: *Hypothesised Mediation Model*

DOES SELF-DISGUST MEDIATE THE RELATIONSHIP BETWEEN DEPRESSION AND TOTAL EDE-Q?

For the analysis, SPSS Process Macro v3.4 (Hayes & Rockworth, 2016; Hayes, 2018) was used to enable effect size comparisons. Analysis with 5000 resamples, and 95% confidence intervals (CIs) was used to test whether the relationship between Depression (x) and Total EDE-Q (y) was mediated by Self-Disgust (m). Self-Disgust was found to mediate the relationship between Depression and Total EDE-Q. See Table 4.4 for path coefficients and regression results for each step. Step 1 of the mediation model (path a) was significant R^2=.54, F(1,555)=664.13, p < .001 as was step 2 (paths b,c,c'): R^2=.584, F(2,554)=388.86, p < .001.

Table 4.4

Depression, Self-Disgust and Disordered Eating Behaviours: Mediation path coefficients

	B (SE)	CI	t	p
Path *a*: Self-Disgust-Depression	.83(.03)	(.77, .89)	25.77	<.001
Path *b*: Self-Disgust	.60 (.09)	(.43, .77)	6.99	<.001
Path *c*: Depression total	1.76(.70)	(1.62, 1.89)	25.90	<.001
Path *c'*: Depression direct	1.26 (.11)	(1.07, 1.45)	13.05	<.001
Depression indirect	.50 (.11)	(.30, .72)	n/a	n/a

DOES SELF-DISGUST MEDIATE THE RELATIONSHIP BETWEEN ANXIETY AND TOTAL EDE-Q?

For the analysis, SPSS Process Macro v3.4 (Hayes & Rockworth, 2016; Hayes, 2018) was used to enable effect size comparisons. Analysis with 5000 resamples and 95% confidence intervals (CIs) was used to test whether the relationship between Anxiety (x) and Total EDE-Q (y) was mediated by Self-Disgust (m). Self-Disgust was found to mediate the relationship between Anxiety and Total EDE-Q. See Table 4.5 for path coefficients and regression results for each step. Step 1 of the mediation model (path a) was significant R^2=0.41, F(1,561)=390.57, p < .001 as was step 2 (paths b,c,c'): R^2=0.47, F(2,560)=244.66, p < .001

Table 4.5

Anxiety, Self-Disgust and Disordered Eating Behaviour: Mediation path coefficients

	B (SE)	CI	t	p
Path *a*: Self-Disgust-Anxiety	.79 (.040)	(.719, .877)	19.76	<.001
Path *b*: Self-Disgust	1.14(-.086)	(.972, 1.308)	13.32	<.001
Path *c*: Anxiety total	1.44 (.094)	(1.260, 1.628)	15.39	<.001
Path *c'*: Anxiety direct	.534 (.107)	(.325, .744)	5.01	<.001
Anxiety indirect	.910 (.088)	(744, 1.088)	n/a	n/a

DOES SELF-DISGUST MEDIATE THE RELATIONSHIP BETWEEN ERNA AND TOTAL EDE-Q?

For the analysis, SPSS Process Macro v3.4 (Hayes & Rockworth, 2016; Hayes, 2018) was used to enable effect size comparisons. Analysis with 5000 resamples and 95% confidence intervals (CIs) was used to test whether the relationship between ERNA (x) and Total EDE-Q (y) was mediated by Self-Disgust (m). Self-Disgust was found to mediate the relationship between ERNA and Total EDE-Q. See Table 4.6 for path coefficients and regression results for each. Step 1 of the mediation model (path a) was significant R^2=.34, F(1,545)=283.55, p < .001 as was step 2 (paths b,c,c'): R^2=.34, F(1,545)=283.55, p < .001

Table 4.6

ERNA, Self-Disgust and Disordered Eating Behaviour: Mediation path coefficients

	B (SE)	CI	t	p
Path *a*: Self-Disgust-ERNA	1.33 (.08)	(1.17, 1.48)	16.84	<.001
Path *b*: Self-Disgust	1.11, (.07)	(.97, 1.25)	15.45	<.001
Path *c*: ERNA total	2.88(.16)	(2.57, 3.40)	18.10	<.001
Path *c'*: ERNA direct	1.40, (.16)	(1.08, 1.76)	8.56	<.001
ERNA indirect	1.48, (.18)	(1.14, 1.86)	n/a	n/a

DOES SELF-DISGUST MEDIATE THE RELATIONSHIP BETWEEN ERC AND TOTAL EDE-Q?

For the analysis, SPSS Process Macro v3.4 (Hayes & Rockworth, 2016; Hayes, 2018) was used to enable effect size comparisons. Analysis with 5000 resamples and 95% confidence intervals (CIs) was used to test whether the relationship between ERC (x) and Total EDE-Q (y) was mediated by Self-Disgust (m). Self-Disgust was found to mediate the relationship between ERC and Total EDE-Q. See Table 4.7 for path coefficients and regression results for each step. Step 1 of the mediation model (path a) was significant R^2=.29, F(1,546)=227.64, p < .001 as was step 2 (paths b,c,c'): R^2=.53, F(2, 545)=305.51, p < .001

Table 4.7

ERC, Self-Disgust and Disordered Eating Behaviours: Mediation path coefficients

	B (SE)	CI	t	p
Path *a*: Self-Disgust-ERC	1.81(.12)	(1.57, 2.04)	15.08	<.001
Path *b*: Self-Disgust	1.29 (.07)	(1.14, 1.42)	17.81	<.001
Path *c*: ERC total	3.47, (.25)	(2.67, 3.96)	13.65	<.001
Path *c'*: ERC direct	1.14, (.24)	(.67, 1.61)	4.75	<.001
ERC indirect	2.32 (.29)	(1.80, 2.94)	n/a	n/a

4.4 DISCUSSION

Within this study, it was hypothesised that self-disgust would be uniquely associated with disordered eating after controlling for anxiety, depression, anger and ER strategies. It was further hypothesised that self-disgust would mediate the associations between emotion regulation strategies and disordered eating behaviour. This study provides novel evidence demonstrating the role of self-disgust within emotion regulation and disordered eating behaviour. It attempts further to explain the role of self-disgust within disordered eating behaviour. Overall, self-disgust appeared to show a significant and positive relationship with all subtypes of emotion regulation and disordered eating behaviour, as well as measures of anxiety, depression and anger. Further analysis showed that self-disgust, anxiety, depression, non-acceptance of emotional states and lack of emotional clarity were all statistical predictors of total EDE-Q scores. In line with this, self-disgust uniquely accounted for a significant amount of the variance within this hierarchy. Finally, self-disgust was found to mediate the relationship between anxiety, depression non-acceptance of emotional states and lack of emotional clarity and Total EDE-Q Scores.

It was hypothesised that self-disgust would be uniquely associated with disordered eating after controlling for anxiety, depression, anger and ER strategies, and to the author's knowledge this is the first study to demonstrate this relationship successfully. Findings suggest that self-disgust was able to predict scores of eating psychopathology above and beyond other emotion variables of anxiety and depression that are already well established within the field (Sloan et al., 2017). In line with this, self-disgust accounted for more variance in disordered eating behaviour compared to measures of non-acceptance of emotional states, difficulty controlling behaviours when upset, lack of emotional awareness and lack of emotional clarity. These findings support the few previous studies that suggest that self-disgust is implicated within eating psychopathology (Moncrieff-Boyd & Nunn, 2014; Bell et al., 2017; Palmeria et al., 2017) and imply that targeting this emotion may offer more of an understanding of the factors that contribute to the aetiology of disordered eating behaviour across the spectrum of eating disorders. However, more longitudinal research is needed to establish whether the relationship between self-disgust and disordered eating behaviour is consistent over time.

It was also hypothesised that self-disgust would mediate the relationship between emotional regulation strategies and disordered eating behaviour. This hypothesis was met, as self-disgust was found to mediate the relationship between non-acceptance of emotional states and lack of emotional clarity and eating psychopathology. The relationship between emotion dysregulation and disordered eating behaviour has already been established within the field (Brockmeyer et al., 2014; Lavender et al., 2015) and it is proposed that difficulties in ER are transdiagnostic features of all eating disorders (Gratz & Roemer, 2004). The findings from the current study support the notion that ER difficulties, specifically non-acceptance of emotional states and lack of emotional clarity, are pertinent across the spectrum of disordered eating behaviour. They also suggest that self-disgust may act as the mechanism that underlies the observed relationship between ER difficulties and disordered eating behaviour. However, as a cross-sectional design was used, causal conclusions cannot be drawn from these findings. Further research is needed to establish whether self-disgust can predict disordered eating behaviour over time and whether the mediating role of this emotion is consistent across more than one-time point.

Interestingly, self-disgust was also found to mediate the relationship between depression and disordered eating behaviour. Self-disgust and depression have already been linked to each other, with early literature suggesting that self-disgust may be particularly related to depression rather than externally elicited disgust (Power & Dalgleish, 1997). Overton et al. (2008) were one of the first research groups to suggest that self-disgust plays a role in depression as they found that self-disgust mediated the relationship between dysfunctional cognitions and depression symptomatology. Further support for this notion was found by Simpson et al. (2010) who found independent roles for both self-disgust and self-esteem in mediating the relationship between dysfunctional cognitions and depression. Finally, longitudinal studies examining this relationship have found that depressive symptoms are predicted by self-disgust over time, with dysfunctional thoughts and self-disgust appearing to interact with one another over 12 months (Powell et al., 2013). The current study is the first to establish a link between depression and self-disgust with the inclusion of disordered eating behaviour. It implies that self-disgust could be a common feature of multiple psychopathologies. Future research could focus on

investigating whether this relationship is consistent over time and examine whether non-acceptance of emotional states, difficulty controlling behaviours when upset, lack of emotional awareness and lack of emotional clarity interact within this paradigm.

This study also included anger within the analysis to consider whether this emotion acted as a statistical predictor of disordered eating behaviour because previous literature has demonstrated that it is a particularly tricky emotion for people with both BN and AN (Power & Fox, 2009). Waller et al. (2003) found that women with eating disorders, reported significantly higher state anger scores and significantly higher anger suppression scores when compared with university student controls. In other words, participants had an increase in their levels of the emotion of anger, but were less likely to express this emotion. Anger was also found to be associated with self-disgust. Results within this study showed that higher scores in anger did not appear to significantly predict disordered eating behaviour, which is in line with previous literature that suggests that this emotion is inhibited in those who suffer from BN or AN. The results also appear to support the idea that self-disgust may act as a dominant-negative emotion within the paradigm of emotion regulation, which in turn may suppress and re-direct a person's expression of the emotion anger (Fox & Power, 2009). However, more literature is needed to clarify this further.

Scores of disordered eating behaviour, anxiety and depression were all found to be associated with difficulties in emotion regulation and these findings are consistent with literature that suggests emotion dysregulation is a common feature across the spectrum of psychopathology (Aldao et al., 2010). More specifically, the results suggest that non-acceptance and lack of emotional clarity may be particularly pertinent within the disordered eating behaviour and self-disgust appears to mediate this relationship. Difficulties in emotion regulation have already been established as a useful target for treatment. Mallorquí-Bagué et al. (2017) suggest that emotion dysregulation is part of all types of eating disorders, and with appropriate intervention can be modified. As self-disgust was found to mediate the relationship between specific ER strategies and disordered eating behaviour, targeting the emotion of self-disgust may offer another strand of a potential treatment for those with an eating disorder.

This study has several strengths including the sizeable clinical sample size, the use of on-line data collection which may have facilitated self-disclosure of eating disorder symptoms (Keele, 2002) and that the findings increase of knowledge of the maintaining factors of difficulties in emotion regulation within disordered eating behaviour. However, the findings do need to be considered in light of several limitations. First, although the sample size was large, the findings cannot be applied to those who suffer from BED or OSFED. Second, as demonstrated in the findings, those with an eating disorder suffer from a lack of emotional awareness and clarity. It is also essential to consider the condition Alexythimia (i.e. the inability of to identify and describe emotions in the self (Sifneos, 1973) as individuals across the spectrum of disordered eating behaviour are known to suffer from this (Westwood et al., 2017). Therefore, assessing these variables using self-report assessments may not be the most accurate form of data collection. Finally, as the data is casual cross-sectional conclusions cannot be drawn from the findings, and more longitudinal research is needed to clarify further the relationship between self-disgust, difficulties in emotion regulation and disordered eating behaviour.

To conclude, the current study found that self-disgust is associated with anxiety, depression, anger, difficulties in emotion regulation and disordered eating behaviour. Self-disgust was also found to mediate the relationship between non-acceptance and lack of emotional clarity and eating psychopathology. Finally, self-disgust mediated the relationship between anxiety, depression and eating psychopathology, which suggests that this emotion may be a common feature of multiple psychopathologies and in turn may prolong patterns of disordered eating behaviour. This suggests that self-disgust is implicated within the maintenance of disordered eating behaviour and may, in turn, may someone experience symptoms of their eating disorder for longer. However, more longitudinal research is needed to establish whether the high scores of self-disgust across the spectrum of eating disorders are consistent over time and whether the mediating role of this emotion is consistent at multiple time points. The next chapter provides a general overview of the longitudinal literature within the field of emotion regulation and coping styles across the spectrum of eating psychopathology and proposes several research questions to be explored in Study 3.

CHAPTER 5: A LONGITUDINAL STUDY TO EXAMINE RELATIONSHIPS BETWEEN SELF-DISGUST, EMOTIONAL REGULATION AND DISORDERED EATING BEHAVIOUR OVER TIME.

A comprehensive understanding of the maintenance of eating disorders is yet to be developed (Monell et al., 2015; 2018). While emotion dysregulation and an inability to cope with intense emotional states have been identified as transdiagnostic features of eating disorders, more longitudinal research is needed to identify causal models for this relationship (Fairburn et al., 2003; Monell et al., 2015). In the previous study, self-disgust was found to be significantly and positively associated with all subtypes of emotion regulation and disordered eating behaviour, as well as measures of anxiety and depression. Self-disgust, depression, non-acceptance of emotional states and lack of emotional clarity were all statistical predictors of total EDE-Q scores. Self-disgust was found to uniquely account for a significant amount of the variance within this hierarchy and act as a mediator between emotion dysregulation and disordered eating behaviour. This chapter aims to identify whether the associations between self-disgust, emotion dysregulation and disordered eating behaviour are significant after a 12 month follow up.

Deficits in emotion regulation broadly characterise eating disorders, and when assessing this across the spectrum of disordered eating behaviour, there are limited differences between disorders (Lavender et al., 2015). Evidence suggests that both AN and BN appear to be characterised by a reduced ability to tolerate emotional distress, particularly in terms in behavioural control (i.e. they are more likely to turn to maladaptive behaviours of restriction or binging/purging when experiencing emotional distress) (Lavender et al., 2015). In line with this, people with either with AN or BN appear to have a reduced emotional awareness and are more likely to suppress/not accept negative emotions. Interestingly, those with AN have been found to have deficits in recognising emotions in others, but those with BN do not tend to display this deficit (Lavender et al., 2015). Finally, recent research suggests that those with AN and BN may be affected by a heightened tendency to avoid emotion-eliciting situations (Lavender et al., 2015; Brockmeyer et al., 2014). However, the longitudinal relationship between specific ER

strategies and disordered eating behaviour and the stability of these constructs is less clear (Mallorquí-Bagué et al., 2018). Understanding the role of emotion regulation within disordered eating behaviour over time could potentially increase understanding of the antecedents to such behaviour, but also offers potential avenues for therapeutic intervention and opportunities to build on evidence-based treatments for both anorexia nervosa and bulimia nervosa (Lavender et al., 2015).

Rachine and Wildes (2015) were some of the first to examine whether ER difficulties were able to predict the development and maintenance of disordered eating behaviour over time. In a sample of 191 participants, with a diagnosis of either AN-R or AN-BP subtypes, ER difficulties were able to significantly predict change in disordered eating behaviour severity following a year of intensive treatment. In line with this, these longitudinal findings were independent of BMI and symptoms of depression. These findings highlight the importance of ER difficulties in maintenance of disordered eating behaviour. However, more research is needed across the spectrum of eating psychopathology as ER difficulties are now recognised as a transdiagnostic feature of disordered eating (Lavender et al., 2015).

Mallorqui-Bague et al. (2018) explored emotion regulation difficulties over time in those with anorexia nervosa, bulimia nervosa, binge-eating disorder and healthy controls. This was assessed using the Eating Disorder Inventory (Garner, 1998), Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004) and the Symptom Checklist-90 Revised (Derogatis, 1990). Five hundred and sixty-four participants completed these measures pre-treatment, and sixty-nine participants were reassessed after treatment. All participants received CBT treatment as well as treatment as usual. Results showed that all participants with a diagnosis of an eating disorder reported more difficulties in emotion regulation compared to healthy controls. However, those who suffered from binge-related behaviours appeared to score higher in emotion regulation difficulties compared to those with restrictive behaviours. Improvements in emotion regulation were associated with disordered eating symptom improvement after treatment which; suggested that emotion regulation can be modified in turn to improve disordered eating behaviour. These findings are consistent with previous literature that

supports the notion of ER being a transdiagnostic feature of disordered eating behaviour (Lavender et al., 2015; Brockmeyer et al., 2014; Monell et al., 2018) and also demonstrates the clinical significance of targeting emotion regulation as a factor that can be modified.

Other constructs may affect someone's ability to regulate their own emotions. Brown et al. (2018) examined whether eating disorder diagnosis moderated associations between alexithymia at treatment admission and change in emotion dysregulation at discharge across both anorexia nervosa and bulimia nervosa. One hundred and fourteen participants taking part in a partial hospital program completed measures of the Toronto Alexithymia Scale and the Difficulties in Emotion Regulation Scale (DERS, Gratz & Roemer, 2004) at the start and end of treatment. Results showed that eating disorder diagnosis moderated the association between admission alexithymia and change in global emotion dysregulation, impulse control difficulties and access to emotion regulation strategies. Anderson et al. (2018) found that, when controlling for age, those who were adults compared to adolescents were more likely to experience difficulties in emotion regulation. More specifically, they had non-acceptance of emotional responses, goal-directed behaviour and impulsivity, as measured by the Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004). Conversely, the presence of binging or purging behaviours was found to be associated with the emotion regulation deficits identified above in adolescents with eating disorders (Anderson et al., 2017).

Focusing on emotional coping styles and particularly avoidant coping strategies, in relation to self-disgust may offer further explanation on the shared emotional component between anxieties, depression and disordered eating (McKay & Presti, 2015; Powell et al., 2013). To date, limited research has examined the longitudinal relationship between self-disgust and disordered eating behaviour, but the role of self-disgust within depressive symptomology has been considered over time. Powell, Simpson and Overton (2013) examined whether self-disgust could mediate depressive symptoms and if this model of mediation would be valid at a 12 month follow up. They also examined whether disgust towards physical appearance would be more strongly associated with depressive symptoms compared to disgust towards behaviour. One hundred and ten participants completed

measures of self-disgust, depression and dysfunctional attitudes at three-time points: baseline, six month and 12 month follow up. The findings were analysed using correlation, regression and mediation methods. Baseline measures of self-disgust significantly predicted depressive symptoms at both 6 and 12 month follow up.

Further, self-disgust mediated the relationship between depression and dysfunctional attitudes at 6 and 12 months. Finally, disgust towards the physical self appeared to account for more variance within depressive symptoms, compared to disgust towards behaviour. These findings are congruent with the idea that self-disgust is present across multiple psychopathologies (Overton et al., 2008; Simpson et al., 2016), thus the associations between depression and disordered eating behaviour this relationship warrants further investigation.

In the above study, disgust orientated towards physical appearance was found to be a more reliable predictor of depressive symptoms compared to disgust towards behaviour, which suggests investigating the role of this association within eating behaviour may be an essential avenue of enquiry. The degree of stability within self-disgust concurs with the visceral nature of the emotion as the individual is perpetually exposed to their disgust elicitor (themselves). In line with this, Von Spreckelsen et al. (2018) suggest that negative body image is associated with higher self-disgust and heightened disgust propensity and sensitivity. It is argued that self-disgust may mediate the relationship between disgust propensity and negative body image. With this in mind, self-disgust may have a detrimental influence on an individual's interpretive and emotional regulatory processes, and this warrants further investigation (Powell, Simpson & Overton, 2013).

The emotions of Disgust and Self Disgust have been theorised to be emotion schemas (Izard, 2007, 2009; Powell, Overton & Simpson, 2014). It is argued that the cognitive higher-order content of the self-disgust emotion schema may involve a lasting appraisal of viewing the self as disgusting. It is suggested that these beliefs (e.g. The way I act makes me feel sick, my body is revolting) may not be permanently present within a person's conscious but have the potential to be triggered or may become

active during specific time points or events. Recurrent disgust responses are believed to result in a more lasting belief that self or aspects of the self are repulsive. Evidence has shown that trait elements of self-disgust are stable over 12 months (Powell, Simpson et al., 2013) and some qualitative work supports the notion that disgust-based reactions towards physical and behavioural aspects of the self may be enduring (Powell, Overton et al., 2014).

5.2 AIMS AND HYPOTHESES

Those who have higher scores of disgust may experience more physiological and emotional arousal (Rohrmann et al., 2009) and the distress associated with experiencing disgusting cues is suggested to be more cognitively penetrable compared to other emotions (Olantunji et al., 2017). Previous chapters have demonstrated that those with AN or BN experience higher levels of self-disgust, and this, in turn, is associated with difficulties in emotion regulation. Understanding how self-disgust interacts with emotion dysregulation over time is of clinical importance because if self-disgust is a mechanism that stays relatively stable after recovery, it could act as a trigger back into disordered eating behaviour. Targeting this and specific emotion dysregulation strategies may offer a more tailored therapeutic intervention for both AN and BN. In line with this, ER strategies are now a novel target for therapeutic intervention (Lavender et al., 2015) and also have the capacity to lower disordered eating behaviour (Mallorquí-Bagué et al., 2018). With this in mind, this study aimed to examine the role of self-disgust within emotion regulation and disordered eating behaviour longitudinally. It was hypothesised that:

I. Time two measures of Self-Disgust will be associated with Time 2 Total EDE-Q, as well as measures of anxiety, depression and difficulties in emotion regulation.

II. Baseline measures of self-disgust will be associated with total EDE-Q scores at follow up across the spectrum of disordered eating behaviour, as well as measures of anxiety, depression and difficulties in emotion regulation.

III. Self-disgust will mediate the relationship between anxiety, depression, difficulties in emotion regulation and disordered eating behaviour

5.2 METHOD

PARTICIPANTS

Three hundred and forty participants agreed to take part in the follow up study. Of those participants, 74% completed the follow-up questionnaires meaning that 252 female participants, with a self-reported diagnosis of AN (*n*=155) or BN (*n*=97), took part in the follow-up study. Participants who took part in the previous study and had no history of an eating disorder were not invited to take part in the follow-up study. Age ranged from 18-54 years (M=26; SD= 7.23). All approved ethical considerations were adhered to, and only participants who had opted into the follow up were contacted by email to take part in this study. Information sheets (Appendix C) were given before commencing the study, and written consent was required in advance (Appendix D).

DESIGN

This study was a longitudinal correlational study, comparing baseline measures of emotion (self-disgust, depression, anxiety and anger) and difficulties in emotion regulation variables with follow up scores of disordered eating. The primary outcome variable was eating disorder psychopathology at time 2. Participants who took part in the first stage of this study completed a battery of questionnaires and were then asked to complete the same battery twelve months later. Questionnaires were presented in a randomised order via the Qualtrics software programme (Qualtrics Copyright © 2015) in order to limit potential effects of order and fatigue.

MATERIALS

A full outline of all the materials used can be found in Chapter 3 and Appendix E.

PROCEDURE

Participants who were interested in taking part in the study followed the procedure outlined in Chapter 3. All ethical requirements of informed consent were met in full before each participant took part and

ethical approval for this project was provided by the Ethics Committee of the Department of Health and Life Sciences within De Montfort University.

DATA COLLATION AND ANALYSIS

Statistical analysis was carried out using IBM SPSS 25, with the inclusion of a Process Macro (Hayes; 2012). Similar to Chapters 3 and 4, normality tests were conducted in conjunction with tests for linearity, multicollinearity and homoscedasticity. Shapiro-Wilk tests revealed that data measuring the disgust, anxiety, depression and emotion regulation variables were not normally distributed ($p<.005$). Analysis of the data was conducted in the following ways. First, differences between the groups of participants who took part in the follow-up study were compared to those who chose not to, and descriptive statistics were conducted.

Second, associations between time 2 eating psychopathology and time two scores of self-disgust, anxiety, depression and emotion dysregulation strategies were examined using Spearman's correlation coefficients. Significant associations were then further explored using hierarchical regression with bootstrapped confidence intervals. Similar analyses were also conducted using Time 1 scores of Self-Disgust, Anxiety, Depression, Difficulties in Emotion Regulation and Time 2 Scores of Total EDE-Q. Time 1 scores of Total EDE-Q were also included as a covariant to account for any common variance between Time 2 EDE-Q and the other predictor variables (Dalecki and Willits, 1991). Within the hierarchical regressions, each model was based upon previously published literature, with emotion variables (depression and anxiety) entered in first, then difficulties in emotion regulation strategies, and finally self-disgust with Total EDE-Q score as the outcome variable.

5.3 RESULTS

DESCRIPTIVE STATISTICS IN PARTICIPANTS SELF-IDENTIFIED AS HAVING AN EATING DISORDER (AN AND BN).

A series of one-way un-related Analyses of Variance (ANOVAs) were conducted to explore differences in means between the group of participants who took part in the follow-up study and the group of participants who did not. These means and accompanying statistics are presented in Table 5.2. There were no statistically significant differences between levels of self-disgust, self-disgust

subscales and anxiety, (*ps*>.05). However, there were significant differences between Total EDE-Q Scores, Depression and all Difficulty in Emotion Regulation variables (*ps*<.05) as those who took part in the follow up reported significantly higher levels on all these variables. Bonferroni post hoc tests were conducted and confirmed the significance of these relationships between the two groups (*ps*<.05).

Table 5.1

Differences in Disgust, Disordered Eating Anxiety, Depression and Difficulties in Emotion Regulation between the Follow-up Group (n=252) and the Non-Follow Group (n=111).

	Follow Up Group (*n*=252) Mean (SD)	Non- Follow Up Group (*n*=111) Mean (SD)	Brown- Forsythe
Self-Disgust	56.14 (17.69)	59.26 (13.02)	2.00
Self-Disgust Self	23.88 (8.70)	21.24 (6.17)	2.83
Self-Disgust Behaviour	23.53 (8.43)	30.75 (5.83)	2.84
EDE-Q Total	3.72 (1.52)	5.54 (2.86)	3.90*
Anxiety	28.50 (14.86)	29.77(13.95)	1.63
Depression	30.00 (14.91)	29.08(15.03)	6.20*
ERNA	20.96 (7.59)	19.74(8.98)	6.64**
ERG	18.93 (5.27)	17.43(7.04)	6.89**
ERI	19.40 (6.73)	17.77(8.31)	8.48**
ERA	19.21 (5.69)	18.04(7.52)	5.44**
ERS	27.22 (8.60)	25.16(11.02)	10.09**
ERC	16.17 (4.81)	14.92(6.11)	8.99**

*** p< .001, *p<.005*

Table 5.2 presents the mean scores and standard deviations for all variables measured at Time 1 and 2.

Table 5.2

Descriptive data for time 1 and 2 of emotion, difficulties in emotion regulation and disordered eating behaviour scores in a sample of 252 females with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	Time 1 Mean (SD)	Time 2 Mean (SD)
Self-Disgust	56.14 (17.69)	53.13 (19.46)
Self-Disgust Self	23.88 (8.70)	22.19 (9.43)
Self-Disgust Behaviour	23.53 (8.43)	22.64 (9.27)
EDE-Q Total	3.72 (1.52)	1.56 (1.30)
Anxiety	28.50 (14.86)	27.28 (15.72)
Depression	30.00 (14.91)	22.27 (17.05)
ERNA	20.96 (7.59)	16.75 (9.89)
ERG	18.93 (5.27)	15.23 (8.34)
ERI	19.40 (6.73)	15.33 (9.37)
ERA	19.21 (5.69)	15.77 (8.66)
ERS	27.22 (8.60)	21.09 (12.36)
ERC	16.17 (4.81)	13.06 (7.40)

EXAMING ASSOCIATIONS BETWEEN TIME TWO SCORES OF SELF-DISGUST, DIFFICULTIES IN EMOTION REGULATION AND EATING BEHAVIOUR

Spearman Rank correlation analyses revealed that Eating Psychopathology scores at time two were significantly associated with all emotion and difficulty in emotion regulation variables. These are presented in Table 5.3 below.

Table 5.3

Spearman's correlations on Time 2 Scores of emotion, difficulties in emotion regulation and disordered eating psychopathology variables in a sample of 252 females with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	Total EDE-Q	SD-Total	SD-S	SD-B	Anx.	Dep.	ERNA	ERG	ERI	ERA	ERS	ERC
Age	.120	.043	.066	.066	.020	.087	.078	-.011	.064	.069	.070	-.005
Total EDE-Q		.140*	.176**	.139*	.167**	.295**	.292**	.304**	.269**	.228**	.299**	.211**
SD			.955**	.949**	.527**	.516**	.435**	.336**	.419**	.267**	.468**	.387**
SD- S				.874**	.488**	.492**	.406**	.305**	.387**	.255**	.446**	.356**
SD-B					.474**	.519**	.450**	.356**	.409**	.285**	.462**	.395**
Anx.						.476**	.394**	.394**	.431**	.201**	.459**	.283**
Dep.							.796**	.777**	.798**	.657**	.867**	.754**
ERNA								.723**	.745**	.628**	.806**	.715**
ERG									.825**	.528**	.868**	.690**
ERI										.567**	.879**	.756**
ERA											.605**	.759**
ERS												.752**

** *p< .001, *p<.005*

Using the enter method, hierarchical regressions were conducted to identify whether Time 2 scores of self-disgust could predict total EDE-Q Time 2 Scores above and beyond the other variables of anxiety, depression and difficulties in emotion regulation. In Model 1, it was found that Time 2 scores of Anxiety and Depression explained a significant amount of the variance across the two groups $F(2, 249)= 60.49$, $p<.001$, $R^2=.44$, R^2 Adjusted =.44. In model 2, it was found that time two measures of anxiety, depression and ERC explained a significant amount of the variance across the two groups $F(8, 243)= 16.44$, $p<.001$, $R^2=.47$, R^2 Adjusted =.46. In Model 3, it was found that measures of anxiety, depression, ERNA, ERC and Self-Disgust explained a significant amount of the variance across the two groups $F(9, 242)= 18.60$, $p<.001$, $R^2=.54$, R Adjusted =.51. Most importantly, Time 2 scores of Self-Disgust were found to be associated with Time 2 scores of Total EDE-Q after accounting for all other variables (*ps*<.001)

Table 5.4

Hierarchical Regressions examining whether Time 2 Scores of Self-Disgust, Anxiety, Depression and Difficulties in Emotion Regulation Strategies are Related to Time 2 scores of Eating Psychopathology in a sample of 252 females with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	B	Std Error	β	Bootstrap CI
Model 1				
Anxiety	.006	.002	.250	(.002, .010)**
Depression	.012	.002	.489	(.009, .016)**
Model 2[a]				
Anxiety	.006	.002	.243	(.002, .010)**
Depression	.011	.002	.451	(.007, .016)**
ERNA	.006	.004	.137	(-.001, 0.14)
ERG	.000	.006	-.006	(-.012, 0.11)
ERI	-.001	.005	-.013	(-.010, .009)
ERA	.005	.004	.083	(-.003, .014)
ERS	.004	.005	.095	(-.005, .013)
ERC	-.012	.006	-.170	(-.024, -.001)*
Model [b]				
Anxiety	.007	.002	.273	(.003, .010)**
Depression	.006	.002	.224	(.001, .010)**
ERNA	.007	.003	.159	(.001, .014)**
ERG	.002	.006	.031	(-.009, .013)
ERI	-.007	.005	-.140	(-.017, .002)
ERA	.003	.004	.055	(-.005, .012)
ERS	.006	.004	.128	(-.003, .014)
ERC	-.017	.006	-.239	(-.029, -.006)**
Total Self-Disgust	.010	.002	.387	(.006, .014)**

[a] *F change (6, 243) = 1.42, p=.614*
[b] *F change (1, 242)= 19.36, p<.001.*
*** p< .001, *p<.005*

ANALYSIS FOCUSING ON TIME 1 AND 2 SCORES IN PARTICIPANTS SELF-IDENTIFIED AS HAVING AN EATING DISORDER.

To examine the results from an eating psychopathology perspective, data from participants who self-identified as having AN and BN were combined and analysed using a series of Spearman rank correlations. Correlation analyses revealed that Eating Psychopathology scores at time two were significantly associated with baseline emotion variables and measures of Difficulties in Emotion

Regulation, except for Lack of Emotional Clarity (ERC) scores (p=.082). These are presented in Table 5.5 below.

Table 5.5:

Spearman's correlations for time one measures of emotion, difficulties in emotion regulation and time two eating psychopathology scores in a sample of 252 females with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	T2 Total-EDE-Q	SD	SD-S	SD-B	Anxiety	Depression	ERNA	ERG	ERI	ERA	ERS	ERC
Age	.120	.013	-.002	.035	-.013	.023	-.036	-.207**	-.093	.156*	-.144*	-.066
T2Total EDE-Q		.201**	.172**	.222**	.128*	.243**	.214**	.148*	.188**	.154*	.179**	.082
SD			.941**	.936**	.574**	.799**	.543**	.351**	.562**	.427**	.537**	.597**
SD-S				.858**	.552**	.754**	.514**	.366**	.550**	.407**	.540**	.596**
SD-B					.536**	.761**	.530**	.308**	.539**	.410**	.500**	.541**
Anxiety						.653**	.542**	.348**	.495**	.274**	.482**	.491**
Depression							.613**	.451**	.562**	.453**	.623**	.626**
ERNA								.490**	.601**	.334**	.630**	.590**
ERG									.682**	.109	.723**	.451**
ERI										.234**	.769**	.532**
ERA											.268**	.523**
ERS												.563**

*** p< .001, *p<.005*

Using the enter method, hierarchical regressions were conducted to identify whether Time 1 scores of self-disgust could predict total EDE-Q Time 2 Scores above and beyond the other variables of anxiety, depression and difficulties in emotion regulation. Time 1 scores of Total EDE-Q were also included as a covariate to account for any common variance between Time 2 EDE-Q and the other predictor variables (Dalecki and Willits, 1991).

In Model 1, it was found that Time 1 EDE-Scores explained a significant amount of the variance across the two groups $F(1, 250)= 17.67$, $p<.001$, $R^2=.06$, R^2 Adjusted =.06. In model 2, it was found that time one measures of anxiety and depression explained a significant amount of the variance across the two groups $F(3, 248)= 9.28$, $p<.001$, $R^2=.10$, R^2 Adjusted =.09. Time 1 Scores of Anxiety were found to be significantly associated with Time 2 Total EDE-Q Scores ($p<.001$). In Model 3, it was found that measures of anxiety, depression and variables of difficulty in emotion regulation explained a significant amount of the variance across the two groups $F(9, 242)= 4.15$, $p<.001$, $R^2=.13$, R^2 Adjusted =.10. Time 1 measures of Anxiety were found to be significantly associated with Time 2 Total EDE-Q Scores (*ps*<.001). However, Depression and all difficulty in emotion regulation variables were not found to be significantly associated with Total EDE-Q Scores (*ps*>.05).

