Evaluating the efficacy of a self-help compassionate journal keeping intervention in addressing experiences of shame, low self-compassion, fear of self-compassion and disorder symptoms in individuals with an eating disorder.

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Preface

Compassion-Focus Therapy; In research and in clinical practice

In this portfolio I hope to present to the reader a synthesis of my knowledge and expertise. For this purpose, I will present three pieces of work that reflect my journey to becoming a counselling psychologist in the form of a journal article, an empirical research project and an extended case study.

Studying for a Professional Doctorate in Counselling Psychology and developing a professional identity as a counselling psychologist has been both a rewarding and a challenging journey. Before starting my doctorate, I was fortunate enough to acquire a substantial amount of experience in the area of applied psychology, thus I had a clear understanding of the profession and how I wanted to train and practice. For this reason, when starting my doctorate, I felt confident that counselling psychology was the most suitable path for me. Having previous experience working in mental health meant that I had pre-existing passions and interests. Over the three years, I have had the opportunity to expand and build upon these interests, whilst gaining the opportunity to develop new interests and skills. I hope that the work I include in this portfolio will portray my interests, skills and knowledge in a way that demonstrates my professional development.

The common theme that connects the three pieces of work included in this portfolio is self-compassion and the integration of Compassion Focused therapy (CFT) informed interventions into Cognitive Behaviour Therapy (CBT) to address lack of self-compassion, fear of compassion, self-directed hostility and shame.

My interest in Compassion Focused therapy (CFT) predate my doctoral training. I have been fascinated and intrigued by this third wave approach and I wanted to contribute to our understanding of this approach by focusing on its efficacy in my research. I wanted to

concentrate on eating disorders as I had a few years of clinical experience working with individuals with these disorders and I felt that CFT was highly relevant to this client group.

As a trainee psychologists I wanted to integrate my clinical knowledge and expertise with should be knowledgeable in both research and clinical practice. Emphasis should be placed on the successful integration of science and practice,

Throughout the time I worked a CBT therapist in an eating disorders service, I felt that the CBT approach had certain limitations. Many of the individuals I saw in therapy were prone to self-criticism at times of distress, they experienced themselves as flawed for which they felt highly ashamed and they often reported feeling threatened and unsafe in interpersonal relationships. Although, we were able to explore these dynamics within CBT, I felt that we were unable to address these adequately. To compensate for the limitations of CBT and to enhance my therapy skills I often integrated CFT interventions within my approach. Based on my clinical experience of using CFT integrated with CBT for the treatment of eating disorders, I was aware that CFT was suitable for eating disorders and that CFT can be assimilated into CBT to address specific difficulties such as self-directed hostility and criticism, poor self-compassion and fear of compassion. Adopting the scientist practitioner approach, I wanted to understand these dynamics further and to integrate my clinical knowledge and expertise with research. I decided to focus on this topic in my doctorate and at the start of my doctoral research journey I conducted a literature review. This review is presented in the empirical research project section of this portfolio. This detailed and systematic review of existing knowledge helped me to develop and structure my research question and to position my hypotheses within the wider framework of the literature. In addition to a critical review and a summary of literature related to my topic of interest, my research project also provides a summary of my attempt to administer the evaluated intervention under ideal experimental conditions where I tried to identify and control all variables (Marks and Yardley, 2004). Also included is an account of how data was systematically gathered and statistically analysed. The project ends with a conclusive chapter where I review my key findings and reflect on how my findings relate to existing literature.

The publishable article included in this portfolio is a concise summary of my research project that has been tailored for a specific journal e.g. Behaviour Change Journal. The article outlines the main themes that emerged in my study and the key findings. The aim of the article is to

disseminate my findings to the wider community and the clinical field, to build on knowledge and to inform clinical practice and policy.

The extended case study included in this thesis portfolio demonstrates my practical skills as a therapist and the key theoretical principles outlined by CFT. The study presents a client who is exceptionally hostile and uncompassionate towards herself and subsequently suffers with anxiety, depression and low self-esteem. The client's early life experiences are consistent with those described in the theory as experiences which obstruct self-compassion. The client has experienced inadequate care and nurture in her early life. Within the three-affect regulation systems theory (Gilbert, 2009) it is clear that her threat-system is highly developed, yet her soothing system is inadequate. Subsequently, she overuses her drive-system to regulate her threat emotions. It is evident that the client relies on her inner critic to self-scrutinize, to selfmonitor and to take action to hide/amend her flaws. This maladaptive emotion regulation strategy inadvertently increases her experience of distress and obstructs feelings of inner safety and contentment. In the extended case study, I demonstrate how I have incorporated CFT interventions into CBT using assimilative integration to address her self-directed hostility and poor self-compassion. In this piece of work, I give an overview of how I was able to apply my theoretical and psychological knowledge to my clinical practice. In this reflective summary on my interaction with my client over 17 sessions, I present my understanding of the core principles of integrating CFT interventions into CBT and how I was able to work within the essential features of both clinical approaches.

PART A: DOCTORAL RESEARCH

Evaluating the efficacy of a self-help compassionate journal keeping intervention in addressing experiences of shame, low self-compassion, fear of self-compassion and disorder symptoms in individuals with an eating disorder.

Research Question

Is compassionate journal keeping as a self-help intervention for 2 weeks able to address experiences of shame, low self-compassion, fear of compassion and disorder symptoms in individuals with an eating disorder?

Abstract

The current study examined whether self-compassion journal keeping as a self-help intervention for 2-weeks is able to address experiences of shame, low self-compassion, fear of compassion and disorder symptoms in individuals with an eating disorder. 41 participants recruited from an eating disorders service were randomly allocated to two conditions; experimental and control condition. Participants in the experimental condition recorded a self-compassion diary over 2weeks using self-help material and recorded a log of the amount of time they spent writing in their journals. Participants in the control condition remained on the waiting list. All participants completed 6 measures at the start of the experiments and repeated these at the end of the 2weeks. The findings showed that shame and low-compassion experienced as a personality trait at the core of one's self-identity and the characteristics and the severity of one's eating psychopathology cannot be addressed within a 2-week period using a self-help intervention designed to cultivate self-compassion. Momentary experiences of low-compassion and shame and fear of compassion on the other hand can be addressed within this time period using this intervention. Specifically, the findings suggested that CFT informed interventions may have a degree of therapeutic significance for individuals with an eating disorder. The findings also suggested that low intensity interventions such as self-help may be appropriate for this clinical group and can be considered as an alternative to no treatment waiting lists.

1. Introduction

1.1 Introduction

In this introductory chapter the author will provide the reader with an overview of the topic in question and an overview of the theoretical and empirical background to her research. The author will critically review existing literature to provide context and to inform the rationale for the study, in addition to specifying the research aims and objectives and clarifying the focus and the value of the study. A further aim of this critical review will be to identify gaps in knowledge that can be addressed by this research study.

The chapter will begin with an overview of eating disorders and a summary of the key processes that account for the development and the maintenance of the psychopathology.
The chapter will then give an overview of the recommendations made in the NICE guidelines for the treatment of eating disorders in adults. This overview will include a summary of Cognitive Behavioural Therapy (CBT) and its enhanced version (CBT-E) for eating disorders. A critical examination of efficacy studies that have studied the effectiveness of CBT-E for eating disorders and of studies that have investigated the effectiveness of other approaches i.e. psychoanalytic psychotherapy, Interpersonal Psychotherapy (IPT), Cognitive Analytic Therapy (CAT) and Cognitive-Affective Therapy (ICAT), will also be conducted.

To inform the reader of the context upon which the study is based on, the author will explore the constructs of shame, self-compassion, fear of self-compassion and will evaluate how these constructs relate to eating disorders. The author will then introduce the reader to Compassion Focused Therapy (CFT). Following an overview of the theoretical underpinnings of the model the author will then critically evaluate the CFT model for eating disorders, its current status and future directions.

As this study is concerned with the efficacy of a self-help writing intervention, the chapter will also explore the theoretical underpinnings and therapeutic effectiveness of expressive writing

and self-help interventions in the treatment of eating disorders. The chapter will end with a conclusive summary of the reviewed literature and give a rationale for the research question. The publications considered in this chapter were searched using American Psychological Association (APA) PsycINFO database accessed using the City University Library access point; EBSCO*host*. The data base was searched using the following terms: self-compassion + eating disorders; shame + eating disorders + self-compassion; shame + eating disorders, expressive writing, fear of compassion + eating disorders, fear of compassion + shame + eating disorders, self-help for eating disorders, stepped care model for eating disorders and early intervention for eating disorders.

1.2 Classification of eating disorders

In the Diagnostic and Statistical Manual of Mental Health Disorders-Five (DSM-V) Eating disorders (ED's) are classified as Axis-I disorders. There are a number of specific disorder subtypes that are included within this Axis; Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED) and Other Specified Feeding or Eating Disorder (OSFED). In addition, Avoidant/Restrictive Food Intake Disorder (ARFID), Pica and Rumination disorder are also classified as Eating Disorders.

Although, symptoms and complications vary according to the nature and severity of the disorder, body image disturbance, over-evaluation of weight and shape and disordered eating patterns are recognised as core features of almost all forms of eating disorders. Physiological complications and psychosocial and emotional disturbances that are caused by these core features have serious implications for interpersonal, social and vocational functioning (Fairburn and Harrison, 2003; Treasure, 2016). It is common for individuals with an eating disorder to have a distorted perception of their body. Due to this they may not recognise the severity of their symptoms and therefore may feel ambivalent about change. This will usually compromise their ability to engage with treatment and recovery (Zipfel, Wild, and Groß, et al., 2014). Comorbid difficulties such as anxiety disorders, depression, substance abuse and Axis-II disorders i.e. personality disorders are extremely prevalent among people with an eating disorder. Unfortunately, these co-morbidies also interfere with prognosis and symptom severity and thus have a negative effect on recovery (Bell, 1999).

Anorexia Nervosa

In DSM-V anorexia nervosa is characterised as persistent restriction of nutrition with the intention to maintain a significantly low body weight due to an intense and irrational fear of weight gain arising from body image disturbances (APA, 2013). Two distinct subtypes of anorexia nervosa are specified; the restricting type and the binge/purge type. In those individuals who fall under the second category of anorexia, food restriction is occasionally interrupted by episodes of binge eating which are compensated for by purging. As these binge episodes heighten the individuals' fear of losing control and their fear of weight gain, their need for rigid and restrictive control over their eating is reinforced. The low weight feature of anorexia nervosa makes the disorder easy to recognise and diagnose. Referring to the Body Mass Index (BMI) ratios as defined by the World Health Organisation (WHO), DSM-V sets BMI < 18.5 kg/m^2 as the top threshold for diagnosis (APA, 2013; Erzegovesi and Bellodi, 2006). Compared to other psychiatric conditions anorexia has the highest mortality rate. Although half of these deaths are caused by suicide, physical health complications such as cardiac arrhythmias account for the other half (Birmingham and Treasure, 2019).

Bulimia Nervosa

To fulfil DSM-V criteria for bulimia nervosa, the individual will present with recurrent episodes of binge eating combined with inappropriate attempts to compensate for the binge eating at least once a week for 3-months (APA, 2013). Similar to anorexia, bulimia nervosa features extreme preoccupation with weight and shape and body image disturbances (Birmingham and Treasure, 2019). This overvaluation of weight and shape feature of anorexia and bulimia implies that the person's self-evaluation is disproportionately influenced by their ability to achieve or to maintain a certain body weight and shape ideal (Fairburn, 2008). Embedded in this overvaluation are rigid and inflexible beliefs and rules about weight, about shape and about food and eating. In bulimia the individuals' attempts to control their weight and shape are frequently interrupted by binges, where momentarily the individual losses control of their dietary rules and restrictions and overconsumes large amounts of food within a short period of time. Compensatory behaviours that typically follow a binge episode, refer to those behaviours which are adopted with the intention to counteract the binge episode. This may be to neutralise distress caused by feelings of shame and guilt, or to prevent weight gain. Fairburn, Cooper, and Shafran (2003) highlight that often binges reoccur due to the misconception that compensatory behaviours eliminate the negative consequences of binge eating. The reinforcing nature of this misconception permits further bingeing and plays a maintaining role in the psychopathology. Compensatory behaviours may include, self-induced vomiting, abuse of laxatives, restrictive eating, periods of fasting and

excessive exercise. Unlike the presentation seen in anorexia, the BMI of the individual presenting with bulimia is likely to be within the healthy or the overweight range, thus the disorder is harder to recognise and diagnose.

Binge Eating Disorder (BED)

Binge Eating Disorder (BED) also features re-occurring binge-episodes. The DSM-V specifies that, to confirm a formal diagnosis of BED a minimum of 3 of the following criterions need to be present: rapid eating, consuming excessive amounts of food in the absence of genuine hunger needs, eating until the point where the individual feels uncomfortably full, eating in secret due to feelings of embarrassment, feelings of guilt and self-disgust. Unlike those seen in bulimia nervosa, binge episodes featured in BED are generally not accompanied by compensatory behaviours. Notably there is a well-established link between BED and physical health conditions such as obesity and diabetes (Raevuori, Suokas, Haukka, Gissler, Linna, Grainger, and Suvisaari, 2015). It is also closely associated with other psychological and developmental disorders such as depression, Emotionally Unstable Personality Disorder (EUPD), Generalised Anxiety Disorder (GAD) and Attention Deficit Hyperactivity Disorder (ADHD) (Treasure, 2016).

Other specific Feeding or Eating Disorder

Other specific Feeding or Eating Disorder (OSFED) previously known as Eating disorder not otherwise specified (EDNOS) applies to instances where the individual's presentation does not meet the criteria for any of the above disorder subtypes, but the nature of the eating/feeding disturbance is severe enough to cause significant impairments to the functioning of the individual. This diagnosis is relevant to low frequency or limited duration bulimia nervosa or BED, Atypical anorexia where the individuals BMI is over the low weight range, Purging disorder and Night Eating Syndrome (APA, 2013).

Treasure (2016) associates the rise of eating disorders in the 20th century with easy availability of high satisfaction food, customs which encourage excess eating, and cultural values which idealise thinness and reinforce negative weight stereotypes. In challenge of the stereotypical image of the severely malnourished and underweight patient and the misconception that eating disorders differentially affect white middle class females, Birmingham and Treasure (2019) highlight that there is a large variation with how eating disorders are presented. Additionally, they point out that most sufferers fall within the overweight and obese weight range and they also draw attention to the growing incidence of body image and eating disturbances in men. They

suggest that although, anorexia nervosa and bulimia nervosa are more common in females, the female to male ratio being 10:1 in anorexia nervosa and 3:1 in bulimia nervosa, the difference between males and females are less obvious in Binge Eating Disorder.

1.2.1 The issue of comorbidity

A substantial body of evidence consistently shows comorbidity between eating disorders and anxiety disorders (Keel, 2013; Egan, Watson, and Kane, et al., 2013). Close to 68% of individuals with bulimia meet the diagnostic criteria for social anxiety disorder (Keel, 2013; Menatti, Weeks, Levinson and McGowan, 2013) and an average of two-thirds of individuals with eating disorders meet diagnostic criteria for other anxiety disorders i.e. Obsessive-Compulsive Disorder (OCD) or Generalised Anxiety Disorder (GAD). Interestingly most individuals with comorbid anxiety and an eating disorder locate the onset of their anxiety to childhood and describe their anxiety to be the origin of their eating disorder (Kaye, Bulik, and Thornton, et al., 2004). Most of those individuals who recover from an eating disorder, continue to experience difficulties with anxiety, harm avoidance and perfectionistic tendencies (Kaye et al., 2004). Given that the typical onset age for an anxiety disorder is 8 years old and the average onset age for eating disorders is in the range of 15-20 years, some researchers propose that anxiety disorders create a predisposing vulnerability to eating disorders (Keel, 2013). Kaye et al., (2004) suggests that anxiety disorders are a mediator for eating disorders which contrasts with Keel, (2013) who argues that anxiety disorders are a risk factor for the later development of an eating disorder. In their longitudinal study of adolescents with bulimia but no comorbid anxiety presentation Buckner, Silgado, and Lewinsohn (2010) found that bulimia predicted risk for social anxiety at age 30. Based on these findings the researchers concluded that eating disorders and anxiety disorders share common underlying processes. Despite the fact that the association between the two disorders is well recognised, many questions regarding the nature of this association, remain unanswered. A similar poorly explored relationship between depression and eating disorders has also been identified confirming that there are still unknown mechanisms, processes and characteristics that underpin eating disorders (Keel, 2013).

1.3 Psychological Interventions for Eating Disorders

1.3.1 Cognitive Behaviour Therapy (CBT)

The National Institute for Health and Care Excellence (NICE) recommend Cognitive Behaviour Therapy-Enhanced (CBT-E) as the first line of therapeutic treatment for eating disorders in

adults and considered as second to Family Based Therapy (FBT) in children and adolescents (NICE, 2017).

Cognitive Behaviour Therapy-Enhanced (CBT-E), was developed by Fairburn, Cooper, and Shafran in 2003 as an extension to the existing, empirically supported cognitive model of BN. The model describes that at the core of all eating disorders is a dysfunctional system of selfevaluation where self-worth is judged disproportionately based on weight and shape standards and the control of eating habits (Fairburn, 1981; Fairburn, Cooper, & Shafran, 2003). With the exception of binge eating which the model defines as a by-product of extreme starvation and breakdown of inflexible dietary rules, all main features of the disorder are formulated as stemming from this core psychopathology (Fairburn, 1981; Dalle Grave, El Ghoch, Sartirana & Calugi, 2016). The model proposes a trans-diagnostic approach to treatment where dysfunctional cognitions related to food, weight and shape, the disproportionate influence of weight on self-evaluation and maladaptive eating behaviours are targeted. The broad version of the approach (CBT-Eb) focuses on four additional processes which contribute to the disorder; perfectionism, low self-esteem, interpersonal difficulties and mood intolerance (Fairburn, et al., 2003).

1.3.2 CBT-E for Bulimia Nervosa and OSFED

Cognitive Behaviour Therapy for bulimia nervosa has been thoroughly researched and its efficacy well established (Fairburn, Cooper, Doll, O'Connor, Bohn, Hawker, Wales, & Palmer, 2009). Fairburn and colleagues (2009) reported improvements in 66.4% of patients with BN and EDNOS (body mass index [BMI] > 17.5) after completing CBT-E. The researchers defined improvement as less than one standard deviation (SD) above community norms and they found that 51.3% of patients maintained this level of improvement when re-assessed 60-weeks post treatment. Those individuals that presented with complex difficulties such as mood intolerance, clinical perfectionism, low self-esteem, and interpersonal difficulties did better with the broad version of treatment (CBT-Eb), however this significance was not great. Fairnburn et al., (2009) concluded that as both groups of patients with bulimia and OSFED responded well to treatment, there may be little prognostic significance in the distinct features of either diagnosis. This they concluded confirmed that a single transdiagnostic approach could address all key components of both eating disorders.

Though this research confirms CBT-e for BN and EDNOS as efficacious, many limitations were acknowledged. For example, of the 149 patients who started treatment, 33 (22.1%) dropped out or were withdrawn due to lack of response or engagement. Interestingly, non-completion was greater in the OSFED group (27.2%) then the bulimia nervosa group (27.2%). Fairburn and colleague (2009) did not explore the predictors of disengagement, thus they were unable to explain why such a significant number of individuals dropped out of treatment. Data from a number of trials confirm that disengagement from treatment in individuals with eating disorders is almost double when compared with individuals with other psychiatric disorders (Watson, Fursland, & Byrne, 2013; Schnicker, Hiller, & Legenbauer, 2013). As this might be caused by ambivalent feelings individuals with eating disorder feel towards recovery and change (Vitousek, Watson, & Wilson, 1998) interventions that increase motivation and hope for recovery are recommended (Cassin, von Ranson, Heng, Brar, & Wojtowicz, 2008; Mahon, 2000). Psychoeducation focused interventions that aim to increase the individual's knowledge of their disorder is identified as one key intervention that can promote motivation for change (Mahon, 2000). Psychoeducation focused interventions are a core feature of stage 1 of CBT-E and defined as an essential component to starting treatment well (Fairburn, et al., 2003). As premature determination of treatment is still a limitation for CBT-E despite this, it is reasonable to suggest that additional motivation and commitment focused interventions need to be incorporated to improve treatment engagement.