Finally, in Model 4 Time 1 measures of self-disgust, anxiety, depression, and variables of difficulty in emotion regulation explained a significant amount of the variance across the two groups $F(10, 241)= 4.00$, $p<.001$, $R^2=.14$, R^2 Adjusted =.11. Similar to previous models, only Anxiety was found to associated with Total EDE-Q Scores ($p<.001$). Self-Disgust, Depression and difficulties in emotion regulation variables were not found to be significantly associated with Time 2 EDE-Q Scores. (*ps*>.001. These are displayed in Table 5.6

Table 5.6

Hierarchical Regressions examining whether Time 1 Scores of Self-Disgust, Anxiety, Depression and Difficulties in Emotion Regulation Strategies are Related to Time 2 scores of Eating Psychopathology in a sample of 252 females with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

	B	Std Error	β	Bootstrap CI
Model 1				
Time 1 EDE-Q	.219	.052	.257	(.117, .322)**
Model 2[a]				
Time 1 EDE-Q	.337	.077	.394	(.185, .488)**
Anxiety	-.021	.007	-.238	(-.035, -.006)**
Depression	.001	.008	.009	(-.016, .018)
Model 3[b]				
Time 1 EDE-Q	.315	.079	.369	(.159, .471)**
Anxiety	-.022	.008	-.256	(-.037, -.008)**
Depression	.001	.010	.011	(-.018, .020)
ERNA	.011	.015	.065	(-.019, .041)
ERG	.025	.023	.099	(-.022, .071)
ERI	.037	.020	.190	(-.003, .077)
ERA	.013	.017	.056	(-.021, .046)
ERS	-.020	.018	-.135	(-.056, .015)
ERC	-.044	.025	-.160	(-.093, .006)
Model 4[c]				
Time 1 EDE-Q	.372	.087	.436	(.201, .544)**
Anxiety	-.023	.008	-.265	(-.038, -.008)**
Depression	.008	.010	.089	(-.013, .028)
ERNA	.010	.015	.058	(-.020, .040)
ERG	.016	.024	.065	(-.031, .063)
ERI	.045	.021	.231	(.004, .086)
ERA	.013	.017	.056	(-.021, .046)
ERS	-.020	.018	-.133	(.056, .015)
ERC	-.033	.026	-.122	(-.084, .018)
Total Self-Disgust	-.014	.009	-.187	(-.031, .004)

[a] *F change (2, 248) = 4.82, p<.001.*
[b] *F change (6, 242)= 1.53, p=.169.*
[c] *F change (1,241)= 2.44, p=.119.*
*** p< .001, *p<.005*

5.4 DISCUSSION

To the author's knowledge, this is the first study to examine the relationship between self-disgust and emotion regulation over time and the impact that this can have on disordered eating behaviour within people who are going through recovery. This study aimed to identify the longitudinal relationship between self-disgust, emotion regulation and disordered eating behaviour. More specifically, it aimed to examine whether time two scores of self-disgust, emotion regulation and disordered eating behaviour were associated with one another and whether time one scores of self-disgust were able to predict time two scores of disordered eating behaviour. Finally, in previous chapters, self-disgust was found to mediate the relationship between anxiety, depression, difficulties in emotion regulation and disordered eating behaviour, and this study examined whether this relationship was consistent over time. Understanding the longitudinal role of self-disgust within difficulties in emotion regulation and disordered eating behaviour is of clinical significance as it adds to our knowledge on the contributing factors to such behaviour but also offers potential avenues for therapeutic intervention and future research.

Based on the findings from the previous chapter, it was hypothesised that time two scores of self-disgust, difficulties in emotion regulation and disordered eating behaviour would be associated with one another. Results showed that time two measures of self-disgust, anxiety, depression and lack of emotional clarity were found to be significantly associated with time 2 eating psychopathology scores. In line with this, hierarchical regressions showed that time two scores of self-disgust were able to predict time 2 eating psychopathology scores after accounting for anxiety, depression and difficulties in emotion regulation. However, time one scores of self-disgust were not found to predict time two scores of disordered eating behaviour. The results from this analysis demonstrated that time one scores of anxiety were the only variable found to predict later scores of disordered eating behaviour. Therefore, the findings suggest that self-disgust is not able to predict changes in eating behaviour, but the relationship does persist over time.

These findings are in line with previous literature which suggests that self-disgust is associated with disordered eating behaviour (Moncrieff-Boyd & Nunn, 2014; Spreckelsen et al., 2018) and also adds to our knowledge by demonstrating that the relationship between self-disgust and disordered eating behaviour persists over time. Limited research has examined whether self-disgust can predict disordered eating behaviour, but recent literature has tended to look at its relationship with body image disturbance. Stasik-O'Brien and Schmidt (2018) recently examined the relationship between disgust and body image disturbance. The associations between self-disgust, disgust propensity, disgust sensitivity and body image disturbance were examined while controlling for negative affect and anxiety. Interestingly, body image disturbance was found to be associated with all three types of disgust, but self-disgust emerged as a unique predictor for this, which suggested that self-disgust may be particularly relevant to the body. From this, it can be argued that self-disgust, along with other emotional variables, such as anxiety, depression and difficulties in emotion regulation, are associated with disordered eating behaviour. Self-disgust may act be a unique contributor within this paradigm because of the visceral responses that occur as a result of it and the enduring focus on the self is inescapable. Therefore, this indicates that experiencing this emotion through recovery warrants further investigation.

Self-disgust, similarly to emotion regulation difficulties, maybe something that stays relatively consistent even after recovery from an eating disorder. Self-disgust is argued to be an automatic emotion that is difficult to control and could act as a potential trigger back into disordered eating. From a clinical perspective, emotion is often regarded as a single concept, with often little consideration given to the different types of emotions experienced within eating psychopathology (Fox & Power, 2009). Theoretically, Powell et al. (2015) proposed that, rather than being a repetitive primary emotion, self-disgust may be an "Emotion Schema" (Izard et al., 2007), which involves both disgust-based feelings and cognitive components focusing on the self. Findings from this study support the notion that self-disgust, when viewed as a schema, is stable over time (Powell et al., 2015). More recent literature has begun to highlight the clinical implications of enduring self-disgust, and these are typically associated with behaviours projecting rejection and avoidance (Rozin, Haidt &

McCauley, 1999). However, when the stimulus that elicits disgust is the self, escaping physically or psychologically does not appear to be possible and people experiencing this may turn to other behaviours to regulate this emotion (i.e. disordered eating behaviour).

Time 2 measures of lack of emotional clarity and non-acceptance of emotional responses were also found to predict time two disordered eating behaviour scores and the notion that emotion dysregulation is something that remains during the recovery process is supported by previous literature. For example, Haynos et al. (2014) investigated changes in emotion regulation difficulties in patients with AN who were admitted as underweight, but after treatment were weight restored. Using the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), no significant improvements were reported between the two-time points and no significant associations were found between BMI and DERS scores. This result was also found to be consistent between different sub-types of AN. Further evidence suggests that low body weight and self-starvation may represent dysfunctional behaviour used to regulate aversive emotions within AN and that these long-standing behaviour patterns are unlikely to change without being directly targeted within therapeutic intervention (Brockmeyer et al., 2012; Haynos et al., 2014).

The findings from this study also show the association between depression and self-disgust within disordered eating behaviour. Hierarchical regressions showed that time two scores of self-disgust were able to predict EDE- Q scores after accounting for depression. When examining the relationship between time one depression and time 2 EDE-Q, results showed that these two variables were also significantly positively associated with one another. The relationship between self-disgust and depression is one that has already been established within the literature as some authors put forward the idea that depression is a disorder of disgust and that the emotion of self-disgust is responsible in order for sadness to develop into a depressive disorder (Power, 2010; Power & Dalgleish, 1997). Moreover, a negative orientation focused on the self, rather than external stimulus, has been theorised in Becks (1967) cognitive theory of depression in which experiencing this disorder includes feelings of disgust for the self. Previous chapters have highlighted the literature that examined the longitudinal

relationship between depression and self-disgust, and these studies found that levels of depressive symptoms were predicted by self-disgust over time.

Furthermore, physical self-disgust (rather than behavioural disgust) was a more reliable predictor of later depressive symptoms over six months (Powell et al., 2013). The relationship between self-disgust and depression has also been explored from a qualitative perspective. Powell et al. (2014) explored the phenomenological experience of self-disgust in a group of women who reported high levels of depressive symptoms. Self-disgust was described as a consuming, visceral state that was often accompanied by other negative emotional states, such as anger and shame. The findings from the current study demonstrate an association between self-disgust and depression in those with an eating disorder, and highlighting the potential for this relationship to be persistent. However, more research is needed to explore further the dynamics of this relationship and the underlying role that self-disgust may play within this.

The final hypothesis stated that time one scores of self-disgust would mediate the relationship between time two scores of anxiety, depression, difficulties in emotion regulation and disordered eating behaviour. However, as Time 1 scores of Self-Disgust were not able to predict Time 2 scores of Total EDE-Q, this analysis was not conducted. Findings from the previous chapter demonstrate that self-disgust played a functional role in the relationship between anxiety, depression, difficulties in emotion regulation and disordered eating behaviour. However, within the current sample, this relationship was not consistent over time. Interestingly, Overton et al. (2008) found that self-disgust mediated the relationship between dysfunctional thoughts and depression and these findings were later corroborated with the inclusion of self-esteem (Simpson et al., 2010). However, in a more recent study, the mediating role of self-disgust was found to be too simplistic, as dysfunctional thoughts and self-disgust interacted over time (Powell et al., 2013). When looking into the mediating role of self-disgust within disordered eating behaviour, Olatunji et al. (2015) found that self-disgust partially mediated the relationship between shame proneness and symptoms of bulimia nervosa and OCD. With this in mind, self-disgust may not play a functional role in the relationship between anxiety, depression and

difficulties in emotion regulation, but an association between these variables does appear to persist over time.

Findings should be interpreted in light of several limitations. First, the use of self-diagnosis and analysing the data from an eating psychopathology perspective means that the results cannot be generalised to specific eating disorders. Second, using questionnaires to gather data on levels of self-disgust, difficulties in emotion regulation and disordered eating behaviour allows for these variables to be quantified at different time points. However, it is still unclear what individual concepts within this paradigm may impact on recovery (Cohen et al., 2000). In line with this, the complexity of disordered eating behaviour and recovery means that the reliability of the scales used could be impacted by numerous confounding factors (Howitt & Cramer, 2005) such as intervening treatment, life events or periods of hospitalisation. It was also noted that the follow-up group had higher scores on many of the measures than the non-follow up group. This suggests that the people who took part in the follow up may have been more unwell at Time 1, compared to those who did not. There also seemed to be reductions in psychological measures from time 1 to time two within the follow-up group, suggesting that participants score of psychopathologies had improved over 12 months. Therefore, this suggests that although this sample was more unwell at time 1, the group had improved by time 2. It could be that the improvement in their psychological health acted as a motivator to take part in both stages of the research. However, as this was not directly analysed within this chapter, it is difficult to conclude whether participants were recovered from this quantitative data alone. Future research could focus on the lived experience of recovery from an eating disorder and examine in detail participants own perceptions of their recovery and the role self-disgust may play within this.

Several implications can be considered from the findings of this study. First, the relationship between self-disgust and disordered eating behaviour does appear to persist over time, as well as scores of depression, anxiety and lack of emotional clarity. This provides further understanding of the emotion of self-disgust and the role it plays within disordered eating behaviour. However, given that time one scores of self-disgust were not able to predict eating behaviour at time 2, more research is needed to

verify the dynamic of this relationship over time. Second, the associations between self-disgust, depression and anxiety in those with an eating disorder support the notion that self-disgust is an emotion that is present across multiple psychopathologies (Overton et al., 2008; Simpson et al., 2010). In line with this, findings suggest that self-disgust does not mediate difficulties in emotion regulation, but rather these strategies are used to regulate negative emotions and in turn, feed into more extended patterns of disordered eating behaviour. From this, it can be argued that self-disgust is implicated within disordered eating behaviour and that this relationship does persist over 12 months. More evidence is needed to qualify the experiences of recovering from an eating disorder and how emotions, such as self-disgust, can impact on this. Understanding the role self-disgust may play within the recovery of an eating disorder is yet to be addressed within the field of eating disorders research and exploring this avenue may provide a range of therapeutic interventions to those who experience self-disgust.

Literature focusing on the role of self-disgust when recovering from an eating disorder is limited, and the idea that disgust could act as a barrier to recovery warrants further investigation. There is minimal research currently available in this area, particularly from a qualitative aspect; most studies focus on the quantifiable experience of eternally elicited disgust within psychopathology (Fox et al., 2015). The next chapter will take an in-depth look at the role of self-disgust within recovery from an eating disorder. This final investigation will aim to highlight and generate themes and narratives about how people with an eating disorder experience the emotion self-disgust through recovery. The findings aim to underpin those found within previous quantitative studies and provide an account for how self-disgust may impact on the aetiology, maintenance and recovery from an eating disorder.

CHAPTER 6: A QUALITATIVE ENQUIRY INTO THE ROLE OF SELF-DISGUST WITHIN RECOVERING FROM AN EATING DISORDER

Barriers to recovery or factors that make someone suffer from an eating disorder for longer are areas of research that have been widely developed within the field. Statistics examining those who relapse or live with an eating disorder for an extended period suggest that 46% of people with AN will recover, 33% improve and 20% remain chronically ill (Beat, 2018). Similar statistics have been found in those who have BN, with 45% making a full recovery, 27% improving considerably, and 23% suffering chronically with the disorder (Beat, 2018). It has also been noted that women with AN are more vulnerable to develop other disordered eating behaviour patterns, such as bingeing or purging during relapses, and those with BN tend to stay trapped or become drawn back into the cycle of bingeing and purging (Evans, 2005). Some of these barriers appear to relate to personal or emotional issues. It has also been recorded that although those with an eating disorder know the damaging impact this behaviour can have on their physical health, "parting with their ego-syntonic symptoms will throw them into an even deeper state of distress and confusion" (Garner, Vitousek & Pike, 1997, p.100). More specifically, going against or parting with the behaviour, values and feelings that are in harmony or acceptable to their own eating disorder's ego.

Furthermore, Orsini (2017) argues that those who develop an eating disorder may experience drastic changes in attitudes towards food and their bodies, resulting in complete dedication to thinness and controlling the body itself. This process can be viewed as a 'form of moral conversation' by increasing control over hunger, and a higher level of satisfaction is achieved, the more hungry one feels. This process is not only consuming but challenging to break out of, and may explain in part the general low rate of recovery of people with disordered eating.

The concept of recovery or 'being recovered' from an eating disorder is one that has proven challenging to define. Researchers suggest that the majority of individuals who recover from an eating disorder continue to experience a range of physical, psychological and emotional impairments, even

after weight and menstruation has been restored in the case of AN (Garner et al.,2004; Bowlby et al., 2012). Several qualitative studies have begun to look at the concept of recovery from the client perspective. For example, early research conducted by Beresin et al. (1989) reported interviews with 13 women who self-identified as recovered. All women agreed that recovering from an eating disorder was a slow and lengthy process and that even after recovery, parts of the eating disorder were still being experienced. Six of the participants saw the eating disorder as a lifelong condition that required less control as they became more recovered. Noordenbos (2011) reviewed 13 qualitative research articles to explore what criteria patients with an eating disorder and therapists view as most relevant for recovery. Criteria of former patients included a healthy food intake and physical recovery, but psychological, social and emotional factors were also seen as very important. Malson et al. (2011) interviewed 39 people with a diagnosis of either AN or BN who had spent time recovering as an in-patient. Taking a constructionist view and using discourse analysis, their narratives revealed that recovery to them meant being able to view themselves as something other than the eating disorder itself as well as a cessation in eating disorder symptoms and increased emotional well-being. Therefore, this highlights the importance of identity and particularly building a more positive identity within recovering from an eating disorder.

Bowlby et al. (2015) examined how recovery is viewed among professionals who have been diagnosed with an eating disorder and now work within the field of clinical treatment for disordered eating. Through phenomenological reflecting (as guided by Moustakas (1994)), 13 women's accounts of recovery were examined, and several themes were found. First, recovery was viewed as a non-linear process. It required each participant to go through a process of de-identification with the disorder and to develop a sense of purpose through meaningful relationships with others. Second, many rejected the idea that behavioural and physical changes solely defined recovery; these were viewed as necessary but not sufficient enough for real internal change to occur. From this, it could be argued that a broader definition of recovery is required and, as well as focusing on behavioural symptomology, weight restoration and obsessional thinking, integrating changes involving identity, meaning and building a sense of purpose in one's life may require a higher level of focus.

De Vos et al. (2017) conducted a recent systematic review using a qualitative meta-analytic approach looking into the criteria for recovery and how patients with an eating disorder viewed the concept of being recovered. From systematically examining 18 studies, themes on recovery were explored. In line with previous literature, a cessation in eating disorder pathology was a core component of recovery. However, dimensions of psychological well-being and resilience were also found to be fundamental components. Psychological well-being can be defined as living a good life, with purpose and meaning and is not solely focused on happiness or positive affect (Ryff, 2011). Within this study, concepts such as building positive relationships, personal growth and self-acceptance were viewed as just as necessary as decreasing disordered eating behaviour and increasing BMI as a marker for recovery. From this, it can be argued that more research is needed to focus on the psychological and emotional factors involved within the recovery process, and that measuring recovery solely on symptom remission may be insufficient.

Little research has focused on the challenges patients may experience in the later stages of recovery and treatment. However, Petersen et al. (2013) suggested four core linear experiences that people with an eating disorder may go through. These were i) realising the negative consequences of their disordered eating behaviour, (ii) searching for alternative coping strategies through recovery, (iii) seeking a sense of normality and a new identity, and finally, (iv) accepting and grieving the loss of their eating disorder and the life they had with it. With this in mind, a focus on controlling symptoms and changing views of weight and shape is usually a priority and focus within the early stages of recovery and therapeutic intervention. However, the authors suggest that within the later stages more focus should be placed on the psychological management of the challenges represented within the four categories, and this is often neglected (Pertersen et al., 2013).

Relatedly, Evans et al. (2011) found that low motivation to change, being unreceptive to professionals' suggestions and shame of the eating disorder prevented people from seeking help earlier for the eating disorder. Using semi-structured interviews, Connie et al. (2016) found that women who do not engage with health services for treatment of their eating disorder, viewed their eating disorder as a form of

self-care; which was consistent with their cultural values concerning gender-specific healthy eating behaviours. Great body image disturbance and poorer psychosocial functioning have also been found to contribute to the risk of relapse within disordered eating behaviour (Pugh & Waller, 2015). The role of the 'inner voice' has also been an area of focus when examining the factors said to drive behaviours of people with AN. Using a grounded theory approach, Higbed and Fox (2010) found that those with AN held dual beliefs about their eating disorder, in that it gave them a sense of purpose and was separate from their own identity, with its voice. Other research has also found that those with AN describe how the anorexic or inner voice acts as a separate entity, pushing them to engage in destructive eating patterns (Tierney, 2008). More recent research has highlighted that those with AN can articulate how the inner voice shifts from positive to negative, and rather than being a source of comfort it can become loud, forceful and convincing that the person in question is flawed and this can only be modified by complete body control and self-sacrifice through disordered eating (Tierney & Fox, 2010). Finally, Skinsketon et al., (2016) found that the eating disorder voice had an impact on every aspect living with an eating disorder, from the development of symptoms, living daily with the disorder and going through the recovery process. This voice appears to change over time, had multiple faces or tones and was something that participants had to argue against. Finally, despite being clinically recovered, this voice still appeared to be residual and something they learned to live with.

Hearing an inner voice and particularly an inner critical voice is more common in those with an eating disorder compared to those who do not and this, in turn, has been associated with high self-criticism, low self-esteem and continued disordered eating behaviour patterns (Noordenbos et al., 2014). It is argued that a highly critical style of self-evaluation may influence someone to continue to lose weight and in turn experience more negative emotions and continued self-questioning (Beck, 1976; Shafran et al., 2002). Someone with an eating disorder may view the voice as a mechanism of control, comfort and security, and any thoughts or behaviours that contradict the eating disorder voice may result in feelings of distress, shame and disgust (Weaver, Wuest & Cilliska, 2005). The findings from the current research programme reported in Chapters 4 and 5 have shown that self-disgust mediates the relationship between difficulties in emotion regulation and disordered eating behaviour, and feelings

of self-disgust persist over time. With this in mind, the idea that self-disgust may have an impact on recovery, or prevent someone from fully recovering from their eating disorder, warrants further investigation.

Self-disgust as a barrier to recovery from psychopathology is an area of research in its infancy. Powell, Overton and Simpson (2013) argue that self-disgust is a consuming, highly negative emotion associated with multiple psychopathologies, such as depression, eating behaviour, physical appearance and interpersonal relationships. When examining the relationship between self-disgust and depression, they found that participants described self-disgust as consuming, and resulting in intense visceral and emotional behavioural reactions. It can result in an intense desire to remove or cleanse the disgusting self or features of the self that are deemed to be disgusting. In the few studies that have examined disgust and eating behaviour qualitatively, disgust has been associated with eating behaviour, with participants describing the sensation of eating food as "utterly repugnant" and touching high fatty foods as impossible because of fear of contamination (Warin, 2003, p.87).

Interestingly, avoidance also appears to be a theme that is associated with the experience of self-disgust within eating disorders. Mcnamara et al. (2016) argue that avoidance of food is associated with the need to control and participants with eating disorders expressed a desire to avoid high fat or "bad" foods. By doing so, feelings of positive control were reinforced, whereas perceived indulgence triggered feelings of disgust in one's self (Mcnamara et al., 2016, p.119). Food does not appear to be the only trigger for self-disgust within eating psychopathology. Esperet et al. (2012) found that emotional disgust responses could be triggered in situations when participants were more aware of their bodies or physical appearance, such as when in social situations or taking a shower. Being in these kinds of situations resulted in participants describing feelings of being overweight, fat or disgusting. These findings imply that disgust directed towards oneself could be a relatively automatic response and could become learned when experiencing psychological distress around eating, one's body shape and weight (Fox & Power, 2009).

Any role that self-disgust might play in recovery from an eating disorder is not yet known, however, preliminary research has shown that an altered interoceptive awareness as a result of disordered eating behaviour may be associated with disgust sensitivity and the maintenance of disordered eating (Vicario, 2013). There is minimal research currently available in this area, particularly from a qualitative perspective, with most studies focusing on the quantifiable experience of eternally elicited disgust within psychopathology (Fox et al., 2015). In the present study, qualitative interviews were conducted to supplement the findings from the quantitative studies outlined in Chapters 3, 4 and 5. Conducting an experiential exploration of the phenomena that is self-disgust would allow each participant to have a voice and provide an in-depth account of their experiences of recovering from an eating disorder. Using Interpretative Phenomenological Analysis (IPA), the role of self-disgust within recovery from an eating disorder was explored, and focused on how this emotion affected their recovery experiences, and the role emotion regulation may have played within this. This study aimed to explore and interpret emergent themes describing how people with an eating disorder experience the emotion of self-disgust through recovery. In order to explore these experiential phenomena, the research questions were:

I. What are some of the lived experiences of individuals currently recovered from an eating disorder?

II. How do emotions such as self-disgust shape the experiences of recovery from an eating disorder?

6.2 METHOD

THEORETICAL BACKGROUND

To understand the experiences of recovering from an eating disorder and how the emotion self-disgust may impact on this, the final wave of data collection within this research programme utilised semi-structured interviews. The method of semi-structured interviews was chosen as it allowed for real-time interaction with participants who had an eating disorder and it is a flexible approach to explore the

lived experienced of recovering from an eating disorder, and the role self-disgust may play within that (Willig & Rogers, 2017). Resultant data was analysed using Interpretative Phenomenological Analysis (IPA), which is now a well-established approach embedded within health and clinical psychology which is used to help understand psychological experiences (Willig & Rogers, 2017). Guided by the three cornerstones of IPA, (phenomenology, hermeneutics and ideography); this type of analysis allowed for flexibility and facilitated the elicitation of rich and in-depth data (Willig, 2015). IPA focuses on a person's experience of a phenomenon and how they make sense of it rather than the phenomenon itself (Smith, 2009) and emphasis is placed on the importance of firstly seeing and observing the phenomena and then offering an interpretation based on individual experience (Dilthey, 1976; Eatough & Smith, 2015).

SAMPLING AND RECRUITMENT

It is deemed good practice within qualitative research to outline the process of sampling and recruitment as this is one way of assuring quality and rigour within a study (Spencer et al., 2003; Tong et al., 2007). Purposive sampling was used to recruit participants for the current study. This method was chosen as it allowed for the representation of the voices of people who are recovering from an eating disorder, who also report high levels of the emotion self-disgust. The inclusion criteria for taking part in the interviews were that participants needed to be over the age of 18 years old and have a self-diagnosis of an eating disorder. Participants also needed to have completed both time one and time 2 of the quantitative data collection phase. This was a requirement as this allowed for an exploration of their recovery journey at multiple time points. All participants that met these criteria were considered for inclusion.

Within qualitative research, there is no definitive number for a sample size within a study. IPA studies typically use small sample sizes so that each individual's story can be considered before comparisons occur across the whole group (Willig & Rogers, 2017). Using a small sample size allows for a detailed analysis of the diversity of the human experience as well as shared experiences amongst participants (Thackeray, 2015). Sample sizes are typically argued to range from one to thirty, and as IPA research

is grounded within an idiographic method, there is a general tendency to use the lower end of that amount (Smith & Shinebourne, 2012). The particularities of each individual's life are something that IPA studies strive to capture, and comparisons within a particular group are believed to be more compelling if they emerge from a case-by-case approach (Willig & Rogers, 2017). Qualitative researchers also discuss the concept of saturation, and by definition, this means that data collection is stopped at the point when data fail to yield new information (Glaser & Strauss, 1967). However, this approach is not usually adopted by IPA research as it is believed impractical and does not align with IPA's aim of gaining rich phenomenological insight. Based on these considerations, this study aimed to recruit up to fifteen participants to allow for an in-depth analysis of individual accounts of how self-disgust may impact from recovering from an eating disorder.

Participants who completed all quantitative measures at time one and two were given the option to opt in to be contacted to take part in an interview. Out of the two hundred and fifty-two participants who completed these measures, fifty-five met the inclusion criteria for this study and were contacted via email to take part. It is argued that recruitment and data collection must be conducted in an organised and systematic fashion (Kuper et al., 2008). As a result of this, the researcher must be flexible and recruit using a context-sensitive approach (Holloway & Todres, 2003). With this in mind, recruitment was conducted steadily over eight weeks, with six to seven participants being contacted each week. Recruitment was organised in this way to allow for steady recruitment and adequate time between each interview. Twelve participants agreed to take part in an interview, and the interviews took place over these eight weeks. A full outline of participants who were excluded or who did not respond is explained in Figure 3.1 (p62).

PARTICIPANTS

Providing a clear outline of the sample of participants within qualitative research can demonstrate how well the findings are supported by the sample and can help a reader to determine the range of people and situations that the findings might be applicable (Sandelowski & Barrosso, 2006; Elliott et al., 1999). Twelve participants, who had taken part in the quantitative studies, reported in Chapters 3, 4 and 5 (and who fitted the inclusion criteria of clinical recovery) completed an interview. All participants were female and the majority identified as White British. Ages typically ranged between 23-29. The oldest participant was 36, and the youngest was 21. Eight of these participants previously had a diagnosis of AN and four with AN binge/purge subtype. However, many discussed that they had received multiple diagnoses throughout living with an eating disorder. With this in mind, their most recent diagnosis was recorded, but this topic was discussed throughout each interview. All were clinically recovered from their eating disorder according to EDE-Q scores recorded within the longitudinal study but were still reporting high levels of self-disgust measured by the SDS (Overton et al., 2008). These scores and descriptive information for each participant are displayed in Table 6.1 below.

Table 6.1

Participants Characteristics, Descriptives and Time 1-2 of Self-Disgust and EDE- Q Scores

Interview Number	Participant Pseudonym	Age	Self-Described Ethnicity	Level of Education	Diagnosis	Time 1 and 2 Self Disgust Scores		Time 1 & 2 Total EDE-Q Scores	
1	Georgia	25	White/Scottish	Master's degree	Anorexia Nervosa	58	71	4.76	1.19
2	Natalie	29	White British	Bachelor's Degree	Anorexia Nervosa	53	59	5.41	1.35
3	Liza	24	White	Bachelor's degree	Anorexia Nervosa	68	69	5.11	1.27
4	Cath	23	White	Degree	Anorexia Nervosa	64	69	2.74	0.675
5	Holly	21	British White	A level; currently in the second year of a degree	Anorexia Nervosa	65	70	2.75	0.69
6	Abigail	19	White British	A level	Anorexia Nervosa	51	53	4.81	1.23
7	Anna	36	White British	MPhil	Anorexia Nervosa	62	69	2.47	0.36
8	Laura	27	White British	National diploma	Anorexia with binge purge subtype	57	60	3.18	0.79
9	Zoe	29	White British	MA	Anorexia with binge-purge subtype	58	67	5.1	1.08
10	Saffron	24	White British	A-Level, currently studying for a BA in English Literature	Anorexia Nervosa	67	70	4.71	1.17
11	Cat	30	British	Degree	Anorexia with binge-purge subtype	76	76	5.11	1.27
12	Sonia	25	White British	Master's degree	Anorexia with binge-purge subtype	68	60	4.3	1.07

Self-Disgust Scores: Maximum score of 84, higher scores indicate higher levels of the emotion.

EDE-Q Scores: Scores under 1.55 indicate subclinical levels of disordered eating behaviour (Fairburn & Beglin, 1994)

MATERIALS

A digital voice recorder was used to capture all interview content, and this was transferred to a secure PC for later analysis. MS Word 2010 was used to create the transcriptions, tables and data analysis notes. The interview schedule (Appendix H) consisted of 19 topical questions that were generated from quantitative findings reported in chapters 3, 4 and 5 and served as an aid for the researcher to support interview discussions. Before data collection began, this interview schedule was reviewed by the supervisory team as well as a team of clinicians working in the local area. Sample questions taken from the interview schedule include: "*Can you tell me a bit about your day-to-day experience of living with an eating disorder?"* "*How often do you feel self-disgust*?" and "*What have been the main challenges of living with an eating disorder*?" These questions were used as to guide the interview and following IPA principles the interviewee was viewed as an experiential expert (Smith et al., 1999) and storyteller, rather than respondent (Willig & Rogers, 2017). Finally, the interviewer used paper and pen to take notes during each of the interviews and participants were notified of this before the interview. Participant information sheets (Appendix F), consent forms (Appendix G) and debriefing sheets (Appendix F) were sent to participants via email, and informed consent was taken from all participants before the interview was conducted.

INTERVIEWS AND PROCEDURE

Interviewing is argued to be one of the most powerful and widely used methods within qualitative research (Willig & Rogers, 2017). There is no prior requirement for IPA studies to use interviews and a range of other methods are available (such as focus groups, diaries or personal accounts) (Smith & Shinebourne, 2012). However, interviews were chosen as it allowed for real-life interaction with participants and was a flexible method to learn about the experiences of living with an eating disorder and how self-disgust may impact on this. Given the previous quantitative phases of data collection within this thesis, the real-life interaction and accounts that may come from interviews was seen as particularly pertinent for this phase of data collection. It can be argued that recovery may indeed be described and interpreted differently within both quantitative and qualitative approaches (Keski-Rahkonen & Tozzi, 2005), and this could also be true for the experiences of self-disgust. Semi-

structured interviews were used, and therefore it was essential to adopt the stance of an enabler (Willig & Rogers, 2017), to help participants discuss their accounts of experiencing self-disgust and how this may have impacted on their recovery. Following an IPA position, semi-structured interviews allow the researcher to enter into the world of the participant. Rather than investigating this world, the researcher is required to be flexible and move between guiding and being led, while remaining open to potential change (Fontana & Frey, 2000). The interviews themselves lasted between 60-90 minutes. The longest interview was 1 hour and 45 minutes, while the shortest was 50 minutes.

Nine of the interviews were conducted over Skype software, and the following three were conducted over the telephone. Particular consideration was placed on ensuring the participant was comfortable interviewing over skype/telephone. All interviews were conducted in private and quiet space as participants were encouraged to be mindful about where they chose to participate. The majority stated that they were most comfortable partaking in the interview while they were at their home, but two participants preferred to be outside of this space. Those two participants were telephoned when they were in a private office at their workspace or outside. Prompts were only used if the interviewee digressed (Smith & Osbourne, 2007). The accuracy of the recording of the interview was implemented by firstly ensuring the internet/phone signal was sufficient. After initial introductions and ethical procedures were explained, participants were made aware that the recording was about the begin and a final check for clarity was conducted ("Can I just double check that you can hear me and my voice is clear"). Once interviews were complete, the recording file for each was transferred to a password-protected computer and backed up on an encrypted electronic device.

ETHICAL CONSIDERATIONS

The Faculty Research Ethics Committee granted ethical approval. Those who responded to the recruitment email were sent a participant information sheet and consent form in advance. Participants were also allowed to ask any questions around the nature of the study and the interview. The researcher assigned each participant a unique pseudonym, and they were reassured that all information given would be anonymised. Interviewees were assured that participation was voluntary and they were

given the option not to answer particular questions if they felt uncomfortable, withdraw their data entirely at any point during the interview or up to two weeks after its completion. After each interview, participants were thanked for their participation, were able to ask questions and were emailed a copy of the debrief form.

ANALYTIC STRATEGY AND QUALITY ASSURANCE

Yardley (2008) argues that commitment and rigour are demonstrated in qualitative work, through a prolonged engagement within the topic and immersion in the data of the research. Within IPA, rigour is defined as "the thoroughness of the study, in terms of the appropriateness of the sample, the quality of the interview and completeness of the analysis" (Smith & Shinebourne, 2012, p.181). Within the current study, commitment was demonstrated throughout the research process from selecting and recruiting the sample (p.131), engaging within participants with sensitivity and respect and completing the analysis in a detailed and meticulous way.

All interviews were transcribed verbatim before analysis. Transcripts were analysed using Interpretative Phenomenological Analysis (IPA). Following initial reading/rereading and line-by-line coding, theme tables were developed for each participant to ensure that all transcripts were analysed individually and in-depth in the first instance. This allowed for a clear understanding of emerging themes throughout each participant's interview. Theme tables were then analysed across participants in order to produce a super-ordinated thematic map. Thematic clusters were labelled and divided into further subordinate themes, which again were appropriately titled (Appendix J). The focus was placed on developing interpretive layers from the themes and supporting quotes, in order for the researcher to truly engage with the participant's personal experiences of recovery (Smith & Shinebourne, 2012; Willig & Rogers, 2017). The concept of 'the gem' was also utilised, to enhance interpretation and understanding of the recovery process itself and the role self-disgust played within it (Smith & Osborn, 2007). Smith (2011) proposed that the gem is used to illuminate parts of the data that the researcher is drawn to, to provide analytical leverage and shine a light on the phenomena under study.

Four themes are presented below, which focus on the process of recovering from an eating disorder and the roles that self-disgust and emotion regulation can play within recovery.

Sensitivity to context is essential to consider when analysing data from IPA studies as analytical claims must be grounded in participants accounts and will always provide a considerable number of verbatim extracts from the participants to support the arguments and interpretations (Smith et al., 2009). Sensitivity can also be demonstrated by offering interpretations that are grounded within data and contextualised by existing literature (Smith & Shinebourne, 2012). It is vitally important to attend carefully to participants experiential claims while manifesting the interpretative activity of IPA (Smith & Shinebourne, 2012). Therefore, a range of extracts from participants have been provided and supporting literature within the field of eating disorders.

6.3 ANALYSIS AND DISCUSSION

OVERVIEW

This chapter presents the results of the data analysis discussed in the previous section and within Chapter 2. Each participant offered a unique account of recovering from an eating disorder, and the role self-disgust may have played in this. Four subordinate themes were developed as illustrated in the thematic map in Figure 6.1. Each theme will be described and discussed with reference to extracts from the twelve interviews conducted. Theme 1 "*The volume of the voice"* discusses the role of the participants 'eating disorder voice' within recovery and how this can be dictated through experiencing good or bad days. It also highlights how participants were more able to recognise and manage feelings of disgust on perceived better days and the role of self-compassion within this. Theme 2 "*Disgust as a trigger"* discusses how that on bad days participants experienced the emotion self-disgust more and this in turn made them more vulnerable to resort to old eating disorder habits, such as restriction or binging/purging, to manage this. Eating during this time was often seen as a failure, and when doing so, the volume of the voice appeared almost to be turned up.

Theme 3 *"Trapped in a body you do not want"* discusses the process of gaining weight when in recovery and the physical sensations of becoming bigger. Accounts suggested that this appeared to increase the participant's awareness of their bodies and in turn, shine a spotlight on the eating disorder. Similar to Theme 1, this process appeared to be coupled with increased comparison to others and increased self-disgust and anxiety. The final theme "*If I am not the eating disorder what am I?"* explored the role of identity when recovering from an eating disorder and how participants describe going through a process of separation and detachment from their eating disorder. Many described how the eating disorder has never wholly left them and how some emotional, cognitive and behavioural aspects of it still lay dormant.

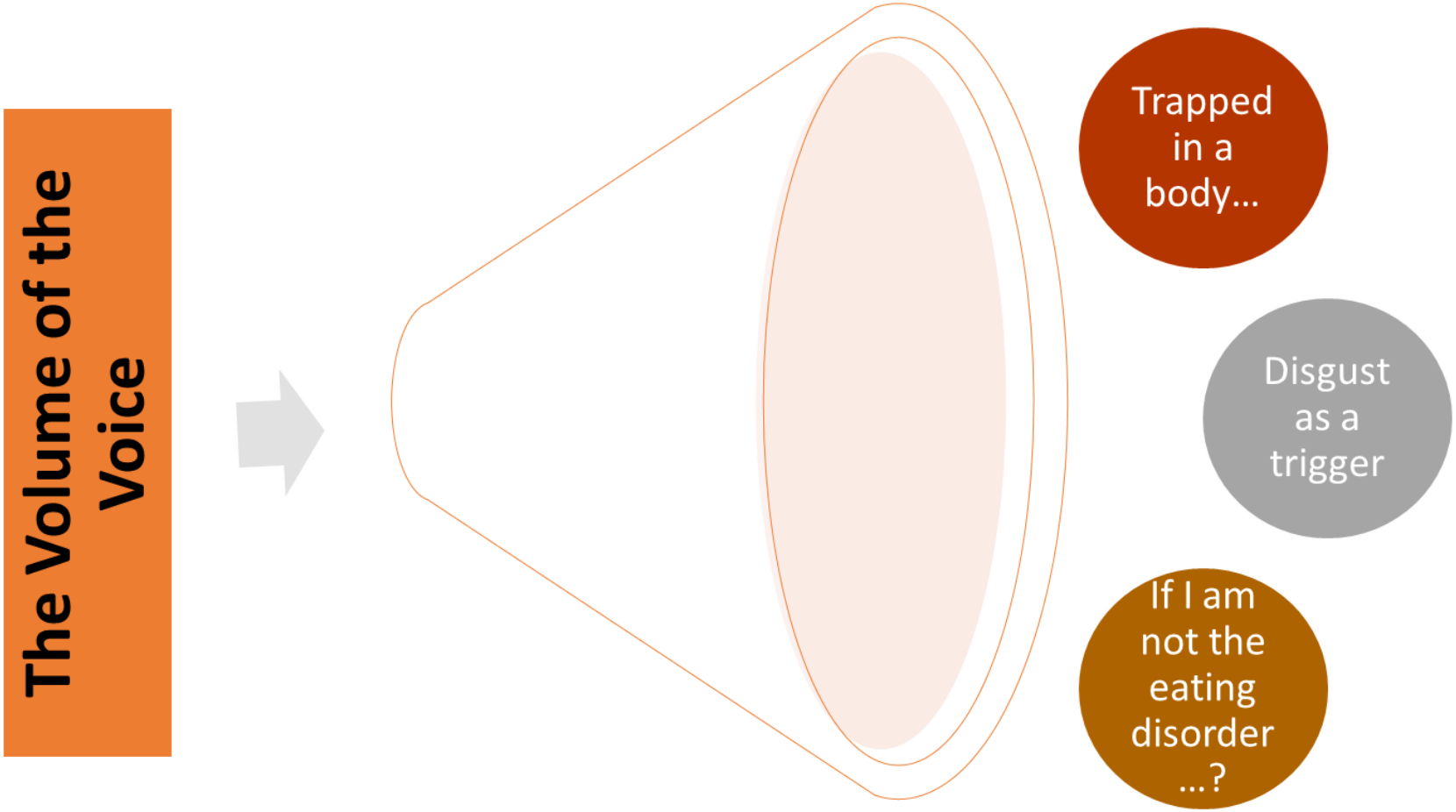


Figure 6.1: *Graphic Representing the Four Themes*

THEME ONE: THE VOLUME OF THE VOICE

This first theme captures the role of the participants "eating disorder voice" within recovering and how its volume and persuasiveness can fluctuate through experiencing good or bad days. The role of the internalised voice has been well documented within the field of eating disorders research, and it has been described as harsh, internal and overly critical (Dolhanty & Greenberg, 2009). People with an eating disorder have described how the voice would criticise, berate and emotional torment them (Tierney & Fox, 2010). When discussing this voice, participants described how feelings of self-disgust and a sense of inadequacy accompanied their eating disorder voice and in-line with previous literature this appeared to be a vital feature of the women's experiences on more stressful days (Rance, Clark & Moller, 2017). Despite being clinically recovered, participants discuss how on days like this, going against the voice resulted in an intense feeling of self-disgust and the desire to manage this by slipping back into old eating disorder habits. On perceived bad days, the voice appeared to be all-consuming, loud and intrusive. The voice was something that they not only heard but an entity that affected how they viewed themselves and the world around them. For Anna, the presence of the voice-acted like a lens over her view of the world. When it was present, her interpretation of herself was dominated by the eating disorder.

> Anna*: I used to think of my eating disorder as having its own voice and having eyes really. And it's when I am having a good day I just see the world through my eyes and if I am having a bit of a bad day I suddenly feel its eyes are on me sort of thing. It can see and see myself through that kind of lens.* (Extract 1, Lines 310-313)

The voice appeared to be overly critical, harsh and something prominent in the minds of those interviewed (Tierney & Fox, 2010). The voice was recognised as a separate entity to themselves and something that impacted greatly on their emotional state and associated behaviours. Hearing the eating disorder voice was described as distressing and was often difficult to distinguish from reality.

> Saffron: *It's just like having another voice in your head the whole time but you are convinced it's your own voice, it's not telling a lie it's telling the truth. You carry it around and it feels true and horrible*. (Extract 4, Lines 227-229)

Cath discussed how on bad days she felt like she was in a battle with the voice and the process of staying on track with recovery was made more difficult because of the increased self-disgust she was experiencing. Choosing to not go back into eating disorder habits (to manage her experiences of self-disgust) was a struggle and one that was experienced often.

> Cath: *I think that when I have a bad day I'm usually feeling like my visual appearance is pretty disgusting. I would say it's definitely negative and the worse the day is the more disgust I feel and so when I have that feeling towards my body it really really makes me not want to eat.* (Extract 1, Lines 322-325)

Cath also described how the feelings of hunger were associated with experiencing less disgust towards herself. Engaging in disordered eating behaviours to manage increased feelings of self-disgust was also discussed by Abigail, and this appears to support the notion that self-disgust may work in tandem with disordered eating behaviour (Fox & Power, 2009).

Cath: *Because the feeling of hunger, I mean associating with improving like my issue areas on my body and so then I think that if I'm hungry the disgust can go away because I'm improving it*. (Extract 2, Lines 325-326)

Abigail: *If I have a good restriction day then I feel really good and I don't have the self-disgust and I feel quite good about myself with the body checks it will show that, well in my head it shows.* (Extract 3, Lines: 191-192).

Furthermore, the negative and critical thoughts that participants described hearing from their eating disorder voice could be connected to self-disgust. There is a small amount of evidence that showed that negative beliefs are associated with feelings of disgust in those with AN (Fox et al., 2013). The association between self-disgust and dysfunctional thinking has also been linked to depressive symptomology (Overton et al., 2008). Therefore, implying that the experience of self-disgust is likely to be connected to negative thoughts and the eating disorder voice that participants reported may exacerbate how this is experienced and the behaviours that result from it. For Natalie, this appeared to be particularly pertinent.

> Natalie: *There are other days where I can get up and just be instantly having a bad day with it and I will just wake up put clothes on and nothing will be right no matter what I put on. And it will be screaming at me to just think right I need to do something about this. And then it's there full frontal all the time*. (Extract 1, Lines 549-552)

Learning to recognise this voice appeared to be one of the initial crucial stages of beginning recovery and separating from the eating disorder. Rather than being a linear process (Petersen et al., 2013) recovering for all of the participants was expressed through a series of good and bad days and participants appeared to be more aware of this because they were able to recognise their eating disorder voice. Recovery was not viewed as a final point but rather as an on-going process (Garrett, 1997) and findings from the data support the notion that recovery occurs in wavelike patterns (D'Abundo & Chally, 2004). On good days, the volume of the voice seemed to be much quieter, and for many, they were able to go about their day to day life not listening to voice, or some even had days when the voice was no longer present. As the voice appeared to be quieter or sometimes absent, this meant that negative thoughts towards themselves and feelings of self-disgust were also less common.

> Sonia: *If it is a good day, its easier not to think about it, there is still that kind of low level that I think is always there. But then that's very quiet so it's kind of, I can drown it out a lot more. It's just not as loud*. (Extract 3, Lines 415-417)

The voice still appeared to be present, but both Sonia and Zoe report it being at a lower level and something more tolerable, often as a result of being more distracted. Interestingly, increased distress tolerance and emotion regulation skills have been linked with a decrease in disordered eating behaviour (Stiendl et al., 2017). In line with this, increased emotion regulation has been shown to effectively decrease distress when exposed to disgusting stimuli (Olatjunti et al., 2017). Self-acceptance has also been described as a contributing factor for recovery from an eating disorder (Stockford et al., 2018). It could be that when a person with an eating disorder moves further towards recovery and develop ways of managing difficult emotions, they may either experience self-disgust less or be able to tolerate it more.

> Zoe*: Some days I can get up put clothes on not feel too bad, I put an outfit on I don't feel too bad. I am distracted, even though it comes into my head at certain points in the day, I am distracted with what I am doing schools runs whatever I am going out and about, cleaning up. And I don't really think about it I am just too busy in the moment.* (Extract 5, Lines 523-526)

Similar to previously published qualitative work, recovery was sometimes viewed as unimaginable (Malson et al., 2011). Interestingly, after choosing to begin the recovery process, participants detailed how their experiences of the eating disorder became difficult and many reported increased feelings of self-disgust when engaging in behaviours that deviated from the expectations of their eating disorder in terms of weight gain, body shape/size and eating. The SPAARS-ED Model (Fox & Power, 2009) suggests that a function of an eating disorder is to avoid painful or distressing emotions by engaging in disordered eating behaviours (such as binging, purging and restriction). As a result of this, disgust is believed to become then directed towards the self. Laura and Saffron's accounts suggest that aspects of recovery, such as gaining weight or eating more food led to the volume of their eating disorder voice being "turned up". Choosing to not engage in disordered eating behaviour increased negative thoughts and distressing emotions. Therefore, suggesting that, even when a person is working towards recovery, the schematic processing of information is complex and removing oneself from the cycle of disordered eating behaviour is likely to increase by experiencing self-directed disgust (Fox & Power, 2009).

> Laura: *You have got to fight it for a while, you have got to when it starts telling you that oh you have screwed up you have eaten this and you have eaten that and you shouldn't have. You must start starving again or purging again or any of that to get back to your control, that's when you need to knock it on the head again over and over.* (Extract 2, Lines 166-169)

> Saffron: *On a bad day there I have, there's an anxious undertone throughout the whole day and disgust comes up a lot with it because like I look down and I'll just be disgusted about what I see and then I'll look at food and I'll just be a little revolted by it.* (Extract 4, Lines 414-416)

Some participants were able to recognise and manage their eating disorder voice more effectively, often through compassionate thoughts and affirmations. In line with this, participants appeared more able to manage the emotions often triggered by the voice and were able to sit with the visceral experience of self-disgust. Participants discussed the different strategies they would use to help manage the volume of their voice and tolerate increased feelings of self-disgust. Self-compassion appeared to be a critical component of this, which seemed to be associated with increased insight around why they chose to engage in unhealthy eating behaviours in the first place

> Cath: *I'm trying to really focus on what my body achieves rather than how my body looks I suppose. Obviously my eating disorder comes from other issues, other than just weight like being gay and all these other things. But I think it's really a lot easier to notice something on your body and be disgusted by it and fix it than to focus on those other things if that makes sense*. (Extract 1, Lines 394-398)

The ability to be compassionate towards oneself is defined as managing personal distress with kindness and acceptance (Gilbert, 2009) and is the opposite of self-hatred and criticism (Braun et al., 2016). Evidence has highlighted the negative impact self-disgust can have on eating behaviour and the importance of developing a more compassionate self, as a way of managing or treating disordered

eating behaviour (Palmeria et al., 2017). Participants described that on better days, they were more able to be compassionate towards themselves and behaviours that typically go against the rules of their eating disorder voice. When discussing this, it appeared that self-disgust was experienced less, and many chose to view food and their consumption of it in a kinder light.

> Holly: *I used to think of food as treat. It's not really and so I used to think well I don't deserve this treat or whatever. Now that I view it as medicine I just kind of think well I need it for the energy so you know I'm going to take it 3 times a day and I think that shift was really helpful in my way I thinking.* (Extract 3, Lines 476-479)

Self- acceptance and compassion are elements of recovery that have been explored within the field. The circle of acceptance model (D'Abundo & Chally, 2004) postulates that certain elements work together in a cyclical process that initial steps towards increased well-being. These include acceptance of the disease, spirituality and building positive relationships. The combinations of these three variables are argued to contribute to increased feelings of self-worth and, in turn, provide ways for people to manage their disordered eating behaviour. In line with this, more recent literature suggests that common themes described through the process of recovering from an eating disorder include dealing with a broken sense of the self, insight and commitment to recovery and reclaiming self-identity through rebuilding of identity and self-worth (Stockford et al., 2018). However, as self-disgust has been described as an enduring phenomenon (Powell et al., 2015), this emotion is likely to be experienced after clinical recovery. Within the current study, participants describe continued feelings of self-disgust as a result of the volume of the voice and how this can impact on recovery. In line with previous literature, self-disgust appeared to be a sophisticated emotional experience (Marinho, 2017) and how it could affect behaviour or potentially may someone less likely to recover from their eating disorder are explored in subsequent themes.

THEME TWO: DISGUST AS A TRIGGER

All participants discussed experiencing feelings of self-disgust regularly while in recovery, and in-line with previous literature, disgust responses to themselves seemed particularly challenging to unlearn (Olatunji et al., 2007). This theme captures how participants coped with these experiences and how the visceral experience of self-disgust often led to resorting to disordered eating behaviours to cope and manage. Going back into old eating disorder habits or returning to cycles of bingeing and purging appeared to be part of the recovery process and doing so led to participants experiencing a range of emotions, including increased disgust, shame and frustration. It appeared that most participants reported desires to rid the self from the parts they found disgusting (Powell et al., 2015) and this included living in a larger body, consuming more food or wearing larger clothes. Participants spoke about how, during difficult days in recovery, the negative emotions they experienced were immediate, and they were perceived to have very little control over them. The schematic model of self-disgust created by Powell et al. (2015), states that appraising the self as disgusting is not a constant feature within a person's conscious but rather is activated by negative thoughts and cognitions. Interestingly, the experience of self-disgust appeared to be coupled with a range of other emotions, including low mood, anxiety and anger.

> Cath: *On a bad day, there is an anxious undertone throughout the whole day and disgust comes up a lot with it because like I look down and I'll just be disgusted about what I see and then I'll look at food and I'll just be a little revolted by it* (Extract 1, Lines 230-232)

Although it is important to consider self-disgust as a single emotion, from previous chapters and previously published literature, it may be an emotion that is experienced across multiple psychopathologies (Overton et al., 2008; Fox & Power, 2009). In line with the SPAARS-ED Model (Fox & Power, 2009), the function of participants eating disorders have allowed them to avoid painful and distressing emotions, but as a result, they may experience more disgust towards themselves. These kinds of intense emotional experiences often happened in situations when they were behaving in a way that contradicted the demands of their eating disorder voice.

> Georgia: *I feel disgusted because the size that I'm supposed to be wearing that is even in itself a horrible size I can't even get on, and then you know that anger and like disappointment same things* (Extract 2, Lines 292-294).

It appeared that this internalisation and on-going dialogue with their eating disorder voice led to more experiences of self-disgust (Fox, Federici & Power, 2012). In line with this, self-disgust was something that each participant appeared to experience often, despite being in clinical recovery, which suggest that disgust-based reactions to the self are enduring (Powell et al., 2015) and maybe something that people with an eating disorder learn how to learn live with rather than recovery thoroughly from. Exercising less or the sensation of feeling full were particular triggers for Liza and Natalie, and by choosing to not engage in disordered eating, behaviours meant that they had to sit with or were "stuck" with the experience of self-disgust.

> Liza*: If I have not exercised much I look in the mirror and see a bit of cellulite I just am completely like urgg because I think it's just the idea of this wasn't ever there and what have you done, what have you let yourself become in a way*. (Extract 4, Lines 282-283)

> Natalie: *There is nothing worse than feeling full because that makes you feel even more disgusting. I would rather feel empty than I would feel full. And often there is no way of getting around it, if I am feeling full or I have eaten something, I have got no way of getting rid of that and I don't want to be going down that road either. So you are sort of stuck with that feeling*. (Extract 6, Lines 632-636)

For many, the core ideology of their eating disorder was based around the assumption that gaining weight or becoming physically bigger as a result of increasing their food intake meant they had in some way failed. This process was associated with more feelings of self-disgust towards themselves and their actions. Many were able to articulate that they believed going back to eating disorder

behaviours was a way of managing or coping with increasing feelings of self-disgust. Literature has demonstrated that individuals who experience self-disgust are likely to engage in some kind of evasion, such as avoidance and distraction (Espeset et al., 2012). Similar to externally elicited disgust, responses such as avoidance may maintain disgust responses to the self or the intensity of the emotion itself (Powell et al., 2014). The inclusion of emotion regulation and the expression of particular emotions are necessary when considering how someone may recover from an eating disorder (Speranza et al., 2007). Anna was able to reflect on how she was now aware of the role that avoidance had played in the development of her eating disorder. For Anna, not having the skills to manage or regulate the thoughts and emotions she was experiencing led to using disordered eating behaviour to manage it, and she reflected on this

> Anna*: I felt so empty and so disgusted by some of the things I was feeling and didn't know how to manage any of that, I guess I was trying to suppress all of that and then sort of feel as physically empty as I did emotionally. So, yes, I was trying to just stop all of those feelings. And then on the flip side it became the thing that was stopping me wanting to recover because I was scared of it all starting again and having to deal with all of that side of stuff.* (Extract 1, Lines 118-122)

For Cath, avoidance played a crucial role in this as engaging in behaviours, such as eating high-fat foods or being exposed to their bodies after eating, triggered negative emotions such as disgust.

> Cat: *I always have to shower before I eat dinner because I don't like feeling bloated and being like able to see my body. That's definitely a thing, I always shower before dinner because that's when you eat the most and I just feel the most urgg just uncomfortable with my body I guess*. (Extract 3, Lines 258-261)

For some, specific day to day tasks could trigger increased feelings of self-disgust or activities that made them more aware of their body. For Cath and Saffron, in particular, the experience of buying and trying on larger clothes appeared to induce feelings of self-disgust

> Saffron: *If I am trying on clothes in a shop that is probably one of the worst times. Not because they don't fit or anything but because I just look in the mirror and I just like oh my god like I don't feel good in this at all unless it's horrendously baggy like all my clothes are just two sizes too big*. (Extract 2, Lines 322-325).

> Cath: *Clothes shopping sucks, I can get so stuck in my head trying to find an outfit that actually looks tolerable that it's not a lot of fun. For some reason I don't know why, it is disgusting if your pants are more larger horizontally. I mean it makes no sense but for some reason that is the disgusting thing.* (Extract 3, Lines 484-487)

Finally, for those who had previously been diagnosed with anorexia with binge-purge subtype; self-disgust appeared to play a unique role in the cycles of binging/purging that differ to those who experience symptoms of anorexia nervosa alone. Binge eating is argued to emerge as an adaptive coping strategy to manage perceived negative perceptions from others and this, in turn, is believed to result in higher self-criticism and hatred towards the self (Duart et al., 2014). Laura highlighted that her experiences of recovery were challenging and bingeing or purging behaviours were used to manage this, resulting in more feelings of self-disgust.

> Laura: *The more I struggled to recover, the more out of control, the binging and the purging became. And that made me feel really disgusting and I guess it just added to my sense of worthlessness.* (Extract 2, Lines 166-168).

Also, she was able to articulate the different layers of her eating disorder and how the bingeing/purging behaviours associated with her diagnosis of anorexia were often ignored or not

recognised by health professionals. This appeared to lead to a cycle of secretive behaviour which resulted in feelings of initial relief, but led to long term feelings of worthlessness, shame and disgust.

> Laura: *I have always binged and purged and it was that behaviour that made me feel most disgusting. But because I was in that treatment setting none of the professionals there really addressed that. I think because it is a more disgusting behaviour and its harder to broach with somebody. And it made me feel like I didn't deserve the treatment as much as everyone else. And it made me feel like I couldn't talk about it because I felt that I was just that much more disgusting and worthless. It felt like a dirty secret that I had to carry on dealing with on my own.* (Extract 1, Lines 180-186)

Self-disgust and binge/purging behaviour may be associated with one another (Olatunji et al., 2015), but this evidence suggests that this is something that could fluctuate through recovery. These types of behaviours may increase when a person chooses to act against their eating disorder voice, as a result of the increased self-disgust they are experiencing.

THEME THREE: TRAPPED IN A BODY YOU DO NOT WANT

Captured within the participant's accounts was a sense of feeling trapped in a body they did not want. All participants had gained weight during their recovery process, and many were acutely aware of their larger bodies. Participants would often describe their bodies as disgusting, unacceptable or unbearable. Some participants were able to explain how the feelings and sensations of being bigger was something they had to learn to become comfortable with and almost "sit with" and many described contrasting experiences of both entrapment in their larger bodies and feelings of release from their eating disorder voice. Similar to previous themes, going against their eating disorder voice was met with an on-going internal dialogue or battle that was accompanied by an increasing sense of awareness for their bodies, their eating disorder behaviours and an increase in negative emotions such as self-disgust.

Some participants still struggled with the idea and realities of gaining weight. Gradually observing their bodies becoming larger through recovery and moving away from the standards and restrictions of their eating disorder appeared to be a significant challenge. The sensation of becoming bigger was something they were acutely aware of and was physically and emotionally challenging to accept. Participants described a visceral sensation of feeling trapped in their bodies which was accompanied by a sense of disgust. Overwhelming physical sensations characterised these feelings of being trapped in and disgusted by one's own body and, despite previous literature suggesting that people with an eating disorder have difficulties in articulating this (Rørtveit et al., 2009), both Georgia and Natalie were able to describe their unhappiness with their current body size vividly:

> Georgia*: It's terrible, I feel absolutely disgusting all of the time like I am in a body that has gained weight and it shouldn't be. People have told me this is what recovery would be like, if I had known it would be as hard it would have really put me off, I wouldn't have done it. And just being trapped in this horrible fleshy body that I don't like and I don't want to be in. And I am very out of control of it; I just am the worst thing ever*. (Extract 2, Lines 185-189).

> Natalie*: I am not very happy, not happy at all with my weight. So although probably I am a standard size ten now it feels absolutely awful.* (Extract 4, Lines 184-185)

The sense of entrapment that many participants described appeared to elicit thoughts and behaviours associated with maladaptive disgust responses. The larger bodies that they described being in were often met with rejection or avoidance (Rozin et al., 1999) and viewed as being impaired. Reactions like this appeared to be enduring because choosing to remain in recovery meant that they were unable to physically or psychologically escape from the perceived object of disgust (i.e. themselves) (Powell et al., 2015). In line with this, the sensation of clothes becoming tighter was a stressful experience for some and appeared to cause much distress. Similar to other participants, the sensation of becoming bigger was coupled with emotions like disgust and panic because of the perceived lack of control.

> Sonia: *My clothes feel tighter or you start to realise that you can't do them up, things like that. Then I start to go into absolute panic, because you can feel, you know especially with things like jeans I really struggle with, I do wear but its more of a struggle with things like that because anything that is more tightly fitted you become more aware of your size.* (Extract 2, Lines 447-450)

Visually being able to see their bodies growing was associated with visceral disgust experiences towards themselves. Furthermore, they experienced feelings of failure and disappointment that they were no longer living up to the standards and expectations of their eating disorder or the thinness ideal.

> Natalie: *Why have I got to this point, and why on earth am I in this size. I feel absolutely, it makes your skin crawl to a point, you feel that horrible putting them on. How have you allowed yourself to get to this point where your jeans are getting tight where I can see the size of my legs, things like that?* (Extract 3, Lines 472-475)

> Georgia: *Just constantly .. feeling like I am in a body that is not the one like I want to be in, I want to be able to have more control over. I wake up and feel disgusting and horrible and have a shower and then get dressed and that makes it worse. And then after having breakfast or having breakfast feeling like I am doing the wrong thing, then even just walking to the train station it just never never stops.* (Extract 3, Lines 205-209).

As well as intense feelings of being trapped in a body they did not want; many participants described how these feelings were accompanied by an increased awareness and comparison of other people's bodies. Several participants explained the comparisons they would make between themselves and other people in their environment. These comparisons would focus on body size or eating habits, and Cath reported the disappointment and anger of no longer being "the smallest person in the room". In line with previous theoretical frameworks of self-disgust, the comparisons described by participants

suggest that individuals who have an established self-disgust schema will appraise themselves as repulsive compared to others within their sociocultural group (Powell et al., 2015; Rachman, 1994).

> Cath: *I have issues not being the tiniest person in the room because I used to always been the tiniest person in the room. I would just sit there and I would see her thighs and I would see my thighs, and I would think about how much better a person she was just because her thighs were smaller and how gross I looked because my thighs were bigger.* (Extract 1, Lines 391-394)

This increased comparison appeared to be linked to an acute awareness of their bodies and was something that appeared to be constant, consuming and emotionally draining. Moncrieff-Boyd et al. (2014) suggest that people with anorexia nervosa are unable to discriminate between the self/non-self. A disturbed sense of the self is believed to result in emotional responses such as self-disgust. For Zoe, this disturbed sense of self was something that continued into their recovery and was accompanied by appraisals of how her body was now being perceived by other people (Oaten et al., 2011).

> Zoe: *I feel really fat, ugly, disgusting, and horrible. And you are thinking everyone is looking at you because you are getting really fat. You think that somehow you are not really worth it putting the weight on and you need to get it back off, you just feel like you are in a suit, its ever so strange to explain.* (Extract 2, 566-569)

Many participants described how they felt like they were in a body that was not theirs and although they were moving more into recovery and physical wellness, their now larger bodies were viewed as disgusting and many seemed to experience a sense of dissociation from them. Dissociation is defined by "a lack of the normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory process" (Bernstein & Putnam, 1986, p. 727). Within the field of eating disorders, studies have found that those with a diagnosis of bulimia nervosa describe feelings of watching oneself from the outside and a sense of depersonalisation (Cowan & Heselmeyer, 2011).

People with eating disorders have been found to show increased levels of dissociations, avoidance and reduced clarity and awareness (Demitrack, Brewerton, & Gold, 1990; Lavender et al., 2015). However, the idea that those who are chronically underweight experience dissociation during recovery and weight gain is novel and the role self-disgust plays within this warrants further investigation; as it offers great potential for therapeutic intervention.

THEME FOUR: IF I AM NOT THE EATING DISORDER WHAT AM I?

This final theme captures how recovering from an eating disorder involved a process of detachment and building an identity and new life in the absence of disordered eating. Participants discussed how the eating disorder had become part of them, and many believed a part of the eating disorder would always be with them. This process of separation was coupled with other emotions, including fear, anger and self-disgust, and was influenced by the perceived volume of their eating disorder voice. Participants spoke about how they believed part of the eating disorder would always live within them. In line with this, self-disgust was something that was described as dormant and had the potential to be triggered. Participants suggested that they were still aware of particular thoughts, cognitions or behaviours that, despite being clinically recovered, were driven by their previous eating disorder and were almost ingrained in their day to day life. Many participants described that they felt their eating disorder lay beneath the surface, despite clinically being recovered. It was something they were aware of and had learnt to live with rather than recovered fully from. Holly and Liza described how their eating disorders were part of their identity, and parts of that were likely to remain.

> Holly: *I would say I'm in recovery, I don't want to say I'm recovered because I feel like that's something, I'm not even sure that really happens completely. It will just always be there, that part of my character; as a person that had an eating disorder*. (Extract 1, Lines 225-227)

> Liza*: "I don't want this to be who I am but if I am not this anymore then what am? After being in therapy for years and that being what your label was it was very much like I identified with it.* (Extract 2, Lines 327-329)

Disordered eating behaviour and feelings of self-disgust have been argued to work in tandem with one another (Fox & Power, 2009). Participants accounts described how their disordered eating behaviours and thoughts were almost dormant during parts of their recovery. In that, they were still beneath the surface and could resurface or be triggered. The accounts given by participants would suggest that the phenomena of self-disgust may be entangled within this and supports the notion that someone recovering from an eating disorder may continue to view themselves as uncleansable or repulsive and such responses appear to be challenging to unlearn (Olatunji et al., 2007).

> Laura: *I think if I have had a bit of a bad day like at work or something or maybe I get something slightly wrong or I don't do as well at something as I was hoping I start to feel worse about myself. And that quickly kind of makes me feel some of the old feelings of like feeling kind of wrong and a bit disgusting in my body.* (Extract 1, Lines 290-293)

Psychological components and thought processes of participants' eating disorders were still part of their life and their identity, despite clinically being recovered. Interestingly, the term recovery was one that many rejected and was a concept that almost did not seem applicable. Similar themes on recovery can be found within the literature, as to date, there is no current definition of what being recovered from an eating disorder indeed looks like (Bardone-Cone et al., 2010). Psychological components are often forgotten when assessing whether someone is truly recovered from their eating disorder. It can be argued that someone may be able to physically recover from their eating disorder (i.e. maintain a BMI over 18.5) but still experience their internal eating disorder voice daily and the negative emotions associated with that (Keski-Rahkonen & Tozzi, 2005). The findings within this theme argue that self-disgust is an emotion that people with an eating disorder may endure after gaining weight.

Recognising that self-disgust has the potential to be triggered by specific phases of recovery (i.e. gaining weight, wearing larger clothes, consuming more food) may be a potentially new avenue to explore when supporting a person who is recovering from an eating disorder. In-line with this, considering how self-disgust could hinder the creation of a new identity away from disordered eating behaviour also warrants further investigation. For some, the longing to return to disordered eating was still there and something they had to resist or fight against. Many still expressed a sense of loyalty to their eating disorder which often made the process of separation more difficult.

> Natalie: *Part of me always wants to get back, I won't deny it, but there are huge parts of me that always wants to go back and I miss being back to the way I looked even when my BMI was about 13-14, I still miss for some reason, I sort of miss it. As much as its horrible place to be in I miss it at the same time.* (Extract 2, Lines 426-429)

> Georgia: *I can see why it happened; I think I can be more forgiving of myself for it. I can see why I needed it but I can see why I might still need it. I think I am a lot more aware. I … I have never really hated it but I hate myself for having it if that makes sense. I hate myself for needing it but I have never hated the illness itself.* (Extract 2, Lines 458-461)

Participants spoke about how the process of separating from the eating disorder was something that was coupled with many emotions, trepidation and continued self-criticism. Deciding to recover from their eating disorder was often met with feelings of loss, grief and fear. Creating a new identity away from the eating disorder was coupled with a great deal of uncertainty and fear, mainly if they had been diagnosed with an eating disorder for some time. Many appeared to be experiencing an internal juxtaposition of the need for separation from their eating disorder versus the anxiety that recovery and acting against their eating disorder voice can bring. Moving away from the eating disorder and starting to recover felt like they had failed to achieve the unachievable. This sense of failure for Georgia was also generalised to other people, and she described how she felt like she had not only failed herself by recovering from an eating disorder but also the people around her.

> Anna: *I failed it… It's stupid because if I failed to be successful at it well then that means I failed to basically die from it which wouldn't have been a success but I still get quite screwed up over that. So I just get insanely jealous and angry.* (Extract 3, 811-813).

> Georgia: *I felt like I'd failed everyone and myself, even though everyone was saying no, now that's your achievement because you've moved on from it. Any time I see someone out there who I think oh they're really thin, then I'll feel just completely full of hatred for myself and for them and really angry and well they've succeeded and I haven't succeeded.* (Extract 2, Lines 370-373).

To conclude, the findings from the themes presented suggest that self-disgust is something that people with an eating disorder experience when recovering from an eating disorder. How this emotion is experienced is characterised by the volume of their eating disorder voice, as on the days when participants described it as being louder, they were more likely to describe feeling disgusted towards themselves. In line with this, participants described a sense of entrapment within their larger bodies and how the disgust associated with this would often trigger them back into disordered eating behaviour. Finally, the role of identity and creating a sense of self away from the eating disorder and feelings of failure or self-disgust were pertinent for participants who had chosen to live a life away from disordered eating behaviour. The implications of these findings are discussed below.

6.4 IMPLICATIONS FOR CLINICAL PSYCHOLOGISTS

The findings from this study offer several implications relevant to clinical practice and future research within the area of health and clinical psychology. The first implication that could be acknowledged and recognised within clinical practice is the way participants in the present study viewed being recovered, and the role self-disgust can play within this. Recovery was rarely described as a linear process (Peterson, 2013) but rather one that was categorised by a series of good and bad days. On bad or more difficult days, participants described their eating disorder voice to be much louder and experienced the emotion of self-disgust more. Clinicians must be able to support people with eating disorders to articulate and recognise the more challenging days and the role of the eating disorder voice and self-disgust play within the maintenance of their disordered eating behaviour. In line with this, recognising that this internal dialogue can occur after weight restoration is vitally important and that it is possible for people with an eating disorder to physically recover but still experience a range of distressing and intrusive thoughts and emotions on a day to day basis.

A second implication of these findings that is relevant to clinical practice is how participants within the current study described experiencing self-disgust as a potential trigger back into disordered eating behaviour. Day to day activities such as trying on clothes, preparing and cooking food or viewing themselves in the mirror were often met with intense feelings of self-disgust, mainly when they started to gain more weight. Clinicians must be able to support people experiencing these difficulties and engage in conversations around both the sensory experience of becoming bigger and emotionally coping with the experiences of clothes becoming more fitted. Participants in this study often felt like they were in a body that was not theirs and reported a sense of entrapment and dissociation from their heavier bodies. These intense feelings of self-disgust may be the reason people with an eating disorder continue to engage in disordered eating behaviours (as a way of coping), and these themes highlight important areas clinicians could consider when working therapeutically with someone with an eating disorder.

Finally, when participants were discussing good or better days within recovery themes, self-acceptance and compassion were described and using these strategies appeared to turn the volume down on their eating disorder voice and helped them experience less negative emotions, such as self-disgust. In-line with this, by the creation of a new identity and compassionately accepting the physical changes that this may encompass, this appeared to be crucial when moving into a life away from disordered eating behaviour. Future research could aim to examine how self-disgust is treated within compassion-based therapies and how the outcomes of this compare to other models that are currently being used (i.e. CBT). Furthermore, more research is needed to understand how self-disgust differs across multiple cultures and conducting research across more diverse groups of people with eating disorders is needed to broaden our understanding of the role of self-disgust within disordered eating behaviour.

6.5 METHODOLOGICAL CONSIDERATIONS AND REFLEXIVITY

A qualitative design was most suitable for answering the research questions raised within this study and for the overall methodological structure of this thesis. The focus on the lived experience and attempting to understand the role of self-disgust within recovery allowed for the collection of a rich data set; thus giving a voice to the participants involved to understand their experiences better. Research has demonstrated the importance of interviewer skill and technique during data collection (King et al., 2018). The researcher has had previous experience in conducting semi-structured interviews (See Williamson et al., (2018) and this was used to ensure the participants felt comfortable and relaxed to speak freely but still stay within the conversation boundaries of the topic itself. The interviewer remained neutral throughout each interview and was careful not to display any prejudices, biases or assumptions (Willig, 2015). In line with Smith (2011a; 2011b), particular focus was placed on ensuring the quality of Interpretative Phenomenological Analysis (IPA) conducted. This included a sustained focus on individuals experiences of the role of self-disgust within recovery, careful elaboration of themes individually and, within the supervisory team, a detailed and interpretative engagement with the themes.

IPA researchers acknowledge the importance of recognising their prejudices and the inevitability of biases and preoccupations when collecting and analysing data (Willig et al., 2015). It is vitally important that researchers consider how their position may influence all stages of the research; from the formulation of the project to writing up (Gadamer, 1975). The researcher's motivation for conducting this study was in line with the methodological position of this thesis and was based around a genuine interest in the experiences of those who have an eating disorder. The design of this study was based around findings from chapters 3, 4 & 5 and the belief that self-disgust is an emotion that is continually experienced by those with an eating disorder. Finally, this knowledge allowed for on-going discussions throughout the whole research process within the supervisory team.

As someone who has never had a diagnosis of an eating disordered or suffered from chronic mental illness first hand, I was very much an outsider within this research process. Given the often secretive nature of the eating disorder world, I was concerned that this might impact on how much participants would disclose and how comfortable they would feel talking about their eating disorder and the role of self-disgust within this. However, I was surprised by how open all participants were with me, and the majority expressed their gratitude for being asked to take part and for researching this topic. Before conducting the interviews, I did hold some preconceived ideas (which I also believe many academics and clinicians hold) that people who have an eating disorder would not be able to identify and express negative emotions well. Contradictory to this, participants articulated their eating disorder, its behaviours and the emotions they experienced excellently and interestingly did not inquire about whether I had previously suffered from an eating disorder.