In a number of subsequent Randomized Controlled Trials (RCTs) further support for CBT-E for BN was identified. Poulsen, Lunn, Daniel, Folke, Mathiesen, Katznelson, and Fairburn (2014) compared 20 sessions of CBT-E for BN with 2 years of weekly psychoanalytic psychotherapy. Prior to data collection the researchers proposed that psychoanalytic psychotherapy will improve affect tolerance and heighten insight into the psychological function of eating disorder symptoms and therefore will reduce binge eating and purging. At the end of the trial improvements were recorded in both treatment conditions, and CBT-e was the superior approach in the treatment of core bulimic symptoms. When reviewed at month 5, 42% of patients allocated to the CBT group (N=36) and 6% of patients in the psychoanalytic psychotherapy group (N=34) reported no binge purge episodes. After 2 years, these numbers increased to 44% for CBT-E and to 15% for psychoanalytic psychotherapy. Improvements in eating disorder features i.e. overvaluation of weight and shape, and general psychopathology was observed in both conditions, however these improvements were observed sooner in the CBT-E group then the psychoanalytic psychotherapy group. Poulsen and colleagues (2014) concluded that whilst psychoanalytic

psychotherapy is able to influence emotional and psychological features of bulimia, directive behavioural interventions associated with CBT, are better able to address maladaptive coping strategies such as binge eating and purging. As such the researchers concluded that psychoanalytic psychotherapy was an insufficient approach as it lacks techniques that will offer patients alternative adaptive strategies for emotion regulation. Despite such claims, the authors recognised the limitations of their study and acknowledge that whilst CBT for eating disorder has undergone multiple revisions, psychoanalytic psychotherapy for eating disorders has not benefitted from further development and enhancement. The researchers propose that psychoanalytic psychotherapy for eating disorder can be improved with greater efficacy for patients. Poulsen et al., (2014) also acknowledge that CBT was unable to eliminate episodes of binge eating and purging in 56% of the patients, despite its superiority to psychoanalytic psychotherapy. In light of this finding and the fact that 31% of the patients in the CBT-E condition continued to meet the diagnostic criteria for bulimia nervosa post-treatment, the researchers reported that there are limitations to CBT-E.

The efficacy of the focused version of CBT-E was compared to Interpersonal Psychotherapy (IPT), for eating disorder patients with a BMI over 17.5 and under 40 by Fairburn, BaileyStraebler, Basden, Doll, Jones, Murphy, O'Connor, & Cooper, (2015).The results were again in favour of CBT-E. At the end of treatment 65.5% of the participants in the CBT-E group reached remission compared to 33.3% of the participants in the IPT group. At 60-weeks follow up, the percentage of participants meeting criteria for remission in both conditions increased. Although IPT attained greater post-treatment improvement (49%) remission levels remained higher in the CBT-E group (69.4%).

Similar findings were published by Agras, Walsh, Fairburn, Wilson, and Kraemer (2000), following their review of IPT and CBT-E for the treatment of BN in adults. Consistent with the findings of Fairburn et al., (2015) in those assigned to the CBT-E group, the rate of recovery was measured at 45% at the end of treatment. This figure was significantly lower in the IPT condition; with only 8% of participants reaching the recovery threshold. Although, recovery levels dropped in the CBT condition to 40% and increased to 17% in IPT when reviewed 1-year post-treatment, CBT-e was still postulated to be the most beneficial approach. In both studies, Agras, et al., (2000) and Fairburn, et al., (2015) Cognitive-behavioural therapy produced greater improvements in a shorter period of time. Given this advantage and the fact that there are vast similarities between the interpersonal module of the broad version of CBT-E and IPT, both groups of researchers affirm that CBT-E should be considered as the preferred approach for the treatment of BN in adults.

In comparison to Integrative Cognitive-Affective Therapy (ICAT) for BN, enhanced CognitiveBehavioural Therapy (CBT-E) did not differ significantly in efficacy (Wonderlich, Peterson, and Crosby, et al 2014). Although, ICAT and CBT-E targeted different features of the psychopathology, notable improvement were observed for bulimic symptoms, affect regulation, cognitive self-discrepancy, and co-morbid psychiatric presentations under both conditions. Wonderlich and colleagues (2014) acknowledge that without a comparative control condition (i.e. waiting list control or other intervention), their data is limited. The researchers highlight that they are unable to conclude whether change occurred due to specific therapeutic features of ICAT or CBT-E or due to treatment itself irrelevant of the approach. Inadequate statistical power, due to the small sample size has further limited the results of this study.

1.3.3 CBT for BED

Binge Eating Disorder (BED) is known to be the most prevalent form of eating disorder affecting a significant proportion of the obese population. Frequency of binge eating and severity of eating disorder pathology at baseline are known to have a negative influence on treatment efficacy (Fischer, Meyer, & Dremmel, et al., 2014). Early symptom improvement during treatment has been found to be an important within-treatment predictor of therapy outcome (Grilo, White, Wilson, Gueorguieva, & Masheb, 2012). CBT-E and IPT are accepted as best-established psychological approaches that directly address key features of the BED disorder (Wilson, Wilfrey, Agras & Bryson, 2010).

The primary aim of CBT for BED is to interrupt the cycle of binge-eating and establish a healthy eating pattern. To address body image disturbances and maladaptive beliefs about food, cognitive techniques are used to identify and to restructure maladaptive thoughts and negative feelings. According to the CBT model for BED, binge eating functions to reduce unpleasant feelings. For this reason the model attempts to replace this maladaptive emotion regulation strategy with more effective coping strategies. Body image disturbances and preoccupation with thinness are considered reinforcing factors which maintain the disorder by proponent of CBT, thus dieting is discouraged.

Varying results from numerous studies demonstrate that the rate of binge abstinence in individuals with BED range from 41% to 79% for CBT (Munsch, Biedert & Meyer et al., 2007). Eldredge, Agras and Arnow et al., (1997) recommend that for individuals with BED extended CBT (20+ sessions) is superior to short term CBT (12 sessions). However, according to Fischer and colleagues (2014) short-term group CBT (16 sessions) when accompanied with booster sessions is sufficient for improvements to binge frequency, eating disorder pathology and depressive symptoms. In further support of CBT-E, Fischer et al., (2014) recorded additional improvements for eating, shape and weight concerns, and overvaluation of weight and shape when they reassessed their participants 4 years post-treatment.

It has been established that neither CBT or IPT target weight loss directly as such this is a disadvantage for overweight individuals who are vulnerable to obesity related physiological health complications (Raevuori et al., 2015; Munsch, et al., 2007). Weight stabilisation is as important as the cessation of binge eating for individuals with BED, as an average of 3.6kg weight gain is typically seen in individuals who continue to binge over the period of one year (Agras et al., 1997). Some studies suggest that Behavioural Weight Loss treatment (BWL) can be effective for overweight individuals with BED (Munsch, et al., 2007; Wilson et al., 2010) especially when integrated with traditional CBT (Devlin, Goldfein, Petkove, Liu, & Walsh, 2007). However, weight loss in obese individuals with BED is significantly lower following BWL, compared to the degree of weight lost seen in obese individuals without BED. Furthermore, as BWL does not address psychological factors such as low self-esteem and negative mood, its efficacy for individuals with these presentations remains poor.

Nevertheless, although IPT, CBT and CBT informed guided self-help (CBT-gsh) do not directly target weight, by reducing the frequency of the binges they stabilise weight and indirectly achieve weight loss in the long-term (Agras, Telch & Arnow et al., 1997; Fischer, et al., 2014). For example, Wilson and colleagues (2010) recorded that 12-months post treatment individuals who were treated with CBT-gsh achieved an equal degree of weight loss as those who received BWL treatment. Similarly, whilst Fisher and colleagues (2014) recorded no change in BMI immediately after CBT, they later recorded 5% weight loss 4 years post treatment. It appears that although, BWL is able to achieve weight loss sooner, by targeting binge eating in time CBT is also able to achieve similar results over a longer period of time.

A review of the evidence demonstrates that in most cases current evidence based therapeutic approaches for BED struggle to address comorbid anxiety and depression (Fischer et al., 2014). Given that such processes contribute to the development and the maintenance of the disorder and influence treatment efficacy, Fischer and colleagues (2014) recommend that existing approaches should be modified to include modules that better address emotion regulation as well as other underlying processes.

In the NICE guidelines Selective Serotonin Reuptake Inhibitor (SSRI) antidepressants are recommended for treatment of Binge Eating Disorder (BED). Grilo, Crosby, Wilson and Masheb (2012) reviewed the long terms effects of CBT and Fluoxetine, a type of SSRI for BED. 12 months after treatment 3.7% of the participants in the fluoxetine condition, 26.9% of participants in the CBT + Fluoxetine condition and 35.7% of participants in the CBT + placebo conditioned, maintained remission. These results confirmed that CBT is superior to fluoxetine alone for BED and that CBT combined with fluoxetine does not enhance treatment. Notably the authors indicate that there is no clinical advantage to prescribing fluoxetine to individuals with BED or combining it with CBT. In contrast to other studies where weight loss following successful treatment was indicated, this study recorded no weight change in the 3 treatment conditions they reviewed. Further, evidence opposing the use of SSRI's in the treatment of BED was reported by Devlin and colleagues (2007). In their study of the impact of fluoxetine for BED, they concluded that the medication does not enhance the effectiveness of BWL. Thus, both studies confirmed that SSRI's are not viable alternatives to psychological or weight loss treatment.

It is essential that predictors of treatment efficacy are studied in clinical trials as data from such studies will be able to inform how interventions are adapted to better meet the needs of individuals and can better predict relapse risk. In one such study, Grilo, Masheb and Crosby (2012) considered which factors predicted and/or moderated responses to fluoxetine and CBT. The researchers concluded that younger participants with BED responded better to Fluoxetine then older participants, who reported less of a reduction in binge eating. Clinically, greater improvements for low self-esteem, negative affect and overvaluation of weight and shape, were recorded in those who received CBT. As overvaluation of weight and shape was the most significant predictor/moderator of change, the authors concluded that CBT was the most efficacious intervention for BED.

McIntosh, Jordan, and Carter et al., (2015), criticise traditional CBT-E for overlooking the role of hunger and satiety within the treatment of binge eating and highlight that monitoring appetite and regulating response to bodily hunger ques is as important as scrutinizing food intake. Furthermore, the researchers claim that CBT-E does not fully acknowledge the contributions of early life experiences in the development of schema's associated with eating difficulties. To demonstrate how important these factors are McIntosh and colleagues (2015) compared traditional CBT-E with Schema focused CBT and Appetite Focused CBT, for binge eating. They reported no differences in the degree of change achieved by the 3 approaches in targeting binge eating (measured in frequency), and other behavioural and psychological features of binge eating. In light of these their findings the authors recommend that both Schema-focused CBT and Appetite-focused CBT are viable alternative treatments for binge eating.

1.3.4 CBT-E for Anorexia Nervosa

The evidence for CBT-E for the treatment of anorexia nervosa is not as well established as it is for Bulimia, BED or for OSFED. Anorexia is a complex disorder that has serious negative effects on physical, psychological and social functioning (Frostad, Danielsen, Rekkedal, Jevne, Dalle Grave, Rø and Kessler, 2018). It is therefore difficult to treat and its prognosis in adults remains relatively poor (Frostad, 2018). However, in the recent years with the development of CBT-E, some promising evidence has started to emerge. In support of CBT-E for anorexia, Fairburn, Cooper, Doll, et al., (2013) recorded improvement in 62% of individuals with anorexia who completed treatment. Although a small percentage of the participants reported experiencing setbacks when they were reassessed 60-weeks post-treatment, Fairburn and colleagues (2012) concluded that CBT-E is as effective in addressing key features of anorexia as it is in addressing features of bulimia and OSFED. A similar conclusion was reached by Byrne, Fursland, Allen, and Watson (2011) when they evaluated the effectiveness of CBT-E for all eating disorders including patients with BMI's of 17.5 and below. At the end of the trial full or partial remission was observed in 66.7% of those patients who completed treatment. Of the patients who reported binge eating and compensatory behaviours at baseline, a reduction in these behaviours was reported by 50% who completed treatment. The researchers also recorded additional improvements on measures of depression, anxiety, stress, interpersonal difficulties, self-esteem and quality of life following CBT-E. Although, all patients responded well to treatment, there was a substantial difference in recovery rates between disorders. Compared to 66.7% of individuals with bulimia who achieved full recovery and 73.3% of individuals with OSFED, recovery was recorded in 50% of individuals with anorexia.

A significant number of individuals with anorexia may not achieve recovery following CBT-E however, when compared to Specialist Supportive Clinical Management (SSCM) and Maudsley Model Anorexia Nervosa Treatment for Adults (MANTRA), CBT-E is the superior approach, especially with regards to helping patients to achieve a clinically healthy weight (Byrne, Wade, Hay, Touyz, Fairburn, Treasure, Schmidt, McIntosh, Allen, Fursland, and Crosby, 2017). Given this in the NICE (2017) guidelines for eating disorders CBT-E is recommended as the first line of treatment for anorexia with SSCM and MANTRA as evidence-based alternatives (Frostad, 2018).

For the treatment of anorexia in adolescents Dalle-Grave, Calugi, Doll and Fairburn (2013a) investigated whether CBT-E can be offered as an alternative to FBT. Of those patients who completed treatment (63%), one third (32.1%) reached their healthy weight. Substantial improvements were recorded in eating disorder psychopathology and in general psychiatric features in 96.6%, of patients who completed treatment. Similar to Fairburn et al., (2012), when Dalle-Grave et al., (2013a) reviewed their participants 60-weeks after they completed treatment, they recorded little change to improvements. Drawing on these findings Dalle-Grave and colleagues (2013a), concluded that CBT-E is a liable alternative to FBT. Whilst these results provide valuable benchmark data for future research, their claim for CBT-E efficacy is compromised by the absence of a comparative FBT treatment group. Nevertheless, for the treatment of anorexia in adolescents CBT-E is recommended as a viable alternative to FBT in the NICE (2017) guidelines for eating disorders.

Although the efficacy of CBT-E for anorexia was confirmed by Byrne et al., (2011), Fairburn et al., (2012) and Dalle Grave, et al., (2013a), in all three trials non-completion was once again identified to be a re-occurring concern. Non-completion is used as an umbrella term to describe non-engagement, non-attendance or premature ending due to non-response to treatment or need for alternative interventions i.e. hospitalisation. Fairburn et al, (2013) and Dalle Grave, et al., (2013a) found that one third of the participants (30%) did not complete treatment and of the 125 patients Byrne, et al., (2011) recruited, 50 (40.0%) did not complete treatment. For Byrne et al., (2011) the rate of drop-out was greater in the anorexia group (50%) then the other two groups; bulimia (35.0%) and OSFED (37.3%). Importantly when rate of recovery and noncompletion levels are considered, the findings largely shows that compared to other forms of eating disorders (bulimia & OSFED) those individuals with anorexia are less likely to benefit from

CBT-E and more likely to drop out of treatment. Whilst it would be misleading and inaccurate to interpret non-completion as ineffectiveness, as it can have multiple causes, its significance must not be overlooked. In all three listed trial's, symptom severity was identified as the main predictor for disengagement. Byrne et al., (2011) also identified waiting times as a contributory factor for non-completion. As delays to starting treatment can intensity symptom severity there may be an unsurprising relationship between waiting times, symptom severity and non-engagement.

Dalle Grave, Calugi, Conti, Doll and Fairburn (2013b) did not encounter a problem with disengagement when they evaluated CBT-E and its broad version CBT-Eb in an in-patient setting. The researchers saw little difference in the improvements attained by individuals with anorexia under both conditions. Although, Dalle Grave and colleagues (2013b) recorded clinically significant symptom improvement, their results were limited by their participants exposure to other therapeutic interventions. As in-patient treatments are designed to include multiple interventions and input from multiple professionals, the extent to which the improvements were a result of CBT-E alone was unclear. Despite this limitation the results of this study largely suggest that when disengagement is avoided CBT-E and CBT-Eb for anorexia can be highly efficacious. This again highlights the significance of engagement for successful recovery.

In RCT's that compared CBT-E with other modalities for the treatment of anorexia in adults, CBT-E did not prove itself to be more advantageous then the other approaches. McIntosh, Jordan, Carter, and colleagues (2005) compared CBT-E to IPT and non-specific Supportive Clinical Management (SCM). Contrary to what McIntosh and colleagues expected, nonspecific SCM was superior to the two specialized psychotherapies. Zipfel, Wild, & Groß, et al. (2014) compared CBT-E with Focal Psychodynamic therapy, a manual-based application of Psychodynamic therapy and an Optimised Treatment as Usual condition. Their findings showed that in an outpatient setting all 3 treatment conditions achieved similar degree of improvements in weight and in general and eating disorder-specific psychopathology. Although improvements were attained sooner in those patients assigned to the CBT-E condition at 12-months post treatment, patients who received focal psychodynamic therapy showed a greater degree of recovery than those in the other conditions. Modest, support for Focal Psychodynamic therapy, was also presented by Dare, Eisler, Russell, et al., (2001) when they compared it to FBT, Cognitive Analytic Therapy (CAT) and low-cost routine treatment as a control. Focal

Psychodyamic therapy and FBT produced greater weight gain compared to the other conditions, however two thirds of the patients included in the trial remained within the underweight range. Although promising, the efficacy of Focal Psychodynamic therapy needs further investigation. But despite this both Zipfel and colleagues (2014) and Dare and colleagues (2001) interpreted their results as evidence in favour of psychodynamic therapy. Both groups of researchers postulated that adult respond better to treatments which prioritise interpersonal relationships, emotional arousal and insight than directive approaches which focus more on cognitive and behaviour change. This conclusion differs vastly from the assertions made by Poulsen and colleagues (2014), in relation to BN, who affirmed that behavioural and directive approaches are better able to respond to bulimic symptoms. These conflicting conclusions imply that despite overarching theme's it is feasible that different processes account for anorexia and bulimia. It may therefore be incorrect to assume that a single approach can address all forms of eating disorders.

1.3.5 Conclusion

Disordered eating, with or without a formal eating disorder diagnosis is highly prevalent. CBT-E for eating disorders is well researched and its efficacy for the treatment of bulimia, BED and OSFED has been established (Poulsen, et al., 2014; Fairnburn et al., 2009; Munsch, et al., 2007; Eldredge, et al., 1997). As a result of this, the approach is used widely in the UK and recommended by the NICE (2017) guidelines as first line of treatment for eating disorders in the adult population. Yet studies show that a significant proportion of individuals do not re-cover with CBT-E and relapse following successful treatment is exceptionally high (McIntosh et al., 2015). Furthermore, many assumptions and hypotheses about the effective ingredients of successful treatments have been challenged. Evidence suggests that for anorexia, CBT-E is not superior to other approaches and although, therapies such as FBT and Focal Psychodynamic therapy have proven efficacy in a number of trials, their success is limited and a significant proportion of individuals who are treated by these modalities do not reach full recovery. This is unsurprising given that eating disorders embody complex psychological and physiological processes unique to each individual. For better results it may be that existing therapeutic approaches need to be adapted or repackaged or novel and unique new approaches need to be developed.

1.4 Underlying processes that account for eating disorders

There are multiple factors contributing to the development and maintenance of eating disorders, therefore treatment should address as many variables as possible. As research in this area evolves, new ways of understanding eating disorders are beginning to emerge. Experiences of shame, low self-compassion, self-criticism and fear of compassion in individuals with eating disorders and the adverse effects these factors have on symptom severity and treatment outcomes have recently garnered more research attention (Grabhorn, Stenner, Stangier & Kaufhold, 2006; Kelly, Carter, Zuroff & Borairi, 2013; Kelly & Tasco, 2016). A review of these underlying processes and how effectively these are addressed in current models of treatment for eating disorders can inform how treatment can be enhanced.

1.4.1 **Self-criticism and Eating Disorders**

There are two forms of self-criticism that are distinguished by many theorists (Gilbert, Clarke, Kempel, Miles & Irons, 2004). Mistake and inadequacy-focused self-criticism functions to identify mistakes and flaws for self-improvement purposes in contrast to self-hatred and disgust-driven self-criticism which has a self-punishing and self-persecuting purpose (Gilbert et al., 2004). A substantial body of evidence has established that individuals with an eating disorder experience self-criticism that resembles the latter self-punishing and self-persecuting style (Barrow, 2007; Tierney & Fox, 2011).