I was mindful that conducting the interviews over Skype and the telephone may result in less of a rapport between myself and the participants. To mitigate this, I acknowledged that despite taking part in all aspects of the study, this was the first time I had spoken to each participant in person. Particularly care was also taken around the first few 'getting to know each other' questions to put the participant at ease and to allow for the conversation to develop organically. In some sense, I wondered if being unable to see the researcher gave participants the freedom to express their experiences in more

detail; without fear of judgement. As this qualitative study was informed by findings from Chapters 3, 4 and 5, it is essential to acknowledge that I would have had preconceived ideas about the relationship between self-disgust and disordered eating behaviour. The interview schedule itself was designed around these findings and could have potentially influenced the analysis of the data. However, every effort was made to remain neutral and unbiased throughout, particularly when interviewing, coding, creating the themes and writing up the data.

The final chapter of this thesis brings together the findings that have emerged from this programme of research. It will synthesise both the quantitative and qualitative findings concerning the overall research questions and aims and offer an interpretation of whether these have been answered. Finally, the academic and clinical implications of these findings are discussed with how they contribute to our understanding of the aetiology and maintenance of disordered eating and associated therapeutic interventions.

7.0 GENERAL DISCUSSION

In this final chapter, an outline of the findings of this research is presented and a general discussion. The chapter begins by providing a general overview of this thesis aims and which chapters they were subsequently addressed (7.1). The next sections will then aim to answer whether these aims were answered, how they compare to published literature (7.2) and consider what these findings add to the field of eating disorders (7.3). Methodological considerations and limitations of using a mixed-methods approach will then be discussed (7.4) followed by a section on both the academic and clinical implications and recommendations for future research (7.5). Strategies for dissemination are then discussed (7.6) followed by concluding remarks that close this thesis (7.7).

7.1 OVERVIEW OF THESIS RESEARCH QUESTIONS AND AIMS

This programme of research had several aims which informed the subsequent research questions. First, it aimed to examine whether self-disgust was elevated across several eating disorders. Second, to establish whether particular sensory processing and emotional regulation strategies were associated with self-disgust to provide an understanding of what makes someone more vulnerable to experiencing this emotion and what factors may maintain disordered eating behaviour. Thirdly, to identify the longitudinal effects of self-disgust on emotional regulation to examine change over time. The final, qualitative study aimed to highlight and generate themes and narratives of how people with an eating disorder experience the emotion self-disgust through recovery. With these aims in mind, the research programme aimed to answer the following questions:

I. Are scores of sensory processing and self-disgust associated with another within groups of people who suffer from disordered eating behaviour?
II. Are scores of difficulties in emotion regulation associated with disordered eating behaviour and does self-disgust mediate this relationship?
III. What are the longitudinal effects of self-disgust on emotional regulation within groups of people who suffer from disordered eating behaviour?

IV. How do emotions such as self-disgust shape the experiences of recovery from an eating disorder?

A simple, sequential mixed-methods approach was used which combined two large quantitative survey-based studies (*n*=584) and one qualitative study which consisted of interviews with people who had taken part in the previous quantitative studies. The quantitative element allowed the researcher to longitudinally quantify self-disgust within people who suffer from an eating disorder and identify associations and relationships between this, sensory process and difficulties in emotion regulation. The qualitative element provided a voice to the 12 participants who were interviewed and allowed for rich data elicitation to explore the role of self-disgust within recovering from an eating disorder. The overall findings from this programme of research have been combined to create a dynamic model explaining the role of self-disgust within disordered eating behaviour. This model argues that self-disgust appears to be an emotion that occurs during the development, maintenance and recovery from an eating disorder. People with an eating disorder do experience more self-disgust compared to those with no history of an eating disorder and self-disgust is associated with disordered eating behaviour over 12 months. Those who have specific sensory processing patterns (i.e. higher scores of low registration and lower scores of sensation seeking) are more likely to experience the emotion self-disgust, and this is associated with disordered eating behaviour. In line with this, difficulties in emotion regulation are associated with disordered eating behaviour, and self-disgust was found to mediate this relationship. Finally, self-disgust is an emotion that continues to impact a person; even after clinical recovery from an eating disorder. Below is a summary of each of the core aims of this thesis and how they relate to previously published literature. The findings from each chapter and theoretical interpretation are also diagrammatically presented in Figure 7.1 below.

7.2 AIMS OF RESEARCH PROGRAMME

EXAMINING WHETHER SELF-DISGUST IS ELEVATED ACROSS THE SPECTRUM OF EATING DISORDERS

The results from Study 1, which are reported in Chapter 3, showed that those with eating disorder reported higher levels of self-disgust compared to those with no history of disordered eating behaviour. Significant differences of levels of total self-disgust scores were found between the clinical and non-groups however, no differences were reported in those with a diagnosis of AN or BN. These results suggest that those with an eating disorder may experience the emotion self-disgust more, and this is something that occurs across the spectrum of disordered eating rather than within specific eating disorders themselves. However, some differences were found when examining the subscales of self-disgust between the two disorders. Those with a diagnosis of AN were more likely to report higher levels of self-disgust towards their behaviours. In contrast, those with a diagnosis of BN were likely to express self-disgust towards themselves.

Early literature argued that the experience of disgust is implicated across a range of psychopathologies (Phillips et al., 1998), including eating disorders. Subsequent literature has identified that disgust sensitivity and propensity are associated with eating disorders (Davey et al., 2009, Aharoni et al., 2011) but it is argued that focusing on disgust directed towards the self (rather than externally) may be a more appropriate focus when understanding the emotion within psychopathology (Muris et al., 2000; Schienle et al., 2003; Powell, Simpson & Overton, 2015). In line with previous literature focusing on self-directed disgust, this emotion appeared to be a primary experience for those with an eating disorder. It accounted for a higher amount of variance compared to other disgust experiences directed towards external stimuli (Moncrieff-Boyd et al., 2014). The findings from this thesis are the first to use this scale within a large clinical sample of those with a self-identified diagnosis of AN and BN.

As reported in Study 3, time two scores of self-disgust were found to be associated with time 2 measures of disordered eating behaviour. Few studies have examined the longitudinal relationship between self-disgust within eating psychopathology. From these findings, it is argued that those with

an eating disorder may experience higher levels of self-disgust, and this emotion may continue to impact on their disordered eating behaviour despite being in recovery. The qualitative findings reported in study 4 provide further support for the notion of self-disgust being elevated in those with an eating disorder and add to this by suggesting that the emotion can be affected by the volume of their eating disorder voice and in turn may act as a trigger back into disordered eating behaviour.

WHAT MAKES SOMEONE MORE VULNERABLE TO EXPERIENCING SELF-DISGUST?

Within Study 1, the relationship between levels of sensory processing and self-disgust was examined in those with a diagnosis of AN and BN and those with no previous history of disordered eating behaviour. This was conducted to understand some of the factors that may make someone with an eating disorder more likely to experience the emotion self-disgust. It is argued that disordered eating behaviours may be motivated by the desire to alter body experience, not just appearance (Cserjési et al., 2010; Sachdev, Mondraty, Wen, & Gulliford, 2008; Zucker et al., 2013) and understanding these subjective bodily experiences and the emotions associated with them are critical to understanding the pathology of disordered eating behaviour. Results from study 1 showed that higher anxiety, depression, disgust sensitivity, low registration and lower sensation seeking were significantly associated with self-disgust scores across both eating disorders. This demonstrated a possible association between those who are both anxious/suffer from low mood and are less likely to recognise and seek sensation within their environment with feelings of self-disgust across the eating psychopathology spectrum.

From combining these results, it can be suggested that sensory processing patterns, and mainly being less likely to seek out sensation within a given environment actively may contribute to feelings of self-disgust above and beyond general feelings of disgust sensitivity, anxiety and depression. There appears to be an association between those who are anxious and less likely to seek out sensation and feelings of self-disgust across the spectrum of eating psychopathology. Self-disgust as related to sensation avoidance may offer a potential explanation for the associations observed within people with a diagnosis of anorexia nervosa and bulimia nervosa; supportive of recent theoretical research

underpinning the core impairment of interoception among individuals with eating disorders (Kaye, Wierenga, Bailer, Simmons, & Bischoff-Grethe, 2013; Nunn, Frampton, Fuglset, Törzsök-Sonnevend, & Lask, 2011).

The idea that sensory processing patterns and feelings of self-disgust contribute to the development of disordered eating behaviour is novel; as to date limited research and theoretical models have considered the role of these two variables within the aetiology of eating disorders. However, Riva and Dakanlis (2018) suggest that altered processing and integration of multisensory bodily representations (i.e. touch, vision, interoception and proprioception) may act as contributing factors to the development of an eating disorder and failure to adapt to these functional processes may result in impaired emotional and bodily experiences. The findings from this programme of research further our understanding of this by supporting the notion that impaired sensory functioning and emotional functioning are associated with another, and this emotional functioning can result in higher levels of self-disgust; which in turn may contribute to disordered eating behaviour.

EXAMINING THE LONGITUDINAL RELATIONSHIP BETWEEN SELF-DISGUST AND DIFFICULTIES IN EMOTION REGULATION

Results from Study 1 showed that self-disgust is implicated within eating psychopathology (Bell et al., 2017; Palmeria et al., 2017) and it is argued that self-disgust may be part of a shared emotional component between anxieties, depression and disordered eating behaviour (McKay & Presti, 2015; Powell, Simpson, & Overton, 2013). Individuals with high levels of self-disgust may be unable or unwilling to engage with other negative emotions, and in-turn may use other behaviours to escape or gain control. Focusing on emotional coping styles and particularly avoidant coping strategies concerning self-disgust may offer a further explanation to this shared emotional component and factors that contribute to the maintenance of disordered eating behaviour. Examining this relationship over time is also essential to identify the clinical and therapeutic implications of self-disgust on disordered eating behaviour.

With this in mind, Study 2 aimed to examine the relationship between self-disgust and difficulties in emotion regulation, while Study 3 examined this relationship over 12 months. Self-disgust was positively associated with all subtypes of difficulties in emotion regulation as well as measures of anxiety and depression. Measures of self-disgust, anxiety, depression, non-acceptance of emotional states and lack of emotional clarity were all statistical predictors of total EDE-Q scores and self-disgust was found to uniquely account for a significant amount of the variance within this hierarchy. In line with this, higher scores in anger did not appear to significantly predict disordered eating behaviour, which is intoned with previous literature that suggests this emotion is inhibited in those who suffer from BN or AN (Fox & Power, 2009). When examining this relationship over time, time two measures of self-disgust, anxiety; depression and lack of emotional clarity were found to be significantly associated with time 2 EDE-Q scores. In line with this, analyses revealed that self-disgust was found to be a unique contributor to this shared emotional psychopathology.

Time two scores of self-disgust were associated with time two scores of anxiety, depression, difficulties in emotion regulation and disordered eating behaviours. Time 1 score of self-disgust was not able to predict time two scores of disordered eating behaviour. Anxiety was the only variable that was found to significantly predict disordered eating behaviour at 2, after controlling for time 1 EDE-Q scores. In line with this, self-disgust and levels of depression were associated with each other for over 12 months. Finally, self-disgust was found to individually mediate the relationship between depression, non-acceptance of emotional states, lack of emotional clarity and disordered eating behaviour. However, this relationship was not consistent over time. These analyses together provide evidence that while self-disgust does not predict changes in eating behaviour but the relationship between the two does persist over time. Finally, difficulties in emotion regulation may be separate to the emotional paradigm that self-disgust is part of across multiple psychopathologies (Overton et al., 2008; Simpson et al., 2010). People with an eating disorder may regulate these negative emotions by using dysfunctional strategies and that although these are associated, self-disgust does not directly mediate this relationship.

UNDERSTANDING HOW PEOPLE WITH AN EATING DISORDER EXPERIENCE THE EMOTION SELF-DISGUST THROUGH RECOVERY.

The final study of this thesis aimed to understand the role of self-disgust when recovering from an eating disorder. By using qualitative methods, a voice was given to 12 participants who had previously taken part in all previous studies (and were clinically recovered) and focus on the lived experience of recovery and how experiencing negative emotions can shape or impact this. Previous research has shown that self-disgust is implicated within several psychopathologies (Overton et al., 2008) and previous chapters within this thesis and previously published literature has highlighted that those with an eating disorder are more likely to experience higher levels of self-disgust (Bell et al., 2017; Palmeria et al., 2017). However, self-disgust as a barrier to recovery from psychopathology is an area of research in its infancy and when considering the educational and clinical implications of this emotion; understanding its role within recovery is highly pertinent.

Findings from Study 4 were explained through four themes. The first theme, "The volume of the voice" discussed the role of the participants 'eating disorder voice'. Recovery was rarely viewed as a linear process but rather one that was characterised by a series of good and bad days; with those who viewed themselves as more recovered experiencing more positive or good days. On bad days, participants described the volume of their eating voice to be louder, highly critical and distressing. Going against this voice often appeared to be followed by intense feelings of self-disgust and hearing the voice was described by all of the participants involved; despite being clinically recovered from their eating disorder. Theme 2 "Disgust as a trigger" explored how that on bad days participants experienced the emotion self-disgust more and this, in turn, made them more vulnerable to resort to old eating disorder habits such as restriction or binging/purging to manage this. Similar to previous literature, experiencing self-disgust was often coupled with other emotions (Power & Fox, 2009) such as anxiety, fear or low mood.

Theme 3 "Trapped in a body you do not want" discussed the process of gaining weight when in recovery and the physical sensations of becoming bigger. This appeared to increase the participant's

awareness of their bodies and in turn, shine a spotlight on the eating disorder. By gaining weight and moving into a life away from the eating disorder, participants described a sense of going against the voice. By acting in a way that contradicted the ideals of their eating disorder, many experienced a sense of failure, disappointment and disgust towards their larger bodies. Acceptance of their larger bodies was difficult and at time impossible, which often led to returning to disordered eating behaviours or dissociation from themselves. The final theme "If I am not the eating disorder what am I?" explored the role of identity within recovering from an eating disorder and how participants describe going through a process of separation and detachment from their eating disorder identity. Many described how the eating disorder still lay dormant within them and that they believed it was something that they had learned to live with, rather than recover entirely.

The combination of findings from Studies 3 and 4 demonstrate that self-disgust is an emotion that is associated with disordered eating behaviour over time and is an emotion participants described experiencing despite being clinically recovered. Self-disgust appears not only to be associated with disordered eating behaviour but is an emotion that continues to affect the way they view themselves and may internalise as a trigger, for those who are technically recovered, back into disordered eating behaviour. The visceral nature of self-disgust may mean that experiencing this is distressing, and as participants were more likely to have difficulties in emotion regulation; they may not have the appropriate skills to manage this long term. The majority of individuals who recover from an eating disorder continue to experience a range of physical, psychological and emotional impairments, even after weight and menstruation has been restored (Garner et al. 2004, Bowlby et al., 2012). From this, it could be argued that a broader definition of recovery is required and based on the findings from this research programme it could be argued that continued psychological support, which includes discussions around negative emotions and self-disgust may help people with an eating disorder create a new identity and a sense of purpose away from the eating disorder.

A DYNAMIC MODEL EXPLAINING THE ROLE OF SELF-DISGUST WITHIN DISORDERED EATING BEHAVIOUR

The overall findings of this thesis have been developed into a model. This model attempts to further our understanding of the role of self-disgust within disordered eating behaviour, why someone with an eating disorder may be more vulnerable to self-directed disgust responses, and the role self-disgust continues to have on a person after clinical recovery. The model proposes that specific sensory processing patterns, determined at birth, may predict whether someone will experience self-directed disgust later on in life. A combination of individual sensory processing patterns and cognitive reactivity may feed into how we experience and regulate emotions such a self-disgust. The model argues that self-disgust is likely to play a functional role in the maintenance of disordered eating behaviour, as those with an eating disorder are likely to experience more self-disgust, and in-turn develop maladaptive responses to cope with this emotion. We are already aware that those with an eating disorder may be more likely to have difficulties in regulating emotions and may not have the strategies or skills to regulate difficult emotions like disgust. However, the factors that maintain the relationship between difficulties in emotion regulation and disordered eating behaviour have not yet been established. Within this model, it is argued that self-disgust may play a functional role within this paradigm and is likely to mediate the relationship between emotion regulation and disordered eating behaviour. Finally, this model is this first to explain the role self-disgust may play within recovering from an eating disorder.

The model supports previous literature by suggesting that self-disgust is an enduring phenomenon (Powell et al., 2015) as those with an eating disorder were shown to have higher levels of self-disgust compared to those with no history of disordered eating behaviours. The model suggests that those with an eating disorder are likely to hold a lasting view of themselves as repulsive and in turn process future information in line with this emotion schema (Powell et al., 2015). Self-disgust is also likely to impact on a person even after clinically recovery from an eating disorder. In line with this, there are several clinical implications based on this model that could inform the assessment and treatment of disordered eating behaviour. This model proposes that self-disgust should be considered when trying

to understand the development, maintenance and recovery of disordered eating behaviour. Each of these sections is explained further and justified below.

This model supports the notion that self-disgust is an emotion schema, and having an increased propensity to experiencing disgust may make a person more vulnerable to develop self-directed disgust responses (Powell et al., 2015). A combination of individual characteristics, social, cultural environment and learning/rearing experiences from childhood are thought to contribute to the emergence of self-disgust (Power & Dalgleish, 2016). To add to this, this model proposes that sensory processes patterns may also contribute or make a person more vulnerable to experiencing self-disgust. Sensory processing patterns are argued to be innate (Dunn, 1997) and will vary between individuals. This model proposes that being less likely to seek out sensation within a given environment was found to predict self-disgust across the eating disorder spectrum. Therefore, those who already score lower on sensation seeking may be more vulnerable to experience self-disgust. However, considering the biological components of sensory processing alone may be too simplistic when explaining their relation to disordered eating behaviour. Sensory processing thresholds, which are centred on the body, are likely to contribute to the development of biological sensations a person experiences. However, the psychological factors may determine our responses to those physical factors. Given that disgust reactions are known to be able to be directed towards the self (Rozin & Fallon, 1987; Powell et al., 2015), it could be that people who are less likely to seek out sensation may be more vulnerable to self-disgust and this could lead to maladaptive coping strategies, such as disordered eating behaviour.

There is a body of literature that demonstrates that difficulties in emotion regulation and disordered eating behaviour are associated with one another (Brockmeyer et al., 2014; Lavender et al., 2015). Therefore, those who are living with an eating disorder are likely to have difficulty in recognising their emotions and adaptively regulating them. The factors that may maintain this relationship are less clearly understood. This model proposes that self-disgust plays a functional role is the maintenance of disordered eating behaviour. If difficulties in emotion regulation contribute to the development of disordered eating behaviours, and those with an eating disorder are more likely to experience self-

directed disgust; self-disgust is believed to explain the associations between difficulties in emotion regulation. Levels of anxiety and depression are also well known to be associated with disordered eating behaviour (Zickgraf & Elkins, 2018). As self-disgust is associated with both of these psychopathologies, it may also play a similar role within those.

The findings within this thesis demonstrate that self-disgust was able to predict disordered eating behaviours above and beyond anxiety, depression and difficulties in emotion regulation. In line with this, it also showed that self-disgust mediated the relationship between anxiety, depression ERNA And ERC. Time two scores of self-disgust and disordered eating behaviours were found to be associated with one another; however, time one scores of self-disgust were not able to predict disordered eating behaviour at time two. Therefore, suggesting that self-disgust may not predict changes in eating behaviour, but the relationship between these two variables does persist over time. This model supports the notion that self-disgust is an enduring dysfunctional phenomenon and demonstrates that this is true in those who have an eating disorder.

This model supports the notion that self-disgust is an enduring phenomena and disgust-reactions towards the self are difficult to unlearn (Powell et al., 2015). Furthermore, it argues that self-disgust is an emotion that someone with an eating disorder will continue to experience even after clinical recovery. Self-disgust is not likely to always be in the consciousness of those recovering from their eating disorder. However, it is likely to be elicited by several factors throughout the recovery process. First, the model argues that a person's eating disorder voice is likely to play an active role in the experience of self-disgust. The ED voice is characterised by increased negative thoughts and cognitions concerning a person's eating behaviour, and the louder and more critical the voice is, self-disgust is likely to be elicited as a result of this and maybe perceived as more intense. Second, several behaviours are unique to the recovering from an eating disorder that may trigger the emotion of self-disgust. Gaining weight and being in a larger body compared to when they had an eating disorder is likely to reactivate or intensify their eating disorder voice, as they are choosing the behaviour in a way that deviates from the voices expectations and demands. In line with this consuming more food,

particularly foods that are higher in fat are likely to trigger feelings of self-disgust in those recovering from their eating disorder.

Finally, self-disgust and disordered eating behaviour appear to work in tandem with one another (Fox & Power, 2009) and therefore creating a new identity that is separate to an eating disorder must also be one that can recognise and emotionally regulate feelings of self-disgust. People with an eating disorder will often base their identity around it, and the creation of a new self, one that is more compassionate and able to live without disordered eating behaviours appeared to be vital for successful recovery. Self-disgust appears to be an emotion that continues to impact on person's well-being even after clinical recovery and the clinical implications of this warrant a research agenda of its own.

Given that self-disgust is associated with several different types of psychopathologies and have several psychological implications for those who experience high levels of it (Powell et al., 2015), it could be that self-disgust is something that is experienced across the spectrum of disordered eating behaviour. Furthermore, given the association's found between self-disgust, anxiety and depression, it could be that self-disgust is a common feature of psychopathology in general. However, this model does require further refinement and development to ensure it adequately explains the role of self-disgust across the spectrum of disordered eating behaviour. The current sample of participants used to develop this model prominently had a diagnosis of AN, BN or a subtype within the two and therefore more research is needed to verify these findings across the spectrum of disordered eating behaviour. We are aware that self-disgust is associated with binge eating (Duarte et al., 2014) and some of the qualitative findings within this thesis support this. However, little research has considered the role this emotion may play within those with a diagnosis of OSFED. Therefore, in order to understand whether self-disgust is experienced across the spectrum of disordered eating behaviour more research is needed to verify the role self-disgust may play within the development, maintenance and recovering across a broader range of disordered eating behaviours. The sample used in this thesis was also solely female. Therefore, the model is not able to explain how self-disgust may affect the population of males who

suffer from disordered eating behaviour. Given that some literature has suggested gender differences between experiencing self-disgust (Palmeira et al., 2017), the impact self-disgust can have on males eating behaviour warrants further investigation.

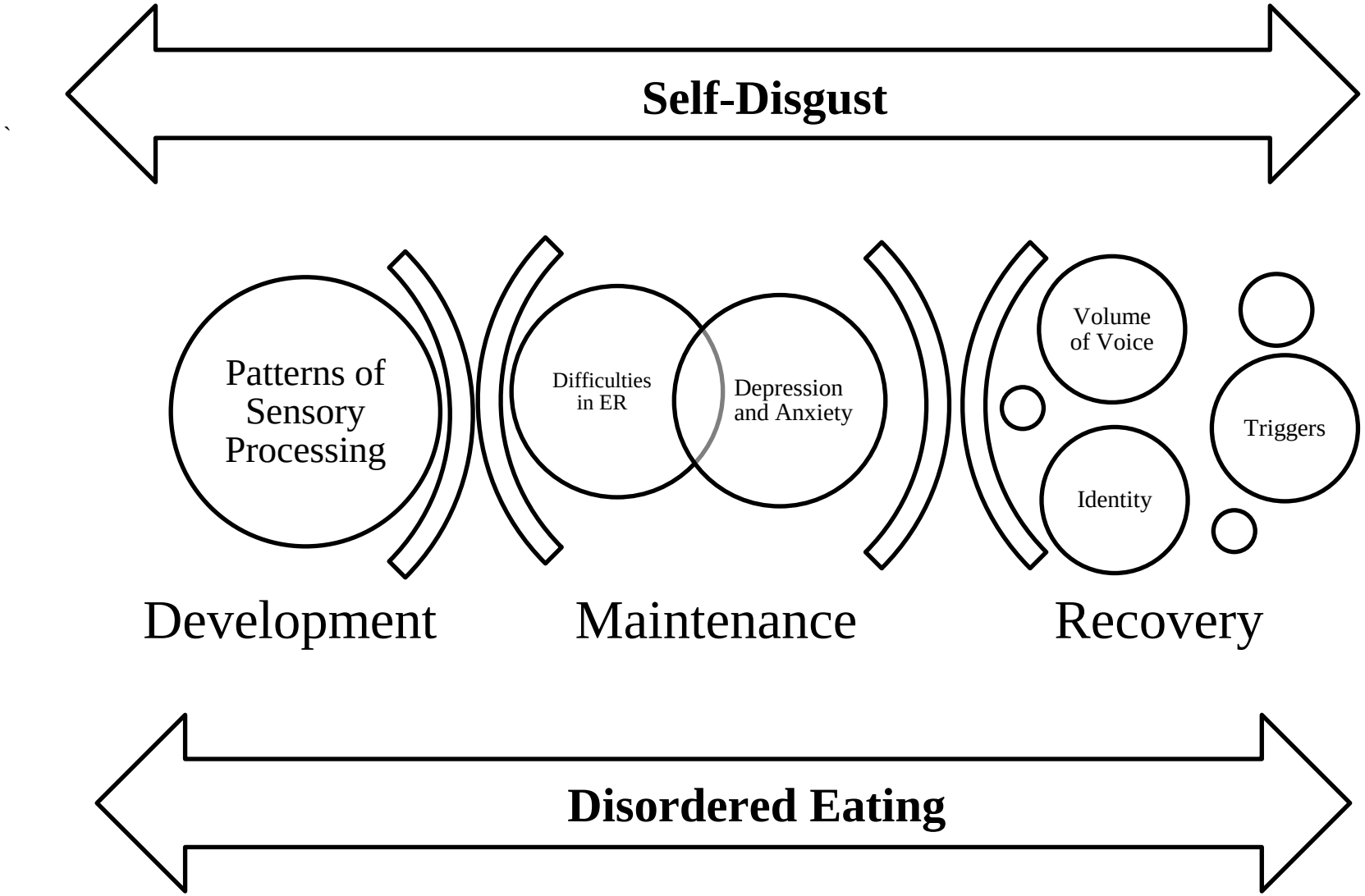


Figure 7.1: *Model of how Self-Disgust impacts on the Development, Maintenance and Recovery from an Eating Disorder.*

7.3 WHAT DO THESE FINDINGS ADD TO THE FIELD OF RESEARCH WITHIN EATING DISORDERS?

Providing original findings and a valuable contribution to knowledge is essential within doctoral research (Clark & Lunt, 2014; Gill & Dolan, 2015) and the findings from this thesis are relevant within the broader field of eating disorders in several ways. First, by using a clinical sample of 364 people with a diagnosis of AN or BN and this is the most extensive study of self-disgust within disordered eating behaviour to date. Only a few studies have examined associations between self-disgust and disordered eating behaviour. Moncrieff-Boyd (2016) study included 68 participants with a diagnosis of AN, BN or OSFED as part of her doctoral research. Palmeira et al. (2017) also examined the associations between self-disgust and eating psychopathology in 203 participants who were either overweight or clinically obese. Therefore, the present study is the most extensive quantitative study examining associations between self-disgust and disordered eating behaviour so far. Given that the participants in this study were followed over time and subsequently interviewed; the findings provide an in-depth into how self-disgust can impact on all stages of an eating disorder and be experienced after clinical recovery.

Second, the use of a mixed-methods approach allowed for a broader understanding and more in-depth insight into the phenomenon of self-disgust within disordered eating behaviour (Hurmerinta-Peltomaki and Nummela, 2006) and it is argued that this would not have been able to be achieved if both quantitative and qualitative methods were not utilized. Careful consideration was taken when using each approach, and as outlined in Chapter 2, the overall research method was firmly set within the appropriate philosophical and methodological assumptions (Creswell and Plano Clark, 2011). The flexibility of using a mixed-methods design is argued to be particularly pertinent within health and clinical psychology as it allows the researcher to be responsive to a range of issues (Dures et al., 2011). Within this research programme, it allowed for self-disgust to be quantified at a number of time points, while examining variables such as anxiety and depression which are associated with the maintenance of disordered eating behaviour. It also allowed for a detailed exploration into the role of self-disgust within recovering from an eating disorder and provided a voice to twelve participants who

had taken part in previous quantitative sections of the research. It is argued that the findings from this original study provide a detailed and rich understanding into the role of self-disgust within disordered eating behaviour and help cultivate ideas for future research (O'Cathain et al., 2010).

Third, this is the first mixed-methods enquiry into the role of self-disgust within recovering from an eating disorder. Utilizing a longitudinal approach can offer new insights into clinical psychology (Hamaker & Wichers, 2017) and the findings from the two approaches are to provide evidence on how self-disgust changes over time and the role this may play on the maintenance of disordered eating behaviour. As well as this, themes from the qualitative chapter demonstrate the importance of considering psychological and emotional factors when defining recovery and suggest that the emotion self-disgust is something that people with an eating disorder continue to experience despite being clinically recovered. Finally, rather than being a linear process (Petersen et al., 2013), recovery was described as a series of good and bad days. On the bad or more challenging days, participants described feeling self-disgust more and the urge to manage this with disordered eating behaviour.

Finally, the research also expands on the few studies that have been published on the relationship between self-disgust and disordered eating behaviour. It provides further confirmation that self-disgust is indeed associated with disordered eating behaviour and focusing of disgust-directed towards the self as opposed to externally elicited disgust is a more appropriate focus when understanding this emotions role within psychopathology (Power & Fox, 2009; Moncrieff-Boyd & Nunn, 2014; Palmeria et al., 2017). The findings extend our knowledge by demonstrating that self-disgust is associated with difficulties in emotion regulation, and this relationship is consistent over time. In line with this, the findings support the notion that self-disgust is experienced across multiple psychopathologies (Overton et al., 2008; Simpson et al., 2010; Powell et al., 2013) and adds to this by demonstrating that changes in self-disgust may mediate the relationship between depression and disordered eating behaviour. Self-disgust has already been associated with dysfunctional cognitions and depression (Overton et al., 2008), but the idea that is also a mediator between depression and disordered eating behaviour is novel. Finally, self-disgust is associated with disordered eating behaviour over 12

months, and the idea that this is emotion is something that stays relatively present during recovery from an eating disorder warrants further investigation.

7.4. LIMITATIONS

Several limitations need to be addressed and reflected on within this programme of research. First, although recruitment occurred across multiple eating disorders and was conducted on-line; participants were predominantly white, younger and female. Despite having an open recruitment process and the researchers' efforts to include a diverse sample of participants; the group of males (*n*=37) did not quantify a reliable about of statistical power, and therefore this data was not able to be included. Out of the final sample, 67% self-identifying as White British, 8.5% British Asian, 7.5% Hispanic, 6.5% Indian, 6.5% African American, and 4% Black Caribbean. Therefore, the researcher is cautious about generalising the findings displayed in Figure 7.1 to people with an eating disorder who do not identify as White British, particularly as the emotion self-disgust is argued to be culturally and morally bound (Clark., 2015). Males with eating disorders are already recognised as neglected within the field (Beat, 2018) and despite some literature suggesting that women experience more self-disgust (Palmeria et al., 2017); the relationship it plays for men within disordered eating behaviour warrants further investigation.

Second, although the use of on-line data collected for the quantitative elements of this thesis enabled the researcher to collect large amounts of data quickly; it is argued that data collected in this way should be interpreted with caution because of the potential for fraudulent responses (Lefever, Dal and Ásrún Matthíasdóttir, 2007). In line with this, participants reported their eating disorder diagnosis, were often at different stages of recovery to one another and self-selected to take part in research online; meaning that this sample of participants could be representatively different to those seen in clinics. However, to date, no substantial evidence indicates a difference between responding to questionnaires in person compared to on-line (Ilieva et al., 2002) and participants may be willing to respond in more detail on-line compared to paper and pencil surveys (Bachman, Elfrink & Vazzana, 1996; Mehta & Sivadas, 1995; Stanton, 1998).

Third, it is essential to note that triangulation was not used within the final qualitative study. Triangulation aims to gain a better understanding of a phenomenon by looking at it from different reference points (Willig & Rogers, 2017) and is one way to establish validity within a study. However, by using a mixed-methods approach throughout this thesis, Self-Disgust has been considered from multiple methodological positions. Throughout all stages of this programme of research, careful consideration has been placed on synergising the two approaches to allow for a true reflection of both quantitative and qualitative findings for the role of self-disgust within disordered eating behaviour.

Finally, the implications of using one measure of self-disgust (The Self-Disgust Scale, Overton et al., 2008) need to be considered. Within studies 1,2 and 3 the Self-Disgust Scale (SDS) was utilised and used as the primary tool to quantify levels of self-disgust. This programme of research began in 2014, and as self-disgust within disordered eating behaviour was an area of research within its infancy, the SDS was the only tool available to quantify levels of self-disgust within the participant group. Although this scale has shown excellent internal consistency (a=.91) and test re-test reliability (r=.94), it has been argued that the scale may require revisions for subsequent use in larger or broader ranges of clinical populations (Powell, Overton & Simpson, 2016). However, given that the scale can distinguish between self-disgust directed towards the self and behaviour and associations between and the fact that self-disgust is something that appears to be experienced across multiple psychopathologies (Powell, Overton & Simpson, 2016; Bell et al., 2017); using this scale alone was appropriate at the time.

7.5 IMPLICATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

ACADEMIC IMPLICATIONS

Several academic implications can be taken from the overall findings. First, more research is needed to investigate the role of self-disgust within disordered eating behaviours that include participants who are male and also who identify as having a range of different types of ethnicities. The emotion of self-disgust is particularly culturally and morally bound, in that the operationalisation and transmission of disgust responses often occurs to certain kinds of societal and moral norms (Rozin et al., 1999).

Furthermore, the self-disgust response is argued to be an implicit appraisal of the self; as a repulsive object to others into the broader socio-cultural group (Powell, Overton & Simpson, 2015). With this in mind, people may be more likely to report disgust responses to particular aspects of themselves that aline with the expectations of their sociocultural environment. This may include symptoms of poor fertility (which is often viewed as unattractive) (Tybur et al., 2013), physical symptoms that mimic disease (being overweight, acne) (Oaten, Stevenson & Case, 2011) or characteristics of the self that defy or violate the moral domain of purity and the idealised body border (Horberg et al., 2009; Gutierrez & Giner-Sorolla, 2007). How moral and cultural differences, concerning eating behaviours vary across ethnicities and the role self-disgust may play in this, warrants further academic investigation.

Second, more research is also needed that includes larger samples of males who suffer from disordered eating behaviour. Some literature that has looked into levels of self-disgust in males suggests that men in general experience less disgust towards themselves compared to females (Ille et al., 2014; Palmeria et al., 2017). The presentation of disordered eating behaviour among men is often different to the behaviours observed in females, and this difference is not yet accommodated within current diagnostic and classification schemes (Murray, Griiffith & Mond, 2016); more research is needed to understand how males with eating disorders define the emotion of self-disgust and whether this impacts on their eating behaviour.

Third, the findings from this thesis suggest that those with specific sensory processing patterns may be more vulnerable to experience higher levels of self-disgust, and this, in turn, is associated with disordered eating behaviours. The demonstrated relationship between sensory processing and disordered eating behaviour is novel, and only a few studies have demonstrated significant associations between these two factors (Zucker et al., 2013; Bell et al., 2017) however there is an increasing amount of literature that has focused on the role of sensory processing in Autistic Spectrum Disorder (ASD) Traits and eating behaviour. For example, Engel-Yeger, Hardal-Nasser & Gal (2015) found significant correlations between sensory processing disorders and eating problems in those with

intellectual developmental deficits and smell/taste sensitivity was found to predict food selectivity and refusal significantly. In a recent review, Westwood and Tchanturia (2017) examined eight studies that investigated the presence of ASD in those with a diagnosis of AN, with all findings reporting elevated ASD symptoms within populations of people with this eating disorder. In line with this, interoceptive deficits (i.e. one's ability to recognise internal bodily states) are known to impact a person with an eating disorder and also in those who have recovered (Jenkinson, Taylor & Laws, 2018). Therefore, more research is needed to understand further how sensory processing thresholds may make someone with an eating disorder more predisposed to experiencing self-disgust and the role ASD traits and interception may play within this.

Finally, the dynamic model put forward within this programme of research requires further testing and confirmation of findings is required within more diverse samples of people who suffer from disordered eating behaviour. Future research could examine the relationship between sensory processing and self-disgust within younger, adolescent populations before the development of an eating disorder; to examine whether these factors are contributors to the aetiology of disordered eating behaviour. Research is also needed within other types of eating disorders as the sample included within all studies of this programme of research were self-diagnosed with either AN or BN. Although it is argued that self-disgust is something that occurs within the spectrum of disordered eating behaviour (Bell et al., 2017) further evidence is needed to examine the role it may play within BED and OSFED. Given that roughly 30% of people seeking treatment for disordered eating behaviour suffer from OSFED (APA, 2013), it is particularly pertinent to consider the role of self-disgust within this disorder.

CLINICAL IMPLICATIONS

The findings from this research programme support the notion that people with an eating disorder do experience self-disgust more than people with no history of disordered eating behaviour (Moncrieff-Boyd & Nunn, 2016; Bell et al., 2017; Palmeria et al., 2017) but add to knowledge by demonstrating that this emotion is associated with difficulties in emotion regulation and particularly lack of emotional clarity. In line with this, self-disgust has been to shown be associated with disordered eating

behaviour over time, and it appears to be something people with an eating disorder experience after recovery. To date, self-disgust is not routinely checked or screened for within clinical practice. As self-disgust is a meaningful and distinct phenomenon (Clark, Simpson & Varese, 2019) examining the behavioural and psychological consequences of this emotion could inform the assessment, formulation and interventions of disordered eating behaviour.

Experiencing self-disgust could potentially affect an individual who suffers from an eating disorder presentation at assessment. For example, a person could be engaging in avoidant type behaviours, have difficulty expressing or understanding their emotions or hold negative or critical thoughts about their bodies or eating behaviour. These types of cognitions or behaviours could be considered within their relationship to food or how their perceptions of how other people view them. Generation of initial hypotheses in this area have the potential to inform future assessment. Furthermore, the physiological, cognitive, behavioural and subjective emotion states associated with self-disgust reactions could inform the formulation and subsequent interventions for disordered eating (Clark et al., 2019).

Existing interventions have the potential to be developed and adapted to encompass the role of self-disgust within disordered eating behaviour. Within this thesis, participants described how events such as clothes shopping, gaining weight or being able to feel that their clothes were tighter were some of the events that would trigger feelings of self-disgust. Self-disgust has been defined as an emotion schema, which can be accompanied by a range of maladaptive cognitions and behaviours (Powell et al., 2015). Focusing on "unlearning" maladaptive disgust responses and being able to recognise when those emotions may be triggered could be on avenue for future investigation.

Developing a tool that facilitates conversations around emotions and particularly discussions around self-disgust is highly pertinent as self-disgust has been identified to have an impact on all stages of an eating disorder and that it is associated with lack of emotional clarity. A particular focus could be placed on identifying when people with an eating disorder experience this emotion and the effect it

may have on their eating behaviour, however further qualitative work could be conducted to determine precisely how participants would prefer to approach this conversation. Continuing those conversations into recovery and supporting people with an eating disorder as they gain weight may not only help them to understand self-disgust more but enable the person to build up to skills to regulate and manage this distressing emotion as their bodies begin to change.

Powell, Simpson & Overton (2015) found that affirming psychological traits reduced feelings of disgust towards physical appearance and there are already several therapeutic interventions that target the high levels of self-criticism and shame experienced by those with an eating disorder (Goss & Allan, 2014. For example, Compassion-Focused Therapy for the treatment of Eating Disorders (CFT-E; Goss & Allan, 2014) was designed to address self-directed hostility, self-criticism and shame and suggest that eating disorder behaviours serve a functional purpose in attempting to regulate the threat associated with these negative emotions. Goss & Allan (2014) argue that focusing on increasing self-compassion and activating clients 'soothing systems' may, in turn, may lower disordered eating behaviours and help someone move towards recovery. More traditional, cognitive-behavioural treatments for eating disorders are effective; however, they do not necessarily target negative emotions such as self-disgust or identify the impact these may have on disordered eating behaviour (Stiendle et al., 2017). With this in mind, more research is needed to understand whether therapies using compassion can lower self-disgust in those with an eating disorder and how this may compare to more traditional forms of therapy (such as CBT).

7.6 STRATEGIES FOR RESEARCH DISSEMINATION

To date, one research article has been published from these findings within a peer-reviewed journal. This is based on the study outlined in Chapter 3 (Bell et al., 2017) and provides a summary of the associations between levels of sensory processing and self-disgust between groups of people with anorexia nervosa, bulimia nervosa or no history of disordered eating behaviour. Additionally, sections from chapters 3,4,5 and 6 have been presented at several academic conferences between 2015-2018. These focus on key findings, methodological implications and suggestions for academic and clinical

practice and were attended by experts in the field of eating disorders research (see Bell, Coulthard, and Wildbur; 2017). Throughout this research programme, the researcher was aware of the importance of findings being practical and translatable into clinical practice (Tasca et al., 2014). Findings have been presented to several Eating Disorder Specialist services within the NHS to disseminate findings and as an opportunity to gain a clinical perspective on the thesis project. In line with this, a summary of findings has been conveyed to the Eating Disorders Charity Beat, who not only supported recruitment for the project but have a functional website for people who have eating disorders, who are interested to learn about research in this area. Findings from this research will be available on that website after completion.

A summary of the findings will also be emailed to all participants who stated they would like to know the outcome of the project, and this includes all twelve participants who took part in the final interviews. Finally, the researcher expects to produce at least three further academic papers based on the findings of this research. The first one will focus on the associations found between self-disgust and difficulties in emotion regulation, and the mediating role self-disgust plays within this. The second, will focus on the longitudinal data and provide an account of how self-disgust is associated with disordered eating behaviour over 12-months. The final paper will focus on the role of self-disgust within recovery from an eating disorder and will include some of the quantitative data from chapter 5 and the qualitative findings from chapter 6.

7.7 CONCLUDING REMARKS

The studies reported here aimed to provide an understanding of the role of self-disgust within disordered eating behaviour. By looking at the factors that may make someone more vulnerable to experiencing this emotion, the impact it can have on the maintenance of eating behaviour and the role it plays after recovery; findings from this work can provide a detailed account into this emotion and the impact it can have over time. Guided by a detailed literature review, a mixed-methods approach was first used to quantify levels of self-disgust in those with an eating disorder and identify associations between levels of sensory processing, difficulties in emotion regulation and other

emotional variables. Second, the qualitative element of this research allowed the researcher to explore in-depth how self-disgust can impact on recovering from an eating disorder and give voice to twelve participants who reported high levels of self-disgust over time.

Overall findings suggest that those with an eating disorder do experience higher levels of self-disgust than those with no history of disordered eating behaviour. Specific sensory processing patterns, which are argued to be innate (Dunn et al., 2007) may make someone with an eating disorder more vulnerable to the emotion self-disgust. Self-disgust was also found to be associated with difficulties in emotion regulation, and this relationship was shown to be persistent over twelve months. Finally, self-disgust is something that continues into recovery and may affect a person even if they are clinically defined as recovered. Recovery may not be a linear process but rather a combination of good and bad days-where by on the more difficult days self-disgust is experienced more and in turn, may make someone more vulnerable to returning to disordered eating behaviour. Finally, the physical changes associated with recovery (i.e. weight gain) are particularly distressing for people with an eating disorder and engaging in conversations around self-disgust may enable a person with an eating disorder to better understand this emotion and the impact it may play on their self-perception and eating behaviour.

The outcomes of this research suggest that more research is needed to understand how self-disgust may vary across different ethnicities, genders and eating disorders because self-disgust is particularly morally and culturally bound (Clark et al., 2015). Self-disgust is not routinely checked or screened for within clinical practice, and there is a need for self-disgust to be incorporated into the assessment, treatment and recovery plans for people with an eating disorder. More specifically, developing a tool that facilitates conversations around emotions and particularly discussions around self-disgust is highly pertinent as this emotion has an impact on all stages of an eating disorder and that it is associated with lack of emotional clarity. Finally, more research is needed to understand how current therapeutic models can lower levels of self-disgust in those with an eating disorder and the impact this could have on eating behaviours and recovery.

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APPENDICES

Appendix A

Exploring self-disgust in eating disorders

Who is doing this research, and why?
The research is being conducted by Katie Bell at De Montfort University, Leicester to go towards her PhD.

What is the research about?
The study that we are conducting involves eight online questionnaires. These questionnaires will focus on how you feel about yourself, what kind of emotions you experience and how you might react to those emotions. We are exploring these factors in people who have either an eating disorder or people who have no previous history of an eating disorder. We would also like to measure how these variables change over time so that we will be conducting a follow-up study of the same questionnaires in 2015.

What are you asking of me?
We are inviting you to complete eight online questionnaires, which are estimated to take thirty minutes. If you are happy to take part, we will ask you to give your consent on the next page by ticking a box. This information sheet is merely to inform you about the study – there is no obligation to take part having read this through and please be assured that you will not be expected to provide a reason if you change your mind about participation. We will also ask you to complete a brief *questionnaire* which asks you about your age, preferred self-description of ethnicity and history of eating disorders.

At the end of the study, you will be asked if you would like to complete our follow up study, which will involve completing the same questionnaires one year later. If you wish to do so you will be asked to provide an email address that the lead researcher can contact you on at a later date. Please be aware that your participation in this study is not contingent on completing the follow-up study, and if you do not wish to take part in this, then please do not provide an email address.

What if I want to drop out?
If you wish to drop out at any stage *during* the course of the questionnaires, then you can start by closing down the browser if you wish to withdraw your questionnaires data *after* you can do this, without any questions and consequences and you will not be asked to explain your reasons. You can withdraw up to 3 days after you have completed the questionnaires.

If you wish to withdraw from the follow-up study after providing your email address, please contact the lead researcher using the email address below. Once Katie is aware of this, your email address will be removed, and you will not be contacted.

How will you protect my anonymity and that of other people I might mention?

You will automatically be assigned a participant number. This means that your identity will remain fully anonymous. If you "opt-in" to the follow-up study, your email address will be stored on a private computer in a locked office at De Montfort University.

Will the information I give you be kept confidential?
The information obtained in the questionnaires will be treated with the strictest confidence throughout the study. All electronic data will be stored on password-protected computers. Anonymised data may be shared within the research team and used in the production of papers and articles about the research.

What if I don't want to answer any particular questions?
If there are any questions that you would prefer not to answer in the questionnaire, then please just leave these blank.

What if I am unsettled by anything during the course of the study?
If you do find participating in the questionnaires a little upsetting at any point, you might like to take a break, or if you prefer, you can decide to end your participation and withdraw from the study at that point. We have deliberately chosen to approach participants through DMU University or through eating disorder charities and support groups to ensure that all participants have access to a supportive network. You will be provided with helpline numbers for Beat and the National Eating Disorder Association (NEDA) in the 'Thanks and Debriefing' document that you will be given at the close of the interview.

Who will have access my answers?
Only the research team will have access to the data you provide.

What will you do with the data?
The finding from the study will contribute to Katie Bell's PhD.

What are the possible benefits of taking part?
We hope that you will find taking part in the study interesting and enjoyable. We aim to publish the key findings and increase our current knowledge of eating disorders.

How has the ethical management of this project been conducted?
This study has been put together following the guidelines of the British Psychological Society. It has also been independently reviewed and approved by the Faculty Research Ethics Committee for the Health and Life Sciences Faculty at DMU.

What if I take part in the study but subsequently wish to complain?
If you have a complaint regarding anything to do with this study, you can initially approach the lead investigator (Katie Bell, whose contact details appear below). If this achieves no satisfactory outcome, you should then contact the Faculty Research Ethics Committee, 1.25 Edith Murphy House, Health & Life Sciences, De Montfort University, The Gateway, Leicester, LE1 9BH, 01162 506122, hlsfro@dmu.ac.uk

What if I still have further questions that I'd like to discuss before agreeing to participate?

Please don’t hesitate to contact Katie via e-mail, phone or post at:

Katie Bell
De Montfort University
3.31 Edith Murphy House
The Gateway
Leicester
LE1 9BH
Katie.bell@dmu.ac.uk
0116 201 3881

Many thanks for considering participation in our research.

PARTICIPANT THANKS and DEBRIEFING SHEET

We would like to take this opportunity to thank you for giving us your time and sharing your experiences.

SUMMARY

This sheet provides you with some further details following on from this interview. Your data will now be analysed and used to contribute towards Katie's PhD. The data you have provided will help us understand how self-disgust can affect eating behaviour and whether this can impact on the maintenance of certain eating disorders. Please retain this sheet as well as your copies of the information sheet and consent form as they provide more detail on all aspects of the research study. If you have opted in to follow up study, you will be contacted by Katie, through the email address you provided in 2015.

NEXT STEPS

You are still able to withdraw your data within three days if you so wish or withdraw from the follow-up study. Please contact Katie if you wish to do this.
Katie Bell: 0116 201 3881 (with voicemail) or Katie.bell@dmu.ac.uk

Supervisor contact details:
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FURTHER SUPPORT

If these questionnaires have raised any further questions or issues for you in relation to eating disorders, additional information, advice and support is available from:

De Montfort University Student Services:
Counselling, Mental Health and Wellbeing
T: +44 (0)116 257 7595
E: counselling@dmu.ac.uk
E: mentalhealthadvice@dmu.ac.uk

Beating Eating Disorders (BEAT): Beat provides helplines, online support, and a network of UK-wide self-help groups to help adults and young people in the UK beat their eating disorders**.** For the Adult Helpline, please call 0845 634 1414. This helpline is available to anyone over the age of 18 and is open Monday to Friday at 1.30 pm – 4.30 pm. They are also open at 5.30 pm-8.30 pm on Mondays and Wednesdays. Alternatively, you can email help@b-eat.co.uk

National Eating Disorder Association (NEDA): The National Eating Disorders Association is the leading non-profit organization in the United States advocating on behalf of and supporting individuals and families affected by eating disorders. Reaching millions every year, the campaign for prevention, improved access to quality treatment, and increased research funding to better understand and treat eating disorders**.** The NEDA Helpline is available Monday-Thursday from 9 AM to 9 PM Eastern Time and Friday 9 AM to 5 PM to give additional support to our contacts. You may reach the Helpline at (800) 931-2237.

Thank you again for participating.

Appendix B

CONSENT FORM

Please initial box

I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions. ☐

I agree to take part in this study ☐

I understand that my participation in the study is voluntary and that I am free to withdra at any time, without giving any reason. ☐

I understand that if I withdraw, anonymous data already collected will be destroyed. ☐

5. I understand that data collected during the study may be looked at by individuals from De Montfort University. I give permission for these individuals to have access to my data. ☐

Appendix C

Email Title: Exploring Self-Disgust in Eating Behaviour Follow Up Study

Dear Participant,

Thank you for agreeing to take part in our follow up study. This study is being conducted as part of my PhD and will involve completing the same 8-online questionnaires you would have completed roughly 1 year ago. These questionnaires will focus on how you feel about yourself, what kind of emotions you experience and how you might react to those emotions. We are exploring these factors in people who have either an eating disorder or people who have no previous history of an eating disorder. These are estimated to take thirty minutes.

The information obtained in the questionnaires will be treated with the strictest confidence throughout the study. All electronic data will be stored on password-protected computers. Anonymised data may be shared within the research team and used in the production of papers and articles about the research. As part of this follow-up study, your email address will be stored on a private computer in a locked office at De Montfort University

This email is merely to inform you about the study – there is no obligation to take part having read this through and please be assured that you will not be expected to provide a reason if you change your mind about participation.

We hope that you will find taking part in the study interesting and enjoyable. We aim to publish the key findings and increase our current knowledge of eating disorders. If requested, we can also offer you a summary of the results from this study as well as posting these on the Beat website.

If you are happy to take part, please click on the link below to begin the study.

https://dmupsy.qualtrics.com/SE/?SID=SV_9SN6nnnD7kasiaN

If you have any questions, please don't hesitate to get in contact with me.
Thanks

Katie

PARTICIPANT THANKS and DEBRIEFING SHEET

We would like to take this opportunity to thank you for giving us your time and sharing your experiences.

SUMMARY
This sheet provides you with some further details following on from this interview. Your data will now be analysed and used to contribute towards Katie's PhD. The data you have provided will help us understand how self-disgust can affect eating behaviour and whether this can impact on the maintenance of certain eating disorders. Please retain this sheet as well as your copies of the information sheet and consent form as they provide more detail on all aspects of the research study. If you have opted in to follow up study, you will be contacted by Katie, through the email address you provided in 2015.

NEXT STEPS

You are still able to withdraw your data within three days if you so wish or withdraw from the follow-up study. Please contact Katie if you wish to do this.
Katie Bell: 0116 201 3881 (with voicemail) or Katie.bell@dmu.ac.uk

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Beating Eating Disorders (BEAT): Beat provides helplines, online support, and a network of UK-wide self-help groups to help adults and young people in the UK beat their eating disorders**.** For the Adult Helpline, please call 0845 634 1414. This helpline is available to anyone over the age of 18 and is open Monday to Friday at 1.30 pm – 4.30 pm. They are also open at 5.30 pm-8.30 pm on Mondays and Wednesdays. Alternatively, you can email help@b-eat.co.uk

National Eating Disorder Association (NEDA): The National Eating Disorders Association is the leading non-profit organization in the United States advocating on behalf of and supporting individuals and families affected by eating disorders. Reaching millions every year, the campaign for prevention, improved access to quality treatment, and increased research funding to better understand and treat eating disorders**.** The NEDA Helpline is available Monday-Thursday from 9 AM to 9 PM Eastern Time and Friday 9 AM to 5 PM to give additional support to our contacts. You may reach the Helpline at (800) 931-2237.
Thank you again for participating.

Appendix D

CONSENT FORM

Please initial box

I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions. ☐

I agree to take part in this study ☐

I understand that my participation in the study is voluntary and that I am free to withdra at any time, without giving any reason. ☐

I understand that if I withdraw, anonymous data already collected will be destroyed. ☐

5. I understand that data collected during the study may be looked at by individuals from De Montfort University. I give permission for these individuals to have access to my data. ☐

Appendix E

The Self-disgust Scale (SDS)

This questionnaire is concerned with how you feel about yourself. When responding to the statements below, please circle the appropriate number according to the following definitions:

1 = Strongly agree; 2 = Very much agree; 3 = Slightly agree; 4 = Neither agree nor disagree; 5 = Slightly disagree; 6 = Very much disagree; 7 = Strongly disagree.

	Strongly agree						*Strongly disagree*
1. I find myself repulsive.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2. I am proud of who I am.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3. The way I behave makes me despise myself.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4. I hate being me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. I enjoy the company of others.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6. I like the way I look.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7. Overall, people dislike me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8. I enjoy being outdoors.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9. I feel good about the way I behave.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10. I do not want to be seen.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11. I am a sociable person.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
12. I often do things I find revolting.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13. Sometimes I feel happy.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
14. I am an optimistic person.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15. It bothers me to look at myself.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
16. Sometimes I feel sad.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17. I detest aspects of my personality.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
18. My behaviour repels people.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Scoring

Self-disgust (total score): Reverse code nine items (1, 3, 4, 7, 10, 12, 15, 17, & 18), then the sum of items 1, 2, 3, 4, 6, 7, 9, 10, 12, 15, 17, & 18. All other items are filler items.

The minimum score is 12, and the maximum score is 84. High scores indicate high levels of self-disgust.

Reliability

The relevant paper for the scale is **Overton, P. G., Markland, F. E., Taggart, H. S., Bagshaw, G. L., and Simpson, J. (2008). Self-disgust mediates the relationship between dysfunctional cognitions and depressive symptomatology. *Emotion*, *8*, 379-385.**

The scale has excellent internal consistency ($\alpha = .91$), and one week test-retest reliability ($r = .94$, $p < .001$).

Factor analysis suggests a two-factor structure: disgust towards enduring aspects of the self ('Disgusting self'; items 1, 4, 6, 10, & 15), and disgust towards the way an individual acts ('Disgusting ways'; items 3, 9, 12, 17, & 18).

Adult sensory profile

Please circle the box which best describes the frequency with which you perform the following items. If you are unable to comment because you have not experienced a particular situation, please leave that question out.

1. I leave, or move to another section, when I smell a strong odour in a shop (for example bath products, candles, perfumes).

Almost never	Rarely	Sometimes	Often	Almost always

2. I add spice to my food.

Almost never	Rarely	Sometimes	Often	Almost always

3. I don't smell things that other people say they smell.

Almost never	Rarely	Sometimes	Often	Almost always

4. I enjoy being close to people who wear perfume or cologne.

Almost never	Rarely	Sometimes	Often	Almost always

5. I only eat familiar foods.

Almost never	Rarely	Sometimes	Often	Almost always

6. Many foods taste bland to me (in other words, food tastes plain or does not have a lot of flavour).

Almost never	Rarely	Sometimes	Often	Almost always

7. I don't like strong tasting mints or sweets (hot/menthol or sour sweets).

Almost never	Rarely	Sometimes	Often	Almost always

8. I go over to smell fresh flowers when I see them.

Almost never	Rarely	Sometimes	Often	Almost always

9. I'm afraid of heights.

Almost never	Rarely	Sometimes	Often	Almost always

10. I enjoy how it feels to move about (for example, running, dancing).

Almost never	Rarely	Sometimes	Often	Almost always

11. I avoid lifts and/or escalators because I dislike the movement.

Almost never	Rarely	Sometimes	Often	Almost always

12. I trip or bump into things.

Almost never	Rarely	Sometimes	Often	Almost always

13. I dislike the movement of riding in a car.

Almost never	Rarely	Sometimes	Often	Almost always

14. I choose to engage in physical activities

Almost never	Rarely	Sometimes	Often	Almost always

15. I am unsure of footing when walking on stairs (for example I trip, loose balance, and/or need to hold the rail)

Almost never	Rarely	Sometimes	Often	Almost always

16. I become dizzy easily (for example, after bending over, getting up too fast)

Almost never	Rarely	Sometimes	Often	Almost always

17. I like to go places that have bright lights and are colourful

Almost never	Rarely	Sometimes	Often	Almost always

18. I keep the curtains drawn during the day when I am at home

Almost never	Rarely	Sometimes	Often	Almost always

19. I like to wear colourful clothing

Almost never	Rarely	Sometimes	Often	Almost always

20. I become frustrated when trying to find something in a crowded drawer or messy room

Almost never	Rarely	Sometimes	Often	Almost always

21. I miss the street, building or room signs when trying to go somewhere new

Almost never	Rarely	Sometimes	Often	Almost always

22. I am bothered by unsteady or fast moving visual images in films or TV

Almost never	Rarely	Sometimes	Often	Almost always

23. I don't notice when people come into the room.

Almost never	Rarely	Sometimes	Often	Almost always

24. I choose to shop in smaller stores because I'm overwhelmed in large stores

Almost never	Rarely	Sometimes	Often	Almost always

25. I become bothered when I see lots of movement around me (for example, at a busy shopping centre, festival, carnival).

Almost never	Rarely	Sometimes	Often	Almost always

26. I limit distractions when I am working (for example, I close the door or turn off the TV).

Almost never	Rarely	Sometimes	Often	Almost always

27. I dislike having my back massaged.

Almost never	Rarely	Sometimes	Often	Almost always

28. I like how it feels to get my hair cut.

Almost never	Rarely	Sometimes	Often	Almost always

29. I avoid or wear gloves during activities that will make my hands messy.

Almost never	Rarely	Sometimes	Often	Almost always

30. I touch others when I am talking (for example, I put my hand on their shoulder or shake their hands).

Almost never	Rarely	Sometimes	Often	Almost always

31. I am bothered by the feeling in my mouth when I wake up in the morning.

Almost never	Rarely	Sometimes	Often	Almost always

32. I like to go barefoot.

Almost never	Rarely	Sometimes	Often	Almost always

33. I'm uncomfortable wearing certain fabrics (for example, wool, silk, corduroy, tags in clothing).

Almost never	Rarely	Sometimes	Often	Almost always

34. I don't like particular food textures (for example, peaches with skin, purees, cottage cheese, chunky peanut butter, cooked mushrooms).

Almost never	Rarely	Sometimes	Often	Almost always

35. I move away when others get too close to me.

Almost never	Rarely	Sometimes	Often	Almost always

36. I don't seem to notice when my hands or face are dirty.

Almost never	Rarely	Sometimes	Often	Almost always

37. I get scrapes or bruises, but don't remember how got them.

Almost never	Rarely	Sometimes	Often	Almost always

38. I avoid standing in lines or standing close to other people because I don't like to get too close to others.

Almost never	Rarely	Sometimes	Often	Almost always

39. I don't seem to notice when someone touches my arm or back.

Almost never	Rarely	Sometimes	Often	Almost always

40. I work on two or more tasks at the same time.

Almost never	Rarely	Sometimes	Often	Almost always

41. It takes me more time than other people to wake up in the morning.

Almost never	Rarely	Sometimes	Often	Almost always

42. I do things on the spur of the moment (in other words I do things without making a plan ahead of time).

Almost never	Rarely	Sometimes	Often	Almost always

43. I find time to get away from my busy life and spend time by myself.

Almost never	Rarely	Sometimes	Often	Almost always

44. I seem slower than others when trying to follow an activity or task.

Almost never	Rarely	Sometimes	Often	Almost always

45. I don't get jokes as quickly as others.

Almost never	Rarely	Sometimes	Often	Almost always

46. I stay away from crowds.

Almost never	Rarely	Sometimes	Often	Almost always

47. I find activities to perform in front of others (for example, music, sports, acting, public speaking, and answering questions in class).

Almost never	Rarely	Sometimes	Often	Almost always

48. I find it hard to concentrate for the whole time when sitting in a long class or a meeting.

Almost never	Rarely	Sometimes	Often	Almost always

49. I avoid situations when unexpected things might happen (for example, going to unfamiliar places or being around people I don't know).

Almost never	Rarely	Sometimes	Often	Almost always

50. I hum, whistle, sing or make other noises.

Almost never	Rarely	Sometimes	Often	Almost always

51. I startle easily at unexpected or loud noises (for example, hoover, dog barking, telephone ringing).

Almost never	Rarely	Sometimes	Often	Almost always

52. I have trouble following what people are saying when they talk fast or about unfamiliar topics.

Almost never	Rarely	Sometimes	Often	Almost always

53. I leave the room when others are watching TV, or I ask them to turn it down.

Almost never	Rarely	Sometimes	Often	Almost always

54. I am distracted if there is a lot of noise around.

Almost never	Rarely	Sometimes	Often	Almost always

55. I don't notice when my name is called.

Almost never	Rarely	Sometimes	Often	Almost always

56. I use strategies to drown out sound (for example, close the door, cover my ears, wear ear plugs).

Almost never	Rarely	Sometimes	Often	Almost always

57. I stay away from noisy settings.

Almost never	Rarely	Sometimes	Often	Almost always

58. I like to attend events with a lot of music.

Almost never	Rarely	Sometimes	Often	Almost always

59. I have to ask people to repeat things.

Almost never	Rarely	Sometimes	Often	Almost always

60. I find it difficult to work with background noise (for example, fan, radio).

Almost never	Rarely	Sometimes	Often	Almost always

FEELINGS INVENTORY INSTRUCTIONS: The group of items below inquire about the types of feelings you have. Each of the 21 groups of items has four options.

For example, ITEM 99 ..... A. I feel fine.

B. I don't feel all that well.

C. I feel somewhat miserable.

D. I feel completely miserable.

For each cluster of items, read and identify the statement that best reflects how you feel. For example, you might choose A in the above example. If so, then you would darken in the letter (A) on the answer sheet next to the item number associated with that group of statements. In this example, that item number would have been "99."

Now go ahead and answer the questions on the answer sheet. Be sure to answer every question, even if you're not sure, and use a #2 pencil. Make sure you select only one statement from each of the 21 clusters of statements.

PLEASE BE HONEST IN RESPONDING TO THE STATEMENTS.

1. ..... A. I do not feel angry.

B. I feel angry.

C. I am angry most of the time now.

D. I am so angry and hostile all the time that I can't stand it.

2. ..... A. I am not particularly angry about my future.

B. When I think about my future, I feel angry.

C. I feel angry about what I have to look forward to.

D. I feel intensely angry about my future, since it cannot be improved.

3. ..... A. It makes me angry that I feel like such a failure.

B. It makes me angry that I have failed more than the average person.

C. As I look back on my life, I feel angry about my failures.

D. It makes me angry to feel like a complete failure as a person.

4. ..... A. I am not all that angry about things.

B. I am becoming more hostile about things than I used to be.

C. I am pretty angry about things these days.

D. I am angry and hostile about everything.

5. ..... A. I don't feel particularly hostile at others.

B. I feel hostile a good deal of the time.

C. I feel quite hostile most of the time.

D. I feel hostile all of the time.

6. ..... A. I don't feel that others are trying to annoy me.

B. At times I think people are trying to annoy me.

C. More people than usual are beginning to make me feel angry.

D. I feel that others are constantly and intentionally making me angry.

7. ..... A. I don't feel angry when I think about myself.

B. I feel more angry about myself these days than I used to.

C. I feel angry about myself a good deal of the time.

D. When I think about myself, I feel intense anger.

8. ..... A. I don't have angry feelings about others having screwed up my life.

B. It's beginning to make me angry that others are screwing up my life.

C. I feel angry that others prevent me from having a good life.

D. I am constantly angry because others have made my life totally miserable.

9. ..... A. I don't feel angry enough to hurt someone.

B. Sometimes I am so angry that I feel like hurting others, but I would not really do it.

C. My anger is so intense that I sometimes feel like hurting others.

D. I'm so angry that I would like to hurt someone.

10. .....A. I don't shout at people any more than usual.

B. I shout at others more now than I used to.

C. I shout at people all the time now.

D. I shout at others so often that sometimes I just can't stop.

11. .....A. Things are not more irritating to me now than usual.

B. I feel slightly more irritated now than usual.

C. I feel irritated a good deal of the time.

D. I'm irritated all the time now.

12. .....A. My anger does not interfere with my interest in other people.

B. My anger sometimes interferes with my interest in others.

C. I am becoming so angry that I don't want to be around others.

D. I'm so angry that I can't stand being around people.

13. .....A. I don't have any persistent angry feelings that influence my ability to make decisions.

B. My feelings of anger occasionally undermine my ability to make decisions.

C. I am angry to the extent that it interferes with my making good decisions.

D. I'm so angry that I can't make good decisions anymore.

14. .....A. I'm not so angry and hostile that others dislike me.

B. People sometimes dislike being around me since I become angry.

C. More often than not, people stay away from me because I'm so hostile and angry.

D. People don't like me anymore because I'm constantly angry all the time.

15. .....A. My feelings of anger do not interfere with my work.

B. From time to time my feelings of anger interfere with my work.

C. I feel so angry that it interferes with my capacity to work.

D. My feelings of anger prevent me from doing any work at all.

16. .....A. My anger does not interfere with my sleep.

B. Sometimes I don't sleep very well because I'm feeling angry.

C. My anger is so great that I stay awake 1—2 hours later than usual.

D. I am so intensely angry that I can't get much sleep during the night.

17. .....A. My anger does not make me feel anymore tired than usual.

B. My feelings of anger are beginning to tire me out.

C. My anger is intense enough that it makes me feel very tired.

D. My feelings of anger leave me too tired to do anything.

18. .....A. My appetite does not suffer because of my feelings of anger.

B. My feelings of anger are beginning to affect my appetite.

C. My feelings of anger leave me without much of an appetite.

D. My anger is so intense that it has taken away my appetite.

19. .....A. My feelings of anger don't interfere with my health.

B. My feelings of anger are beginning to interfere with my health.

C. My anger prevents me from devoting much time and attention to my health.

D. I'm so angry at everything these days that I pay no attention to my health and well-being.

20. .....A. My ability to think clearly is unaffected by my feelings of anger.

B. Sometimes my feelings of anger prevent me from thinking in a clear-headed way.

C. My anger makes it hard for me to think of anything else.

D. I'm so intensely angry and hostile that it completely interferes with my thinking.

21. .....A. I don't feel so angry that it interferes with my interest in sex.

B. My feelings of anger leave me less interested in sex than I used to be.

C. My current feelings of anger undermine my interest in sex.

D. I'm so angry about my life that I've completely lost interest in sex.

Eating Disorder examination questionnaire (EDE-Q 6.0)

Instructions: The following questions are concerned with the past four weeks (28 days) only. Please read each question carefully. Please answer all the questions. Thank you.

Questions 1 to 12: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days) only.

	ON HOW MANY OF THE PAST 28 DAYS ...	NO DAYS	1-5 DAYS	6-12 DAYS	13-15 DAYS	16-22 DAYS	23-27 DAYS
1	Have you been deliberately **trying** to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5
2	Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?	0	1	2	3	4	5
3	Have you **tried** to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5
4	Have you **tried** to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5
5	Have you had a definite desire to have an **empty** stomach with the aim of influencing your shape or weight?	0	1	2	3	4	5
6	Have you had a definite desire to have a **totally fla**t stomach?	0	1	2	3	4	5
7	Has thinking about **food, eating or calories** made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5
8	Has thinking about **shape or weight** made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5
9	Have you had a definite fear of losing control over eating?	0	1	2	3	4	5
10	Have you had a definite fear that you might gain weight?	0	1	2	3	4	5
11	Have you felt fat?	0	1	2	3	4	5
12	Have you had a strong desire to lose weight?	0	1	2	3	4	5

PAGE 1/3 PLEASE GO TO THE NEXT PAGE

Eating Disorder examination questionnaire (EDE-Q 6.0)

Questions 13-18: Please fill in the appropriate number in the boxes on the right. Remember that the questions only refer to th past four weeks (28 days).

Over the past four weeks (28 days)….

13	Over the past 28 days, how many **times** have you eaten what other people would regards as an **unusually large amount of food** (given the circumstances)?	
14	… On how many of these times did you have a sense of having lost control over your eating (at the time you were eating)?	
15	Over the past 28 days, on how many **DAYS** have such episodes of overeating occurred (i.e. you have eaten an unusually large amount of food **and** have had a sense of loss of control at the time)?	
16	Over the past 28 days, how many **times** have you made yourself sick (vomit) as a means of controlling your shape or weight?	
17	Over the past 28 days, how many **times** have you taken laxatives as a means of controlling your shape or weight?	
18	Over the past 28 days, how many **times** have you exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories?	

Questions 19 to 21: Please circle the appropriate number. <u>Please note that for these questions the term "binge eating" means</u> eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.

		NO DAYS	1-5 DAYS	6-12 DAYS	13-15 DAYS	16-22 DAYS	23-27 DAYS	EVERY DAY
19	Over the past 28 days, on how many days have you eaten in secret (ie, furtively)? … Do not count episodes of binge eating.	0	1	2	3	4	5	6
		None of the times	A few of the times	Less than half of the times	half of the times	more than half of the time	most of the time	every time
20	On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? … Do not count episodes of binge eating.	0	1	2	3	4	5	6
			Not at all	Slightly	moderately		markedly	
21	Over the past 28 days, how concerned have you been about other people seeing you eat? … Do not count episodes of binge eating.	0	1	2	3	4	5	6

PAGE 2/3 PLEASE GO TO THE NEXT PAGE

Eating Disorder examination questionnaire (EDE-Q 6.0)

Questions 22 to 28: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days).

	ON HOW MANY OVER THE PAST 28 DAYS ...	NOT AT ALL	SLIGHTLY		MODERATELY		MARKEDLY	
22	Has your **weight** influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
23	Has your **shape** influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
24	How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?	0	1	2	3	4	5	6
25	How dissatisfied have you been with your **weight**?	0	1	2	3	4	5	6
26	How dissatisfied have you been with your **shape**?	0	1	2	3	4	5	6
27	How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?	0	1	2	3	4	5	6
28	How uncomfortable have you felt about **others** seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

What is your weight at present? (Please give your best estimate.): .....

What is your height? (Please give your best estimate.): .....

If female: Over the past three to four months have you missed any menstrual periods?: YES ○ NO ○

If so, how many?: ○

Have you been taking the "pill"?: YES ○ NO ○

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THANK YOU

The Disgust Propensity and Sensitivity Scale-Revised (DPSS-R)

Instructions: This questionnaire consists of 12 statements about disgust. Please read each statement and think how often it is true for you, then place an 'x' in the box that is closest to this.

		Never	**Rarely**	**Some times**	**Often**	**Always**
1	I avoid disgusting things.					
2	When I feel disgusted, I worry that I might pass out.					
3	It scares me when I feel nauseous.					
4	I feel repulsed.					
5	Disgusting things make my stomach turn.					
6	I screw up my face in disgust.					
7	When I notice that I feel nauseous, I worry about vomiting					
8	I experience disgust.					
9	It scares me when I feel faint.					
10	I find something disgusting.					
11	It embarrasses me when I feel disgusted.					
12	I think feeling disgust is bad for me.					

Thank you for your time in completing this questionnaire!

Scoring key: Never =1, Rarely = 2, Sometimes =3, Often = 4, Always = 5

Disgust Propensity: sum of items 1, 4, 5, 6, 8, 10

Disgust Sensitivity: sum of items 2, 3, 7, 9, 11, 12

Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not At All	Mildly but it didn't bother me much.	Moderately - it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding/racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3
Faint / lightheaded	0	1	2	3
Face flushed	0	1	2	3
Hot/cold sweats	0	1	2	3
Column Sum				

Scoring **-** Sum each column. Then sum the column totals to achieve a grand score. Write that score here____ .