In their phenomenological study of self-critical thinking, Thew, Gregory, Roberts, and Rimes (2017) identified that self-critical thinking can be triggered by internal and external factors. The authors named external triggers as stress, perceived or actual errors and failures, criticism from others, loneliness and things not going to plan and noted that internal factors such as low mood, sense of unproductivity, negative memories of past failings and fatigue were less obvious triggers. Compared to the depressed and the healthy populations, Thew and colleagues (2017) identified that self-criticism in those with an eating disorder is largely driven by internal triggers. The researchers also noted that deliberate self-critical thinking was more common in individuals with eating disorders (58%) than individuals with depression (35%) and healthy controls (46%). It was evident that all groups of participants commonly assumed self-criticism to be motivating and beneficial for self-improvement, however the healthy population used deliberate self-criticism for self-improvement purposes much more than the clinical population. Healthy individuals experienced self-criticism as functional and despite its negative consequences, their views of it

was generally positive. In line with the conclusion drawn by Gilbert et al., (2004) the selfpunishing form of self-criticism in response to perceived failure was far more prevalent in the depression and eating disorder groups. Furthermore, the negative effects of self-criticism; lowering of mood, poor self-esteem, social withdrawal and problems in interpersonal relationships, were more destructive for these two clinical populations. Hence why both the depressed and ED groups simultaneously (96% and 91% respectively) considered self-criticism to be negative. Thew and colleagues (2017) concluded that self-criticism developed either as a behaviour that was either learnt during interactions with others who self-criticise or from past experiences that included disproportionate degrees of direct and unjust criticism.

The association between self-criticism and eating disorders was further explored by Thew et al., (2017), who identified that maladaptive perfectionism and eating disorders share similar negative self-evaluation components. Perfectionist individuals evaluate their self-worth exclusively based on their ability to pursue and achieve excessively high standards. The overvaluation of weight and shape components of eating disorders resembles this perfectionist dynamic (Brewerton et al. 1995; Cash & Szymanski 1995). For example, attractive physical appearance and pursuit of thin ideals represent perfectionistic standards upon which self-worth is based in the eating disorder population. Critical self-evaluation emerges when performance does not meet the high standards which the individuals set for their worth in both general perfectionism and perfectionism in eating disorders. Thew et al., (2017) explored the development of these dynamics and identified high family standards and expectations and early life memories of feeling shamed and humiliated for not meeting these standards, as predisposing factors.

1.4.2 Self-compassion

Self-compassion by definition is the direct opposite of self-criticism. Both self-criticism and selfcompassion refer to how individuals relate to themselves when they encounter real or perceived failures, moments of suffering and instances when they feel inadequate (Neff 2003). Whilst selfcriticism is the depiction of a punishing, perpetuate and hostile self-attitude in response to failings, self-compassion is the demonstration of a gentle, patient and forgiving self-attitude.

Unlike those who are highly self-critical, self-compassionate individuals display a nonjudgemental, non-critical and forgiving attitude towards their inadequacies and failures. Negative emotional experiences are inevitable, however, psychological health can be

compromised when these experiences are received by a harsh and critical mind, which over-identifies with these thoughts and emotions and disconnects from others. As self-compassion performs a moderating role and improves emotional wellbeing and psychological functioning, the self-compassionate individual is better regulated and more adapted. Moreover, as negative mood associated with suffering is managed better by self-compassion, positive affect is maximised.

When failures are received by an understanding and compassionate self, the ego feels more comfortable to bring maladaptive behaviours and cognitions to conscious awareness (Neff, 2003). Consequently, self-compassionate individuals are less inclined to suppress, avoid or over-identify with their emotional pain and suffering. Subsequent improvements in cognitive functioning, decision-making abilities and self-regulation also enable the compassionate individual to screen and modify their maladaptive cognitions and behaviours. Improvements in metacognition and self-clarity means that the self-compassionate individual is able to recognise how their actions contribute to a stressful situation. In addition self-compassionate individuals are also able to recognise that they have the choice and the flexibility to resolve the problem and therefore they are less likely to engage in behaviours, which may result in failure (Neff, 2003). Self-compassionate individuals do not need to hide their shortcomings from themselves and as such they tend to be more aware of their capabilities and able to set more realistic and achievable goals. Furthermore, as their self- worth is not dependent on set standards, the individual is able to function at a more autonomous and instructive way, which reflects their authentic self. These behaviours reflect genuine interest rather than a response to internal or external sense of threat or reward (Neff, 2003). In addition to self-kindness, there are two additional components to self-compassion; inter-connectivity and mindfulness that have been identified. Mindfulness allows the individual to detach from their pain to access a nonjudgemental and understanding self-attitude. This equanimity and the ability to reframe allows painful emotions and cognitions to be observed for what they are and not in relation to what they mean about the person. As their significance is reduced negative emotions can be perceived within the larger context, and subsequently they become easier to tolerate.

With regards to interconnectivity, Gilbert, (2005) states that human sensitivity to recognise others' distress and the desire to care for the wellbeing of others with compassion, relate to the human evolutionary need for survival and prosperity. Positive characteristics such as the ability to show sympathy and empathy in response to others' distress, being able to understand the

source of others' distress and to tolerate it without denying or distorting it, strengthens one's social position and minimises the risk of rejection. Demonstrating love and affection and having these reciprocated, forms a sense of safety and contentment in the brain, which soothes the threat affect system. As such the motivation to give care can function to soothe one's own distress. However, in instances when personal distress is intolerable the individual may struggle to respond to the care needs of others and they may want to escape or avoid the distress of others as it feels too threatening or upsetting (Gilbert, 2009). Thus, it is evident that inner safeness gives one the ability to tolerate the suffering of others in a non-defensive way.

Neff (2003) explains that a compassionate attitude towards the self does not entail viewing oneself as superior or more deserving then others. She emphasises that self-compassion must not be confused with egocentricity, self-indulgence or self-centredness. A truly selfcompassionate individual is able to demonstrate the same level of compassion towards others as they do to themselves. As self-compassionate individuals no longer experience themselves as a problem, they experience a greater degree of interconnectivity that allows them to view their own struggles and their own failures within the context of human fallibility; an unavoidable consequence of being human. Neff (2003) also highlights that self-compassion is different to self-esteem. Neff defines self-esteem as an evaluation of one's worth and one's performance against set standards, as it involves comparing oneself and one's performance against others to determine where one stands. Self-esteem is largely determined by one's judgement of how much they are liked by others and is therefore condition-dependent and subject to change especially in instances when one experiences setbacks and adversities. As evidence from research indicate that self-esteem can be important for emotional and psychological health, great emphasis have been placed on improving self-esteem (Steinhem, 1992). However, alternative evidence suggest that high self-esteem may be as unhelpful as low self-esteem (Seligman, 1995; Baumeister, Heatherton, & Tice, 1993). Evaluating one's performance and worth as superior strongly relates to narcissistic style of distorted self-knowledge and out-group prejudices, and it is suggested that high self-esteem makes it difficult for the person to recognise areas of weakness and areas in need of growth. Furthermore, as self-compassion values feelings of compassion towards others just as significantly as compassion towards oneself, it is seen as a socially attractive characteristic that will strengthen social connectivity. A growing number of researchers and clinicians have drawn attention to these dynamics, and suggest that eastern philosophies of self-compassion, are a better

alternative for the development and maintenance of a healthy self and other attitude (Neff, 2003).

A substantial body of research has emerged that reveals low self-compassion that coincides with high self-criticism in individuals with an eating disorder (Kelly, Carter, Zuroff & Borairi, 2013; Kelly, Carter and Borairi, 2014). According to Ferreira, Pinto-Gouveia and Duarte (2013) the link between low self-compassion, dysfunctional eating behaviours and body image dissatisfaction is stronger in the clinical population then the non-clinical population. Furthermore, evidence shows that low self-compassion has a negative impact on symptom severity and on engagement and outcome (Kelly, Wisniewski, Martin-Wagar and Hoffman, 2017).

1.4.3 Fear of self-compassion

An individual's resistance to self-compassion may be indicative of an underlying fear of selfcompassion (Joeng, Turner and Kim, et al., 2017). According to this description, fear of selfcompassion is distinctively different from the absence of self-compassion (Boykin, Himmerich, Pinciotti, Miller, Miron & Orcutt, 2018). Gilbert, McEwan, Matos, and Rivis (2011) associate fear self-compassion with beliefs of being undeserving of compassion and kindness and with the fear that self-compassion will result in lowering of standards and loss of self-criticism which is perceived as necessary and motivating. This attitude associates closely with unfamiliarity with self-compassion, a lack of awareness of its value and unresolved memories of feeling rejected when desiring kindness. Self-compassion is often mistaken for self-pity, passivity, egocentricity and narcissism and for this reason, some individuals perceive self-compassion as an undesirable characteristic that will reduce their social attractiveness (Neff, 2003; Gilbert, et al., 2011). Neff (2003) distinguishes self-compassion from self-pity by defining self-pity as an egocentric process arising from experience of one's suffering in isolation and separate from others. The over-identification and pre-occupation with one's negative experiences in self-pity, narrows the individual's perception of their problem and prevents them from accessing alternative emotional response or recognising other aspects of their being. On the contrary, selfcompassion minimises over-identification and gives the individual an awareness of alternative ways of being. This processes of holding a balanced state of awareness reflects the mindfulness dimension of self-compassion.

Self-criticism is also associated with fear of compassion; Gilbert, McEwan and colleagues explored this association in their 2011 study of self-compassion, self-criticism and fear of compassion in a clinical and a non-clinical population. According to their findings increased fear of self-compassion and self-criticism correlate strongly with poor self-compassion and with a higher incidence of anxiety and depression. This pattern was more distinct in their clinical population who presented with low self-compassion, greater fear of self-compassion and higher levels of self-criticism. Gilbert, McEwan and colleagues (2011) explained that this trend was driven by the misconception that self-criticism is motivating. The assumption that in the absence of self-criticism, one becomes vulnerable to lowering of standards, idleness and subsequent underachievement, individuals learn to fear self-compassion and to avoid it. In response to this misconception where self-criticism is perceived to be motivating, Neff (2003) emphasises that self-compassion must not be mistaken for passivity or inactivity. As previously discussed, Neff (2003) suggests that when one is generally critical and harsh in their selfattitude, the ego learns to fear positive commendation. The ego will therefore try to defend one's self-esteem by hiding errors, shortcomings and weaknesses from conscious awareness. This lack of awareness means that the person is unable to identify and rectify maladaptive behaviours and cognitions. Therefore, instead of maximising motivation and productivity, extreme self-criticism becomes damaging. Interestingly Gilbert, McEwan and colleagues (2011) reported that fear of self-compassion and self-criticism lowers self-compassion and increases one's vulnerability to psychopathology.

Gilbert, McEwan, Matos, and Rivis, (2011) and Matos, Pinto-Gouveia and Costa, (2013) highlight that there is a link between insecure attachment, self-compassion and fear of compassion. Early life attachments influence the maturation of the brain and the development of neurophysiological pathways responsible for emotional and cognitive functioning (Matos, et al., 2013). Such attachments in early life not only improve emotional and cognitive maturation and functioning, but also prepare the individual for healthy adult relationships (Gilbert, et al., 2011). Insecure attachments are formed and maintained through the experience of insufficient fulfilment of physical and emotional needs during the primary stages of life. Inadequate care and attention in early childhood and mistreatment deprives the infant from feeling safe and reassured by their caregivers. Consequently, the infant fails to acquire skills to regulate their emotions and to soothe their threat system (Gilbert, 2014). The early interactions between the infant and their primary caregiver, creates an internal working model for self-to-self and self-to-other relationships (Joeng et al., 2017). Similar to their ineffective caregivers, such individuals may

adopt a rejecting and self-critical attitude towards themselves and their inadequacies. Their internal working models may be dominated with beliefs of being undeserving of love, concerns of inevitable rejection from others, and beliefs that indicate compassion as sign of weakness (Boykin et al., 2018). In such individuals the experience of receiving compassion from oneself or from others may trigger a threat/fear response, which they lack the capacity to regulate (Gilbert et al., 2014). Furthermore, self-compassion may be threatening for individuals with memories of unfulfilling relationships, abuse, neglect and experience of being shamed by caregivers (Gilbert, 2010; Liotti, 2010; Gilbert et al., 2011). For this reason, it is unsurprising that such individuals typically learn to fear and to resist compassion. Liotti (2010) suggests that because of inefficient experiences of care and nurture in their early life experiences and due to deficient memories of being cared for and soothed, individuals with an eating disorder typical show signs of insecure attachment style and thus fear and resist compassion in their self-to-self and self-to-other attitudes.

A number of studies have identified that fear of compassion was the most significant barrier to self-compassion (Kelly, Carter, Zuroff and Borairi, 2013). Thus, Gilbert, et al., (2011) recommend that it is not only the absence of compassion that needs to be addressed in therapy, but its resistance and fear must also be considered and placed at the heart of the therapeutic process.

1.4.4 Social Rank theories and Shame

Social acceptance offers greater advantages to the individual with regards to prosperity and survival. According to theories of social rank, higher rank positions give individuals greater social value and worth and therefore minimise the possibility of social rejection, which is perceived as a threat to the integrity and survival of the self. People typically feel pressured to impress others and to strive for greater social rank and power to avoid evaluative threats i.e. negative judgements from others, rejection and feelings of inferiority (Gilbert et al. 2007). In those individuals who struggle to cultivate an internal sense of self-worth, their need for social acceptance and safety typically stimulates social competitiveness (Pinto-Gouveia, 2014). Competitive and insecure striving, which is focused on power and control, characteristically indicates an internal model of an unsafe world (Gilbert, 2005). Within the dynamics of this unsafe internal model, feelings of contentment and social safeness is underdeveloped and for this reason, the individual feels driven by their need to prove their worth and value and by an extreme fear of failing and rejection.

According to Gilbert and colleagues (2007), there exists a social misconception in materialistic western societies, which attributes competitiveness with effectiveness, success and happiness. This misconception overlooks the fact that over-competitiveness can over-stimulate stressresponses and can heighten fear of inferiority, failure and rejection (Gilbert, Broomhead, Irons et al, 2007). Dykman (1998), describes that the human need for achievement is motivated by two main principles; growth-seeking vs. validation-seeking motivations. Those who are motivated by the need for growth, strive for personal and professional development and self-maturation through learning and self-actualisation. Such individuals are usually motivated to meet their personal standards and less concerned with competition. In contrast, validation-seekers are motivated to prove their worth and to attain acceptance by demonstrating likable traits. Dykman (1998) relates validation-seeking motives with the inferiority complex and describes it as a defensive behaviour, developed out of the individuals' need to avoid negative evaluation, criticism and rejection. According to research, validation-seeking concerns and behaviours relate closely to psychopathology indicators. Allan and Gilbert (1997) found that self-beliefs of inferiority, submissive behaviours and sensitivity to evaluation-threats was more common in those presenting with clinical depression compared to the non-clinical population. It is also important to note that evaluation threats such as the experience of being negatively judged or criticised, stimulates the cortisol-stress response that can negatively impact on physical, cognitive and emotional function (Dickerson & Kemeny, 2004). In contrast attachments are formed through the experience of being loved, being accepted, valued, and chosen by others. The security of belonging and feeling accepted regulates the threat system and promotes feelings of safety and contentment and enhances one's ability to cope with adversity (Matos, Pinto-Gouveia & Costa, 2013). However, self-criticism and shame-proneness are heightened in a rank-focused competitive social mentality, where social comparison, concerns with inferiority and fear of rejection is central. (Gilbert, 2005; Gilbert et al, 2007; Gilbert, 2010). Shame is an instinctive defence signal, which warms the person into self-defence against the threat of social rejection (Oliveira, Ferreira, Mendes & Marta-Simoes, 2017). Shame is distinctively different from basic emotions such as fear or anger, is referred to as a self-conscious emotion, evolved to address problem solving and social survival needs (Kim, Thibodeau, & Jorgensen, 2011). Gilbert (2005), describes shame as a blended emotion holding within it, anger, anxiety, disgust, contempt and hate. It is a form of self-conscious attention which embodies feelings of inferiority, hopelessness, and powerlessness (Gee & Troop, 2003; Vizin, Urban & Unoka, 2016). Humans are instinctively driven to influence how they are perceived by others by displaying qualities of

the self which others may view positively (Gilbert, 2010). Therefore, to avoid the experience of being rejected self-conscious awareness is deployed to monitor how attractive one may be in the minds of others (Gilbert, 2003). Critical self-awareness stimulates shame to signal to the individual the risk of rejection. This motivates the individual to identify, amend, hide or eliminate unattractive qualities, flaws and deficiencies so that social attractive and acceptance is ensured (Swan & Andrews, 2003).

1.4.5 Shame and Eating disorders

The relationship between shame and disordered eating has been well researched and documented. Studies that have looked at the non-clinical population have consistently shown that shame-proneness is positively related to disordered eating (Gee & Troop, 2003; Murray, Waller, & Legg, 2000; Sanftner, Barlow, Marschall, & Tangney, 1995). In the clinical population, a positive relationship between shame proneness and disordered eating has also been confirmed. Research shows that higher levels of shame and guilt are typically demonstrated by individuals with an eating disorder than by individuals with depression or with an anxiety disorder (Grabhorn et al., 2006).

Grabhorn, Stenner, Stangier and Kaufhold (2006), Goss & Allan (2014) and Oliveira, Ferreira, Mendes and Marta-Simoes (2017) distinguish between two states of shame; internal and external shame. They highlight that internal shame relates to how one judges themself whereas external shame is an expression of a negative self within social interactions. In external shame the self is experienced as unattractive, inferior and undesirable within a social interaction, due to personal flaws, deficits and failures which are exposed to the scrutiny of powerful others who are perceived to be rejecting and critical (Matos et al, 2013). Interestingly, a recent meta-analysis has identified that external shame has a stronger correlation to psychopathology (most specifically depression) than internal shame (Kim et al., 2011). In external shame, coping strategies aim to regulate interpersonal relationships and social interactions (Goss & Allan, 2014). Research suggests that core eating disorder symptoms, such as over-evaluation of thinness and fear of weight gain, are derived from external shame that is experienced when one feels unsafe in their social position (Goss & Gilbert, 2002; Matos et al., 2013). According to this perspective dieting and rigid control of one's weight and eating are coping strategies stemming

from the individual's need to project a positive self-image (Grabhorn, et al., 2006; Goss & Allan, 2014; Oliveira, et al., 2017). In support of this Troop, Allan, Serpell and Treasure (2008) have identified a positive correlation between external shame and symptom severity in women recovering from anorexia. Although, the direction of causality between shame and symptoms could not be distinguished, this group of researchers were able to conclude that female sufferers of anorexia are vulnerable to external shame and characteristically perceive themselves to be inferior and at a lower social rank.

Idealisation of unachievable body representations i.e. thinness, in the public domain and the media, places physical appearance as a central dimension for self-evaluation, (Pinto-Gouveia, Ferreira & Duarte, 2014). This appearance concern and self-presentation becomes central to impression management and self-identity. The thin body shape represents not only attractiveness and beauty but also other positive attributes such as power, health, happiness, particularly for females (Matos, Ferreira, Duarte & Pinto-Gouveia, 2015). As women's selfesteem relies heavily on their appearance, they are exposed to social pressures that stimulate a need to pursue and meet certain idealised body standards to establish greater social rank. Women that are prone to external shame and who lack other domains of self-evaluation are motivated to advance one's social status and thus strive for perfection in controlling their weight and eating. In line with this proposition Stice (2002) highlights that real or imagined criticism of one's appearance at the onset is often a motivator for women to start dieting. In contrast bulimic symptoms are more associated with internal shame. It is suggested that greater demonstration of internal shame in the bulimic expression of disordered eating stems from self-assigned low social rank and from negative self-perception. This in anorexia the self is perceived to have been assigned a low social rank by others (externally imposed), whereas in bulimia the individual's internal feelings of inadequacy results in a self-imposed low social rank (Gee & Troop, 2003; Troop et al., 2008).

Interestingly, slightly different findings were put forward by Gee and Troop, (2003) when they studied manifestations of shame in depression and eating disorders. They concluded that whilst shame associated with feeling inferior (external shame) affiliated more with depression, feeling inadequate (internal shame) correlated more with eating disorders. They concluded that whilst shame in depression is other-focused, shame is more self-focused in eating disorders and thus more closely associated with internal shame. They interpret this to imply that shame in depression is associated with the experience of shame as a current emotion, whereas in eating

disorders it relates to the tendency and the proneness to shame. From this, Gee and Troop (2003) question whether shame-proneness increases vulnerability to developing an eating disorder. However, as their sample was selected from the non-clinical population it is worth mentioning that the findings of this study cannot be fully generalised to the clinical population.