Interpretation

A grand sum between **0 – 21** indicates very low anxiety. That is usually a good thing. However, it is possible that you might be unrealistic in either your assessment which would be denial or that you have learned to "mask" the symptoms commonly associated with anxiety. Too little "anxiety" could indicate that you are detached from yourself, others, or your environment.

A grand sum between **22 – 35** indicates moderate anxiety. Your body is trying to tell you something. Look for patterns as to when and why you experience the symptoms described above. For example, if it occurs prior to public speaking and your job requires a lot of presentations you may want to find ways to calm yourself before speaking or let others do some of the presentations. You may have some conflict issues that need to be resolved. Clearly, it is not "panic" time but you want to find ways to manage the stress you feel.

A grand sum that **exceeds 36** is a potential cause for concern. failure.

Beck's Depression Inventory

This depression inventory can be self-scored. The scoring scale is at the end of the questionnaire. 1.

0 I do not feel sad.
1 I feel sad
2 I am sad all the time and I can't snap out of it.
3 I am so sad and unhappy that I can't stand it.

2.

0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel the future is hopeless and that things cannot improve.

3.

0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.

4.

0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.

5.

0 I don't feel particularly guilty
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6.

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7.

0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8.

0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9.

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10.

0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to

11.

0 I am no more irritated by things than I ever was.
1 I am slightly more irritated now than usual.
2 I am quite annoyed or irritated a good deal of the time.
3 I feel irritated all the time.

12.

0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13.

0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions more than I used to.
3 I can't make decisions at all anymore.

14.

0 I don't feel that I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel there are permanent changes in my appearance that make me look unattractive
3 I believe that I look ugly.

15.

0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

16.

0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17.

0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18.

0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19.

0 I haven't lost much weight, if any, lately.
1 I have lost more than five pounds.
2 I have lost more than ten pounds.
3 I have lost more than fifteen pounds.

20.

0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think of anything else.

21.

0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I have almost no interest in sex.
3 I have lost interest in sex completely.

INTERPRETING THE BECK DEPRESSION INVENTORY

Now that you have completed the questionnaire, add up the score for each of the twenty-one questions by counting the number to the right of each question you marked. The highest possible total for the whole test would be sixty-three. This would mean you circled number three on all twenty-one questions. Since the lowest possible score for each question is zero, the lowest possible score for the test would be zero. This would mean you circles zero on each question.
You can evaluate your depression according to the Table

below. Total Score_____Levels of Depression

1-10_____These ups and downs are considered
normal 11-16_____Mild mood disturbance
17-20_____Borderline clinical
depression 21-30_____Moderate depression
31-40_____Severe
depression over 40_____Extreme
deprression

Difficulties in Emotion Regulation Scale (DERS)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

1----------2----------3----------4----------5

almost never always (0-10%) | sometimes (11-35%) | about half the time (36-65%) | most of the time (66-90%) | almost (91-100%)

_____ 1) I am clear about my feelings.
_____ 2) I pay attention to how I feel.
_____ 3) I experience my emotions as overwhelming and out of control.
_____ 4) I have no idea how I am feeling.
_____ 5) I have difficulty making sense out of my feelings.
_____ 6) I am attentive to my feelings.
_____ 7) I know exactly how I am feeling.
_____ 8) I care about what I am feeling.
_____ 9) I am confused about how I feel.
_____ 10) When I'm upset, I acknowledge my emotions.
_____ 11) When I'm upset, I become angry with myself for feeling that way.
_____ 12) When I'm upset, I become embarrassed for feeling that way.
_____ 13) When I'm upset, I have difficulty getting work done.
_____ 14) When I'm upset, I become out of control.
_____ 15) When I'm upset, I believe that I will remain that way for a long time.
_____ 16) When I'm upset, I believe that I will end up feeling very depressed.
_____ 17) When I'm upset, I believe that my feelings are valid and important.
_____ 18) When I'm upset, I have difficulty focusing on other things.
_____ 19) When I'm upset, I feel out of control.
_____ 20) When I'm upset, I can still get things done.
_____ 21) When I'm upset, I feel ashamed at myself for feeling that way.
_____ 22) When I'm upset, I know that I can find a way to eventually feel better.
_____ 23) When I'm upset, I feel like I am weak.
_____ 24) When I'm upset, I feel like I can remain in control of my behaviors.
_____ 25) When I'm upset, I feel guilty for feeling that way.
_____ 26) When I'm upset, I have difficulty concentrating.
_____ 27) When I'm upset, I have difficulty controlling my behaviors.
_____ 28) When I'm upset, I believe there is nothing I can do to make myself feel better.
_____ 29) When I'm upset, I become irritated at myself for feeling that way.
_____ 30) When I'm upset, I start to feel very bad about myself.
_____ 31) When I'm upset, I believe that wallowing in it is all I can do.
_____ 32) When I'm upset, I lose control over my behavior.
_____ 33) When I'm upset, I have difficulty thinking about anything else.
_____ 34) When I'm upset I take time to figure out what I'm really feeling.
_____ 35) When I'm upset, it takes me a long time to feel better.
_____ 36) When I'm upset, my emotions feel overwhelming.

Reverse-scored items (place a subtraction sign in front of them) are numbered 1, 2, 6, 7, 8, 10, 17, 20, 22, 24 and 34. **Calculate total score by adding everything up.** Higher scores suggest greater problems with emotion regulation. **SUBSCALE SCORING**:** The measure yields a total score (SUM) as well as scores on six subscales:

1. Nonacceptance of emotional responses (NONACCEPT): 11, 12, 21, 23, 25, 29
2. Difficulty engaging in Goal-directed behavior (GOALS): 13, 18, 20R, 26, 33
3. Impulse control difficulties (IMPULSE): 3, 14, 19, 24R, 27, 32
4. Lack of emotional awareness (AWARENESS): 2R, 6R, 8R, 10R, 17R, 34R
5. Limited access to emotion regulation strategies (STRATEGIES): 15, 16, 22R, 28, 30, 31, 35, 36
6. Lack of emotional clarity (CLARITY): 1R, 4, 5,

7R, 9 Total score: sum of all subscales

**"R" indicates reverse scored item

REFERENCE:

Gratz, K. L. & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 26,* 41-54.

A Qualitative Enquiry into the role of Self-Disgust within those who suffer from an Eating Disorder

What is the research about?

The study that we are conducting is an in-depth interview-based project looking at the experience of living with an Eating Disorder. In particular we would like to talk to you about the emotion self-disgust and whether this has impacted on your recovery. Interviews will be conducted within individuals who have taken part in a previous study within this project.

Why am I being invited to participate?

You are being invited to participate because you have indicated that you have previously been diagnosed with an Eating Disorder, and you have taken part in previous studies linked with this project. You have contacted Katie and indicated that you might be interested in taking part in the study and/or would like more detailed information. Please note that the asking of this information does not place you under any obligation to take part in the study. Please take time to read through the following information carefully and discuss it with friends and relatives if you wish to. Ask us if there is anything that is not clear or if you would like more information and take time to decide whether you wish to take part or not.

What are you asking of me?

We are inviting you to take part in an *interview* lasting about sixty minutes in which a member of our team will ask you some questions about your experience of living with an Eating Disorder. The interviews will be audiotaped for the purpose of producing a verbatim (word-for-word) transcript. If you are happy to take part once you have read this sheet, we will ask you to give signed consent on an accompanying consent form. This information sheet is merely to inform you about the study – there is no obligation to take part having read this through and please be assured that you will not be expected to provide a reason if you change your mind about participation.

Where will the interview take place?

Interviews will take place in an area convenient to you. Copies of your sound-file and transcript will be made available to you if you wish – please just let us know on the day of the interview or contact us within a month of the day of the interview.

What if I want to drop out?

If you wish to drop out at any stage *during* the course of the interview, then please just let the person interviewing you know and any data collected will be destroyed.

If you wish to withdraw your interview data *after* the interview, you can do this, without any questions and consequences and you will not be asked to explain your reasons. You can withdraw up to three days after you have completed your interview or up to three days after receipt of a copy of your interview transcript/recording should you wish to receive either or both of these. Should you wish to withdraw your interview data after the day of the interview, please contact a member of the research team (contact details are provided below).

How will you protect my anonymity and that of other people I might mention?

You will be assigned a pseudonym (a false name) for yourself and any family members or significant others (e.g. friends, colleagues, people you meet, etc.) that you mention during the interview. This means that your identity will remain fully anonymous. Only our research team will know your identity. Anonymisation takes place as the data are transcribed (typed up).

Will the information I give you be kept confidential?

The information obtained in the interview will be treated with the strictest confidence throughout the study, and sound files of the recorded interview will be destroyed in December 2020. All paper documentation and data will be kept securely in a locked filing cabinet. Any linked documents will be stored separately from each other. All paper documentation will be shredded in December 2020. All electronic data will be stored on password-protected computers. Anonymised data may be shared within the research team and used in the production of papers and articles about the research.

We would also like to keep a copy of your anonymised transcript to use for training and teaching purposes with future cohorts of Psychology students at DMU and publication in journals. Please note that participation is **not** contingent on agreeing to this. Further information is provided on page 4.

What if I don't want you to include certain things I've said from my interview?

If during the interview you say something which you decide subsequently you do not want us to include in the study, then please just say during the interview that you would like that omitted from the transcript. Alternatively, we can send you a copy of the transcribed interview either electronically or in hard copy if you so wish and you can edit it yourself. We would require you to return the transcript with any changes within seven days from receipt, please.

What if I don't want to answer any particular questions?

If you do not wish to answer any of the questions that Katie asks you during the interview, please just say so, and Katie will move on to the next question.

What if I am unsettled by anything during the course of the study?

It is possible that the interview may arouse some emotions. Katie will obviously aim to ask questions in a sensitive and compassionate manner, and as stated previously, you have the right to decline to discuss any issue that you are asked about. However if you do find participating in the interview a little upsetting at any point you might like to take a break, or if you prefer, you can decide to end your participation and withdraw from the study at that point. Equally, as long as time permits, we can reschedule the interview if you are willing to do so. You will be provided with helpline numbers for Beat and other related services in the Post-Study information document that you will be given at the close of the interview.

Who will have access to the recording?

Only the research team will have access to the recording. The sound files will be deleted in December 2020. You are naturally entitled to a copy of the sound file for your interview upon request.

Who will have access to the transcript of my interview?

Only the research team will have access to the fully transcribed interview. With your permission, we would like to keep a copy of your fully anonymised transcript for teaching, training and/or research purposes in the future but we will respect your wishes on this matter and only use the material in this way if you give your explicit permission. Please note that this is **not** a condition for involvement in the study. Transcripts are very useful for teaching and training purposes, but we fully appreciate that some participants prefer for them not to be used in this manner.

What will you do with the data?

Your data will be added to those of several other participants who have also kindly agreed to be interviewed for the project, and these will be used to contribute towards Katie's PhD thesis. The research team will look for common themes in the data. A summary will be produced and fed back to Beat and all participants who wish to receive it. We hope to disseminate the findings at Psychology or Eating Disorder specific conferences and events and in peer-reviewed academic publications.

What will happen to my transcript?

This will be destroyed in December 2020 to ensure protection of your confidentiality and your anonymity unless you give us permission to retain a single anonymised copy of your transcript.

What are the possible benefits of taking part?

We hope that you will find taking part in the interview interesting and enjoyable. We will share the key findings with Beat and plan to disseminate the findings and publish them in scientific journals.

How has the ethical management of this project been conducted?

This study has been put together following the guidelines of the British Psychological Society and the National Health Research Ethics Service. It has also been independently reviewed and approved by the Faculty Research Ethics Committee for the Health and Life Sciences Faculty at DMU. The documents have also been reviewed by members of the management team at Macmillan who have judged them fit for purpose. All study materials are reviewed by individuals who are experienced in ethics and who are fully independent of the study team.

What if I take part in the study but subsequently wish to complain?

If you have a complaint regarding anything to do with this study, you can initially approach the lead investigator (Katie Bell, contact details below). If this achieves no satisfactory outcome, you should then contact the Faculty Research Ethics Committee, 1.25 Edith Murphy House, Health & Life Sciences, De Montfort University, The Gateway, Leicester, LE1 9BH, 01162 506122, hlsfro@dmu.ac.uk

What if I still have further questions that I'd like to discuss before agreeing to participate?

Please don't hesitate to contact a member of the team via e-mail, phone or post at:

Katie Bell
Katie.bell@dmu.ac.uk
De Montfort University
3.38 Edith Murphy House
The Gateway
Leicester LE1 9BH

Many thanks for considering participation in this research.

PARTICIPANT THANKS and POST STUDY INFORMATION

Interview Date: ..... Interviewer: .....

We would like to take this opportunity to thank you for giving us your time and sharing your experiences.

Thank you.

SUMMARY

This sheet provides you with some further details following on from this interview. Your data will now be typed up and added to those of several other individuals who have also been diagnosed with an eating disorder. A summary of the findings will be available from January 2019 and can be sent to you by e-mail or post if you indicate that you would like to receive this. Please retain this sheet as well as your copies of the information sheet and consent form as they provide more detail on all aspects of the research study.

NEXT STEPS

A copy of the transcribed interview can be forwarded to you if you wish. This will be sent by post or email, depending on your preference. If you request this option, a copy of the transcript should be with you within the next 28 days. If you would like a copy of the sound-file of your recorded interview, this can be requested via the lead researcher:

Katie Bell: 0116 201 3881 or katie.bell@dmu.ac.uk

Please reference the date and the name of your interviewer as noted at the top of this sheet. If you would like to comment on anything about the research process, please contact a member of the team directly. You are also still able to withdraw your data within three days if you so wish.

FURTHER SUPPORT

If this interview has raised any further questions or issues for you, additional information, advice and support is available from:

Beating Eating Disorders (Beat)

Beat provides helplines, online support, and a network of UK-wide self-help groups to help adults and young people in the UK beat their eating disorders**.** For the Adult Helpline, please call 0845 634 1414. This helpline is available to anyone over the age of 18 and is open Monday to Friday at 1.30 pm – 4.30 pm. They are also open at 5.30 pm-8.30 pm on Mondays and Wednesdays. Alternatively, you can email help@b-eat.co.uk

National Eating Disorder Association (NEDA)

The National Eating Disorders Association is the leading non-profit organization in the United States advocating on behalf of and supporting individuals and families affected by eating disorders. Reaching millions every year, the campaign for prevention, improved access to quality treatment, and increased research funding to better understand and treat eating disorders**.** The NEDA Helpline is available Monday-Thursday from 9 AM to 9 PM Eastern Time and Friday 9 AM to 5 PM to give additional support to our contacts. You may reach the Helpline at (800) 931-2237.

A Qualitative Enquiry into the role of Self-Disgust within those who suffer from an Eating Disorder

Please read the following items carefully and **initial** each box to show that you have read, understood and agree with each item.

I am over 18 years of age, and I voluntarily agree to participate in a research project conducted and outlined to me by [Insert interviewers name] ☐

I have been provided with a copy of the participant information sheet and have had adequate time to read it and consider participation. ☐

I understand that I am being asked to participate in an interview (approximately 60 minutes in duration) and respond to a series of questions. I understand that the whole interview will be recorded but should I wish to stop the recording at any time I may do so by informing the researcher accordingly. ☐

I acknowledge that I may withdraw from participation without prejudice or penalty if I so wish and my data will be appropriately destroyed. I have been informed that withdrawal after three days from the interview (or receipt of my transcript if I request this option) will not be possible. ☐

The researchers have offered to answer any questions concerning the research procedure and I have been provided with contact details for the lead researcher (Katie Bell). ☐

I understand I will be fully protected in accordance with the Data Protection Act of 1998, and in compliance with *British Psychological Society* ethical guidelines and that my data will be kept confidential and anonymous until they are securely destroyed. ☐

I understand my name and any personal details will be anonymised in any report concerning this study, though I agree that any of the data I provide may be published in academic journals or conference presentations. ☐

I understand that if I so wish I may have a copy of both the sound-file the recorded interview and or/transcript on request. ☐

I agree to take part in the study. ☐

De Montfort University Leicester, Division of Psychology

I am willing/I am not willing (**delete as appropriate**) for my anonymised transcript to be used for teaching purposes at De Montfort University (*Please note that it is still possible to participate in the research even if you do not agree to this*).

Participant's Name: _____

Signed: _____Date: _____

Interviewer's Name: _____

Interviewer's signature: _____

Email: **Date: _____**

Researcher's contact details:

Katie Bell
Katie.bell@dmu.ac.uk
De Montfort University
3.38 Edith Murphy House
The Gateway
Leicester LE1 9BH

Appendix H

General Interview Schedule

1. Can you please tell me a bit about yourself? *(And immediate family?)*
2. Can you tell me about how you came about to be diagnosed with an eating disorder?
3. How did you both cope with this? *(Individually or with your family).*
4. What treatments were you given- as an inpatient and outpatient?
5. What was the recovery process like for you? *Did self-disgust impact on this?*
6. Can you tell me a bit about your day-to-day experience of living with an eating disorder? *How often do you feel self-disgust?*
7. Can you describe your relationship with food before you developed an eating disorder?
8. How would you describe your relationship with food now? *Has self-disgust impacted on this? Has this changed over time? If so, how?*
9. How do you feel about yourself now? *What emotions do you feel thinking about this?*
10. How did you find adapting to living with an eating disorder – both practically and psychologically? *Did it affect your identity, for example? How did your family respond to this?*
11. Has your view of your eating disorder changed over time? *If so, in what way/s?*
12. What have been the main challenges of living with an eating disorder?
13. Many people say that even the most difficult and stressful situations have a silver lining. Are there positive elements in what's happened? *What have they been?*
14. Do you feel your relationship has changed with yourself through these experiences? *If so, in what ways? Do you feel self-disgust towards yourself often?*
15. Do you feel differently about your eating disorder now? If so, *how?*
16. How do you feel about the way people with an eating disorder are viewed and supported in this country/ within your community?
17. What are your hopes and plans for the future?
18. What advice would you give to someone who has just been diagnosed with an eating disorder?
19. Is there anything important about your views and experiences that we haven't had the opportunity to discuss?

Interview 4

Ok so my first question that I have is can you please just tell me a bit about yourself?

Sure let's see I'm 27 years old and about myself in regards to eating disorder or just about myself in general thing?

Shall we start with general and then we can go into eating disorders is that ok?

Sure, I'm a musician, I play the oboe, that's what I went to school for. I've been out of school for a year now, living in Indiana in the mid-west of the USA. I've lived in this area pretty much my whole life, got a great wife named Jenny who also plays the oboe and yeah that's all the generals.

And then did you want to tell me a little bit about your eating disorder as well?

Yeah sure so I grew up with a dancing background and I started getting some problems I think 9 years old and I started probably having issues around the age of 13, you know when I started to get curves and started to look like a woman, I wasn't particularly pleased with that. So I started restricting, I didn't really know what I was doing at the time I just knew that I needed to lose weight. And throughout my high school I did it off and on and it really wasn't too much of a health concern like things didn't come up that really concerned, made my mum concerned or really me concerned, so nothing ever really happened. And then when I started undergrad, I came back a little bit mostly when I was figuring out that I was a lesbian and I was really stressed about that. So I started restricting again but then again that kind of went away and I didn't really pay too much attention to it. When it got really bad was in graduate school I was, it was well school was stressful. And then also my parents were starting to realise how serious I was with Jenny and so they were really trying to get me to stop having a relationship with her and that's when I started restricting and purging some. And when I started purging I started to see that I needed help and so that's when I went into treatment. That was after my second year of graduate school and I did treatment in Cleveland Ohio at a place called the Emily programme. And I did it's called partial hospitalisation but really it was just about 6 hours a day Monday through Friday. I did that for a couple of months and then I did intensive outpatient for a couple of months. And then I was moving away so when I moved away I just kept seeing a counsellor and stuff. Since then it's been pretty much under control, I'll have a relapse once in a while but it usually doesn't last for more than a week or more. So it's not too bad, pretty good now.

So I'm curious so when kind of the, that diagnosis of an eating disorder came how did you cope? How did you cope with that?

I got a diagnosis when I first went in for a consultation in Cleveland that would have been in 2015, the summer of 2015. They said that I really could benefit from the programme but they never really wanted to label it because they didn't want me to freak out but I could tell that they were labelling it and I felt pretty proud about it. I was pleased that I had worked so hard that it had become an eating disorder in my eating disorder mind. I really wasn't extremely pleased to go into treatment for it but I was pleased that I had worked so hard that it was a diagnosable thing I guess. And throughout the process when I was diagnosed and when I was being treatment I wasn't really accepting, Jenny told me that she would break up with me if I didn't go so that's why I went. So I really wasn't wanting to go so I guess that's kind of you can see the disordered thinking through that then.

And how did your family and how did Jenny cope with this diagnosis?

So Jenny was not surprised at all, she knew that it had been going on and she was sick and tired of it going on. She wanted me to get help, she was very happy that I was getting help as she's basically forcing me. My mum and my sister, I think have an eating disorder past that's never been diagnosed, and prior to being diagnosed I tried to talk to my mum and ask her if she thought I had an issue and she told me that your doctors just trying to get money from me and I didn't have an issue. So it took them a little bit to realise that it was a problem and when my mum found out I was purging that was when she really thought I had a problem, because restricting is pretty normal in my family and purging is not. So when she found out that was happening she's like ok I guess you need help basically.

And you've already kind of touched on this but I'm just curious, if we kind of think of the treatments that you've been through as almost like a timeline. Could you kind of talk me through each of those and what each of those treatments were like for you?

Sure, so when I first went to the Emily programme for the first time they set me up with a counsellor and they wanted me to do DBT which it was really great in the end, I liked DBT a lot. Dialectical behaviour therapy yeah that's it. And so at first I just started seeing her every week and she kept telling me that this was not enough. It was obviously not sustaining me so she wanted me to get into partial hospitalisation. That part, meeting with her started in February of 2015 and that was my last semester of school so I was very adamant that I was not going to do anything further until I graduated. But she really wanted me to try, and one of my main teachers was really willing to let me take a little time off. So I did partial hospitalisation for about, I think a week and a half I'm not sure about that, it was in a span of 1 to 2 weeks. And at that point I came to them listed in a PL statement I wanted to do intensive outpatient and I like proved my points of why I could do this. But they didn't agree that, it was my timing and it really wasn't I was still self-harming at that point and they were like no you need the 6 hours. So I said well I'm gone so I left that was at the end of February I stopped

going and I stayed in school and I graduated in May, I graduated in May and I went back at that point.

I had gotten a lot worse during that but I didn't care because I was not willing to take off time from school to go to treatment, which really wasn't smart but you know it is what it is. So then that's when I really started seriously going to treatment, I did it 2 months of partial hospitalisation. So how their programme worked is you got there at 7.30 in the morning and they check your vitals and then you'd have breakfast and then you'd have some sort of activity. There was usually group counselling involved and then we would have a snack and we had art therapy and different things. And we'd have lunch then another snack and we'd leave around I think 3 or 4 something like that and you did that Monday through Friday. So I did that for about 2 months so that would have been a little bit of May/June and a little bit of July and then I did 1 month of intensive outpatient which was 3 hours. You came in at 10 or 10.30 and you stayed there for 3 hours so you would have 1 snack and lunch and that was all you would do. And then I graduated from the programme in August, with this DBT programme you had to sign a commitment, you had to at least be there for like 3 months or a year or whatever you decided and I did 3 months. So I was there for exactly 3 months and then I moved to Cincinnati school and I started, and that's when like more intensive, that was the only like intensive treatment I had.

And then if you kind of think about your recovery process how has that been for you?

Throughout I did a lot of work in that 3 months, I was not very willing at the beginning but at the end I was getting close to being pretty self-sufficient. Do you want me to talk about like after that how it's been, like how my eating has been or sorry can you state it?

I'm just curious to know how you found recovery or kind of going through recovery so it could be how you found going through treatments, it could be where you're at now. I guess kind of what you feel comfortable answering.

Yeah I'm pretty comfortable with anything. Well when I was going through treatment then I really hated it, it was pretty much like the worse thing I think I've ever done. And wherever I have a relapse I really like wonder why I'm recovered in the first place. But when I'm in a healthy place I can see how much better my life is than it ever has been before. DBT helped me a lot because I really wasn't noticing my emotions or thinking through what I was feeling and so then I would just instantly react and do something to help it. And so going through DBT has helped me say well why do I want to do this, I'm feeling this certain way, so let's think of some other things you can do to cope with that feeling instead of doing things that are not all together healthy. So I think DBT really helped me specifically because that was a big issue for me so I think recovery hasn't, has been pretty awesome now because it didn't just help me eat, it helped me be a more well rounded person in general. I feel like I can be more in tune with myself

than a lot of my friends even can be in tune with their selves. I see a lot of I don't know emotional maturity that I don't think I ever would have learned maybe without that. So I don't know if that kind of answers your question or not.

And as you know the focus of my research is on the emotion self-disgust and I'm curious when you're thinking about your recovery process do you think that emotion has been part of that or impacted on that or?

So I really was excited to be a part of your process with this because I think disgust has been pretty important throughout my whole life from regards to how I look at myself. I remember when I was 13 I went to a dance class and this friend of mine said oh look you're starting to get hips that's so cute and the instant feeling. Like this is one of my most memorable experiences of my life and the instant, in that instant feeling I had just total disgust for myself and I was like I can't believe I have these stupid hips, they're disgusting and I need to get rid of them now. And I wouldn't have said that fully like in my head but I knew that her saying that disgusted me so that I should go on a diet because that would help me be less disgusting. And I remember in my first couple of weeks of treatment in Cleveland we were talking, we were going through daily check in at the beginning of the day, and I said I don't really think I can do this anymore because I cannot gain any more weight, it's like not possible. And they were like well we're pretty sure it's possible so what's the issue and I was like I'm absolutely disgusting, it's just that is what I am. And when I have issues now I look at myself and I pretty much feel disgust so I think it is a main factor of my eating disorder. I think that you know a lot of, obviously my eating disorder comes from other issues, other than just weight like being gay and all these other things. But I think it's really a lot easier to notice something on your body and be disgusted by it and fix it than to focus on those other things if that makes sense.

And again you've kind of started to touch on this but I'm curious if you could think of what it's like day to day to live with an eating disorder, what's that like?

Well let's say, let's talk about 2 days; we can talk about a good day and a bad one.

And it's really interesting that you say that because everyone else that I've interviewed has done exactly the same. They've done exactly the same they say I'll take you through a good day and then I'll take you through a bad day.

So on a good day it's not very present, sometimes I'll look in the mirror and I'll be like oh I look different but you know its fine I look ok. I might not be absolutely thrilled with it but I'm at the point where on a good day I can look at myself and I can be pretty, I can be ok with it. I can go out to a restaurant and I can eat and I'm not worried about what other people are seeing me eat. I can snack at work and not wonder if well people are thinking should she really be eating that you know. So on a good day I feel pretty recovered which you know probably most people do on a good day. On a bad day there I have, there's an anxious undertone throughout the whole day and disgust comes up a lot with it because like I look down and I'll just be disgusted about what I

see and then I'll look at food and I'll just be a little revolted by it. But the difference between now and prior to treatment is that I have coping mechanisms so I can go outside and someone can see me, and I can eat something I won't be happy about it but I can eat it so that the next day can possibly be a better day.

So for you on bad days you think that disgust it kind of impacts on how you view yourself and how you kind of view food and what happens if you eat food, am I hearing that correctly?

Yes and also just like seeing food can also feel that way too. I think that I guess in the disgust question I probably should have talked about that more. Especially at the beginning of treatment, if I would have to microwave a meal and I would smell it, it was super disgusting. Like the smell of food was really not pleasant at all and so on a bad day frequently like smells, if it's a really flavourful that can be disgusting. And then you know having to eat what feels like a large quantity can also feel pretty disgusting.

So I'm curious so when say for example if you have to eat a large quantity of food what then happens? What's that like after?

On a bad day it would… well probably it would be good if I was focussing on it. I've tried to use distraction techniques because if I am not distracting it feels, well it feels like I'm failing in a way and you know the failure is eating the food. And then I just feel like I've gained a lot of weight you know even if that doesn't make sense. And so there's a little bit of like you know how could you do that to yourself, you're going to get even bigger; you're going to look even uglier, things like that basically. It's a lot of mind like circling and looping over again with more like disgusted thoughts I suppose.

And I'm wondering if you can think back to the time before you developed your eating disorder, what was your relationship with food like then?

I've always been a picky eater and I didn't ever want to eat a lot probably because I was a picky eater, but I remember enjoying sweets, I love sweets. So I didn't eat a ton but I wasn't really concerned with what types of food I ate and I did, I would have a lot of fond memories of specific things associated with food. Like my dad would pick me up from dance when I was little and he'd always have a snack in the car, that was the thing we did together is he would drive me home and I would have a snack and it would be fun. There are just little situational things like that that I can remember that were really fun yeah.

And if we think about now, how would you describe your relationship with food now?

I think overall it's pretty positive, there are certain foods that still disgust me and it's funny because it's mostly the foods I had to eat a lot in treatment. I had this, like there's this one meal I had one day and it was almost my last day of treatment. I don't know what happened but like my stomach just couldn't take it and I had to throw up. I didn't purge, like I had to go to the bathroom and throw up. And I just remember trying so

hard to eat that meal and finally getting it all down and not being able to keep it down. So like I cannot touch that meal again and it's really good ?? me out, that's really sad. And there are several others specifically frozen meals that I ate a lot of because they had to have a certain amount of fat and a certain amount of carbs. So I had to find these particularly high caloric foods right and when you have to heat them up at treatment they need to be able to quickly be heated up in the microwave. So there are these certain foods that disgust me now because they disgusted me then and I've got this association with them. With food other than that, usually I frequently enjoy, I frequently enjoy food if it's not too anxious of a day. If I'm anxious about something I tolerate food and if I'm having a bad day I really don't want to eat, that would be the levels.

And then I'm wondering because if you have the different levels so when you're having a bad day what does self-disgust do in relation to how you think and feel about food?

So when I'm having a bad day I'm usually focussing on like my hip area or my tummy area and when I'm focussing on that area so much it, let's see how do I, say the question one more time?

I think what I'm curious to know is when you're having a bad day how does self-disgust affect your relationship with food? Is it around, is it in your mind, does it affect the way that you interact with food, those kinds of things?

I think that when I have a bad day I'm usually feeling like my visual appearance is pretty disgusting. I would say it's definitely negative and the worse days, the worse the day is the more disgust I feel and so when I have that feeling towards my body it really really makes me not want to eat. Because the feeling of hunger, I mean associating with improving like my issue areas on my body and so then I think that if I'm hungry the disgust can go away because I'm improving it because I'm burning calories that are not the ones I've just suggested I guess.

And then I'm curious if you kind of think about a good day, is self-disgust is it on your radar? Is it something that you're aware of?

So there's like, there is a lot, there's so many different ways that self-disgust can play a role. I feel like on a good day if I have a meal that is particularly caloric or like sometimes I'll go, I love milk like I drink milk all the time and sometimes I'll go to the grocery store and all the days on the skimmed milk will be bad or they won't even have any. So actually last time I had to get 2% so if I'm having a good day and I go to the fridge and I see the 2% and I know I need to drink it. I can start being disgusted now, I try and I'm trying to figure out if I'm disgusted by the milk or if I'm disgusted by me, I'm not sure about that one. Well I remember it Jenny and I were talking about, she was saying oh you got yummy milk this time because it's the 2% milk and I just like starred at her and gave her like an err face. And she was trying have me associate it with it being a treat and I really, I felt ashamed and disgusted that I even bought it. So

it comes up on good days depending on the situation or depending on what I'm eating it can come up and it's usually if I think that something's high in calories. Thinking about me eating that still feels like that's not necessary, you weigh so much more than you used to so you really don't need those calories so it's pretty disgusting that you are drinking. I think there are, are there 5 grams of fat I think in a cup of 2% and there's zero in skimmed so it can feel like, it's kind of oh it makes me feel like I'm gluttonous yeah which is a kind of a disgusting thing.

So it sounds to me, and correct me if this isn't right, but it sounds like self-disgust is kind of there on good and bad days but maybe on the bad days it's just louder and you're more aware of it and then on the good days it's sometimes there but perhaps it's not as loud. But certain things can trigger it, does that, is that?

Yeah, good job. That was a good outline, unscramble my ramblings.

So again you've kind of touched on this but I'm wondering how do you feel about yourself now? We've talked about your relationship with food but now I'm kind of curious to know about your relationship with yourself.

In general or in specifically with disgust would you say?

Let's go with in general?

Ok I feel like I'm a very functioning person which I'm trying to be really proud of because I wasn't very functional before. I feel, there's always a part of me that feels like I'm failing a little bit because I'm not doing as awesomely with the eating disorder as I have been in the past. That's always still there and that will probably always be there on certain levels. But I'm really, I feel good about myself because I have a full time job in a field that interests me, and I have lots of part time orchestra gigs that are pretty fulfilling. I've got a great puppy, there are, I feel good about myself for all of these outside things and then really inside I still don't like myself too much. I still have issues like with being gay, it's still not like totally wonderful and I have issues not being the tiniest person in the room because I used to always been the tiniest person in the room. But those are so much smaller than they used to be and I'm trying to really focus on what my body achieves rather than how my body looks I suppose. I think there was another part to that question I was supposed to answer.

No I think you've answered it. And I'm wondering if you kind of think about how you've viewed your eating disorder has this changed over time? So you think back to when you first were diagnosed to perhaps now, has your view of it changed at all?

Yes, so I remember the first time someone thought I had an eating disorder, I was not diagnosed but someone thought I did. I was undergrad with my counsellor and she didn't even try to ask me if I had an eating disorder. She asked me do you think there are two yous, do you think there is one you that thinks something's and then there's

another one that kind of contradicts that, and maybe ones happier and one's angrier. I was like no and she's like well fine because she knew that was true but I couldn't identify it. And then when I got into treatment I started to notice that there were two me's. There was the eating disorder me and then there was the functional responsible me. And I really thought that the eating disorder me was super cool, super motivated and she was awesome. I had a name for her, and its horrible I forgot it, I can't believe I forgot her name but regardless I thought the eating disorder me was really cool. When I look at my eating disorder now I see the eating disorder me as this really fun, irresponsible part of me, it's like the thing I would really like to do but it's like she makes all the bad decisions. You know it's like she's like a young teenager who stays out too late, doesn't do the right things right and I know that even though she's fun, she's not what I should choose.

If you think about what you're experiences of living with an eating disorder, what would you say are the main challenges? So what's kind of really tough about having an eating disorder?

I would say, let me think a little bit.

Take your time, take as much time as you need.

This is an important question. Say it one more time so I know I get it right because when I start I ramble.

So the question was what are the main challenges of living with an eating disorder?

I think one of the issues, one of the challenges that comes with an eating disorder, which probably comes with a lot of other things but regardless is a big, you compare yourself a lot. So there's this thing in your mind that you want to obtain and you're always comparing yourself to that, and if you're healthy you're never going to actually be that right. So I feel like there's this part of me that, you know I have a lot of goals that I'd like to accomplish in life like everyone else. But there's this one goal on that list that I can't accomplish even though I want to because it will ruin up the rest of my life. So if I like, it's still like, there's like if there's a checklist in my head, being successful but having an eating disorder is still one of those things in my head that I would like to check off and I can't check it off because it's a really bad idea. So I feel like that having that unattainable or not desirably attainable thing makes me sometimes not be as, I don't want to say happy, almost fulfilled. And I know if I check off that box I'm not going to feel fulfilled but I think I will be so that makes me feel like I am less fulfilled.

Another issue I think, which is a lot larger and a lot more specifically where we are right now in culture, is that there are a lot of really cool diets out there and a lot of them are actually pretty healthy. Some of them aren't but there are some really, there are some great things that I could do probably to lower my cholesterol a little bit or help with different things and I pretty much can't. I can't never be on a diet and I can't ever try

to lose weight. There might be people out there who have had eating disorders in the past and I know some of these people, they really get focussed on exercising and they get really healthy, not over exercising but just like being a healthy person that eat a lot and they exercise. But exercising was sometimes was part of my eating disorder so I can't, I have to be careful how I exercise and I have to be careful if I ever try to do any of the D words as in diets. So I think that makes it hard to be as healthy as I would like to be in a way. My most healthy might not be other peoples. I think another issue or a difficulty that comes with having an eating disorder is when you have a partner. Jenny has a hard time because like she wants to lose weight and it's totally healthy and fine for her to, but she has to tip toe around me and never talk about it. She feels like she can't say how she feels and in a way she's right because it can affect me pretty much. So another difficulty is actually having other people around you having to be careful how they speak to you. You know let's see, I mean I could go on, like clothes shopping sucks, I mean that's super sucky especially if I go with some of like my girl pals or even wife's like to go shopping together right and try on clothes and I can get so stuck in my head trying to find an outfit that actually looks tolerable that it's not a lot of fun. That's a very tiny thing.