Although it is evident that there are distinctive variations to how shame contributes to different presentations of disordered eating, it is generally accepted that these variations are closely related (Gee & Troop, 2003). Pinto-Gouveia et al. (2014) investigated the relationship between disordered eating and the following three aspects of social and competitive rank mentality; external shame, social comparison and insecure striving, (a form of striving where one feels pressured to compete to avoid feelings of inferiority). In line with the findings of Gilbert et al., (2007) their results confirm that negative self-comparison heightens the sense of inferiority and external shame resulting in greater need for competition (insecure striving). In support of the social rank theories described earlier in the chapter, this study identified that women who judged their position to be inferior to their competitors and who believed that they were evaluated negatively by others, were more likely to demonstrate insecure striving, and reported greater body image dissatisfaction, an increased tendency to restrict their eating and an increased desire for extreme thinness. These findings confirm that when rank-focused mentality is combined with body image dissatisfaction the drive for thinness is increased. Interestingly increased self-criticism and poor self-compassion were also identified as mediating factors in this dynamic. The researchers concluded that key components of self-compassion, self-directed kindness and warmth may have a buffering effect against eating disorder symptoms even in instances where body image dissatisfaction is present.

1.4.6 Shame and self-compassion in Eating disorders

Another dimension worth considering when reflecting on how shame is experienced by those presenting with an eating disorder, is the centrality of shame to self-identity. In their examination of traumatic shame memories, self-compassion, self-judgement and eating psychopathology Ferreira, Matos, Duarte and Pinton-Gouveia (2014) identified that traumatic shame memories and the centrality of these memories to self-identity correlate positively with eating psychopathology. They suggest that, when self-identity is contaminated with traumatic shame memories, the individual regards their social position as inferior to others. Thus, such individuals struggle to cultivate feelings of social importance or value and believe themselves to exist

negatively in the minds of others. The findings of this study are extremely important as it is largely able to describe how external shame (low social rank) and internal shame (the centrality of shame to self-identify) interrelate and what effect these processes have on eating disorder symptoms. Ferreira and colleague (2014) identified that an inverse relationship exists between self-compassion and centrality features of shame memories and with symptom severity. The results showed that self-compassion was a stronger predictor for symptom severity than selfjudgement. In light of their findings the researchers recommend that traumatic shame memories and the centrality of these memories to self-identify are targeted in treatment. They highlight the moderator effects of self-compassion and recommend that self-compassion focused interventions are routinely incorporated into treatment. A number of other studies in this area have identified a similar relationship between self-compassion, shame and eating disorders. In an earlier study Ferreira, Pinto-Gouveia and Duarte (2013) looked at self-compassion, shame and body dissatisfaction in women with and without an eating disorder. They recorded lower levels of body dissatisfaction and fewer traits of disordered eating in women who were more self- compassionate and thus concluded that interventions which encourage self-compassion can target shame experiences and disorder symptom and ultimately enhance treatment.

Similar interactions between shame, self-compassion and disorder symptoms were reported by Kelly and Tasca (2016), who assessed these symptoms at different intervals during CBT treatment. The researchers found that during periods of increased shame, symptoms are consistently more severe, whereas notable drops in shame were observed during periods when greater self-compassion is experienced or during periods when the individuals' eating disorder symptoms were less severe,. They suggest that within an individual there is a perpetuating circular relationship between shame, self-compassion and eating pathology. A similar pattern of within person variation in self-compassion, social comparison, body image and eating behaviour was recorded in a non-clinical population by Kelly and Stephen (2016) and by ThøgersenNtoumani, Dodos, Chatzisarantis, and Ntoumanis (2017). In light of their findings all three groups of researchers recommend that compassion-focused interventions are considered routinely in treatment. However, in support of this recommendation they offer no data to suggest that CFT interventions are effective in targeting shame experiences and low self-compassion in individuals with eating disorders or that CFT is superior to CBT-e in this regard. Furthermore, as Kelly and Tasca (2016) did not compare pre and post-treatment shame, self-compassion and eating psychopathology scores, they are unable to state whether the CBT-e treatment offered in

their study was able to target these processes. Therefore, the suggestion that CFT interventions will enhance CBT-e treatment is a hypothesis in need of testing.

1.5 Compassion Focused Therapy (CFT)

Compassion Focused Therapy (CFT) developed by Gilbert (2005) to address experiences of shame, guilt and self-criticism, is proposed as an integrative approach drawing from theories of evolution, social and developmental psychology, neuroscience and elements of Buddhist philosophy (Gilbert, 2010). There is a large body of evidence that confirms its efficacy across a number of clinical presentations including depression (Gilbert & Procter, 2006), Social Anxiety (Werner, Jazaieri, Goldin, Ziv, Heimberg, & Gross, 2012) and trauma (Lawrence & Lee, 2014). Pivotal to the theoretical underpinnings of CFT, is the fundamental complexity of the human brain. Drawing on theories of evolution and neuroscience, the approach describes that over millions of years humans have evolved complex cognitive capacities and an objective sense of self associated with the enlargement and development of the prefrontal cortex (Gilbert & Proctor, 2006). These sophisticated capabilities, referred to as relatively new brain attributes, provide humans with the ability to think, imagine, learn and to use symbols and language. They also dictate the human capacity to integrate and coordinate complex competencies such as attention, memory, motor coordination and conceptual understanding (Gilbert, 2005; 2009).

The model proposes that parallel to the advanced new brain, humans continue to hold primitive motives and instincts relating to survival and tribalism. Embedded in this old brain are our emotions and desires, our need for acceptance, love and care, our predisposition for anger and anxiety, and our need for survival. It is thought that the older brain attributes are automatic, effortless and require little reflection or conscious thought, that alert us to threats and guide objectives which are important for survival i.e. food, reproduction, alliance and statues (Gilbert, 2009). These archetypal life patterns motivate us to seek status, friendships and sexual relations, to maintain family connections, to reproduce and to ensure survival of our self and our offspring (Gilbert, 2010). We see that in humans, primitive old brain instincts such as the need for survival and the need for defence and retaliation are acted out in a sophisticated manner with connections to the new brain (Gilbert, 2009). According to CFT, problems arise when new brain attributes and competencies interact with old brain motivations and defences in an unhelpful way (Gilbert, 2009). In essence emotional and psychological distress occur when old brain passions take over and direct new brain competencies. For example, instead of motivating one's cognitive

ability to rationalise distress and to soothe unpleasant emotions, the evolutionary tendency for anger and anxiety can take over.

The evolutionary development of self-awareness has become an integral new brain/mind attribute, which gives humans the ability to own a self-identity and a sense of 'me-ness/ I-ness' (Gilbert, 2009, 2010). Our sense of self coordinates our memories, beliefs and emotions and organises and integrates different aspects of our mind. Such feelings not only dictate who we are and what we want to be but also influence how we perceive and relate to others. Although self-awareness and self-identity maintains a sense of consistency to how cognitions, values, emotions and behaviours are formed and organised it can also result in self-directed hostility. Furthermore, self-awareness and our ability to self-reflect can impact on basic emotions and motives.

Tribalism tendencies of the old brain stimulate social awareness. When this is combined with the capacities of the new brain/mind, individuals are able to form an opinion of themselves in relation to others. In the process of comparing oneself to others, judging oneself less favourable and inferior is a possibility. The ego-self which has desires to protect itself, to defend itself and to give itself pleasure can also attack itself with self-criticisms (Gilbert, 2009). Feelings of disconnectedness, failure and inferiority driven by self-criticisms can arise when one encounters a lack of success in integrating tribalism tendencies and egocentric and narcissistic desires (Gilbert, 2009).

CFT also suggests that the maturation of the brain after birth is influenced significantly by environmental factors. In essence, according to the model, the complex interplay between environment and genes influences who the individual becomes, their sense of self, their values and their aspirations. According to CFT all humans are influenced by a need for self-preservation and survival with an instinctive predisposition to defend their territory and social position. Gilbert, (2009) believes that these old brain instincts are embedded in the neural structure of the brain and that all humans are born with egocentric tendencies. CFT as designed by Gilbert emphasises that it is not our fault that our brains have evolved like this and the approach proposes that we learn to manage and regulate our complex and tricky brain in a more adaptive and compassionate manner.

CFT aims to support individuals to understand the evolutionary origins of their emotions (Gilbert, 2009). In drawing attention to the complexities of the brain the approach emphasises that it is not the fault of the individual to have inherited a fundamentally flawed yet highly advanced brain.

This de-stigmatising approach highlights our innate need for safety and threat avoidance and our motivation to seek resources as well as many other primitive tendencies. CFT suggests that by standing back from one's tribalism and primitive instincts it is possible to acquire a healthier coordination between the new and the old brain (Gilbert, 2009; 2010). Research supporting the neuroplasticity of the brain suggest that the structure and the chemistry of the human brain changes throughout life and that new brain cells are produced daily via the process of neurogenesis (Gilbert, 2010). Therefore, the cultivation of self-compassion with practice can influence how brain cells are stimulated and how they interact and lead to changes in neuronal communication and neuronal structure.

Self-compassion encourages individuals to take a balanced and equilibrated stance to negative emotions and a willingness to observe negative thoughts and emotions with openness and clarity. To achieve this, CFT recommends mindful awareness. Mindfulness can be understood as a non-judgmental and receptive mind state in which thoughts, emotions and physical states are observed from a distance. This non-striving state of pure self-observation can be defined as a way of being in one's current moment-by-moment experience (Shapiro and Carlson, 2009). During mindfulness practice attention is intentionally directed towards one's present bodily experiences i.e. breathing, as well as towards one's current state of mind. In this pure attentional state, engagement with one's evaluations and judgements and with one's desire to strive is discouraged (Shapiro and Carlson, 2009). To achieve a mindful state of awareness, individuals are discouraged from reacting to their experiences or resisting their experiences, as attempts to suppress or inhibit thoughts or feelings can exacerbate suffering.

1.5.1 The Three Affect Regulation Systems

The theory proposes that both positive and negative emotions serve a vital function and emotions should not be avoided, distorted or denied for optimal psychological health. A negative attitude towards unpleasant emotions, interferes with one's ability to tolerate these emotions and prevent one from recognising the important message that emotions are communicating. Supported by neurophysiology research CFT describes three main emotion regulation systems; the threat and protection system, the drive, resource-seeking and excitement system and the soothing system (Depue & Morrone-Strupinsky, 2005; Gilbert, 2009). The interaction between these three systems of affect and degree of equilibrium between these systems relate closely to self-compassion. The CFT approach posits that emotional and psychological distress arise when

these affiliative systems malfunction, thus the primary aim of CFT is to re-establish a balance between these systems.

1. Threat and Self-protection System: The function of the treat and protection system is to detect threat and to alert the body to respond to this threat. The fight, flight and freeze response and emotions such as fear, anxiety and anger are associated with this system. Although, the activation of this system stimulates painful and distressing emotions, the system originally evolved to perform a protective function (Gilbert, 2010). This system is linked to neurological pathways between the amygdala and the hypothalamic-pituitary-adrenal (HPA) axis and with neurotransmitters such as serotonin, dopamine and acetylcholine and cortisol. When activated these neurological pathways orientate attention, thinking, behaviours and emotions towards threat and heighten one's need for safety (Gilbert 2010). Whilst the human brain has evolved to prioritise threat detection and response over pleasure, experiences of trauma and prolonged or frequent exposure to threat will typically over-stimulate this already highly active system. This results in an over-developed threat and protection system consisting of various safety strategies displayed to cope with distressing emotional experiences. Insecure attachments that create a sense of insecurity in one's relationships, social rejection and criticism, self-directed hostility and shame are all processes that can stimulate this threat focused system. Certain behaviours that are typical with eating disorders e.g. restricting, binging and compulsive exercise are suggested to be examples of safety strategies that are used to regulate threat-focused emotions (Goss & Allan, 2014).

2. The drive, resource-seeking and excitement system: This system is a motivation system associated with seeking and acquiring. Positive emotions such as reward and excitement encourage resource-seeking behaviours necessary for survival (Depue & Morrone-Strupinsky, 2005). When this system operates in equilibrium with the other two systems goal-oriented actions are pursued and significant life achievements are attained. This ensures greater sense of satisfaction, self-esteem and success. In some instance the drive, resource-seeking and excitement system can be overpowered by the threat-protective system. When this occurs, the individual may perceive goal-oriented actions as threatening and due to their fear of failing they may abandon or chose not to pursue such actions. Non-engagement with goal-oriented behaviours can reduce sense of happiness and satisfaction and can reinforce low self-esteem and negative self-evaluation. This will further stimulate the threat and self-protection system and will inevitably create greater sense of threat.

In other instances, the drive, resource-seeking and excitement system can be used to regulate the threat and self-protection system. This maladaptive dynamic between the two-systems means that the individual is only able to attain control of their over-stimulated sense of threat through achievement of goals. In the absence of reward acquired through this motivational system the individual is locked in a perpetual sense of threat. To avoid this outcome the individual will relentlessly pursue rewards and goals.

3.	The soothing system: This system is responsible for peaceful and positive emotions that are essential for well-being and contentment (Gilbert, 2010). The role of this emotion system is to soothe distress and to promote social bonding. More specifically this system responds to happiness which is experienced when one is satisfied, safe and content. Positive emotions associated with this system are distinctively different to those belonging in the drive system. According to the model of nurturance, this system relates closely to attachment and affiliation (Depue & Morrone-Strupinsky, 2005). Early experience of nurture enacted by the caregiver, alerts individuals to their need to be nurturing and motivates the individual to express their nurturing needs, to match their nurturing to the nurturing needs of others and to be nurturing towards others (Fogel, Melson & Mistry, 1986; Gilbert, 2010). The nurture-needs described in this model refer to nurture received from others and to nurture displayed towards others and towards oneself (Gilbert, 2010). The model explains that the experience of being soothed and shown kindness stimulates endorphin and oxytocin production in the brain and cultivates feelings of safety, fulfilment, inner peace, a sense of calm and feeling wanted and loved. CFT theorises that in order to generate these affiliative positive emotions, individuals need to experience nurture, care, kindness and love in their self-to-self and self-to-other relationships. Insecure attachment and factors that impair how affection is experienced in early life impairs one's ability to access one's own safeness-soothing system (Gilbert, 2010). Mentalisation, the process that allows us make sense of others' and our own mental states and our subjective processes (Bateman & Fonagy, 2010) are also closely related to this affect system (Liotti & Gilbert, 2011).

According to CFT, the threat and self-protection system is highly developed in those affected with an eating disorder. The theory suggested that this is common in individuals who have experienced abuse, criticism or neglect or have not experienced adequate warmth and care. The theory suggests that such experiences impair the development of an effective safeness-soothing emotion system, the individual ability to regulate and soothe their threat emotions is impaired (Gilbert, 2003). Characteristically such individuals may demonstrate high shame and self-

criticism and may fear affiliative emotions (Gilbert, et al., 2011). The over-evolved threat emotion system is easily activated and in the absence of an adequate self-soothing system, the individual resorts to maladaptive strategies of emotion regulation. CFT suggests that individuals who are unable to regulate threat-based and shame-based emotions through affiliative processes tend to be over-dependent on the drive, resource-seeking emotion system. Typical eating disorder behaviours such as compulsive exercise, restrictive eating and weight loss can be understood as achievement/reward focused actions associated with this system. Binge eating as seen in bulimia and BED can also be indicative of an under-developed soothing system.

It has been established that self-criticism and self-directed hostility is highly prevalent in individuals who struggle to self-soothe in response to external and internal threat. The CFT model suggests that, when individuals perceive themselves to have failed at meeting their personal standards they may self-evaluate negatively and experience themselves as flawed. Also, as they fear that their inadequacies have been detected or perceived by others, such individuals may believe themselves to be an unattractive social agent. Such processes can cause an individual to experience feelings of shame in their internal relationship with themselves and in their external relationships with others (Gilbert and Procter, 2006). Accumulating evidence suggests that the threat response elicited by self-directed attacks resembles that activated by criticism from others. Ultimately, shame and self-criticism prone individuals experience both their internal and their external world as critical and hostile. As this stimulates their overdeveloped threat system, their ability to feel safe and content is further compromised. The CFT model hypothesises that self-criticism and self-¬directed hostility are defensive coping strategies, driven by the individual's need for self-correction and improvement (Gilbert and Procter, 2006). The theory highlights that such individuals tend to fear self-kindness, as they believe themselves to be unworthy of it or think of it as self-pity or as egocentricity (Gilbert and Procter, 2006). The theory also proposes that such individuals hold positive beliefs about self-criticism; believing that it stops them from making mistakes or that it is motivating. Such unhelpful beliefs obstruct the growth of a healthy safeness-soothing affect system and Gilbert and Procter, (2006) highlight that these individuals respond less well to Cognitive Behaviour Therapy (CBT) as they do not feel reassured by traditional cognitive or behavioural interventions.

The evidence for high levels of shame, guilt and self-directed hostility in individuals with anorexia Nervosa (Grabhorn, Stenner, Stangier & Kaufhold, 2006; Kelly & Tasco, 2016) offers further support for the CFT hypothesis that these symptoms are reward/achievement focused actions motivated by a need for self-correction in response to an internal and/or external sense of threat.

Magnus, Kowalski and McHugh (2010) explored the role of exercise and self-compassion in a non-clinical college population. The researchers found that students who were high in selfcompassion exercised for reasons such as enjoyment and fun. In contrast students who were less self-compassionate exercised for external reasons such as to gain positive regard from others or to avoid judgement and internal negative emotions i.e. to not feel guilty or ashamed. Ferreira, Pinto-Gouveia and Duarte (2013) investigated self-compassion, shame and body dissatisfaction in women with and without an eating disorder diagnosis and found lower levels of body dissatisfaction in women who were more self- compassionate. The researchers also noted fewer traits associated with disordered eating in women with higher levels of self-compassion and a positive correlation between critical attitude towards the self and body dissatisfaction and eating pathology in the clinical group. Ferreira et al., (2013) concluded that those individuals who are unable to show compassion towards their life experiences and suffering believe themselves to be regarded negatively by others. This self-assigned low social rank exacerbates self-directed hostility and therefore relates closely with poor psychological health and disordered eating.

1.6 The effectiveness of current treatment in addressing shame, low self-compassion and fear of self-compassion in ED's.

Kelly, Carter, Zuroff and Borairi (2013) have investigated treatment options for EDs with a focus on the impact of self-compassion and fear of self-compassion on shame and eating disorder symptoms during a range of 12-week group treatments. These groups were non-specific and varied significantly in their content. The researchers observed fewer symptom improvements in those individuals who were low in self-compassion and high in fear of self-compassion. Shame levels also remained unchanged in this group following treatment. Fear of self-compassion was identified as the most recovery limiting factor as those patients who feared self-compassion the most experienced the lowest improvements in self-compassion, shame and disorder symptoms. In response to their findings Kelly et al., (2013) concluded that the current CBT-e protocol does not account for low-self compassion and fear of self-compassion in eating disorders. Although, the groups considered in this study were predominantly CBT based, they also included interventions from dialectical behavior therapy (DBT) and from other manual-based interventions. The degree of variation in the treatment groups indicated poor control of extraneous variables (Kelly, et al., 2013). The researchers concluded that the incorporation of

CFT interventions to routine CBT-e treatment will result in better outcome, however there was an absence of evidence to support this claim.

A more recent study of the effectiveness of interventions targeting low self-compassion and shame in eating disorders was conducted by Kelly, Carter and Borairi (2014), to evaluate change during routine group treatment. Higher improvements in self-compassion and shame in the first 4 weeks of treatment were found to facilitate greater overall symptom reduction. As a result the researchers concluded that compassion focused interventions should be used early in treatment to achieve better outcomes. Similar to the treatment groups in Kelly, at al., (2013) the treatment groups included in this study differed significantly. Whilst some of the treatment groups promoted self-compassion, it was not covered in all groups as standard. As the treatment conditions were not controlled with more rigour, the effectiveness of specific interventions in building self-compassion and reducing shame cannot be distinguished. These inconclusive findings highlight the ongoing need for further research to examine the therapeutic processes of change within the interventions that are effective in improving self-compassion and shame.

1.7 Compassion Focused Therapy for Eating disorders (CFT-e)

Goss and Allan (2014) developed compassion-focused therapy for eating disorders (CFT-e), a group-based treatment for adults with restricting or binge-purging eating disorders. As the CFT-e group program is still under review, no outcome data have been published to date. Gale, Gilbert, Read and Goss (2012) combined CFT with CBT-e as group treatment and observed improvements in individuals with bulimia (73%), anorexia (21%) and atypical eating disorders (30%). The study comprised a didactic psychoeducation group, which was identified to facilitate no symptom reduction, followed by 20 sessions of CBT-e and CFT combined group treatment. As a comparative group was not considered it is unclear whether the CFT and CBT-e combined group is more effective than the CBT-e alone group treatment. Furthermore, as a measure for self-compassion was not used, it is not clear whether the group was successful in improving selfcompassion.

Kelly, Wisniewski, Martin-Wagar and Hoffman (2017) compared a 12-week CFT group, combined treatment as usual (TAU) intervention to TAU alone intervention. Kelly et al., (2017) defined TAU as a manualised individual CBT and DBT with psychiatric and dietetic input. The researchers recorded greater improvements in shame, self-compassion, fear of self-compassion

and eating disorder pathology in those individuals assigned to the CFT + TAU group than those in the TAU alone group. Disengagement has been identified as a major issue across a range of CBT efficacy studies (Fairburn et al., 2013; Byrne et al., 2011; Dalle Grave et al., 2013). Kelly et al., (2017) measured the CFT combined intervention to be superior at retaining participants than the TAU alone intervention which suggests that CFT is not as susceptible to disengagement as CBT-e. The greatest limitation of this pilot randomised control trial (RCT) was the small sample size. The researchers acknowledged that as only a single CFT group was considered, a number of factors specific to this group, such as strong peer alliance and support may account for the change.

Williams, Tsivos, Brown, Whitelock and Sampson (2017) recorded significant reductions of symptoms in 7 of the 9 patients who received individual CFT for bulimic presentations. Although this preliminary investigation of individual CFT for eating disorders is promising, the small sample size limits the reliability and the generalisability of the results. The absence of a comparison group is an additional limitation of this study as is the addition of dietetic sessions to the CFT intervention as the degree of behaviour change resulting from the dietetic intervention is not accounted for. Williams et al., (2017) recognise that, as the 9 patients chose to receive CFT, their preference and favourability for the approach may explain its effectiveness and therefore a randomised allocation of participants to comparable treatment conditions would have generated more conclusive evidence in favour of CFT.

Despite the growing body of evidence proving that self-compassion is important for mental health and that the cultivation of self-compassion can help alleviate psychopathology symptoms, further research is needed to determine the efficacy of specific interventions. To test the theoretical notion that compassion focused interventions have therapeutic benefits that are superior for targeting experiences of shame and low self-compassion in individuals with eating disorders, one specific CFT intervention will be studied in isolation under controlled conditions in this study. In the next section of this chapter, a summary of relevant literature will provide a rationale for the selection of self-compassion journals delivered as a self-help intervention for this study.

1.8 Expressive writing

In the recent years, the emotional and physical health benefits of expressive writing has been considered by a number of researchers. In 2006, Bernard, Jackson and Jones investigated the

effects of written disclosure on patients that were traumatised by their experience of first-episode psychosis. The results confirmed that expressive writing had a positive effect on PTSD symptoms leading the researchers to conclude that recovery is enhanced as written disclosure allows individuals to confront rather than avoid traumatic psychosis-related stimuli and their personal distress.

The Pennebaker expressive writing techniques pioneered by James Pennebaker and colleagues (Pennebaker & Beall, 1986) incorporate elements of emotional processing, exposure and cognitive restructuring (Bernard, Jackson & Jones, 2006). It is suggested that expressive writing promotes access to emotions, cognitions and memories that have been suppressed or avoided (East, Startup, Robers & Schmidt, 2010). Furthermore, the Pennebaker technique demonstrates both physiological and psychosocial benefits when used for 15-20 minutes for consecutive days (Pennebaker & Graybeal, 2001). Assuming that expressive writing may address core cognitive, affective and interpersonal features of eating disorders a number of studies have evaluated its therapeutic significance within clinical populations. Johnston, Startup, Lavender, Godfrey, and Schmidt, (2010); Frayne and Wade, (2006) and Earnhardt, Martz, Ballard, and Curtin, (2002) evaluated the Pennebaker therapeutic writing paradigm for emotional expressive writing with individuals with bulimia. Although not clinically significant a degree of symptom reduction was recorded in both the experimental and the control groups in all three studies. Johnston et al., (2010) suggest that the reduction of symptoms in both conditions, may be due to the distracting nature of both writing tasks, which allow individuals to de-centre from their difficulties akin to a mindfulness effect. Earnhardt et al., (2002), hypothesise that a placebo or a desensitisation effect may have also contributed to improvements recorded under both conditions. However, the results from all three studies revealed that the Pennebaker therapeutic writing paradigm did not have a superior effect on eating disorder symptoms when compared to a control writing task.

Similar results were obtained by East and colleagues (2010) when they administrated the Pennebaker task and a perspective-shift task to a non-clinical student sample. It is generally accepted that individuals with anorexia typically struggle to verbalise their emotional distress, their needs or their experiences. Emotions are instead avoided, suppressed or distorted, ultimately impairing their ability to tolerate distress or their capacity to generate and access alternative perspectives when reflecting on their experiences. Given that expressive writing disinhibits cognitions and emotions (Pennebaker, 1989) and can encourage multi-dimensional reflection and cognitive flexibility and change (Campbell & Pennebaker, 2003), East et al (2010)

hypothesised that expressive writing may be of benefit for individuals presenting with anorexia. The Pennebaker task, and a perspective-shift writing task was compared to a non-therapeutic control condition. Contrary to the other studies, which evaluated the therapeutic effectiveness of the Pennebaker writing task for eating disorder, East et al (2010) found both the Pennebaker and the perspective-shift writing tasks had superior clinical effects on outcome measures on EDE-q. However, compared to the non-therapeutic control task, both writing tasks were emotionally stimulating and demonstrated positive effects. Interestingly, greater deterioration in mood was reported by the participants assigned to the Pennebaker task compared to the perspective-shift task which was described to be less upsetting yet meaningful and emotionally engaging. The researchers concluded that whilst deeper level engagement with emotions and cognitions is important, achieving an objective perspective of the situation during this process is of greater therapeutic significance. They suggest that shifting away from first person perspective to a wider viewpoint relates closely to the cognitive restructuring paradigm of CBT. Although East et al., (2010) found the perspective-shift task to be therapeutically effective and have recommended this intervention for routine practice other researchers have criticised East and colleagues for their conclusion. Connan, Campbell, Katzman, Lightman and Treasure (2003) drew attention to the over-developed capacity for self-control demonstrated by sufferers of anorexia and highlight that techniques which interfere with true engagement with emotions e.g. by shifting attention away from one's true experiences, may encourage experiential avoidance.

Most researchers agree that individuals with eating disorders typically experience difficulties in tolerating distressing emotions and for this reason they may struggle with the emotions provoked by the Pennebaker writing task (Johnston et al., 2010). For East and colleagues (2010) emotion intolerance and affect dysregulation explains why the Pennebaker expressive writing intervention was not as effective with eating disorders as it is with other clinical groups. They suggest that individuals who have a tendency to avoid, suppress or distort distressing emotions, cognitions and experiences will struggle with self-focused writing. However, according to Neff (2003) when the self-to-self relationship is hostile and critical, expression of difficult cognitions and emotions will exacerbate suffering as painful thoughts and feelings are suppressed for selfpreservation and to protect oneself from suffering. The expression of distressing emotions and cognitions during the writing exercise can be difficult to tolerate when one's capacity for selfsoothing is lacking. Therefore, maladaptive emotion regulation strategies such as restricting, binge eating, or purging may be a habitual response. Self-compassionate writing is suggested to support the development of a compassionate self-to-self relationship by focusing the mind away

from self-critical thoughts (Gilbert, 2009). Through writing the individual learns to approach their negative inner experiences with kindness and care, demonstrating a gentle, patient and forgiving self-attitude. It is expected that with practice the individual will master a non-judgemental, noncritical and forgiving attitude towards their inadequacies and failures. Given this, it is reasonable to suggest that self-compassionate writing, could be of more therapeutic benefit than other forms of expressive writing.

The therapeutic benefit of self-compassionate writing in the treatment of eating disorders is not well researched. The author of this study was able to identify only two studies which investigated compassionate letter writing in relation to eating disorders. In the first of these studies, Showell (2012) reported evidence in favour of compassionate letter writing in a group of individuals who completed a CFT group intervention for eating disorders. However, as Showell (2012) did not isolate compassionate letter writing from the other self-compassion interventions delivered in the group the study is not able to establish the degree in which the improvements reported by the participants are a specific result of the writing task. Compassionate letter writing as a therapeutic intervention was also evaluated by Kelly and Carter (2015) combined regular eating intervention with CFT guided self-help (GSH) and CBT-e GSH for BED. The self-compassionate letter writing exercise was paired with a compassionate imagery exercise in the CFT-GSH condition. Although reduction in binges were recorded under both the CFT and the CBT-e GSH conditions, the CFT intervention attained superior improvements in global eating disorder pathology and to eating and weight concerns. However, combining the letter-writing task with a mindful imagery task in the CFT condition makes it difficult to distinguish the significance of each specific exercise. The same critique can be offered against the regular eating intervention offered in both treatment conditions. Evidence from other GSH studies show that regular eating adherence reduces binges (Zendegui, West & Zandberg, 2014), which implies that a degree of symptom reduction recorded by Kelly and Carter (2015) is due to the regular eating offered under both conditions. The studies by Showell (2012), Kelly and Carter (2015) are unable to establish the true therapeutic benefits of compassionate writing in reducing symptoms and building selfcompassion in individuals with eating disorders. Furthermore, as neither study focused on shame, the significance of compassionate writing in addressing experiences of shame remains unexplored.

1.9 Self-help for eating disorders

NICE guidelines (2017) recommends evidence-based self-help as the first line of treatment for mild to moderate presentations of bulimia and BED (Traviss-Turner, West & Hill, 2017). Self-help interventions have financial and clinical importance; they are easier to access and facilitate, they are less draining on resources and more appropriate for milder presentations when therapy may feel too intense (Traviss-Turner, et al. 2017).

A number of studies support the efficacy of GSH for BED as the first line of treatment. In a randomised control trial Grilo and Masheb (2005) compared CBT informed GSH for binge eating disorder (BED) with behavioural weight loss management and a control condition. All 3 conditions lasted 12 weeks. During this 12-week trial it was recorded that even with minimum therapist input GSH achieved greater level of remission than the other two treatment conditions and was better at retaining participants. The effectiveness of all 3 interventions to achieve weight loss was poor. However, 46% of participants in the GSH condition reported no binge episodes within a 28-day period and 59.5% scored within the remission range on the EDE-Q.
The researchers concluded that although this is slightly lower than the recovery rates achieved by individual CBT-e for BED, CBT informed GSH is able to address behavioural and psychological features of BED and should be considered as first line of treatment especially for milder presentations. The researchers found further evidence in favour of GSH for BED when they compared their results with studies investigating the effectiveness of pharmacological treatments.

In the first of many meta-analyses, Perkins, Murphy, Schmidt, & Williams, (2006) identified both GSH and Pure Self-Help (PSH) to be more effective than waiting list control and placebo for the treatment of bulimia and BED. In their review of multiple studies which compared GSH with therapist delivered psychological interventions such as CBT and Interpersonal Therapy (IPT), they saw no difference between GSH and these therapies with regards to abstinence of bingeing and purging, levels of interpersonal functioning, eating disorder and depression symptomatology. Although, GSH was superior to pure self-help the difference between the interventions was minimal. Perkins et al., (2006) have drawn attention to a number of methodological flaws in the studies they reviewed i.e. small sample size, selection biases, variations in type of PSH and GSH material and they highlight that although preliminary evidence is promising more evidence is required. They also recommend that patient satisfaction

with PSH and GSH is explored and that formal health economics and cost-effectiveness analyses are carried out to confirm the value of self-help intervention for the current health market (Perkins, et al., 2006; Traviss-Turner, et al., 2017).

Similar conclusions were drawn by Traviss-Turner, et al., (2017) in their systematic review of 30 studies, which investigated GSH interventions for eating disorders. Compared with various control groups i.e. waiting list and other active treatments, GSH was identified to be effective in reducing global eating disorder psychopathology and achieving abstinence from binge eating. Although, a dose-response effect was identified it was confirmed that increased contact time was beneficial for recovery. The authors concluded that the quality of the guidance provided during GSH is associated with better results, confirming that good quality GSH is effective when delivered appropriately. Kelly and Carter (2015) combined a structured 3-week regular eating intervention with CFT informed GSH and CBT-e informed GSH for BED. Although reductions in binge frequency were found with both CFT and CBT-e informed GSH conditions, greater improvements to self-compassion, global eating disorder pathology and eating and weight concerns were recorded in the CFT group. Notably the majority of the evidence for self-help interventions for eating disorders are from research focusing on BN and BED and therefore the efficacy of self-help or guided self-help for anorexia and OSFED remains unclear (TravissTurner, et al., 2017). The efficacy of self-help and guided self-help interventions for anorexia require detailed exploration.

1.10 Stepped care

The stepped care model of delivering interventions grew out of the public need to accessible interventions that are available for all to remediate the fact that a great number of people do not receive treatment for their mental health problems (Beintner Jacobi & Schmidt, 2014). Untreated mental health problems not only disadvantage the individual but can also accumulate great economic disadvantages and can cause a burden for the health services. The aim of step care is to offer low intensity interventions that is less resource depended and therefore more accessible as a first line of treatment with the view to move patients on to higher level interventions only in instances when the individual does not respond to the initial steps. The accessibility and availability of such interventions ensures early access to treatment when presentations are mild. As eating disorder presentations are perceived to be too complex for low-intensity interventions,

step care approach is not always considered to be appropriate. But given that only 15% of suffers of an eating disorder receive psychological treatment (Beintner et al., 2014) and most NHS service have long waiting times, interventions that are easier to access need to be considered.

Significant number of researchers argue that as some individuals with an eating disorders do respond well to low intensity interventions such as self-help books, a step-care approach can be considered with this client group to achieve rapid response (Perkins et al., 2006; Beintner et al., 2014; Traviss-Turner et al., 2017). Early progress in therapy also referred to as rapid response is identified as the best predictor of outcome for the treatment of bulimia (Agras, Crow, Halmi, Mitchell, Wilson, & Kraemer, 2000). Likewise, Masheb and Grilo (2007) confirm that greater reduction in binge eating within the initial 4 weeks of CBT informed GSH for BED, is significantly associated with greater improvements and with higher rates of remission from binge eating. Translating existing CBT and CFT interventions that have been proven to be effective, into selfhelp material can be helpful for a subgroup of individuals (Beintner et al., 2014).

Those researchers mindful of the fact that relapse is highly likely following self-help or GSH recommend a sequential approach to treatment (Beintner et al., 2014). The sequential approach entails treatment being offered as a collective starting from a low intensity intervention followed by high intensity interventions. The self-help intervention delivered as part of this doctoral research demonstrates how a sequential approach can be implemented in practice. In offering a low intensity intervention to a waiting list sample before offering the same sample higher intensity therapies can be a robust and scaled way of improving how evidence-based treatments for eating disorders are implemented (Wilson & Zandberg, 2012; Beintner et al., 2014).

In their study of CBT based self-help followed by group psychodynamic-interpersonal psychotherapy (GPIP) for BED, Tasca and Koszycki, et al., (2019) identified that the second step (GPIP) of a stepped care approach did not significantly reduce BED symptoms beyond the effects of CBT informed self-help alone. This suggests that in some cases progression on to higher intensity therapies may not be necessary after completing a low intensity intervention.

1.11 Rationale for the study

CBT-E for eating disorders is well-researched and its efficacy in the treatment of bulimia, BED and OSFED is recognized. For this reason, the approach is used widely in the UK and recommended as first line of treatment for eating disorders in adults by the NICE guidelines (NICE, 2017). A significant proportion of individuals do not recover with CBT and the incidence of relapse following successful treatment is high (McIntosh, Jordan, and Carter et al., 2015). CBT-E has advanced significantly in the recent years, however, the recovery rates in individuals with bulimia is less then 60% and disengagement from treatment is common in individuals with anorexia (Byrne, et al., 2011; Fairburn et al., 2013; Dalle Grave, et al., 2013a). Furthermore, for the treatment of anorexia, there are challenging assumptions and hypotheses about the effective ingredients of successful treatments and a large body of evidence suggests that for anorexia, CBT-E is not superior to other approaches (Dare, Eisler, Russell, et al., 2001; Zipfel, Wild, & Groß, et al. 2014).

CBT-E proposes a 4-step approach for both adults and adolescents, suitable for treatment in both an outpatient and an inpatient setting (Dalle Grave et al., 2016). The procedural rigidity of the approach which disregards issues such as self-directed hostility, shame and low selfcompassion is concerning. Steele and Wade (2008) recommend that treatment should target underlying psychological features which reinforce the eating disorders as well as key symptoms and behaviours for better outcomes. For this reason, it is recommended that more effective and novel interventions for eating disorders are explored and developed in future trials (Hays, 2013; McIntosh et al., 2015). The development of novel interventions that can be offered in addition to or as an alternative to current evidence-based treatments is of pivotal importance. Studies which have considered augmentation to existing evidence-based treatments show that patients can be offered a variation of approaches and that treatment does not need to be tunnelled into a single approach (McIntosh et al., 2015). Hence why, in recent years attention has moved away from the study of eating disorder symptoms to personality and emotional processes which account for, and contribute to, the psychopathology. As a result of this shift in interest, the concepts of shame, self-compassion and fear of self-compassion have drawn more and more interest (Kelly, Carter, Zuroff & Borairi, 2013). Evidence shows that negative self-evaluation, self-directed hostility, low self-compassion, difficulties in regulating affect and feelings of shame and guilt are prominent in eating disorders (Grabhorn, Stenner, Stangier & Kaufhold, 2006; Kelly & Tasco,

2016). The adverse effects these factors have on symptom severity and treatment outcomes have also been well researched and documented (Grabhorn et al, 2006; Kelly & Tasco, 2016).

According to the theoretical underpinnings of Compassion Focused therapy (CFT), affiliative positive emotions are generated when we experience care, love and nurture in our self-to-self and self-to-other relationships. Such experiences stimulate endorphin and oxytocin production in the brain and cultivates feelings of safety, fulfilment, inner peace and a sense of calm. For some individuals, the emotion system which is affiliated with contentment, safeness and soothing is poorly developed due to negative experiences in early childhood, that have compromised the development of healthy attachments. Negative experiences such as abuse, neglect, hostility and inadequate warmth impair how affection is experienced in early life and over-stimulates the threat system and obstructs the development of healthy soothing emotions (Gilbert, 2010). Such individuals struggle to generate inner feelings of safety and contentment and therefore experience their internal and their external world as critical and hostile. Furthermore, as they tend to fear affiliative emotions, they struggle to demonstrate self-warmth and self-acceptance at times of distress (Gilbert, 2003). Also, as a result of their self-directed hostility such individuals experience themselves as flawed and in interpersonal relationships, they are prone to feelings of shame (Gilbert & Procter, 2006). As these dynamics stimulate their already highly developed threat system, the ability of these individuals to feel safe and content is compromised. Without an adequate self-soothing system, such individuals often depend on other means of emotion regulation. A growing body of evidence suggests that these dynamics are highly relevant to eating disorders and that eating disorder symptoms such as restrictive eating, bingeing, purging and compulsive exercise are examples of maladaptive emotion regulation strategies. Those researchers that relate these theoretical understanding of CFT to eating disorders, suggest that individuals who are unable to regulate threat-based and shame-based emotions through affiliative processes tend to be over dependent on the drive, resource- acquisition emotion system to regulate their distress. For instance, in order to regulate their distress, an individual with an eating disorder may engage in the relentless pursuit of achievement i.e. dietary restraint and weight loss, to feel good about themselves. However, as these positive feelings are temporary the individual is constantly exposed to the threat of failing to achieve. Feelings of disappointment when achievements are unfulfilled inadvertently trigger the threat system causing a perpetuating cycle of suffering. Other behaviours typically associated with eating disorders, such as binge eating, can also be understood as maladaptive emotion

regulation strategies used by individuals who struggle to regulate their emotions through selfsoothing.

According to the principles of Compassion Focused Therapy (CFT), those individuals that lack a healthy functioning affiliative and soothing system of emotions, struggle with traditional evidence-based interventions such as Cognitive Behaviour Therapy (Gilbert, 2009). It is recognised that such individuals have a tendency to fear self-kindness, believing themselves to be unworthy of it or thinking of it as self-pity or as egocentricity and have a tendency to hold positive beliefs about self-criticism i.e. believing it to be motivating. According to Gilbert and Procter (2006) these individuals may not feel reassured by traditional cognitive or behavioural interventions. Similarly, Padesky (1993; 1994), explains that cognitive restructuring techniques used in CBT are only effective in targeting Negative Automatic thoughts (NAT's), when an individual holds alternative healthy and adaptive schemas and assumptions, that are active when the person is in a non-depressed state. Ultimately the success of traditional evidencebased interventions is rendered ineffective when the individual lacks access to a fully formed and functioning affiliative and soothing system (Gilbert, 2011). In support of this Gilbert (2003, 2010) draws attention to how common disengagement from treatment is, in individuals who present with high levels of shame and self-criticism. Neff (2003) describes shame as a barrier between client and therapist, as clients who are prone to shame fear scrutiny and struggle to open up to their therapist. In response to these issues, Neff (2003) recommends that Compassion Focused interventions are used in the first instance to focus on building a healthy soothing-safeness emotion system. It is assumed that, achieving an affirmative and nonattacking self-relationship using CFT intervention may improve affect regulation and better prepare individuals for CBT.