Can you talk, so if you kind of imagine when you're in the shop and you're trying stuff on, what kinds of things are going through your head?

Well the first issue that is there is picking the sizes out to try on. I used to be smaller than, well American sizes are stupid, we have such stupid sizes but regardless it makes no sense. I used to be a double zero or a little smaller and now I'm an 8 so when you go to the clothes rack the small sizes are in front so you have to fist through all the small sizes to get to the size you want or you need or whatever. And when I like go through that I feel a lot of, I can feel disappointment, I can feel a lot of anger and I can feel some disgust because I can't even try to fit into those clothes right. Like it's for some reason I don't know why, for some reason it is disgusting if your pants are more larger horizontally. I mean it makes no sense but for some reason that is the disgusting thing. So if I get past the point of thinking of the sizes then you go to the dressing room and you know one size 8 it can be different from a lot of other size 8s, they're not very, they're not the same from store to store. So I can put on an 8 in one store and it can be pretty large, I can put on an 8 in another store I can't even get it up. But even though I know that this is a fact if I put on an 8 and I can't even like get it up my tush I pretty much feel the same things. I feel disgusted because the size that I'm supposed to be wearing that is even in itself a horrible size I can't even get on, and then you know that anger and like disappointment same things. And then sometimes I find something and sometimes I don't.

Ok so it sounds like, because the thing is you said to me when, before you explained this you said this is only a small thing but really when you kind of think about all the stuff that you've just said to me, it sounds like it's actually something that's really challenging and seems like there's lots of stuff kind of going on.

It is, it is challenging, I guess it's a small part of life but its a super sucky part of life. Yes I agree with you, I agree with you. Ok what are some other challenging things, being around people that are naturally small is very difficult. There was a graduate assistant in my office sweetest person I've ever met, she's very small, she loves to eat there's no issue right. But I can hardly focus on how good of a job she does because she's so skinny and I just want to be that skinny. And I would sit by her and I hate sitting down because when you sit down your thighs like squish out like they squish up because they have to go somewhere right. They have more sideways motion right they're squishy because thighs are squishy they're supposed to be. So like when you sit down thighs look so much bigger than when you're standing up and this girl, she always wears shorts. She always wore shorts because they were comfortable and she looked damn good in shorts but you know I would just sit there and I would see her thighs and I would see my thighs, and I would think about how much better a person she was just because her thighs were smaller and how gross I looked because my thighs were bigger. And it was a total waste of time, it was an absolute waste of time but it happened like almost every day. So being around tiny people who are healthy can be really challenging. And there are just even little, when you're around a smaller person frequently conversations can come up that are not at all meant to make you feel bad, they can make you feel better. Like one day one of my supervisors brought in doughnuts and that was great and there was half a doughnut left at the end of the day and it's like now come on who just ate half a doughnut. And the tiny person raised her hand and he was like oh of course the little one only ate half a doughnut and I was like god dam it don't say that. You know but I mean he was just joking but frequently it's all just little tiny things that can come up when there are smaller people around. It's like oh you're so tiny you know just things can come up so that is another challenging thing I guess.

So the next question I have is kind of a little bit more general so I'm wondering how do you feel about the way people who have an eating disorder are viewed and supported in where you live or perhaps in the US?

So I think a lot, there are certain types of eating disorders that are extremely supported and extremely, they're thought of as serious and so people care more about them. I would say like people with anorexia nervosa are treated pretty great in my friends' circles. They're under, like it's the classic eating disorder so I think people understand it more and it's also less complex in a way than some other ones, so I feel like that helps it to be more respected. Any movies you see there was a Netflix movie that came out was it a year or 2 ago it's specifically about girls with eating disorders.

Yeah I saw it.

I have not watched it; I don't think it will be good for me. That shows like the perfect example of the eating disorder that people understand. When I was in treatment in Cleveland we only had one girl who, now I can't even remember what the specific

eating disorder is called, the compulsive eating disorder, but whenever she was upset she would just eat in large quantities.

Do you mean is it binge eating disorder, is that what you mean?

Yes that would be it, she you know she'd be eating in large quantities and she never purged right and that would be binge eating, and I don't think that eating disorder is understood. And I don't think it is, at least in my community, I don't think people are as concerned by it. And I don't think they think it's as much of a health issue. I even feel like the programme I was in, even though they said they would treat binge eating and all sorts of different types it really seemed like the model was focussed on anorexia nervosa and I think this can be a problem in a lot of different places. So I feel like binge eating is, again I don't want to say respected but it's just not noticed as much of an issue and I think I could see my friend had a really hard time with that. I think if you are really skinny and you know you have a feeding tube and you're going through all these horrible things, you feel like oh no she's going through a horrible time we need to help her. But if someone is a pretty normal weight, they're probably fine. So probably I think when are you like the epitome of what people think is an eating disorder, at least in our community, I think there's a good amount of support for it and I think people understand what an issue it is. But if you don't fit into that model it's concerning, more of what culture, how culture perceives it. I remember when I was starting to get treatment and I told someone and she said oh well I think you'll be ok, you look alright, you don't look too skinny. You know it's just like a totally not, not something to say. And so I guess depending on like the weight of the individual if the weight is obviously too thin I think it's respected more than the other ones.

And I'm wondering, so what advice would you give someone who's just recently been diagnosed with an eating disorder?

I think that trying to understand how you're feeling is one of the most important things you can do, because maybe you want to eat more, maybe you don't want to eat more whatever. But I think if you start tapping into why you're obviously upset about something so trying to feel what you're actually feeling can go a long way. And then also, well a big goal of mine was to not take myself too seriously and take the people around me very seriously, because what I was thinking really wasn't I didn't make sense but it did to me. And then what everyone else was saying did make sense but didn't make sense to me. When you're in a mind-set what, you can't see logic so I think that really trying to trust the people around you who care about you is very very important.

Ok and my final question is, is there anything that's important about your views and experiences that we haven't had a chance to discuss today? So have I missed anything?

Let's see, I don't know how much, you're researching about eating disorders and disgust in regards to that?

Yeah.

A lot of people with eating disorders use self-harm as a coping mechanism and I feel like I, so when I would feel disgust sometimes that is what I would do sometimes. So if I was feeling really disgusted and I was really hating myself, I didn't really want to feel that anymore so I would cut and again I don't know if that's part of your research or not. But that was something that I think was a large part of what I needed to recover from. So perfect.

Ok brilliant so I'm going to stop my recorder now.

INTERVIEW FINISHES

Interview 4

Theme One: Increased Awareness and comparison	**Extracts**
Lines: 188-192	*I remember when I was 13 I went to a dance class and this friend of mine said oh look you're starting to get hips that's so cute and the instant feeling. Like this is one of my most memorable experiences of my life and in that instant feeling I had just total disgust for myself and I was like I can't believe I have these stupid hips, they're disgusting and I need to get rid of them now.*
Lines: 391-393	*It's still not like totally wonderful and I have issues not being the tiniest person in the room because I used to always been the tiniest person in the room.*
Lines: 531-536	*Being around people that are naturally small is very difficult. There was a graduate assistant in my office sweetest person I've ever met, she's very small, she loves to eat there's no issue right. But I can hardly focus on how good of a job she does because she's so skinny and I just want to be that skinny*
Lines: 545-549	*I would just sit there and I would see her thighs and I would see my thighs, and I would think about how much better a person she was just because her thighs were smaller and how gross I looked because my thighs were bigger*
Lines: 439-443	*You compare yourself a lot. So there's this thing in your mind that you want to obtain and you're always comparing yourself to that, and if you're healthy you're never going to actually be that right.*
Lines: 394-397	*I'm trying to really focus on what my body achieves rather than how my body looks I suppose.*

Recovery has helped her to try and shift the focus Lines: 205-209	*Obviously my eating disorder comes from other issues, other than just weight like being gay and all these other things. But I think it's really a lot easier to notice something on your body and be disgusted by it and fix it than to focus on those other things if that makes sense.*

Theme Two: Coupling with other emotions	**Extracts**
Lines: 230-234	*On a bad day there I have, there's an anxious undertone throughout the whole day and disgust comes up a lot with it because like I look down and I'll just be disgusted about what I see and then I'll look at food and I'll just be a little revolted by it.*
Lines: 516-520	*I feel disgusted because the size that I'm supposed to be wearing that is even in itself a horrible size I can't even get on, and then you know that anger and like disappointment same things.*
Lines: 304-308	*I frequently enjoy food if it's not too anxious of a day. If I'm anxious about something I tolerate food and if I'm having a bad day I really don't want to eat, that would be the levels.*
Lines: 627-632 Recovery has given her insight into the importance of understanding the role of emotions within her ED.	*I think that trying to understand how you're feeling is one of the most important things you can do, because maybe you want to eat more, maybe you don't want to eat more whatever. But I think if you start tapping into why you're obviously upset about something so trying to feel what you're actually feeling can go a long way*

Theme Three: Unsustainable Achievement	**Extracts**
Lines: 59-64	*I could tell that they were labelling it and I felt pretty proud about it. I was pleased that I had worked so hard that it had become an eating disorder in my eating disorder mind. I really wasn't extremely pleased to go into treatment for it but I was pleased that I had worked so hard that it was a diagnosable thing I guess.*
Lines: 446-456	*So I feel like there's this part of me that, you know I have a lot of goals that I'd like to accomplish in life like everyone else. But there's this one goal on that list that I can't accomplish*

	even though I want to because it will ruin up the rest of my life.
Lines: 446-456	*If there's a checklist in my head, having an eating disorder is still one of those things in my head that I would like to check off and I can't check it off because it's a really bad idea. So I feel like that having that unattainable or desirably unattainable thing makes me feel less fulfilled.*
Lines: 415-417	*I really thought that the eating disorder me was super cool, super motivated and she was awesome. I had a name for her*

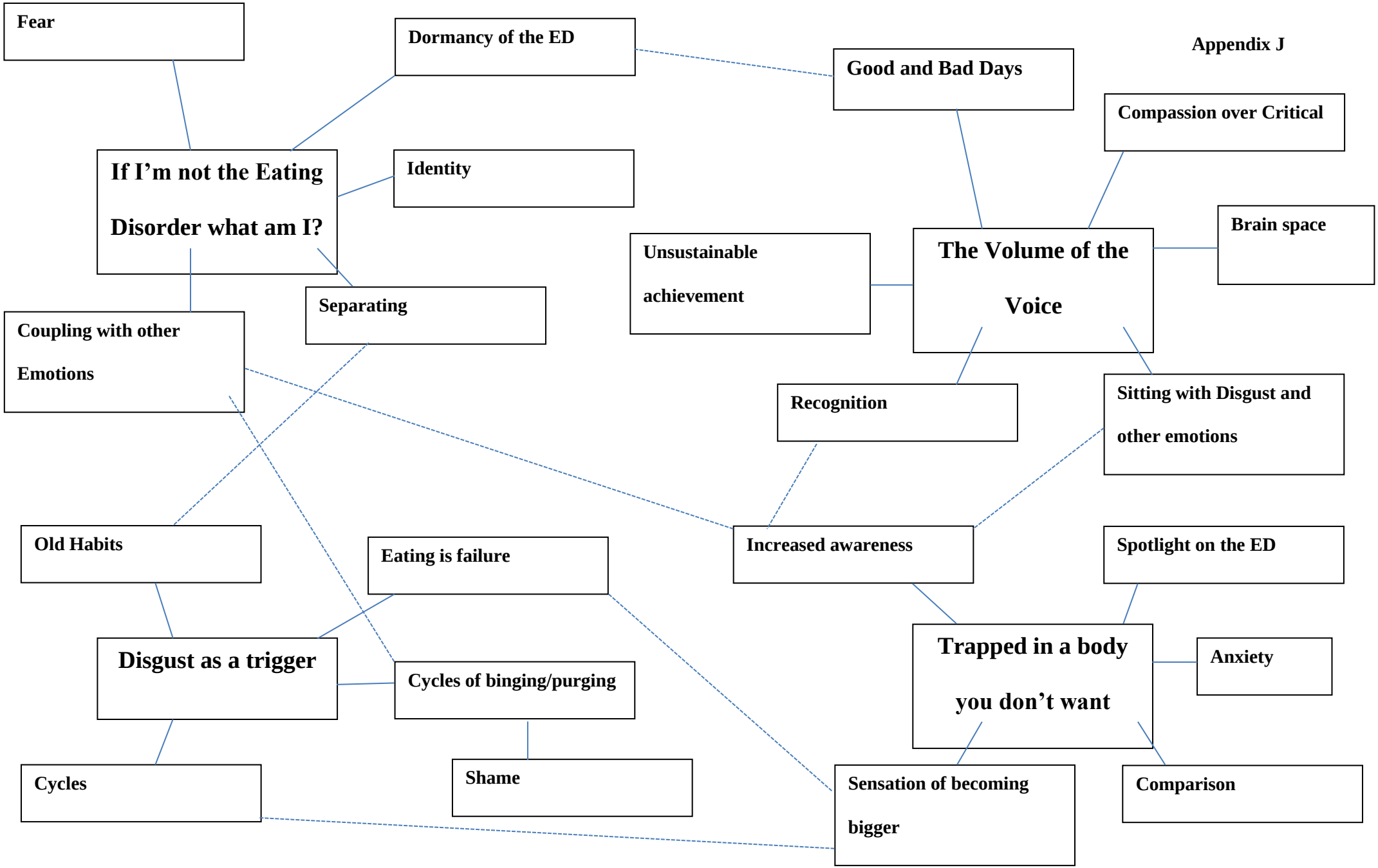
Theme Four: Eating is failure	**Extracts**
Lines: 322-330	*I think that when I have a bad day I'm usually feeling like my visual appearance is pretty disgusting. I would say it's definitely negative and the worse the day is the more disgust I feel and so when I have that feeling towards my body* ***it really really makes me not want to eat.*** *Because the feeling of hunger, I mean associating with improving like my issue areas on my body and so then I think that if I'm hungry the disgust can go away because I'm improving it*
Lines: 380-384	*I feel, there's always a part of me that feels like* ***I'm failing a little bit because I'm not doing as awesomely with the eating disorder as I have been in the past.*** *That's always still there and that will probably always be there on certain levels.*
Lines: 352-357	*So it comes up on good days depending on the situation or depending on what I'm eating it can come up and it's usually if I think that something's high in calories. Thinking about me eating that still feels like that's not necessary,* ***you weigh so much more than you used to so you really don't need those calories*** *so it's pretty disgusting*

Theme Five: Cycles and Triggers	**Extracts**
Lines: 459-464	*There are a lot of really cool diets out there and a lot of them are actually pretty healthy. Some of them aren't but there are some really, there are some great things that I could do probably to lower my cholesterol a little bit or help with different things and I pretty much can't.* ***I can never be on a diet and I can't ever try to lose weight***

Lines: 469-474	*Exercising was sometimes was part of my eating disorder so I can't, I have to be careful how I exercise and I have to be careful if I ever try to do any of the D words as in diets. So I think that makes it hard to be as healthy as I would like to be in a way.* ***My most healthy might not be other peoples.***
Lines: 484-489	*Clothes shopping sucks, I mean that's super sucky especially if I go with some of like my girl pals or even wife's like to go shopping together right and try on clothes and I can get so stuck in my head trying to find an outfit that actually looks tolerable that it's not a lot of fun*
Lines: 504-507	*Like it's for some reason I don't know why, for some reason it is disgusting if your pants are more larger horizontally. I mean it makes no sense but for some reason that is the disgusting thing.*
Lines:285-303	*There are certain foods that still disgust me and it's funny because it's mostly the foods I had to eat a lot in treatment. I had this, like there's this one meal I had one day and it was almost my last day of treatment. I don't know what happened but like my stomach just couldn't take it and I had to throw up. I didn't purge, like I had to go to the bathroom and throw up. And I just remember trying so hard to eat that meal and finally getting it all down and not being able to keep it down.* *And there are several others specifically frozen meals that I ate a lot of because they had to have a certain amount of fat and a certain amount of carbs. So there are these certain foods that disgust me now because they disgusted me then and I've got this association with them.*
Lines: 651-654	*A lot of people with eating disorders use self-harm as a coping mechanism and I feel like I, so when I would feel disgust sometimes that is what I would do sometimes. So if I was feeling really disgusted and I was really hating myself, I didn't really want to feel that anymore so I would cut*

Theme Six: Two different identities	**Extracts**
Lines: 412-415	*And then when I got into treatment I started to notice that there were two me's. There was the eating disorder me and then there was the functional responsible me*

Lines: 419-426	*I thought the eating disorder me was really cool. When I look at my eating disorder now I see the eating disorder me as this really fun, irresponsible part of me, it's like the thing I would really like to do but it's like she makes all the bad decisions. You know it's like she's like a young teenager who stays out too late, doesn't do the right things right and I know that even though she's fun, she's not what I should choose.*


Fear
Dormancy of the ED
Good and Bad Days
Compassion over Critical
If I'm not the Eating Disorder what am I?
Identity
Brain space
Unsustainable achievement
The Volume of the Voice
Separating
Coupling with other Emotions
Recognition
Sitting with Disgust and other emotions
Old Habits
Eating is failure
Increased awareness
Spotlight on the ED
Disgust as a trigger
Cycles of binging/purging
Trapped in a body you don't want
Anxiety
Cycles
Shame
Sensation of becoming bigger
Comparison

Subscale Analysis.

Chapter 3:

Hierarchical Regression Analyses to Examine Whether Sensory Variables are Related to Sub scales of Self-Disgust after Controlling for Anxiety, Disgust-Sensitivity and Depression in a sample of 598 Female Participants with a Diagnosis of Anorexia Nervosa, Bulimia Nervosa or no previous history of disordered eating behaviour.

SDS as DV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.670[a]	.449	.446	6.61228	.449	149.456	3	550	.000
2	.683[b]	.467	.460	6.52873	.018	4.541	4	546	.001

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19603.661	3	6534.554	149.456	.000[b]
	Residual	24047.213	550	43.722		
	Total	43650.874	553			

2	Regression	20377.962	7	2911.137	68.297	.000[c]
	Residual	23272.911	546	42.624		
	Total	43650.874	553			

a. Dependent Variable: SDS

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	6.903	1.040		6.638	.000	4.861	8.946
	Anxiety	.097	.026	.166	3.679	.000	.045	.149
	Depression	.268	.022	.505	12.146	.000	.224	.311
	DisgustSensitivity	.083	.038	.084	2.186	.029	.008	.157
2	(Constant)	12.279	1.897		6.474	.000	8.553	16.005
	Anxiety	.085	.027	.145	3.189	.002	.033	.137
	Depression	.248	.023	.468	10.560	.000	.202	.294
	DisgustSensitivity	.089	.039	.090	2.271	.024	.012	.166
	SPSENS	-.119	.032	-.129	-3.740	.000	-.182	-.057
	SPLR	-.032	.039	-.036	-.830	.407	-.109	.044
	SPSS	.030	.049	.039	.606	.545	-.067	.127
	SPSA	.006	.046	.008	.129	.898	-.084	.095

a. Dependent Variable: SDS

SDB as DV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.684[a]	.468	.465	6.69289	.468	161.479	3	550	.000
2	.692[b]	.479	.472	6.65057	.011	2.756	4	546	.027

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21700.260	3	7233.420	161.479	.000[b]
	Residual	24637.141	550	44.795		
	Total	46337.401	553			
2	Regression	22187.797	7	3169.685	71.664	.000[c]
	Residual	24149.604	546	44.230		
	Total	46337.401	553			

a. Dependent Variable: SDB

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	12.034	1.053		11.433	.000	9.966	14.102
	Anxiety	.139	.027	.232	5.209	.000	.087	.192
	Depression	.256	.022	.469	11.470	.000	.212	.299
	DisgustSensitivity	.078	.038	.076	2.026	.043	.002	.153
2	(Constant)	16.581	1.932		8.582	.000	12.786	20.376
	Anxiety	.130	.027	.217	4.813	.000	.077	.184
	Depression	.241	.024	.442	10.080	.000	.194	.288
	DisgustSensitivity	.086	.040	.084	2.146	.032	.007	.164
	SPSENS	-.100	.032	-.105	-3.085	.002	-.164	-.036
	SPLR	-.006	.040	-.007	-.151	.880	-.084	.072
	SPSS	-.003	.050	-.004	-.056	.956	-.102	.096
	SPSA	.010	.046	.013	.218	.828	-.081	.101

a. Dependent Variable: SDB

Hierarchical Regression Analyses to Examine Whether Sensory Variables are Related to Sub scales of Self-Disgust after Controlling for Anxiety, Disgust-Sensitivity and Depression in a sample of 264 Female Participants with a Diagnosis of Anorexia Nervosa.

SDS as DV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.553[a]	.306	.297	5.72314	.306	35.290	3	240	.000
2	.571[b]	.326	.306	5.68852	.020	1.733	4	236	.144

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3467.749	3	1155.916	35.290	.000[b]
	Residual	7861.050	240	32.754		
	Total	11328.799	243			
2	Regression	3692.003	7	527.429	16.299	.000[c]
	Residual	7636.797	236	32.359		
	Total	11328.799	243			

a. Dependent Variable: SDS

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	11.928	1.499		7.957	.000	8.975	14.881
	Anxiety	-.015	.036	-.029	-.418	.676	-.085	.056
	Depression	.229	.028	.517	8.187	.000	.174	.285
	DisgustSensitivity	.099	.049	.128	2.018	.045	.002	.195
2	(Constant)	15.527	2.545		6.100	.000	10.513	20.542
	Anxiety	-.027	.036	-.054	-.752	.453	-.099	.044
	Depression	.219	.030	.493	7.359	.000	.160	.277
	DisgustSensitivity	.107	.050	.139	2.139	.033	.008	.206
	SPSENS	-.091	.041	-.127	-2.212	.028	-.173	-.010
	SPLR	.085	.048	.128	1.782	.076	-.009	.179
	SPSS	-.063	.062	-.104	-1.018	.310	-.185	.059
	SPSA	.007	.059	.012	.122	.903	-.109	.124

a. Dependent Variable: SDS

SDB as DV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.436[a]	.190	.180	5.88383	.190	18.757	3	240	.000
2	.468[b]	.219	.196	5.82659	.029	2.185	4	236	.071

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1948.086	3	649.362	18.757	.000[b]
	Residual	8308.680	240	34.620		
	Total	10256.766	243			
2	Regression	2244.758	7	320.680	9.446	.000[c]
	Residual	8012.009	236	33.949		
	Total	10256.766	243			

a. Dependent Variable: SDB

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	22.532	1.541		14.619	.000	19.496	25.568
	Anxiety	.059	.037	.122	1.604	.110	-.013	.132
	Depression	.145	.029	.344	5.038	.000	.088	.202

	DisgustSensitivity	.025	.050	.034	.502	.616	-.074	.124
2	(Constant)	26.574	2.607		10.193	.000	21.438	31.710
	Anxiety	.047	.037	.098	1.269	.206	-.026	.121
	Depression	.140	.030	.332	4.605	.000	.080	.200
	DisgustSensitivity	.044	.051	.060	.857	.392	-.057	.145
	SPSENS	-.090	.042	-.132	-2.139	.033	-.174	-.007
	SPLR	.109	.049	.172	2.216	.028	.012	.205
	SPSS	-.080	.063	-.140	-1.265	.207	-.205	.045
	SPSA	-.017	.061	-.030	-.283	.778	-.136	.102

a. Dependent Variable: SDB

Hierarchical Regression Analyses to Examine Whether Sensory Variables are Related to Sub scales of Self-Disgust after Controlling for Anxiety, Disgust-Sensitivity and Depression in a sample of 103 Female Participants with a Diagnosis of Bulimia Nervosa.

SDS as DV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.530[a]	.281	.258	7.06256	.281	12.228	3	94	.000
2	.549[b]	.301	.247	7.11574	.020	.650	4	90	.628

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1829.803	3	609.934	12.228	.000[b]
	Residual	4688.697	94	49.880		
	Total	6518.500	97			
2	Regression	1961.465	7	280.209	5.534	.000[c]
	Residual	4557.035	90	50.634		
	Total	6518.500	97			

a. Dependent Variable: SDS

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	10.825	2.643		4.096	.000	5.578	16.073
	Anxiety	.069	.064	.117	1.077	.284	-.058	.195
	Depression	.162	.053	.323	3.089	.003	.058	.267
	DisgustSensitivity	.181	.089	.209	2.031	.045	.004	.358
2	(Constant)	15.663	4.305		3.638	.000	7.109	24.217
	Anxiety	.049	.066	.084	.748	.456	-.081	.180
	Depression	.155	.061	.309	2.554	.012	.035	.276
	DisgustSensitivity	.196	.097	.226	2.020	.046	.003	.389
	SPSENS	-.106	.071	-.145	-1.496	.138	-.246	.035

	SPLR	-.007	.116	-.009	-.062	.951	-.238	.223
	SPSS	-.002	.136	-.002	-.012	.991	-.271	.268
	SPSA	.005	.123	.008	.039	.969	-.241	.250

a. Dependent Variable: SDS

SDB as DV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.612[a]	.375	.355	5.55003	.375	18.809	3	94	.000
2	.631[b]	.398	.351	5.56765	.023	.852	4	90	.496

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1738.090	3	579.363	18.809	.000[b]
	Residual	2895.471	94	30.803		
	Total	4633.561	97			
2	Regression	1843.678	7	263.383	8.497	.000[c]
	Residual	2789.883	90	30.999		

Total	4633.561	97			

a. Dependent Variable: SDB

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, SPSENS, SPLR, SPSA, SPSS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	14.922	2.077		7.185	.000	10.798	19.046
	Anxiety	.104	.050	.211	2.079	.040	.005	.203
	Depression	.151	.041	.356	3.656	.000	.069	.233
	DisgustSensitivity	.135	.070	.185	1.926	.057	-.004	.274
2	(Constant)	16.280	3.369		4.833	.000	9.587	22.973
	Anxiety	.091	.051	.184	1.768	.080	-.011	.193
	Depression	.121	.048	.286	2.550	.012	.027	.216
	DisgustSensitivity	.123	.076	.168	1.617	.109	-.028	.274
	SPSENS	-.053	.055	-.086	-.958	.341	-.163	.057
	SPLR	.026	.091	.040	.283	.778	-.155	.206
	SPSS	-.083	.106	-.151	-.781	.437	-.294	.128
	SPSA	.121	.097	.229	1.256	.212	-.071	.313

a. Dependent Variable: SDB

Chapter 4:

Hierarchical Regression Analysis to Examine whether Subscale's of Self-Disgust are related to Disordered Eating Behaviour after controlling for Anxiety, Depression and Variables of Emotion Dysregulation in a sample of 374 female participants with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa

SDS Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.745[a]	.555	.552	26.11452	.555	224.283	3	540	.000
2	.760[b]	.577	.570	25.58342	.023	4.775	6	534	.000
3	.771[c]	.594	.586	25.10327	.016	21.623	1	533	.000

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	458861.013	3	152953.671	224.283	.000[b]
	Residual	368262.691	540	681.968		
	Total	827123.704	543			
2	Regression	477614.509	9	53068.279	81.081	.000[c]
	Residual	349509.195	534	654.512		
	Total	827123.704	543			

3	Regression	491240.805	10	49124.080	77.953	.000[d]
	Residual	335882.899	533	630.174		
	Total	827123.704	543			

a. Dependent Variable: EDEQTotal

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

d. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	23.021	4.163		5.530	.000	14.844	31.199
	Anxiety	.446	.108	.174	4.149	.000	.235	.657
	Depression	1.384	.090	.589	15.347	.000	1.207	1.561
	DisgustSensitivity	.245	.152	.056	1.613	.107	-.053	.544
2	(Constant)	17.639	5.315		3.319	.001	7.197	28.081
	Anxiety	.427	.109	.167	3.922	.000	.213	.641
	Depression	1.119	.120	.476	9.310	.000	.883	1.355
	DisgustSensitivity	.155	.151	.036	1.030	.303	-.141	.451
	ERNA	.853	.229	.180	3.720	.000	.402	1.303
	ERG	-.159	.321	-.025	-.495	.621	-.789	.471
	ERI	.606	.292	.117	2.080	.038	.034	1.179
	ERA	.241	.236	.039	1.022	.307	-.222	.704

	ERS	-.035	.263	-.009	-.133	.894	-.551	.481
	ERC	-.792	.353	-.114	-2.243	.025	-1.485	-.098
3	(Constant)	11.839	5.363		2.208	.028	1.305	22.374
	Anxiety	.390	.107	.152	3.643	.000	.180	.601
	Depression	.915	.126	.389	7.276	.000	.668	1.162
	DisgustSensitivity	.089	.149	.020	.601	.548	-.203	.381
	ERNA	.815	.225	.172	3.621	.000	.373	1.257
	ERG	.037	.317	.006	.115	.908	-.587	.660
	ERI	.471	.288	.091	1.639	.102	-.094	1.037
	ERA	.291	.231	.047	1.256	.210	-.164	.745
	ERS	-.084	.258	-.022	-.326	.745	-.591	.423
	ERC	-.846	.347	-.122	-2.440	.015	-1.526	-.165
	SDS	.786	.169	.179	4.650	.000	.454	1.118

a. Dependent Variable: EDEQTotal

SDB Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.745[a]	.555	.552	26.11452	.555	224.283	3	540	.000
2	.760[b]	.577	.570	25.58342	.023	4.775	6	534	.000
3	.780[c]	.608	.600	24.67265	.030	41.152	1	533	.000

a. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	458861.013	3	152953.671	224.283	.000[b]
	Residual	368262.691	540	681.968		
	Total	827123.704	543			
2	Regression	477614.509	9	53068.279	81.081	.000[c]
	Residual	349509.195	534	654.512		
	Total	827123.704	543			
3	Regression	502665.486	10	50266.549	82.575	.000[d]
	Residual	324458.218	533	608.740		
	Total	827123.704	543			

a. Dependent Variable: EDEQTotal

b. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety

c. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

d. Predictors: (Constant), DisgustSensitivity, Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	23.021	4.163		5.530	.000	14.844	31.199

	Anxiety	.446	.108	.174	4.149	.000	.235	.657
	Depression	1.384	.090	.589	15.347	.000	1.207	1.561
	DisgustSensitivity	.245	.152	.056	1.613	.107	-.053	.544
2	(Constant)	17.639	5.315		3.319	.001	7.197	28.081
	Anxiety	.427	.109	.167	3.922	.000	.213	.641
	Depression	1.119	.120	.476	9.310	.000	.883	1.355
	DisgustSensitivity	.155	.151	.036	1.030	.303	-.141	.451
	ERNA	.853	.229	.180	3.720	.000	.402	1.303
	ERG	-.159	.321	-.025	-.495	.621	-.789	.471
	ERI	.606	.292	.117	2.080	.038	.034	1.179
	ERA	.241	.236	.039	1.022	.307	-.222	.704
	ERS	-.035	.263	-.009	-.133	.894	-.551	.481
	ERC	-.792	.353	-.114	-2.243	.025	-1.485	-.098
3	(Constant)	5.532	5.462		1.013	.312	-5.198	16.263
	Anxiety	.319	.106	.124	2.996	.003	.110	.528
	Depression	.863	.123	.367	7.042	.000	.622	1.104
	DisgustSensitivity	.071	.146	.016	.484	.629	-.216	.357
	ERNA	.743	.222	.157	3.350	.001	.307	1.179
	ERG	.063	.311	.010	.204	.839	-.548	.675
	ERI	.549	.281	.106	1.952	.052	-.004	1.102
	ERA	.204	.227	.033	.899	.369	-.242	.651
	ERS	-.075	.253	-.020	-.296	.767	-.573	.423
	ERC	-.844	.341	-.122	-2.478	.014	-1.513	-.175
	SDB	1.047	.163	.245	6.415	.000	.726	1.367

a. Dependent Variable: EDEQTotal

Hierarchical Regression Analysis to Examine whether Self-Disgust Subscales are related to Disordered Eating Behaviour after controlling for Anxiety, Depression and Variables of Emotion Dysregulation in a sample of 264 female participants with a diagnosis of Anorexia Nervosa

SDS Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.677[a]	.459	.454	22.30272	.459	100.388	2	237	.000
2	.689[b]	.475	.457	22.23950	.017	1.225	6	231	.294
3	.693[c]	.481	.460	22.17471	.005	2.352	1	230	.126

a. Predictors: (Constant), Depression, Anxiety

b. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS

c. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS, SDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	99868.127	2	49934.063	100.388	.000[b]
	Residual	117886.523	237	497.411		
	Total	217754.650	239			
2	Regression	103503.084	8	12937.885	26.159	.000[c]
	Residual	114251.566	231	494.596		

	Total	217754.650	239			
3	Regression	104659.586	9	11628.843	23.649	.000[d]
	Residual	113095.064	230	491.718		
	Total	217754.650	239			

a. Dependent Variable: EDEQTotal

b. Predictors: (Constant), Depression, Anxiety

c. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS

d. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS, SDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	44.538	3.985		11.176	.000	36.687	52.388
	Anxiety	.427	.127	.191	3.358	.001	.176	.677
	Depression	1.119	.115	.555	9.760	.000	.893	1.345
2	(Constant)	42.853	6.088		7.038	.000	30.857	54.848
	Anxiety	.374	.134	.167	2.801	.006	.111	.637
	Depression	1.016	.158	.504	6.417	.000	.704	1.328
	ERNA	.424	.291	.112	1.457	.147	-.150	.997
	ERG	-.195	.453	-.039	-.430	.668	-1.087	.698
	ERI	.643	.354	.160	1.815	.071	-.055	1.340
	ERA	.048	.319	.011	.151	.880	-.581	.677
	ERS	-.100	.341	-.032	-.292	.770	-.773	.573
	ERC	-.566	.465	-.105	-1.216	.225	-1.483	.351
3	(Constant)	37.250	7.085		5.257	.000	23.290	51.210

	Anxiety	.379	.133	.170	2.848	.005	.117	.642
	Depression	.915	.171	.454	5.349	.000	.578	1.252
	ERNA	.448	.291	.118	1.540	.125	-.125	1.020
	ERG	-.187	.452	-.037	-.414	.680	-1.077	.703
	ERI	.574	.356	.143	1.612	.108	-.128	1.275
	ERA	.089	.319	.020	.277	.782	-.541	.718
	ERS	-.066	.341	-.021	-.193	.847	-.738	.606
	ERC	-.628	.466	-.117	-1.348	.179	-1.545	.290
	SDS	.390	.255	.089	1.534	.126	-.111	.892

a. Dependent Variable: EDEQTotal

SDB Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.677[a]	.459	.454	22.30272	.459	100.388	2	237	.000
2	.689[b]	.475	.457	22.23950	.017	1.225	6	231	.294
3	.704[c]	.495	.476	21.85922	.020	9.107	1	230	.003

a. Predictors: (Constant), Depression, Anxiety

b. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS

c. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS, SDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	99868.127	2	49934.063	100.388	.000[b]
	Residual	117886.523	237	497.411		
	Total	217754.650	239			
2	Regression	103503.084	8	12937.885	26.159	.000[c]
	Residual	114251.566	231	494.596		
	Total	217754.650	239			
3	Regression	107854.801	9	11983.867	25.080	.000[d]
	Residual	109899.849	230	477.825		
	Total	217754.650	239			

a. Dependent Variable: EDEQTotal

b. Predictors: (Constant), Depression, Anxiety

c. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS

d. Predictors: (Constant), Depression, Anxiety, ERG, ERA, ERNA, ERI, ERC, ERS, SDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	44.538	3.985		11.176	.000	36.687	52.388
	Anxiety	.427	.127	.191	3.358	.001	.176	.677
	Depression	1.119	.115	.555	9.760	.000	.893	1.345
2	(Constant)	42.853	6.088		7.038	.000	30.857	54.848
	Anxiety	.374	.134	.167	2.801	.006	.111	.637
	Depression	1.016	.158	.504	6.417	.000	.704	1.328

	ERNA	.424	.291	.112	1.457	.147	-.150	.997
	ERG	-.195	.453	-.039	-.430	.668	-1.087	.698
	ERI	.643	.354	.160	1.815	.071	-.055	1.340
	ERA	.048	.319	.011	.151	.880	-.581	.677
	ERS	-.100	.341	-.032	-.292	.770	-.773	.573
	ERC	-.566	.465	-.105	-1.216	.225	-1.483	.351
3	(Constant)	26.004	8.184		3.177	.002	9.879	42.130
	Anxiety	.345	.132	.154	2.622	.009	.086	.605
	Depression	.917	.159	.455	5.769	.000	.604	1.231
	ERNA	.423	.286	.111	1.480	.140	-.140	.987
	ERG	-.044	.448	-.009	-.098	.922	-.927	.839
	ERI	.490	.352	.122	1.393	.165	-.203	1.183
	ERA	.043	.314	.009	.137	.892	-.576	.661
	ERS	-.096	.336	-.031	-.287	.775	-.757	.565
	ERC	-.643	.458	-.120	-1.405	.161	-1.546	.259
	SDB	.748	.248	.162	3.018	.003	.260	1.236

a. Dependent Variable: EDEQTotal

Hierarchical Regression Analysis to Examine whether Self-Disgust Subscales are related to Disordered Eating Behaviour after controlling for Anxiety, Depression and Variables of Emotion Dysregulation in a sample of 103 female participants with a diagnosis of Bulimia Nervosa