Given that individuals with eating disorders present with high shame and self-directed hostility and low self-compassion, and do not always respond well to CBT, they may benefit from compassion focused interventions (Melo, Oliveira & Ferreira, 2019). To address self-directed hostility, experiences of shame and poor self-compassion in individuals with an eating disorder, CFT can be offered as a stand-alone treatment or can be integrated to support evidence-based interventions in targeting psychological distress and eating disorder symptoms. Preliminary evidence from Goss and Allan (2004) confirm that CFT-E, an adapted version of CFT for the treatment of eating disorders is highly effective especially when integrated into routine CBT based group treatment.

The primary aim of this doctoral research was to contribute to our theoretical understanding of CFT for eating disorders by considering whether a CFT informed journal keeping intervention delivered as a self-help task is of therapeutic significance for individuals with an eating disorder. As a scientist practitioner the researcher was particularly interested in investigating what effect this self-help task had on experiences of shame, low self-compassion and fear of self-compassion and whether improvements on these measures impacted on disorder symptoms (Lane and Corrie, 2006). Furthermore, by investigating the suitability of delivering the considered intervention as a self-help task, the aim of the study was also to contribute to our understanding of low intensity interventions for eating disorders.

Eisler, Russell, Szmukler, Le Grange, and Dodge (1997) suggest that in cases where age of onset of anorexia is early and the disorder is left untreated for over 3 years, recovery is extremely poor. Likewise, in their meta-analysis of research studies that investigated early intervention for anorexia, Treasure and Russell (2011) confirm that rate of recovery is significantly reduced if illness is left untreated. Early access to treatment and rapid response is of pivotal importance for eating disorders for successful recovery (Perkins et al., 2006; Beintner et al., 2014; Traviss-Turner et al., 2017). Stepped-care approach is widely adopted in the NHS and accepted as a cost-effective, less intrusive and less resource depended approach that will ensure early access to treatment (Traviss-Turner et al., 2017). Low intensity interventions such as self-help, guided self-help and computerised interventions are widely used in the NHS. Given that a self-help task requires minimal therapist input, they are more accessible and can be offered sooner in services where long waiting times delay the start of treatment. For this reason, low-intensity interventions are important for early intervention programs. Self-compassion journals offered as a self-help intervention was selected as the most appropriate compassion focused intervention to evaluate in this investigation.

2. Hypotheses

Main hypotheses

Experimental hypothesis

The researcher predicts that there will be improvements in shame, self-compassion, fear of compassion and in eating disorder symptoms in the experimental group after 2 weeks of selfcompassion journal keeping as a self-help intervention.

Greater improvements to shame, self-compassion and fear of compassion will result in greater symptom reduction.

In comparison, the researcher predicts that there will be no change in levels of shame, selfcompassion, fear of compassion and eating disorder symptoms in the, waiting list control group.

Null Hypothesis

The researcher predicts that there will be no change in levels of shame, self-compassion, fear of compassion and eating disorder symptoms in the experimental group after 2 weeks of selfcompassion journal keeping as a self-help intervention.

Sub- hypotheses

1.Experimental Hypothesis

The researcher predicts that there will be greater improvements to shame, self-compassion, fear of compassion and eating disorder symptoms in those individuals who spend longer writing in their diary.

Null hypothesis:

There will be no relationship between time spent writing and variables of interest, shame, self-compassion, fear of compassion and eating disorder symptoms post-intervention.

2. Experimental hypothesis

The researcher predicts that there will be a positive correlation between shame and fear of compassion, and a negative correlation between shame and self-compassion at time 1. There will be a negative correlation between fear of compassion and self-compassion at time 1.

Null hypothesis:

Pre-intervention data will not demonstrate a correlational relationship between variables of interest, shame, self-compassion, fear of compassion and eating disorder symptoms.

3. Experimental hypothesis

Individuals with low self-compassion will struggle with the self-intervention the most and will therefore spend less time recording in their diaries. Thus, there will be a negative correlation between level of self-compassion measured at time-1 and the total amount of time participants in the experimental group spend writing in their diaries.

Null hypothesis:

There will be no effect of the level of self-compassion at time 1 on the total amount of time participants in the experimental group spend writing in their diaries.

3. Epistemological stance

As a doctoral student, I wanted to integrate the clinical knowledge I acquired in my practice with research by studying the validity of the theoretical understanding that keeping a self-compassionate journal can be therapeutically effective in addressing experiences of shame, low self-compassion, fear of self-compassion and disorder symptoms for those individuals presenting with an eating disorder. To investigate the efficacy of this claim as a scientist practitioner, I decided that an outcome study was the most appropriate way for me to answer my research question (Lane and Corrie, 2006). This decision was based on the principles of methodological pluralism, which states that there is no one correct or superior science and/or method of investigation and that the methodological design of a study should govern the research question (Kasket, 2012).

The aim of outcome-research is to provide evidence of how effective an intervention is, by measuring the processes that underpin therapeutic change. In this form of research variables of interest are measured before and after a specific intervention or treatment to determine the nature and extent of the resulting changes. Empirical evidence from such studies inform guidelines, public health policies and clinical practice (Kardin, 1999). Outcome-research aims to securely control variables to meet ideal experimental conditions, which allow the quantification of natural phenomenon into statistical patterns that can be subject to statistical analyses. Thus, they are closely associated with quantitative research methods (Marks & Yardley 2011; Coolican, 2014). Experimental designs and quantitative methods in psychological and behavioural research grew out of the positivist movement in the first half of the twentieth century (Haig, 2013). Positivism assumes that there is an absolute reality which objective scientific research can access using systematic and controlled methods (Martin, 2003; Chirkov, and Anderson, 2018). According to the positivist epistemological position, the researcher and the researched are independent entities and meaning is located in the object of the study and not in the mind of the researcher (Haig, 2013). Thus, the aim of the researcher is to uncover and to make sense of meaning through objective gathering of factual evidence using experimental methods (Martin 2003; Scotland, 2012; Bem & Looren de Jong 2013).

Although, in the design of my study I have adopted an experimental approach, I do not accept a positivist epistemological position. Instead I align my epistemology with post-positivist position, and I take a critical realist ontological position. Like social constructivist, critical realism as an ontological stance has grown out of a need to critique positivism. In contrast to social constructivism, critical realism as a post-positivist approach shares with traditional positivism the notion that knowledge can be positively developed (Cruickshank, 2011). Within the positivist school of thought, the positive development and application of knowledge is based on an empiricist vision of science. However, for critical realism the positive development and application of knowledge is based on a realist vision of science. In contrast, social constructionists reject this notion completely and argue that social sciences should not aim for scientific objective at all. For this reason, social constructionists are assumed to take a negative approach to social research (Cruickshank, 2011).

Social constructivism asserts that all knowledge derives from power relations and that there are multiple realities, which can be studied by a sceptical researcher that can undermine the power-knowledge connection (Cruickshank, 2011). Similar to my rejection of the naïve idealism of positivism, which claims the existence of only one true reality that can be measured perfectly, I also reject this social constructivist notion of knowledge.

As a critical realist researcher, I accept that there is an objective reality, which can be studied, measured and understood. However, as a critical realist, I acknowledge that our knowledge of this reality is imperfect and fallible and therefore open to criticism, revision, falsification and replacement. I acknowledge that the study of humans is inheritably complex and that no piece of research is absent of flaws. As described by Popper (1959) in his principle of falsification, I accept that scientific theory can never be proven true. Thus, in my study I do not aim to prove a hypothesis but to not reject it (Popper; 1959; Scotland, 2012).

According to post-positivism, all researchers hold assumptions and preconceptions about their topic of interest and inevitability these influence the researcher's objectives, decisions and interpretations (Ponterotto, 2005). As no researcher can truly and entirely separate themselves from their inquests, the assumption that experimental methods (where all or most variables are controlled) is able to facilitate true value-free objectivity, is a positivist misconception (Scotland, 2012). By emphasising neutrality and objectivity in the researcher, traditional positivist methods disregard the researcher's knowledge, experiences and assumptions (Ryan and Golden, 2006). As a post-positivist, I believe that the quantitative researcher is equally active in the dynamics of their research relationship and the formation of the research data as the qualitative researcher.

Similar to a traditional positivist, I value scientific objectivity and accept value-free and objective research as ideal, however, I do not assume that my study is unaffected by my biases and my subjectivity. From a post-positivist epistemological standpoint, I believe that the dialogue between participants and the researcher entails the communication of knowledge, opinions, experiences and emotions (Scotland, 2012). Identifying and defining the personal and societal factors that influence this dialogue, through the process of reflexivity, is in my best interest (Ponterotto, 2005). Although, this level of reflexivity may be harder for me, a quantitative researcher, than for a qualitative researcher, I will attempt to define and explore dialogue inhibiting boundaries, my pre-conceptions, biases, assumptions and interpretations through reflexivity at all stages of my research (Bem & Looren de Jong 2013).

4. Reflexivity

4.1 Part 1. Designing the study

Counselling psychologists' price the uniqueness of subjectivity and incorporate this appreciation into their therapeutic practice and to their research. In research, most counselling psychologists accept a subjective and socially constructed reality and reject the quantified hypotheticodeductive method of investigating (Martin, 2003). For this reason, the discipline aligns itself strongly with qualitative methodologies (Gore-Felton, 2005). But what makes counselling psychology research unique and distinctive also segregates it from other branches of psychology. In comparison to other psychology disciplines, counselling psychologists contribute less to theory-driven research and research that uses statistical significance testing to support/reject hypotheses (Gore-Felton, 2005, Karr and Larson, 2005). Public health research and evidence-based practice is largely informed by such research and as these aspects influence how services are commissioned and funded, how treatments and therapies are delivered and who is employed into NHS services, the poor representation of counselling psychologist in this domain is a concern. I believe that counselling psychologists are underrepresented in an area that is crucial their practice and for this reason as a counselling psychologist in training, I wanted to represent the discipline in this field of research.

In my approach to research I tried to maintain my loyalty to the humanistic ethos of counselling psychology. Counselling psychology recognises that both the researcher and the researched are unique beings with subjective experiences, which makes their union during research a unique encounter (Henton & Kasket, 2017). In spirit of this, I tried to prioritise the needs and the uniqueness of my participants during recruitment, data collection, debrief, data analysis and write-up. For this reason, I tried to establish a non-hierarchical relationship that aimed to value and to empower (Henton & Kasket, 2017).

To identify any biases that may have influenced how and why I designed my study, I will now consider a number of factors that contributed to my decisions. I developed an interest for, Compassion Focused Therapy for eating disorders before starting my doctoral research. When

working as a CBT therapist in 2 specialist eating disorder services in the NHS, I routinely integrated CFT into my practice. When I integrated CFT techniques within my practice, I noticed greater improvements in those patients who were highly self-critical, especially prone to shame and struggled to demonstrate compassion towards their suffering. Motivated by what I observed in my clinical work, I tried to promote CFT based interventions in the services I worked at. Initially, I facilitated a number of CFT workshops for colleagues. Later, I designed and delivered CFT based psycho-educational groups for patients with AN who were waiting to begin CBT. Over the years I attended a number of CFT training events and workshops and engaged in self-directed study.

My experience of working in eating disorder services and my experience of integrating CFT to my approach, demonstrated to me that CFT is highly relevant to the eating disorder population. As a researcher I wanted to explore these dynamics further and to contribute empirical evidence to support my observations and to better promote the availability of CFT intervention for this patient group. The scientist practitioner model proposes that it is possible to train psychologists that are both clinicians and scientific researchers. I believe that my doctoral research reflects some of the key principles that underpin this theoretical model. My research question was influenced by my clinical experience and by the scientific knowledge I acquired during my critical literature reviews. My ability to weave my clinical knowledge in my research demonstrates my ability to adapt theoretical constructs in to practice and to critique, evaluate and guide clinical practice in a scientific and systematic way (Lane and Corrie, 2006).

My decision to investigate the efficacy of self-compassion journals was influenced firstly by my clinical experiences and secondly due to personal reasons. Resource and time constraints limit what doctoral students can achieve with their research. As efficacy or outcomes studies require testing of large samples, I decided to select a CFT intervention which could be delivered to large sample of participants. Following an in dept review of literature, I concluded that with the right self-help instructions, self-compassion journals can be easily administered to large group of individuals. My own experience of recording a self-compassion journal is the other reason for why I decided to investigate its efficacy. Recording a personal self-compassion journal has played a fundamental part in my own journey towards building a compassionate self-to-self and self-to-other relationship. Given how much I benefitted from keeping a self-compassion journal, I have routinely encouraged my patients to record similar diaries.

There are a number of factors that have influenced my decision to design a quantitative study instead of a qualitative study, many of these have been explored in other sections of this thesis. Although, I am aware of the wealth of information one can acquire by studying the content of the journals, I decided to allow my participants the privacy to record their diaries in solitude, as journaling as a practice is a very private affair. When I reflected on what it would be like for me to share my personal journal with someone else, I concluded that it will affect what I record. The freedom in which I express myself and my emotions in my personal journal is vastly different to how I express myself in other domains, including in my personal therapy. Food diaries are routinely used in CBT-e and my personal experience of these diaries have been that most individuals find sharing their diaries with their therapist difficult. Although, in therapy one has the opportunity to respond to the patient's fear of self-disclosure, I do not think that the relationship between a participant and a researcher will allow this. For this reason, I strongly feel that the privacy of the journals has protected my participants from the burden and the anxiety of sharing their diaries. Without this burden, I hope that the journals were a more truthful and accurate expression of inner experiences and reflected true essence and spirit.

I also considered conducting interviews consistent with a qualitative design instead of using standardised measures in my study. Although, I was initially drawn to this idea and I provisionally conceptualised a study that entailed an investigation of individuals personal experience of recording a self-compassion journal, I abandoned this idea when I asked myself what I wanted to do with the data I generated. In public health research, evidence obtained from randomised control trials are considered to be superior and of greater quality than evidence gathered though other means (Coolican, 2014). Hence why, evidence from randomised control trials inform both policy development and clinical practice. As I am interested in investigating the effectiveness of self-compassion diaries with the intention to contribute to healthcare provision and evidence-based practice, I concluded that a randomised control trial would be the most appropriate experimental design for me to adopt. Many counselling psychologists argue that RCT's are more appropriate for the study of pharmaceutical treatments then for psychotherapy research. They state that the active ingredients of effective therapy are harder to isolate and that the RCT method cannot appropriately capture the values of therapy (Henton and Kasket, 2017). Furthermore, counselling psychologists criticise RCT's for encouraging the dissemination of protocol-based therapies. I recognise that by choosing to study the efficacy of a self-help intervention in a quantitative outcome study structured similar to an RCT, I fall into this critique. In my defence I argue that, because of funding cuts in the current climate, public health is

impaired, and resources cannot sufficiently meet demands. Patients often wait on increasingly long waiting lists with little support. Although, manualised interventions such as GSH or pure self-help may appear to be insufficient, they are superior as an alternative to waiting list. For this reason, I wanted to concentrate on enhancing the availability of manualised self-help material for patients waiting for treatment. My intentions were not to challenge the superiority of individualised therapies or to offer my intervention as an alternative to them.

Reflecting on my experience of using CFT interventions to treat eating disorders as a therapist and also my own use of self-compassion diaries, I recognise that as a researcher I approached my study with a positive preconception of CFT. Although my hypotheses are supported by evidence from multiple sources, I recognise that they also reflect my positive view of the therapeutic significance of CFT. When constructing the rationale for my study and when conducting a literature review, I was aware of my favourable bias and I tried to counter-balance this by pursuing an objective and neutral stance. I tried to widen my reading to include an objective exploration of other theoretical understandings and interventions for eating disorders. Henton and Kasket, (2017) highlight that research and practice for counselling psychologists are integrated processes. Although the fundamental aim of counselling psychologists is to integrate and apply theoretical knowledge acquired through research into practice, counselling psychology practice also has the capacity to contribute to research. Thus, there exists a circular relationship between research and practice. I believe this relationship is accurately captured in my research. As the design and development of my research question and study was informed by my experience of using CFT interventions, I hope that the results of my research will inform my future practice as well as the practice of other clinicians.

4.2 Part 2 Data collecting, analysis and discussion

In retrospect when I reflect on my ability to ensure ideal experimental conditions where all variables were identified and controlled, I notice a number of concerns. I think that I experienced the greatest difficulty in meeting these conditions during the screening calls. Although I used a script to introduce my study and to give information to the participants, I noticed that the calls varied significantly from one another. Whilst some participants asked minimal questions before consenting to taking part, other participants engaged in long conversations. This was especially the case with participants allocated to the experimental condition. In addition to asking me

questions about self-compassion and the study, some participants also told me about their experience of self-criticism, poor self-compassion and eating disorder. Thus, the length of the screening calls varied between 10-minutes to 40 minutes on average. On a few occasions, I had to follow up with a second call to complete the screening process and to answer additional questions. I was extremely aware of the fact that those participants, with whom I spent longer talking to, received more guidance about self-compassion then those whom I spoke briefly to. The longer calls resembled guided self-help more so than pure self-help. This is a concern given that the study was designed to investigate whether the intervention can be delivered as self-help and whether it is efficacious. As the length of the calls was not a variable that I had considered during the design stage of my study, I am unable to establish what affect it had on adherence, engagement, and outcome.

When I noticed this dilemma, I considered enforcing a strict time limit to the length of the phone call. However, being conscious of the humanistic ethos of counselling psychology I decided against this restriction. I felt that it was more important for me to maintain a strong rapport with my participants and as my study was based on their struggles, I wanted my participants to feel heard and valued. Therefore, I decided that it was important for me to adapt the screening call to the participants needs and give them the opportunity to express their views and ask questions about the study before taking part.

After I analysed my data using a number of statistical test and I tried to make sense of my results, I started to question my decision to not include a qualitative component to my research. My data largely confirmed my hypothesis and as I expected I was able to identify a maladaptive perpetuating relationship between shame, low self-compassion, fear of compassion and eating psychopathology. I noticed that whilst I was pleased by this outcome I was also dissatisfied and discontent with my findings as I felt that my findings were unable to fully explain the truly complex relationship that exists between these variables and eating psychopathology. This combined with having to end data collection prematurely because of covid-19 and not having sufficient amount of data to consider each of the eating disorder subcategories independently made me feel that my research was incomplete. I felt that my results raised more questions than it was able to answer, and I felt like that there were more things I could have achieved if I had recruited more participants and if I had designed a mix-methodology study. Although, I still feel loyal to my decision to conduct a quantitative study, for reason I have discussed in other section of my thesis, I now feel that by including a qualitative component to my data collection and

analysis I would have been able to gain access to subjective experiences of my participants. This I hope would have allowed me to understand the unique dynamics that drive the perpetuating relationship that exists between shame, self-compassion, fear of compassion and eating psychopathology and to examine the therapeutic qualities of self-compassion diaries in improving self-compassion and shame.

As a Psychologist, I hope I will have many opportunities to work with eating disorders, as I truly enjoy working with this clinical disorder. Before starting my doctoral training when I worked as a CBT therapist, I often incorporated CFT informed interventions to my approach when working with eating disorders. After investigating this topic in my doctoral research, I have concluded that CFT can be therapeutically effective in the treatment of eating disorders. Moving forward I am not sure whether I will have the opportunity to investigate this subject further and to find answers to the question I have raised in my discussion chapter, however I am certain that I will continue to use compassion focused interventions in my work with eating disorders.

5. Methodology

5.1 An exploration of how the methodology relates to the research question

Rejecting an accurate null hypothesis or accepting an inaccurate null hypothesis is a major concern for experimental researchers. Such errors, also known as a type-I or type-II error, will typically result in an ineffective intervention being accepted as effective or an effective intervention being incorrectly rejected. Given the seriousness of such errors, their likelihood needs to be considered and minimised at all stages of the experiment. As no statistical analysis or amendments can revise mistakes that were made when designing a study or when gathering data, precise planning is needed (Shadish and Sullivan 2012).

The primary aim of an experimental researcher is to examine whether there are causal connections between the independent and dependent variables (Kirk, 2009). The concept of causality closely relates to the idea of change, the assumption being that Y is caused by X and therefore changes to X will produce changes in Y (Jaccard, 2013). The nature of causal relationships is complex and not often direct, linear or correlated. Thus, in most experimental designs indirect, spurious, moderated, bidirectional and unanalysed relationships are also considered and explored (Jaccard, 2013). Furthermore, the variables of interest are not considered purely in terms of their association with the dependent variable but also in relation to their connection with each other as well as unique constructs in their own right (Jaccard, 2013).

Influenced by the theoretical underpinnings of the scientist practitioner approach in this doctoral study, the researcher wanted to examine the viability of the experimental hypothesis and to support it with a certain degree of confidence based on systematic data gathering and statistical analysis (Lane and Corrie, 2006). The researcher decided that the most effective way to test the efficacy of an intervention was to administer the evaluated intervention under ideal experimental conditions where all variables were identified and controlled (Marks & Yardley, 2004). The level of control achieved in experimental designs means that the change in the dependent variables can be attributed to the manipulation of the independent variable and not to chance (Marks &

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Yardley, 2004; Vercruyssen & Hendrick, 2012; Fields, 2013). Randomisation and the use of standardised outcome measures that have been tested to show high validity and reliability will further ensure that optimal experimental conditions are met (Marks & Yardley, 2004; Fields, 2013). The researcher hoped that by combining this with appropriate statistical analysis, she will be able to avoid a type-I or a type-II error and will be able to accurately reject or accept the null hypothesis (Shadish and Sullivan 2012).

The aim of the researcher was to maintain scientific rigour however, as the study was conducted in an out-patients service, the researchers acknowledges limitations in the control of extraneous variables (Marks and Yardley 2004; Shadish and Sullivan 2012). A between-participants/independent measures design was selected as the most appropriate experimental design. Consistent with this design, each participant was allocated to and tested in only one of the two conditions; the experimental or the control condition. When investigating the efficacy of an intervention, including a comparative control group is essential as a control group can provide evidence of a lack of change in the absence of intervention will be the greatest confirming factor for the hypothesis. By choosing to include a comparative control group the study aimed to demonstrate whether the proposed intervention differs from no intervention and whether an alternative hypothesis can explain the data (Marks and Yardley 2004). It was decided that the absence of an alternative explanation will allow the researcher to reject the null hypothesis with confidence.

Traditionally, experimental psychologists have generally assumed universalism, the assumption that core principles of psychological findings do not vary and can be generalised to other individuals and settings irrelevant of setting and context (Howitt & Cramer, 2014). Whilst this is now seen as a dated, dogmatic and naïve approach to research, many psychologists undertaking research still aim for generalisability. Generalisability refers to the degree to which the findings from a small sample can be applied to other settings and to the wider population. Generalisability is a complicated process that requires careful planning and consideration. Accurate sampling is a pivotal component of generalisability as it can balance out individual differences and outliers and will reveal any statistical trends in a more consistent and stable way and therefore will produce more generalisable data (Chirkov, & Anderson, 2018). The study aimed to recruit a sufficient number of participants to ensure statistical power. Whilst a large sample size will balance difference between the groups and will improve generalisability it will not necessarily eliminate chance bias (Roberts & Torgerson, 1999). To ensure generalisability

and to accurately and confidently produce an estimate of specific characteristic of eating disorders, it was crucial that the sample of participants recruited for this study reflected the wider eating disorder population (Howitt & Cramer, 2014). For this reason, the study recruited participants from an established eating disorders service where all participants had a confirmed eating disorder diagnosis.

The study recruited participants from four DSM-5 eating disorder sub-diagnoses; Anorexia Nervosa, Bulimia Nervosa, Binge Eating Disorder (BED) and Other Specified Feeding or Eating Disorder (OSFED) (APA, 2013). It was decided that balanced and equal distribution of diagnoses to each of the conditions will increase homogeneity between the two groups and will reduce selection bias and demonstrate that any significant differences between the groups is due to the intervention task and no other confounding variable. To ensure that participants from each sub-diagnosis were assigned to each of the conditions in equal probability a blocked randomisation method was used to allocate participants to the groups (Efird, 2011).

The researcher expected that the groups would unavoidably differ from one another due to individual differences. Significant variation between the two groups of participants will result in a chance bias; a limitation whereby the outcome of the trial is a result of chance caused by participant characteristics and not the investigated intervention (Roberts & Torgerson, 1999). To reduce the impact of individual variations in establishing the efficacy of the intervention, the baseline measures were analysed to describe the characteristics of the participants entering the study and to identify and highlight differences between the groups. The aim of this process was to reduce chance bias, improve generalisability and confirm successfulness of the sampling and the randomisation process (Roberts & Torgerson, 1999).

5.2 Methodological Design

5.2.1 Conditions
Experimental condition: After completing the baseline questionnaires (time 1) participants in this condition were asked to record a self-compassion journal for 2 weeks. They received a written information pack (appendix 1), which include a summary of self-compassion and selfcompassion journal keeping and instructions on recording a (daily) self-compassion journal. Participants in this condition were also asked to record how much time (in minutes) they spent writing in their journals (appendix 12.7). They were not penalised for not writing a journal entry however they

were expected to record this on their time logs as 0 minute to indicate no entry. At the end of the 2 weeks, participants were asked to return their time logs and to repeat the same set of questionnaires using Qualtrics (Time 2) and were emailed the experimental condition debrief sheet (appendix 5.2). Participants were offered the opportunity to schedule a call with the researcher to talk about the study.

- Control condition: Once they read control group participant information sheet (appendix 4.1) and signed the consent form (appendix 6.1), participants in this condition completed the baseline/time-1 questionnaires. All participants in this condition remained on the waiting list (treatment as usual; TAU). After 2 weeks, they were contacted via email and asked to repeat the time-2 questionnaires. Once time-2 questionnaires were completed, participants were debriefed (see appendix 5.1) and informed of the self-compassion journal intervention. With those participants who requested to record self-compassion journals a phone call was scheduled to introduce them to the task.

5.2.2 Recruitment

Individuals 18 years and over who meet the DSM-5 criteria for Anorexia Nervosa, Bulimia Nervosa, BED and OSFED (APA, 2013), were recruited from the psychological therapies waiting list of North East London Foundation Trust (NELFT) Eating disorders service (EDS).

To request their assistance in the recruitment process EDS clinicians were invited to a presentation in a team meeting. They were informed of the study format and the inclusion and exclusion criteria and asked to identify potential participants. A poster advertising the study (appendix 11) was distributed to the team and displayed in the waiting area.

5.2.3 Exclusion criteria

The following exclusion criteria were applied:
- Difficulties in speaking, reading and writing in English
- Current alcohol/drug dependency
- Current severe mental health problems including psychosis and bipolar disorder
- Exposure to other therapeutic interventions
- Adults who are unable to consent for themselves
- Those under the age of 18

5.2.4 Randomisation

Participants were assigned to each group using block randomisation. Participants were allocated to 4 blocks according to their eating disorder diagnoses, within each block participants were randomly allocated to either of the two conditions (Efird, 2011).

5.2.5 Screening Call and Consent

Those participants confirmed to be potentially suitable for the study, were called on the phone for screening purposes. The primary aim of this call was to invite participants to the study, to assess their suitability and to give them information about the study. Information given to the participants allocated to the two conditions differed slightly due to the inclusion of a control group with different requirements. Those randomly allocated to the experimental condition were informed of the self-compassion diaries, time logs, and the questionnaires at time 1 and time 2. The control group were told that the study was investigating the interaction between selfcompassion, fear of compassion and shame in individuals with an eating disorder. They were asked to complete measures focusing on these variables at 2-time points. Those participants who verbally agreed to take part were informed of their rights and given information on how data collection will be conducted; see appendix 4.1 for control group participant information sheet and 4.2 for experimental group participant information sheet.

In spirit of the humanistic fundamentals of counselling psychology the screening conversation gave the researcher an opportunity to build rapport with the participants. Thus, participants were given the opportunity to ask questions about the study and to consider barriers to implementing the study. As the study required 2 weeks commitment, participants were given the opportunity to choose when they wished to start the experimentation. Participants were informed of the best way to contact the researcher and what to do if they noticed deterioration in their psychological health in response to the study.

5.2.6 Participant ID number

Once suitability was confirmed and verbal consent received, participants were assigned a participant ID number; code EG was used in front of the number for those in the experimental group (e.g. EG001) and code CG was used for participants in the control group (e.g. CG001).

5.2.7 Invitation email

Participants were notified of their participant ID numbers via email; see appendix 9.1 for control group invitation email and 9.2 for experimental group invitation email. This email also contained a copy of the participant information sheet (appendix 4.1 & 4.2). Those in the experimental group also received the self-help task (appendix 1) and the time log (appendix 12.7) attached to their email.

5.2.8 Qualtrics

All participants who gave verbal consent, were set up on Qualtrics, an online survey system designed to anonymously collect data. The system sent these participants an email containing a personalised anonymous link to the questionnaires. Before the participants could access the questionnaires, they were asked to enter their participant ID number and to read and electronically sign the consent form; see appendix 6.1 for control group consent form and 6.2 for experimental group consent form. A copy of the electronically signed consent form was forwarded to the participants by the researcher.

5.3 Ethical considerations and permissions

Knowledge acquired through research guides our understanding of the world and of human behaviours and interactions. Despite the obvious advantages of the wealth of information gained through research, there are complex ethical dilemmas associated with the scientific study of human behaviours. These dilemmas not only relate to the ethical treatment of research participants but also encompass the wellbeing of the researcher as well as the harm that may be inflicted on society and to scientific knowledge (Miller, 2003). There are ethical issues relating to research that is incompetently designed and poorly constructed. Although, a piece of research may cause no harm to the participants and may incur minimum risk, if the research lacks a clear rationale and purpose and has poorly defined goals and objectives, it will lack merit and will not be worth the participants time (Miller, 2003). Thus, when designing the study, it is extremely important that the value of the experiment was carefully considered. In an earlier chapter the rationale, the objectives and the advantages of this research were considered and discussed. In this chapter, principles relating to ethical research such as consent and the participants right to withdraw, will be explored. Furthermore, in this chapter the precautions that were taken to

minimise the risks that the participants and the researcher may face during the experimentation will be summarised.

The ethical treatment of participants is primarily the responsibility of the researcher. However, in many institutions a committee of individuals review research to prevent ethical breaches and to ensure ethical practice. As this study was conducted at an NHS service, ethical approval from the Health Research Authority (HRA) and Health and Care Research Wales (HCRW) was confirmed before experimentation started (IRAS Project ID: 250725, REC reference:19/LO/0257). A copy of the NHS ethical approval form and the approval letter can be found in Appendix section 2 and 3. The study was also approved by the research ethics committee of City University London.

During the meeting with the research ethics committee on the 21st of February 2019, the London Queen Square Research Ethics Committee requested written confirmation from the NHS site confirming their willingness to provide support to those patients who may experience deterioration in their psychological wellbeing during the course of the study (appendix 7). Fortunately, there were no incidents relating to risk or deterioration in mood or wellbeing, thus no participant needed support or monitoring from the clinical team during experimentation. Non-substantial amendments were submitted to HRA on 3 occasions during the course of the study. The first amendment (submitted 3rd July 2019) requested permission to contact participants outside the NHS site using a private mobile phone, purchased for the sole use of research. The second (26/11/2019) and third (22/02/2020) amendments requested an extension to the study end date to continue data collection. All amendments were approved.

Miller (2003) highlights that there are certain participant characteristics that make some individuals more willing to volunteer for research than others. Thus, Miller (2003) claims that participants who volunteer for research are not specifically an accurate representation of the wider population. Although there may be limitations to recruiting voluntary participations, informed consent and the right to withdraw from the study are essential components of ethical research. All participants recruited for this study were informed of these principles both verbally and in writing at the start of the study. They were assured of anonymity and confidentiality and were informed of their right to receive access to the final publication of the research. Before the start of experimentation, all participants signed consent forms (appendix 6.1 & 6.2) to confirm their agreement to take part and their awareness of risks that might be involved. The written

consent form acted as a contract between the researcher and the participants and specified the relevant aspects of the research along with the researchers and the participants' obligations and responsibilities. A copy of the signed consent form was issued to the participant and another copy was stored by the researcher.

In line with BPS ethical guidelines, the study was designed to cause minimal impact on the psychological, emotional and physical wellbeing of the participants. A comprehensive review of existing research showed no ethical concerns with regards to the pre-existing standardized measures selected for the study and for the self-compassion journal keeping intervention.

Potential risks to the researcher was considered and no risk was identified.

All participants were in treatment with an established eating disorders team and were monitored closely by specialist nurses whilst they waited to begin psychotherapy. During the screening call, participants were advised to terminate the study if they notice deterioration in their wellbeing and to contact the clinical team for support. During the recruitment process, the researcher attempted to identify and to eliminate any participants who may be vulnerable to harm by the research. For this reason, those patients presenting with current suicidal ideation and/or behaviours or with a tendency towards self-injury, were excluded from the study. These risk factors were clearly defined in the inclusion and exclusion criteria with other potential risk factors. The screening call also served as an opportunity for the researcher to identify participants that may experience clinical deterioration during the study.

Miller (2003) specifies that effective debriefing will include an opportunity for the participants to discuss the findings with the researcher. For practical reasons, this was not a viable option for this study. Once the 2-week experimentation period was over and all participants were debriefed, they had no further contact with the researcher. A handful of participants chose to continue recording self-compassion diaries after the 2-week trial period. It was the responsibility of the ED service to continue supporting those participants who chose to continue (experimental group) or to start (control group) self-compassion diaries. The participants were informed of their right to receive a summary of the findings from the study. A number of participants requested to be informed of the results.

There are ethical issues for a no-treatment control group however, as the participants were selected from a waiting list, they were not disadvantaged by any delays in accessing or starting

treatment and they were not deprived of treatment (Mark and Yardley, 2011). It was agreed that, if a participant was offered psychotherapy whilst taking part in the study, they could choose to terminate the study to begin treatment. To further ensure that participants were not disadvantaged, they were not removed from the psychological therapies waiting list whilst they took part in the study.

When designing this study, the investigator was guided by the principles of autonomy and respect for the participants (Miller, 2003). Although, no deception was used, to ensure that the studies objectives were not compromised, specific information was withheld from the participants (BPS code of Human Research Ethics, 2014). Assuming that knowledge of the experimental condition will impact on the engagement of the participants in the control condition, participants were not informed of the other group. Therefore, a different consent form, participant information sheet and debrief sheet were used (appendix 4.1 & 4.2). In respect of the participants' dignity and wellbeing, participants in the control condition were informed of the journal keeping task at the end of the study and were offered access to the self-help material. Five participants in the control group, took up this offer and requested a copy of the self-help intervention.

Research that provides financial or valuable inducements to attract participants have the potential to exploit participants. Whilst this is especially true of research studies that offer inducements that may be difficult to refuse, researchers may need to compensate their participants for their time (Miller, 2003). The participants did not receive any payments, reimbursement of expenses or any other benefits or incentives for taking part in this research. However, participants in the experimental group were offered inexpensive notebook and pens to record their journals.

To maintain the anonymity of the participants all data collected during the course of the research were stored in accordance with confidentially standards specified in BPS code of Human Research Ethics, (2014). In line with these ethical guidelines and the requirements specified by the NHS ethics committee, the researcher was only able to approach those service users who consented to be contacted regarding research. For this reason, EDS clinicians were the first to approach potential participants regarding the study. Once clinicians identified potential participants who wanted to know more about the study, the researcher was informed of the service user and made contact.

All participants were assigned a participant ID number and all questionnaires and signed consent forms were labelled and stored using the participants ID number. Data anonymised using the participant ID number as a pseudonym was stored separately from participants identifiable information such as name, email address and phone numbers. All electronic files were password protected. As the study used an online survey tool called Qualtrics for data collection purposes all of the signed consent forms and the questionnaire responses were electronic. These were downloaded as electronic files and were encrypted and stored as password protected files. No hard copies of these files were printed or stored. Electronically signed consent forms were forwarded to participants using the researcher's university email address. All email correspondence between the researcher and the participants were encrypted and required a password to access.

The data generated by the study were analysed by the researcher using a private password protected laptop computer. The mobile phone used to contact participants outside the NHS site was purchased for the sole use of research. The participants telephone numbers were not stored on this phone and the line was disconnected once data collection ended. To protect the privacy of the participants their self-compassion journals were not collected or reviewed by the researcher. Storage of these journals was the responsibility of the participants.

5.4 Publication, Dissemination and Registration

Consistent with the UK Policy Framework for Health and Social Care Research principles, information about the research will be publicly available. The study was registered in the EU Clinical Trials Register and the ISRCTN register. Both registers meet the requirements set out by the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) and the International Committee of Medical Journal Editors (ICMJE) guidelines.

The researcher intends to report and disseminate the results of the study. This may include publication in a peer reviewed scientific journal e.g. *Behaviour Change* or a presentation at a conference e.g. *The Annual National Eating Disorders Conference*. All participants have been

offered access to the final publication. Furthermore, the researcher will provide NELFT eating disorders service, a report of her finding and may present these at the team research meeting.

5.6 Measures

Self-compassion, shame and fear of compassion are psychological constructs which cannot be observed directly as they represent complex behavioural and cognitive tendencies and internal processes. In order to meet the conditions of controlled and objective experimental standards, these domains of interest have been translated to variables and measurable operations (Heiman, 2002). This involved a systematic process of defining each variable and establishing how each variable could be precisely measured. Psychometric measures that have been confirmed to have high reliability and validity were used to ensure precise and accurate measurement of these psychological constructs which cannot be observed directly. These measures have been selected based on their ability to sensitivity and objectively discriminate specific components of the psychological construct under review and to establish to what degree the tested constructs are present in each participant.

It is important to consider multiple domains when investigating the efficacy of an intervention, to reduce the likelihood of a false negative (Marks and Yardley 2011). Multiple variables are investigated within this study using a range of psychological measures to reduce the risk of type II error. It is important to note that multiple measures have the potential to generate more meaningful data, however, they may also increase participants' burden and have the potential to increase rate of drop-out, resulting in missing data (Marks and Yardley 2011). Furthermore, selfreport measures are inherently subjective and as such it is important to discuss these limitations when considering reliability of the data (Marks and Yardley 2011) and multiple measures were selected to reduce the reliance on one questionnaire.

The investigator recognises that diary keeping for 2-weeks, may not be a sufficient length of time to achieve change in enduring traits of personality. Hence why both state and trait measures have been included in the design of the study. In scenario-based measures participants are presented with a series of brief scenarios followed by contextually relevant response.

Participants are asked to imagine themselves vividly in each scenario depicted in the vignettes and to rate their likelihood to respond in the described way. Scenario-based measures are more sensitive to change and therefore are better able to detect change in short periods of time (Falconer, King and Brewin, 2015; Falconer, Slater, Rovira, King, Gilbert, Antley and Brewin, 2014). Two such measures have been paired with trait measures to explore the impact of shame and self-compassion. The following self-report measures have been selected to examine the variables of interest a) as a state of emotion that arises at a given moment of time and b) as a personality trait or characteristic 'that describes or determines an individual's behaviour across a range of situations' (APA Dictionary of Psychology, 2019).

5.6.1 Self-compassion

Self-compassion is defined as a non-judgmental, non-critical and forgiving self-to-self relationship where one approaches inner experiences and emotional pain with kindness and care (Neff, 2003; Gilbert, 2009 & 2010). Self-compassion is a multi-faceted construct and it can be measured using the following two scales:

5.6.1.1 Self-Compassion & Self-Criticism Scales (SCCS; Falconer, King & Brewin, 2015);

appendix 12.3.

This state measure assesses the interaction between self-compassion and self-criticism. It contains five self-threatening scenarios that are designed to elicit states of self-criticism or selfcompassion. Participants are asked to rate to what extent they will react to each imagined scenario in the following ways; Reassuring, Soothing, Compassionate, Contemptuous, Critical, and Harsh. Their answers are marked on a 7-point Likert Scale (1= not at all, 7 = highly). Studies have demonstrated that the SCCS is sensitive to change in a relatively short period of time in repeated measures design studies where change in affect is measured (Falconer, et al., 2015).

5.6.1.2 Trait Self-Compassion Scale (SCS; Neff, 2003); appendix 12.6.

This 26-item questionnaire was designed to assess thoughts, emotions, and behaviours associated with six aspects of trait self- compassion; self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Responses are rated on a 5-point Likert

Scale; 1 = almost never and 5 =almost always. To exclude negatively worded items and to maintain consistency to the structure in which statements are phrased, the self-judgment, isolation, and over-identification sub-scales, which indicate an uncompassionate response to suffering are reverse-coded. The total self-compassion score is calculated using the means of each of the 6 subscales. According to findings from Williams, Dalgleish, Karl, & Kuyken, (2014), the 6 subscales are independent and do not measure a single overarching compassion construct.