SDS Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.648[a]	.420	.408	22.39222	.420	32.990	2	91	.000
2	.747[b]	.559	.517	20.21584	.138	4.441	6	85	.001
3	.755[c]	.570	.524	20.07497	.011	2.197	1	84	.142

a. Predictors: (Constant), Depression, Anxiety

b. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

c. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33082.821	2	16541.411	32.990	.000[b]
	Residual	45628.455	91	501.412		
	Total	78711.277	93			
2	Regression	43973.472	8	5496.684	13.450	.000[c]
	Residual	34737.804	85	408.680		
	Total	78711.277	93			
3	Regression	44858.903	9	4984.323	12.368	.000[d]

	Residual	33852.374	84	403.004		
	Total	78711.277	93			

a. Dependent Variable: EDEQTotal

b. Predictors: (Constant), Depression, Anxiety

c. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

d. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	58.415	6.134		9.523	.000	46.231	70.599
	Anxiety	.157	.197	.075	.796	.428	-.234	.547
	Depression	1.131	.177	.605	6.393	.000	.779	1.482
2	(Constant)	30.589	8.722		3.507	.001	13.247	47.932
	Anxiety	.147	.190	.071	.771	.443	-.232	.526
	Depression	.630	.203	.337	3.095	.003	.225	1.034
	ERNA	.076	.456	.021	.166	.869	-.832	.983
	ERG	.737	.694	.151	1.063	.291	-.642	2.116
	ERI	.740	.606	.187	1.222	.225	-.464	1.945
	ERA	1.267	.440	.289	2.877	.005	.391	2.142
	ERS	.489	.559	.164	.875	.384	-.622	1.600
	ERC	-1.471	.681	-.285	-2.161	.034	-2.826	-.117
3	(Constant)	22.807	10.128		2.252	.027	2.666	42.949

	Anxiety	.115	.190	.055	.605	.547	-.263	.494
	Depression	.506	.219	.271	2.318	.023	.072	.941
	ERNA	.041	.454	.011	.091	.928	-.861	.944
	ERG	.854	.693	.175	1.232	.221	-.525	2.233
	ERI	.758	.602	.191	1.260	.211	-.439	1.955
	ERA	1.339	.440	.306	3.044	.003	.464	2.214
	ERS	.431	.556	.145	.775	.441	-.675	1.537
	ERC	-1.454	.676	-.282	-2.150	.034	-2.799	-.109
	SDS	.456	.308	.129	1.482	.142	-.156	1.069

a. Dependent Variable: EDEQTotal

SDB Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.648[a]	.420	.408	22.39222	.420	32.990	2	91	.000
2	.747[b]	.559	.517	20.21584	.138	4.441	6	85	.001
3	.748[c]	.560	.512	20.31305	.001	.188	1	84	.665

a. Predictors: (Constant), Depression, Anxiety

b. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

c. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33082.821	2	16541.411	32.990	.000[b]
	Residual	45628.455	91	501.412		
	Total	78711.277	93			
2	Regression	43973.472	8	5496.684	13.450	.000[c]
	Residual	34737.804	85	408.680		
	Total	78711.277	93			
3	Regression	44051.209	9	4894.579	11.862	.000[d]
	Residual	34660.067	84	412.620		
	Total	78711.277	93			

a. Dependent Variable: EDEQTotal

b. Predictors: (Constant), Depression, Anxiety

c. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS

d. Predictors: (Constant), Depression, Anxiety, ERA, ERG, ERNA, ERC, ERI, ERS, SDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	58.415	6.134		9.523	.000	46.231	70.599
	Anxiety	.157	.197	.075	.796	.428	-.234	.547
	Depression	1.131	.177	.605	6.393	.000	.779	1.482
2	(Constant)	30.589	8.722		3.507	.001	13.247	47.932
	Anxiety	.147	.190	.071	.771	.443	-.232	.526
	Depression	.630	.203	.337	3.095	.003	.225	1.034

	ERNA	.076	.456	.021	.166	.869	-.832	.983
	ERG	.737	.694	.151	1.063	.291	-.642	2.116
	ERI	.740	.606	.187	1.222	.225	-.464	1.945
	ERA	1.267	.440	.289	2.877	.005	.391	2.142
	ERS	.489	.559	.164	.875	.384	-.622	1.600
	ERC	-1.471	.681	-.285	-2.161	.034	-2.826	-.117
3	(Constant)	27.306	11.578		2.358	.021	4.282	50.329
	Anxiety	.126	.197	.061	.640	.524	-.266	.518
	Depression	.599	.216	.321	2.773	.007	.170	1.029
	ERNA	.093	.460	.025	.201	.841	-.823	1.008
	ERG	.797	.710	.163	1.122	.265	-.616	2.210
	ERI	.733	.609	.185	1.203	.232	-.478	1.944
	ERA	1.268	.442	.290	2.866	.005	.388	2.147
	ERS	.433	.576	.146	.752	.454	-.712	1.579
	ERC	-1.450	.686	-.281	-2.114	.037	-2.815	-.086
	SDB	.174	.400	.042	.434	.665	-.622	.969

a. Dependent Variable: EDEQTotal

Chapter 5

Hierichical Regressions examining whether Time 1 Scores of Self-Disgust, Anxiety, Depression and Difficulties in Emotion Regulation Strategies are Related to Time 2 scores of Eating Psychopathology in a sample of 293 females with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

SDS Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.178[a]	.032	.024	1.28963	.032	4.074	2	249	.018
2	.278[b]	.077	.047	1.27434	.046	2.002	6	243	.066
3	.324[c]	.105	.072	1.25760	.028	7.511	1	242	.007

a. Predictors: (Constant), T1Depression, T1Anxiety

b. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.552	2	6.776	4.074	.018[b]
	Residual	414.126	249	1.663		
	Total	427.679	251			
2	Regression	33.063	8	4.133	2.545	.011[c]
	Residual	394.616	243	1.624		
	Total	427.679	251			
3	Regression	44.942	9	4.994	3.157	.001[d]

	Residual	382.736	242	1.582		
	Total	427.679	251			

a. Dependent Variable: T2EDEQ

b. Predictors: (Constant), T1Depression, T1Anxiety

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

d. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.317	.193		6.817	.000	.936	1.697
	T1Anxiety	-.014	.007	-.154	-1.832	.068	-.028	.001
	T1Depression	.021	.007	.240	2.852	.005	.006	.036
2	(Constant)	.947	.391		2.421	.016	.177	1.718
	T1Anxiety	-.016	.008	-.187	-2.168	.031	-.031	-.002
	T1Depression	.018	.009	.201	1.977	.049	.000	.035
	T1ERNA	.021	.016	.120	1.322	.187	-.010	.051
	T1ERG	.014	.024	.056	.583	.561	-.033	.061
	T1ERI	.040	.021	.204	1.882	.061	-.002	.081
	T1ERA	.020	.017	.085	1.121	.263	-.015	.054
	T1ERS	-.013	.019	-.084	-.689	.492	-.049	.024
	T1ERC	-.058	.026	-.214	-2.252	.025	-.109	-.007
3	(Constant)	1.579	.450		3.511	.001	.693	2.465

	T1Anxiety	-.019	.008	-.212	-2.470	.014	-.033	-.004
	T1Depression	.018	.009	.204	2.033	.043	.001	.035
	T1ERNA	.024	.015	.138	1.539	.125	-.007	.054
	T1ERG	.013	.024	.054	.561	.575	-.033	.060
	T1ERI	.039	.021	.200	1.869	.063	-.002	.080
	T1ERA	.021	.017	.091	1.205	.229	-.013	.055
	T1ERS	-.011	.018	-.072	-.596	.552	-.047	.025
	T1ERC	-.059	.025	-.218	-2.326	.021	-.109	-.009
	T1SDS	-.049	.018	-.168	-2.741	.007	-.084	-.014

a. Dependent Variable: T2EDEQ

SDB Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.178[a]	.032	.024	1.28963	.032	4.074	2	249	.018
2	.278[b]	.077	.047	1.27434	.046	2.002	6	243	.066
3	.282[c]	.079	.045	1.27552	.002	.551	1	242	.459

a. Predictors: (Constant), T1Depression, T1Anxiety

b. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.552	2	6.776	4.074	.018[b]
	Residual	414.126	249	1.663		
	Total	427.679	251			
2	Regression	33.063	8	4.133	2.545	.011[c]
	Residual	394.616	243	1.624		
	Total	427.679	251			
3	Regression	33.959	9	3.773	2.319	.016[d]
	Residual	393.720	242	1.627		
	Total	427.679	251			

a. Dependent Variable: T2EDEQ

b. Predictors: (Constant), T1Depression, T1Anxiety

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

d. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.317	.193		6.817	.000	.936	1.697
	T1Anxiety	-.014	.007	-.154	-1.832	.068	-.028	.001
	T1Depression	.021	.007	.240	2.852	.005	.006	.036
2	(Constant)	.947	.391		2.421	.016	.177	1.718
	T1Anxiety	-.016	.008	-.187	-2.168	.031	-.031	-.002

	T1Depression	.018	.009	.201	1.977	.049	.000	.035
	T1ERNA	.021	.016	.120	1.322	.187	-.010	.051
	T1ERG	.014	.024	.056	.583	.561	-.033	.061
	T1ERI	.040	.021	.204	1.882	.061	-.002	.081
	T1ERA	.020	.017	.085	1.121	.263	-.015	.054
	T1ERS	-.013	.019	-.084	-.689	.492	-.049	.024
	T1ERC	-.058	.026	-.214	-2.252	.025	-.109	-.007
3	(Constant)	.726	.493		1.473	.142	-.245	1.696
	T1Anxiety	-.017	.008	-.193	-2.221	.027	-.032	-.002
	T1Depression	.018	.009	.210	2.049	.042	.001	.036
	T1ERNA	.020	.016	.118	1.302	.194	-.010	.051
	T1ERG	.015	.024	.061	.632	.528	-.032	.063
	T1ERI	.040	.021	.204	1.884	.061	-.002	.081
	T1ERA	.019	.017	.083	1.091	.276	-.015	.053
	T1ERS	-.012	.019	-.081	-.659	.511	-.049	.024
	T1ERC	-.059	.026	-.217	-2.284	.023	-.110	-.008
	T1SDB	.008	.010	.047	.742	.459	-.013	.028

a. Dependent Variable: T2EDEQ

Hierarchical Regression Analysis of Change Scores Examining Whether Self-Disgust, Depression and Self-Disgust are Related to Eating Psychopathology in a sample of 293 females with either a diagnosis of Anorexia Nervosa or Bulimia Nervosa.

SDS Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.373[a]	.139	.132	1.61811	.139	20.089	2	249	.000
2	.397[b]	.158	.130	1.61992	.019	.908	6	243	.490
3	.425[c]	.180	.150	1.60135	.023	6.669	1	242	.010

a. Predictors: (Constant), CSDepression, CSAnxiety

b. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS, CSSDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.197	2	52.598	20.089	.000[b]
	Residual	651.956	249	2.618		
	Total	757.153	251			
2	Regression	119.489	8	14.936	5.692	.000[c]
	Residual	637.664	243	2.624		
	Total	757.153	251			
3	Regression	136.590	9	15.177	5.918	.000[d]
	Residual	620.563	242	2.564		
	Total	757.153	251			

a. Dependent Variable: EDEQCS

b. Predictors: (Constant), CSDepression, CSAnxiety

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS

d. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS, CSSDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-1.876	.113		-16.562	.000	-2.099	-1.653
	CSAnxiety	.013	.009	.091	1.442	.151	-.005	.032
	CSDepression	.036	.007	.330	5.246	.000	.022	.049
2	(Constant)	-1.907	.115		-16.542	.000	-2.134	-1.680
	CSAnxiety	.011	.010	.075	1.114	.266	-.009	.031
	CSDepression	.041	.012	.381	3.524	.001	.018	.064
	CSERNA	.024	.021	.135	1.130	.260	-.018	.065
	CSERG	-.019	.029	-.091	-.659	.511	-.076	.038
	CSERI	-.003	.027	-.016	-.115	.908	-.056	.050
	CSERA	-.014	.022	-.073	-.661	.509	-.058	.029
	CSERS	-.023	.023	-.169	-1.003	.317	-.068	.022
	CSERC	.033	.029	.142	1.169	.244	-.023	.090
3	(Constant)	-2.026	.123		-16.485	.000	-2.268	-1.784
	CSAnxiety	.011	.010	.077	1.162	.246	-.008	.031
	CSDepression	.040	.012	.369	3.446	.001	.017	.062
	CSERNA	.021	.021	.120	1.014	.312	-.020	.062
	CSERG	-.020	.029	-.095	-.696	.487	-.076	.036

	CSERI	-.001	.027	-.003	-.024	.981	-.053	.052
	CSERA	-.011	.022	-.056	-.510	.611	-.054	.032
	CSERS	-.024	.023	-.177	-1.067	.287	-.069	.020
	CSERC	.036	.028	.152	1.259	.209	-.020	.091
	CSSDS	.038	.015	.151	2.582	.010	.009	.067

a. Dependent Variable: EDEQCS

SDB Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.373[a]	.139	.132	1.61811	.139	20.089	2	249	.000
2	.397[b]	.158	.130	1.61992	.019	.908	6	243	.490
3	.397[c]	.158	.127	1.62318	.000	.025	1	242	.875

a. Predictors: (Constant), CSDepression, CSAnxiety

b. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS, CSSDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.197	2	52.598	20.089	.000[b]
	Residual	651.956	249	2.618		
	Total	757.153	251			

2	Regression	119.489	8	14.936	5.692	.000[c]
	Residual	637.664	243	2.624		
	Total	757.153	251			
3	Regression	119.554	9	13.284	5.042	.000[d]
	Residual	637.599	242	2.635		
	Total	757.153	251			

a. Dependent Variable: EDEQCS

b. Predictors: (Constant), CSDepression, CSAnxiety

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS

d. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERA, CSERNA, CSERC, CSERI, CSERS, CSSDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-1.876	.113		-16.562	.000	-2.099	-1.653
	CSAnxiety	.013	.009	.091	1.442	.151	-.005	.032
	CSDepression	.036	.007	.330	5.246	.000	.022	.049
2	(Constant)	-1.907	.115		-16.542	.000	-2.134	-1.680
	CSAnxiety	.011	.010	.075	1.114	.266	-.009	.031
	CSDepression	.041	.012	.381	3.524	.001	.018	.064
	CSERNA	.024	.021	.135	1.130	.260	-.018	.065
	CSERG	-.019	.029	-.091	-.659	.511	-.076	.038
	CSERI	-.003	.027	-.016	-.115	.908	-.056	.050

	CSERA	-.014	.022	-.073	-.661	.509	-.058	.029
	CSERS	-.023	.023	-.169	-1.003	.317	-.068	.022
	CSERC	.033	.029	.142	1.169	.244	-.023	.090
3	(Constant)	-1.958	.343		-5.713	.000	-2.633	-1.283
	CSAnxiety	.011	.010	.075	1.110	.268	-.009	.031
	CSDepression	.041	.012	.382	3.519	.001	.018	.064
	CSERNA	.024	.021	.135	1.132	.259	-.018	.065
	CSERG	-.019	.029	-.092	-.669	.504	-.077	.038
	CSERI	-.003	.027	-.016	-.115	.908	-.056	.050
	CSERA	-.014	.022	-.072	-.650	.516	-.058	.029
	CSERS	-.023	.023	-.169	-1.004	.316	-.068	.022
	CSERC	.033	.029	.142	1.159	.248	-.023	.090
	CSSDB	-.006	.036	-.009	-.157	.875	-.076	.065

a. Dependent Variable: EDEQCS

Analysis focusing on the AN Group (n=155).

Time 1-2 Analysis

SDS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.666[a]	.443	.436	.24422	.443	60.491	2	152	.000
2	.688[b]	.474	.445	.24221	.031	1.422	6	146	.210
3	.690[c]	.477	.444	.24242	.003	.744	1	145	.390

a. Predictors: (Constant), T1Depression, T1Anxiety

b. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.216	2	3.608	60.491	.000[b]
	Residual	9.065	152	.060		
	Total	16.281	154			
2	Regression	7.716	8	.964	16.441	.000[c]
	Residual	8.565	146	.059		

	Total	16.281	154			
3	Regression	7.760	9	.862	14.671	.000[d]
	Residual	8.521	145	.059		
	Total	16.281	154			

a. Dependent Variable: T2EDEQ

b. Predictors: (Constant), T1Depression, T1Anxiety

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

d. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	.417	.058		7.182	.000	.303	.532
	T1Anxiety	.006	.002	.250	3.362	.001	.002	.010
	T1Depression	.012	.002	.489	6.594	.000	.009	.016
2	(Constant)	.319	.118		2.699	.008	.085	.553
	T1Anxiety	.006	.002	.243	3.161	.002	.002	.010
	T1Depression	.011	.002	.451	5.071	.000	.007	.016
	T1ERNA	.006	.004	.137	1.789	.076	-.001	.014
	T1ERG	.000	.006	-.006	-.064	.949	-.012	.011
	T1ERI	-.001	.005	-.013	-.145	.885	-.010	.009
	T1ERA	.005	.004	.083	1.178	.241	-.003	.014

	T1ERS	.004	.005	.095	.929	.354	-.005	.013
	T1ERC	-.012	.006	-.170	-2.090	.038	-.024	-.001
3	(Constant)	.373	.134		2.787	.006	.108	.637
	T1Anxiety	.006	.002	.230	2.931	.004	.002	.009
	T1Depression	.011	.002	.457	5.117	.000	.007	.016
	T1ERNA	.007	.004	.144	1.873	.063	.000	.014
	T1ERG	4.611E-5	.006	.001	.008	.994	-.011	.012
	T1ERI	-.001	.005	-.012	-.132	.895	-.010	.009
	T1ERA	.005	.004	.084	1.197	.233	-.003	.014
	T1ERS	.004	.005	.097	.952	.343	-.005	.013
	T1ERC	-.013	.006	-.178	-2.168	.032	-.025	-.001
	T1SDS	-.004	.005	-.054	-.863	.390	-.014	.006

a. Dependent Variable: T2EDEQ

SDB

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.666[a]	.443	.436	.24422	.443	60.491	2	152	.000
2	.688[b]	.474	.445	.24221	.031	1.422	6	146	.210
3	.688[c]	.474	.441	.24303	.000	.010	1	145	.922

a. Predictors: (Constant), T1Depression, T1Anxiety

b. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.216	2	3.608	60.491	.000[b]
	Residual	9.065	152	.060		
	Total	16.281	154			
2	Regression	7.716	8	.964	16.441	.000[c]
	Residual	8.565	146	.059		
	Total	16.281	154			
3	Regression	7.717	9	.857	14.516	.000[d]
	Residual	8.564	145	.059		
	Total	16.281	154			

a. Dependent Variable: T2EDEQ

b. Predictors: (Constant), T1Depression, T1Anxiety

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS

d. Predictors: (Constant), T1Depression, T1Anxiety, T1ERG, T1ERA, T1ERNA, T1ERC, T1ERI, T1ERS, T1SDB

Coefficients[a]

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B

		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.417	.058		7.182	.000	.303	.532
	T1Anxiety	.006	.002	.250	3.362	.001	.002	.010
	T1Depression	.012	.002	.489	6.594	.000	.009	.016
2	(Constant)	.319	.118		2.699	.008	.085	.553
	T1Anxiety	.006	.002	.243	3.161	.002	.002	.010
	T1Depression	.011	.002	.451	5.071	.000	.007	.016
	T1ERNA	.006	.004	.137	1.789	.076	-.001	.014
	T1ERG	.000	.006	-.006	-.064	.949	-.012	.011
	T1ERI	-.001	.005	-.013	-.145	.885	-.010	.009
	T1ERA	.005	.004	.083	1.178	.241	-.003	.014
	T1ERS	.004	.005	.095	.929	.354	-.005	.013
	T1ERC	-.012	.006	-.170	-2.090	.038	-.024	-.001
3	(Constant)	.311	.143		2.184	.031	.030	.593
	T1Anxiety	.006	.002	.243	3.146	.002	.002	.010
	T1Depression	.011	.002	.451	5.055	.000	.007	.016
	T1ERNA	.006	.004	.137	1.783	.077	-.001	.014
	T1ERG	.000	.006	-.005	-.058	.954	-.012	.011
	T1ERI	-.001	.005	-.014	-.150	.881	-.010	.009
	T1ERA	.005	.004	.083	1.176	.242	-.004	.014
	T1ERS	.004	.005	.095	.929	.354	-.005	.013
	T1ERC	-.012	.006	-.171	-2.084	.039	-.024	-.001
	T1SDB	.000	.003	.006	.098	.922	-.006	.006

a. Dependent Variable: T2EDEQ

Change Score Analysis

SDS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.274[a]	.075	.063	.94432	.075	6.159	2	152	.003
2	.380[b]	.145	.098	.92654	.070	1.982	6	146	.072
3	.380[c]	.145	.092	.92973	.000	.001	1	145	.976

a. Predictors: (Constant), CSDepression, CSAnxiety

b. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS, CSSDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.984	2	5.492	6.159	.003[b]
	Residual	135.545	152	.892		
	Total	146.529	154			
2	Regression	21.191	8	2.649	3.086	.003[c]
	Residual	125.338	146	.858		

	Total	146.529	154			
3	Regression	21.192	9	2.355	2.724	.006[d]
	Residual	125.337	145	.864		
	Total	146.529	154			

a. Dependent Variable: EDEQCS

b. Predictors: (Constant), CSDepression, CSAnxiety

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS

d. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS, CSSDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-2.931	.083		-35.114	.000	-3.096	-2.766
	CSAnxiety	.006	.007	.068	.802	.424	-.008	.019
	CSDepression	.014	.005	.241	2.855	.005	.004	.024
2	(Constant)	-2.953	.083		-35.650	.000	-3.116	-2.789
	CSAnxiety	.001	.007	.008	.091	.927	-.014	.015
	CSDepression	.027	.009	.468	3.153	.002	.010	.045
	CSERNA	.025	.016	.268	1.565	.120	-.006	.056
	CSERG	-.027	.022	-.236	-1.243	.216	-.071	.016

	CSERI	.006	.020	.051	.271	.787	-.035	.046
	CSERA	-.027	.017	-.254	-1.615	.108	-.060	.006
	CSERS	-.019	.018	-.265	-1.082	.281	-.054	.016
	CSERC	.021	.020	.164	1.048	.296	-.018	.060
3	(Constant)	-2.952	.088		-33.713	.000	-3.125	-2.779
	CSAnxiety	.001	.007	.008	.091	.927	-.014	.015
	CSDepression	.027	.009	.468	3.137	.002	.010	.045
	CSERNA	.025	.016	.268	1.559	.121	-.007	.056
	CSERG	-.027	.022	-.236	-1.234	.219	-.071	.016
	CSERI	.005	.021	.050	.265	.791	-.035	.046
	CSERA	-.027	.017	-.254	-1.606	.110	-.061	.006
	CSERS	-.019	.018	-.265	-1.077	.283	-.054	.016
	CSERC	.021	.020	.164	1.041	.300	-.019	.060
	CSSDS	.000	.012	-.002	-.031	.976	-.024	.023

a. Dependent Variable: EDEQCS

SDB

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.274[a]	.075	.063	.94432	.075	6.159	2	152	.003

2	.380[b]	.145	.098	.92654	.070	1.982	6	146	.072
3	.396[c]	.157	.105	.92290	.013	2.155	1	145	.144

a. Predictors: (Constant), CSDepression, CSAnxiety

b. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS, CSSDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.984	2	5.492	6.159	.003[b]
	Residual	135.545	152	.892		
	Total	146.529	154			
2	Regression	21.191	8	2.649	3.086	.003[c]
	Residual	125.338	146	.858		
	Total	146.529	154			
3	Regression	23.027	9	2.559	3.004	.003[d]
	Residual	123.503	145	.852		
	Total	146.529	154			

a. Dependent Variable: EDEQCS

b. Predictors: (Constant), CSDepression, CSAnxiety

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS

d. Predictors: (Constant), CSDepression, CSAnxiety, CSERG, CSERC, CSERNA, CSERA, CSERI, CSERS, CSSDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-2.931	.083		-35.114	.000	-3.096	-2.766
	CSAnxiety	.006	.007	.068	.802	.424	-.008	.019
	CSDepression	.014	.005	.241	2.855	.005	.004	.024
2	(Constant)	-2.953	.083		-35.650	.000	-3.116	-2.789
	CSAnxiety	.001	.007	.008	.091	.927	-.014	.015
	CSDepression	.027	.009	.468	3.153	.002	.010	.045
	CSERNA	.025	.016	.268	1.565	.120	-.006	.056
	CSERG	-.027	.022	-.236	-1.243	.216	-.071	.016
	CSERI	.006	.020	.051	.271	.787	-.035	.046
	CSERA	-.027	.017	-.254	-1.615	.108	-.060	.006
	CSERS	-.019	.018	-.265	-1.082	.281	-.054	.016
	CSERC	.021	.020	.164	1.048	.296	-.018	.060
3	(Constant)	-3.333	.272		-12.254	.000	-3.871	-2.796
	CSAnxiety	.001	.007	.012	.138	.890	-.013	.016
	CSDepression	.029	.009	.488	3.291	.001	.011	.046
	CSERNA	.023	.016	.252	1.475	.142	-.008	.054
	CSERG	-.027	.022	-.237	-1.253	.212	-.071	.016
	CSERI	.007	.020	.068	.363	.717	-.033	.048
	CSERA	-.027	.017	-.254	-1.625	.106	-.060	.006
	CSERS	-.021	.018	-.287	-1.174	.242	-.055	.014
	CSERC	.020	.020	.158	1.013	.313	-.019	.059

CSSDB	-.042	.029	-.114	-1.468	.144	-.099	.015

a. Dependent Variable: EDEQCS

Analysis focusing on BN Group

Time 1-2 Scores

SDS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.360[a]	.129	.111	1.64384	.129	6.977	2	94	.001
2	.505[b]	.255	.187	1.57179	.125	2.469	6	88	.030
3	.507[c]	.258	.181	1.57784	.003	.326	1	87	.569

a. Predictors: (Constant), T1Depression, T1Anxiety

b. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI, T1SDS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.709	2	18.854	6.977	.001[b]
	Residual	254.009	94	2.702		
	Total	291.718	96			
2	Regression	74.311	8	9.289	3.760	.001[c]
	Residual	217.407	88	2.471		
	Total	291.718	96			
3	Regression	75.124	9	8.347	3.353	.001[d]
	Residual	216.594	87	2.490		
	Total	291.718	96			

a. Dependent Variable: T2EDEQ

b. Predictors: (Constant), T1Depression, T1Anxiety

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI

d. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI, T1SDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.608	.320		5.021	.000	.972	2.244
	T1Anxiety	-.016	.016	-.140	-1.019	.311	-.047	.015
	T1Depression	.048	.015	.446	3.241	.002	.018	.077
2	(Constant)	.519	.651		.797	.428	-.775	1.812

	T1Anxiety	-.022	.015	-.190	-1.404	.164	-.052	.009
	T1Depression	.021	.018	.196	1.191	.237	-.014	.056
	T1ERNA	.032	.035	.149	.909	.366	-.038	.103
	T1ERG	-.028	.050	-.092	-.554	.581	-.128	.072
	T1ERI	.055	.052	.230	1.055	.295	-.049	.160
	T1ERA	.066	.035	.227	1.867	.065	-.004	.136
	T1ERS	.038	.039	.206	.963	.338	-.040	.115
	T1ERC	-.087	.058	-.242	-1.495	.139	-.204	.029
3	(Constant)	.788	.805		.978	.331	-.813	2.388
	T1Anxiety	-.022	.015	-.194	-1.427	.157	-.053	.009
	T1Depression	.020	.018	.190	1.146	.255	-.015	.055
	T1ERNA	.033	.036	.151	.916	.362	-.038	.103
	T1ERG	-.031	.051	-.103	-.612	.542	-.132	.070
	T1ERI	.056	.053	.234	1.070	.288	-.048	.161
	T1ERA	.066	.035	.227	1.862	.066	-.004	.137
	T1ERS	.037	.039	.204	.949	.345	-.041	.115
	T1ERC	-.084	.059	-.234	-1.434	.155	-.202	.033
	T1SDS	-.019	.033	-.054	-.571	.569	-.085	.047

a. Dependent Variable: T2EDEQ

SDB

Model Summary

Model	R	R Square			Change Statistics			

			Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.360[a]	.129	.111	1.64384	.129	6.977	2	94	.001
2	.505[b]	.255	.187	1.57179	.125	2.469	6	88	.030
3	.512[c]	.262	.185	1.57324	.007	.838	1	87	.363

a. Predictors: (Constant), T1Depression, T1Anxiety

b. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI, T1SDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.709	2	18.854	6.977	.001[b]
	Residual	254.009	94	2.702		
	Total	291.718	96			
2	Regression	74.311	8	9.289	3.760	.001[c]
	Residual	217.407	88	2.471		
	Total	291.718	96			
3	Regression	76.385	9	8.487	3.429	.001[d]
	Residual	215.333	87	2.475		
	Total	291.718	96			

a. Dependent Variable: T2EDEQ

b. Predictors: (Constant), T1Depression, T1Anxiety

c. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI

d. Predictors: (Constant), T1Depression, T1Anxiety, T1ERA, T1ERG, T1ERNA, T1ERC, T1ERS, T1ERI, T1SDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.608	.320		5.021	.000	.972	2.244
	T1Anxiety	-.016	.016	-.140	-1.019	.311	-.047	.015
	T1Depression	.048	.015	.446	3.241	.002	.018	.077
2	(Constant)	.519	.651		.797	.428	-.775	1.812
	T1Anxiety	-.022	.015	-.190	-1.404	.164	-.052	.009
	T1Depression	.021	.018	.196	1.191	.237	-.014	.056
	T1ERNA	.032	.035	.149	.909	.366	-.038	.103
	T1ERG	-.028	.050	-.092	-.554	.581	-.128	.072
	T1ERI	.055	.052	.230	1.055	.295	-.049	.160
	T1ERA	.066	.035	.227	1.867	.065	-.004	.136
	T1ERS	.038	.039	.206	.963	.338	-.040	.115
	T1ERC	-.087	.058	-.242	-1.495	.139	-.204	.029
3	(Constant)	.036	.838		.042	.966	-1.631	1.702
	T1Anxiety	-.024	.016	-.210	-1.530	.130	-.055	.007
	T1Depression	.024	.018	.227	1.349	.181	-.011	.060
	T1ERNA	.029	.036	.135	.817	.416	-.042	.100

	T1ERG	-.025	.050	-.083	-.493	.623	-.125	.075
	T1ERI	.060	.053	.248	1.130	.261	-.045	.164
	T1ERA	.062	.036	.212	1.730	.087	-.009	.133
	T1ERS	.038	.039	.209	.976	.332	-.040	.116
	T1ERC	-.086	.059	-.239	-1.476	.143	-.203	.030
	T1SDB	.016	.018	.090	.915	.363	-.019	.051

a. Dependent Variable: T2EDEQ

Change Score Analysis

SDS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.749[a]	.561	.552	1.18069	.561	60.060	2	94	.000
2	.767[b]	.588	.551	1.18153	.027	.978	6	88	.445
3	.777[c]	.604	.563	1.16525	.016	3.476	1	87	.066

a. Predictors: (Constant), CSDepression, CSAnxiety

b. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS, CSSDS

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	167.451	2	83.726	60.060	.000[b]
	Residual	131.039	94	1.394		
	Total	298.490	96			
2	Regression	175.641	8	21.955	15.727	.000[c]
	Residual	122.849	88	1.396		
	Total	298.490	96			
3	Regression	180.361	9	20.040	14.759	.000[d]
	Residual	118.129	87	1.358		
	Total	298.490	96			

a. Dependent Variable: EDEQCS

b. Predictors: (Constant), CSDepression, CSAnxiety

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS

d. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS, CSSDS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-.107	.136		-.790	.431	-.377	.162
	CSAnxiety	.016	.011	.108	1.489	.140	-.005	.038
	CSDepression	.081	.008	.707	9.797	.000	.064	.097
2	(Constant)	-.046	.144		-.320	.750	-.333	.240
	CSAnxiety	.009	.012	.060	.748	.457	-.015	.033

	CSDepression	.076	.014	.665	5.360	.000	.048	.104
	CSERNA	.039	.026	.193	1.504	.136	-.012	.090
	CSERG	-.033	.034	-.149	-.965	.337	-.101	.035
	CSERI	.052	.032	.250	1.619	.109	-.012	.117
	CSERA	.014	.025	.064	.554	.581	-.035	.063
	CSERS	-.020	.026	-.128	-.750	.455	-.072	.032
	CSERC	-.032	.039	-.127	-.806	.423	-.110	.047
3	(Constant)	-.182	.160		-1.137	.259	-.499	.136
	CSAnxiety	.009	.012	.063	.800	.426	-.014	.033
	CSDepression	.075	.014	.657	5.372	.000	.047	.103
	CSERNA	.036	.025	.178	1.406	.163	-.015	.086
	CSERG	-.027	.034	-.122	-.797	.428	-.094	.040
	CSERI	.047	.032	.223	1.455	.149	-.017	.110
	CSERA	.015	.024	.071	.628	.532	-.033	.064
	CSERS	-.018	.026	-.118	-.702	.484	-.069	.033
	CSERC	-.034	.039	-.134	-.866	.389	-.111	.044
	CSSDS	.030	.016	.127	1.865	.066	-.002	.063

a. Dependent Variable: EDEQCS

SDB

Model Summary

Model	R	R Square			Change Statistics			

			Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.749[a]	.561	.552	1.18069	.561	60.060	2	94	.000
2	.767[b]	.588	.551	1.18153	.027	.978	6	88	.445
3	.768[c]	.590	.547	1.18637	.001	.284	1	87	.596

a. Predictors: (Constant), CSDepression, CSAnxiety

b. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS, CSSDB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	167.451	2	83.726	60.060	.000[b]
	Residual	131.039	94	1.394		
	Total	298.490	96			
2	Regression	175.641	8	21.955	15.727	.000[c]
	Residual	122.849	88	1.396		
	Total	298.490	96			
3	Regression	176.041	9	19.560	13.897	.000[d]
	Residual	122.449	87	1.407		
	Total	298.490	96			

a. Dependent Variable: EDEQCS

b. Predictors: (Constant), CSDepression, CSAnxiety

c. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS

d. Predictors: (Constant), CSDepression, CSAnxiety, CSERI, CSERA, CSERNA, CSERG, CSERC, CSERS, CSSDB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-.107	.136		-.790	.431	-.377	.162
	CSAnxiety	.016	.011	.108	1.489	.140	-.005	.038
	CSDepression	.081	.008	.707	9.797	.000	.064	.097
2	(Constant)	-.046	.144		-.320	.750	-.333	.240
	CSAnxiety	.009	.012	.060	.748	.457	-.015	.033
	CSDepression	.076	.014	.665	5.360	.000	.048	.104
	CSERNA	.039	.026	.193	1.504	.136	-.012	.090
	CSERG	-.033	.034	-.149	-.965	.337	-.101	.035
	CSERI	.052	.032	.250	1.619	.109	-.012	.117
	CSERA	.014	.025	.064	.554	.581	-.035	.063
	CSERS	-.020	.026	-.128	-.750	.455	-.072	.032
	CSERC	-.032	.039	-.127	-.806	.423	-.110	.047
3	(Constant)	.139	.376		.369	.713	-.609	.886
	CSAnxiety	.009	.012	.063	.780	.438	-.015	.033
	CSDepression	.076	.014	.664	5.330	.000	.048	.104
	CSERNA	.036	.026	.181	1.386	.169	-.016	.088
	CSERG	-.030	.035	-.135	-.859	.393	-.099	.039

	CSERI	.054	.033	.257	1.649	.103	-.011	.118
	CSERA	.012	.025	.054	.467	.642	-.038	.062
	CSERS	-.020	.026	-.128	-.749	.456	-.072	.032
	CSERC	-.031	.040	-.123	-.781	.437	-.110	.048
	CSSDB	.021	.039	.039	.533	.596	-.056	.097

a. Dependent Variable: EDEQCS