The scale allows researchers to analyse their data by either using a total score (marked out of 130) or by breaking down the sub-scales to individual scores. Falconer, et al., (2015) accepts the self-kindness subscale of SCS as the closest conceptually to the SCCS.

Neff (2003) reported the mean SCS scores for a health student sample as 18.26 (SD 3.99) and for a Buddhist sample who reported significantly higher self-compassion level as 23.19 (SD 3.50).

5.6.2 Fear of compassion scale (FCS); appendix 12.2

Fear of compassion refers to the hostile and negative attitudes held towards compassion. The fear of compassion is driven by the belief that compassion is a weakness, undeserved or unfamiliar (Gilbert, McEwan, Matos and Rivis, 2011). Fear of compassion will be measured using the Fears of Compassion Scales (FCS; Gilbert, et al., 2011). This measure consists of 3 sub-scales, which examines 3 aspects of fear of compassion; compassion for self (15 items), compassion from others (13 items), and compassion for others (10 items). Each item on the scale is rated on a five-point Likert scale (0 = Don't agree at all, 4 = Completely agree). The total fear of compassion score is calculated by summing the items for each of the 3 scales. The total score falls within the range of 0-152, with 152 representing the greatest level of fear. The Cronbach's alphas published for this scale are 0.87 for fear of compassion from others, 0.78 for fear of compassion for others and 0.85 for fear of compassion for self (Gilbert, et al., 2011). According to Kirby, Day and Sagar (2019) the internal consistency of the subscales is within the high range (α = .78–.92) and the associations between each of the subscales is moderate to strong (Gilbert et al.,2011). There is also a significant correlation between fear of selfcompassion and receiving compassion from others (r = .51–.67). The correlation between fears of self-compassion and compassion for others (r = .08) and for receiving compassion and compassion

for others (r = .26) is small and non-significant. This suggests that each form of compassion (internal or external) is experienced independently from each other. From a clinical perspective, an individual may fear self-compassion but may not experience any difficulties expressing compassion towards others or even receiving it from others. As recommended by Kirby et al, (2019) the researcher intends to consider how each subscale of fear of compassion (self, other, receiving) interacts with each other in this specific clinical population.

5.6.3 Shame

Shame refers to a threat-based state of affect whereby the self is experienced as inferior, unattractive and flawed in self-other relationships. Shame will be measured using the following 2 measures:

5.6.3.1 Trait Experiences of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002); appendix 12.4.

The ESS is made up of 25 items which focus on 3 key components of shame; shame in relation to characterological traits and personal habits, shame in relation to personal behaviours, habits and mistakes and bodily shame. To indicate the frequency of experiencing, thinking and avoiding any of the three components of shame in the past year, the items of the scale are rated on a 4-point scale (1 = not at all to 4 = very much; Vizin et al. 2016). The total score falls between the range 25–100. The 3 subscales are broken down in the following manner; characterological shame range between 12–48, behavioural shame range between 9–36 and range of 4–16 for bodily shame. ESS has been tested to show good discriminant and construct validity and high internal consistency in addition to high test-retest reliability both with the clinical and the non-clinical populations (Andrews et al., 2002; Vizin et al 2016). Furthermore, factor analyses have confirmed that the three separate subscales are characteristically independent and do not measure a single overarching form of shame (Andrews et al., 2002; Swan & Andrews, 2003).

5.6.3.2 Guilt and Shame Proneness scale (GASP; Cohen, Wolf, Panter, & Insko, 2011); appendix 12.5.

GASP as a scenario-based measure examines experiences of guilt and shame across a range of personal misbehaviours and errors. The scales incorporate both self–behaviour and public– private distinctions and differentiates emotional responses from action orientations. It contains four subscales each consisting of 4-items: Guilt-Negative-Behaviour-Evaluation (Guilt-NBE), Guilt-Repair, Shame- Negative-Self-Evaluation (Shame-NSE), and Shame-Withdraw. Each scenario on the measure describes a day-to-day situation and a common reaction to it. Participants are asked to imagine themselves in the situation and to rate on a 7-point scale (0very unlikely, 7-very likely) their likelihood to react in the described way. The scale can be scored by summing and averaging the four items in each subscale. Cohen and colleagues (2011) recommend that in research each GASP subscale is individually examined. When all four-subscales are included in a multiple regression analysis, statistical analyses can be obscured by multicollinearity problems. In most instances, alpha coefficients have identified lower reliability in scenario-based measures. With such measures items tend to contain unique variance for the scenario in addition to common variance for the psychological construct determining the response (Cohen, et al 2011). Hence why, when evaluating the internal reliability of GASP, Cohen et al, 2011 set alpha coefficients of .60 and were able to record evidence of reliability. All GASP subscales, other than shame-withdraw were recorded to be significantly correlated with one another. Whilst some similarities between NSEs and withdrawal behaviours following public transgressions were identified, they were identified to be unique and distinctive from one another.

5.6.4 Eating Disorder Examination questionnaire (EDE-Q; Fairburn and Beglin, 2008); appendix 12.1.

The Eating Disorder Examination questionnaire (EDE-Q; Fairburn and Beglin, 2008) is based on the EDE interview and is used to confirm diagnosis in order to establish eligibility for the study and to measure severity of eating disorder ¬related symptomology. The scale consists of 4 subscales; Dietary restraint (5-items), Eating concerns (5 items), Shape concerns (8 items) and Weight concerns (5 items). To obtain the score of a particular subscale score, all items are added, and the sum is divided by the total number of items forming the subscale. This calculation generates a global score the score from all four subscales are summed and divided

by the total number of subscales (four). Two types of data are generated by the EDE-Q; frequency data and severity data which indicates the frequency and severity of key aspects of the psychopathology. Frequency data is generated in parts 1 (questions 1-12) and part 2 (questions 13-18) of the scale. In these sections respondents indicate how often key eating disorder behaviours have occurred during a 28-day period. Part 2 of the questionnaire is focused on eating disorder behaviours such as binge eating, self-induced vomiting, laxative misuse and purging. The measure has good test-¬retest reliability, internal consistency and validity (Berg, Peterson, Frazier, & Crow, 2012).

In line with other research that have used the EDE-Q to measure eating disorder symptoms (i.e. Fairburn et al, 2009 and Dalle Grave, et al., (2013a) this study will accept improvement as less than one standard deviation (SD) above the community norms reported by Fairburn, Cooper and O'Connor (2014), mean=1.404 and standard deviation=1.130.

5.6.5 Time Logs; appendix 12.7.

The time logs will record how much time participants in the experimental condition spend writing their journals. The participants will be asked to record in minutes how long they wrote in their journals each day. The total number of minutes will be calculated to generate a total time score.

6. Data Analyses

The validity of an experiment is also threatened by error that arise when making statistical or generalizability inferences (Shadish & Sullivan, 2012). For this reason, accurate selection of statistical tests and their accurate application was prioritised during data analysis.

All data were analysed using IBM SPSS Statistics V.25 for Mac. The significance level was set at $p<0.05$. Questionnaire scores were calculated and where necessary reverse coded, according to the recommendations described in Section 5.6 measures. All questionnaires were scored and entered manually on to SPSS by the researcher. To avoid erroneous entries, the ranges of the scores were vigorously checked and screened prior to analysis. As the data file was small enough, proofreading and examination of descriptive statistics was the main techniques used to screen the accuracy of the data (Tabachnick, & Fidell, 2007).

6.1 Participants

A total of 49 eligible participants were invited to take part in the study. 5 participants declined to take part during the screening call. Of the 44 who verbally consented to take part during the screening call, 3 did not complete the written consent form and did not complete the questionnaires at time 1 and were therefore eliminated from the study. In total 41 participants gave written consent and started the study.

To achieve statistical power, the researcher intended to continue data collection until a minimum of 66 participants was recruited. Data from 41 participants was collected between July 2019March 2020. Due to Covid-19, in March 2020 the NHS service from which the participants were recruited, introduced significant changes to their referral and assessment procedures. For this reason, it was no longer possible to continue recruitment and data collection. The option to pause experimentation temporarily and to resume once Covid-19 ended, was considered. However, as it was not possible to predict how long this could be, this option was decided against. The researcher recognises that there are serious implications to reporting on incomplete data. These implications have been considered in greater detail in the results and the conclusion chapters of the Thesis.

6.2 Sample size

A power calculation carried out using G* Power software a total of 66 participants (33 in each condition) was needed for an MANOVA if a medium effect size (f = .25) is expected. This is the total sample size required for 80% power and 0.05 α-error probability when using MANOVA repeated measures to test between-factor interaction between two groups. For a repeated measures ANOVA, of the same effect size (f= .25), power (80%) and α-error probability (0.05) 34 participants would be necessary.

6.3 Missing Data

It is often the case that researchers are unable to collect data completely. Missing data hides a meaningful value which is important for statistical analysis. Although, the absence of this information can cause statistical setbacks, it is not necessary nor advised for it to be dismissed or disregarded (Fields, 2013). This is especially true, if the missing data in less than 5% and randomly distributed across a data matrix. Tabachnick and Fidell, (2007), specify that the pattern in which the data is missing in is more significant than the amount of data that is missing. For this reason, when reporting missing data researchers are recommended to specify the pattern in which the data is missing, how missing values are coded and how they are handled (Schlomer, Bauman & Card, 2010).

An advantage of using an online software (Qualtrics.xm, 2020) to administer questionnaires, is that the participants are unable to leave any questionnaires unanswered. For this reason, there are no missing values on any of the questionnaires that were submitted online as completed. However, a number of participants did not attempt/complete the questionnaires either at time 1 or time 2. As those participants who did not complete the questionnaires at time 1 also did not complete the consent form, they have been eliminated from the study and have not be included in the statistical analysis. 8 of the 41 participants who consented to take part in the study and completed the questionnaires at time 1, did not complete the questionnaires at time 2. This consistent pattern of missing data at time 2, is not random and cannot be ignored.

Of the 41 participants, who started the study 8 dropped out. Missing data at time 2, for the 8 participants was coded as -99 on SPSS. This value was selected as it does not correspond to any naturally occurring data value (Fields, 2013). The 8 participants who did not complete the questionnaires at time 2 were treated as dropped-out or as disengaged.

Emails sent out by Qualtrics, not only contained an anonymous link to the questionnaires, at time 1 and 2, but also the option to opt-out of the study. This option gave participants the opportunity to state whether they wish to retract their consent, to discontinue the experiment and to withdraw their data from the analysis. None of the 8 participants who disengaged, selected this option and for this reason, their time-1 data was included in the statistical analysis.

6.4 Outlier analysis

An outlier which is an extreme value on one variable that is very different from the rest of the data variables, can bias the mean and inflate the standard deviation (Fields, 2013). To reduce error rates in the analyses and to avoid making either a type I or a type II error it is important that outliers are explored during data analysis (Tabachnick & Fidell, 2007).

An outlier due to incorrect data entry can be easily identified and corrected. However, in case when the outlier is caused by a participant who does not belong to or represent the sampled population, the researcher will need to decide whether they wish to delete or alter the data entry to reduce the impact it has on their analysis (Tabachnick & Fidell, 2007). Before, deciding whether to alter and retain or whether to delete the outlying data, it is important to identify it. Outliers were examined by checking whether the standardised z-scores are greater or less than 3.29 (Tabachnick & Fidell, 2007) and by graphing the data with a boxplot (Field 2013). No outliers were identified therefore, no alterations to the data was made. Table 1 shows the minimum and maximum z-scores for each of the measures at time 1 and at time 2.

Table 1: Table of minimum and maximum standardised z-scores

	Time 1		Time 2	
	Minimum	Maximum	Minimum	Maximum
ESS	-1.77401	1.69428	-1.79035	1.71775
GASP Total	-1.79202	1.90757	-1.87496	1.94649
SCSC self-compassion	-1.79202	1.90757	-2.31279	2.81536
SCSC self-criticism	-2.19560	2.59712	-2.35910	2.31758
SCS	-2.37822	1.86510	-1.87692	2.09853
FCS Total	-2.16576	2.43507	-2.14263	2.77019
EDE-Q Global	-1.68274	1.98016	-1.56236	1.84825
Experimental group time log			-1.42868	1.65546

6.5 Normality of Data

6.5.1 Shapiro-Wilk test

To confirm the assumption that the data is normally distributed and meets the conditions for parametric testing, a one-tailed Shapiro-Wilk test was performed at time 1 and at time 2. As the sample size was <50, it was possible to use this test to compare scores in the sample to a normally distributed set of scores with the same mean and standard deviation. According to the Shapiro-Wilk test p <0.05 confirms significant deviation from a normal distribution. For this reason, the hypothesis of normality was rejected in instances when the p-value was less than or equal to 0.05 (Fields, 2013). To measure the symmetry of the distributions and to calculate the combined sizes of the two tails, Skewness and Kurtosis measures were calculated at time-1 and at time-2 for each measure and are reported within each section below. Whilst these measures can be highly informative with a small sample size they can also be misleading (Field, 2013).

On the Experience of Shame Scale (ESS) scores, the Shapiro-Wilk test showed that the experimental group and the control group were not significantly different from a normal distribution both at pre-intervention/time 1 (W=.926 p>0.05; W=.959, p>0.05) and at postintervention time 2 (W=.919 p>0.05; W=.940, p>0.05). For this variable the experimental group has a negative skew of -.073 (SE= .501) at time 1 and a kurtosis of -1.344 (SE = .972). At time 2 the experimental group has a negative skew of -.189 (SE= .550) and a kurtosis of -1.288 (SE = 1.063). At time 1 the control group also had a negative skew of -.046 (SE= .512) and kurtosis of -.740 (SE=.992) and at time 2 the control group has skew of positive skew .212 (SE= .564) and kurtosis of -.562 (SE=1.091).

For the Guilt and Shame Proneness total (GASP) scores, the Shapiro-Wilk test showed that the experimental group and the control group were not significantly different from a normal distribution both at pre-intervention/time 1(W=.909 p>0.05; W=.939, p>0.05). Post-intervention/time 2 scores for the experimental group also confirmed normal distribution (W=.958 p>0.05). For the control group the Shapiro-Wilk test showed did not identify enough evidence to confirm normal distribution (W=.884, p<0.05). For this variable the experimental group at time 1 has a positive skew of .457 (SE= .501) and a kurtosis of -.1.142 (SE = .972). At time 1 the control group also had a positive skew of .298 (SE= .512) and kurtosis of -1.058 (SE=.992). At time 2 the experimental group has a positive skew of -.135 (SE= .550) and a kurtosis of -1.064 (SE = 1.063). The control group has a positive skew of .716 (SE= .564) and a kurtosis of -.841 (SE = 1.091).

For the Self-compassion subscale of the Self-compassion Self-criticism scale (SCSC) preintervention/time 1 scores, the Shapiro-Wilk test showed that the experimental group and the control group were not significantly different from a normal distribution (W=.948 p>0.05; W=.943, p>0.05). At time 2 the Shapiro-Wilk test confirmed that the control group was not significantly different from a normal distribution (W=.916, p>0.05). The experimental group on the other had was confirmed to be significantly different from a normal distribution (W=.8.77, p<0.05). For this variable at time 1 the experimental group has a positive skew of .413 (SE= .501) and a kurtosis of .529 (SE = .972). The control group also had a positive skew of .680 (SE= .512) and kurtosis of .358 (SE=.992). For this variable at time 2 the experimental group has a positive skew of .588 (SE= .550) and a kurtosis of -1.611 (SE = 1.063). The Control group also had a positive skew of .502 (SE= .564) and kurtosis of -1.010 (SE=1.091).

For the self-criticism dimension of the same measure pre-intervention/time 1, the Shapiro-Wilk test also showed that the experimental group and the control group were not significantly different from a normal distribution (W=.907 p>0.05; W=.927, p>0.05). For this variable at time 1 the experimental group has a negative skew of -.765 (SE= .550) and a kurtosis of -.190 (SE = 1.063). The Control group has a negative skew of -.949 (SE= .564) and kurtosis of 1.854 (SE=1.091). At time 2 the Shapiro-Wilk test also showed that the experimental group and the control group were not significantly different from a normal distribution (W=.912 p>0.05; W=.936, p>0.05). For this variable at time 2 the experimental group has a negative skew of -.734 (SE= .501) and a kurtosis of -.131 (SE = .972). The Control group also had a negative skew of -.612 (SE= .512) and kurtosis of -.422 (SE=.992).

For the Self-compassion Scale total (SCS) at pre-intervention/time 1, the Shapiro-Wilk test showed that the experimental group and the control group were not significantly different from a normal distribution (W=.968 p>0.05; W=.957, p>0.05). For this variable at time 1 the Experimental group has a negative skew of -.111 (SE= .501) and a kurtosis of -.956 (SE = .972). The Control group also had a negative skew of -.513 (SE= .512) and kurtosis of -.003 (SE=.992). For this measure at time 2, the Shapiro-Wilk test also showed that the experimental group was not significantly different from a normal distribution (W=.952 p>0.05). The control group on the other hand was confirmed to be significantly different from a normal distribution (W=.278, p<0.05). For this variable at time 2 the experimental group has a positive skew of .114 (SE= .550) and a kurtosis of -.878 (SE = 1.063). The Control group also had a positive skew of 4.000 (SE= .564) and kurtosis of 15.999 (SE= 1.091).

For the Fear of compassion scale (FCS) global at pre-intervention/time 1, the Shapiro-Wilk test showed that the experimental group and the control group were not significantly different from a normal distribution (W=.925 p>0.05; W=.915, p>0.05). For this variable at time 1 the Experimental group has a negative skew of -.300 (SE= .501) and a kurtosis of -.1.020 (SE = .972). The Control group had a positive skew of 1.020 (SE= .512) and kurtosis of 1.150 (SE=.992). For this measure at time 2, the Shapiro-Wilk test also showed that the experimental group was not significantly different from a normal distribution (W=.936, p>0.05). The control group on the other hand was confirmed to be significantly different from a normal distribution at time-2 (W=.860, p<0.05). For this variable at time-2 the experimental group had a negative skew of -.192 (SE= .550) and a kurtosis of -.1.170 (SE = 1.063). The control group at time-2 had a positive skew of 1.539 (SE= .564) and kurtosis of 3.016 (SE= 1.091).

For the Eating Disorder Examination Questionnaire (EDE-Q) global scores, the Shapiro-Wilk test showed that the experimental group was not significantly different from a normal distribution both at time-1 (W=.930 p>0.05) and at time-2 (W=.917, p>0.05). For this variable at time 1 the experimental group has a negative skew of -.318 (SE= .501) and a kurtosis of -.909 (SE = .972). At time-2 the experimental group has a negative skew of -.044 (SE= .550) and a kurtosis of 1.502(SE = 1.063). On the same measure (EDE-Q) the Shapiro-Wilk test found the control group to be significantly different from a normal distribution both at time-1 (W=.722, p<0.05) and at time-2 (W=.725, p<0.05). The control group at time 1 has a positive skew of 1.709 (SE= .512) and kurtosis of 1.772 (SE=.992). At time-2 control group has a positive skew of 1.502 (SE= .564) and a kurtosis of .818 (SE = 1.091).

The Shapiro-Wilk test also confirmed that the scores on the experimental groups time-log were not significantly different from a normal distribution (W=.930 p>0.05). The time-log has a positive skew of .058 (SE= .550) and a kurtosis of -1.363 (SE = 1.063).

Shapiro-Wilk test predominately showed that the scores are not significantly different from a normal distribution. Although, normal distribution was not confirmed on all occasions, it was concluded that there is enough evidence to indicate that the sample is drawn from a normally distributed population.

6.5.2 The Assumption of Homogeneity of Variance

Homogeneity of variance is an assumption of the independent samples t-test and F tests, analyses of variance (ANOVAs). This assumption confirms that all comparison groups have the same variance, or in other words that the distribution, or "spread," of scores around the mean of two or more samples are considered equal. In instances when the variances are unequal, the risk of making a Type I error is increased. The assumption of homogeneity of variance was tested using Levene's Test of Equality of Variances.

It was not possible to perform Levene's test to check the homogeneity of the 4 eating disorder subcategories due to the small sample size. However, homogeneity of the two treatment conditions cross all the measures was confirmed using the Levene test.

The Levene test for homogeneity of variance was equal for both subscales of the SCSC, (SCSC- self-compassion subscale, $F(1,39) = 2.556$, p. 0.118; SCSC self-criticism subscale, $F(1,39) = 2.909$, p. 0.096), the FCS total scores ($F(1,39) = 2.051$, p. 0.160), and the EDE-Q measure ($F(1,39) = 1.657$, p. 0.206) at time-1. This confirms that the assumption required for an independent samples t-test was not violated for these variables at time 1.

The Levene test for homogeneity of variance was significantly different for the ESS, ($F(1,39) = 7.097$, p. < 0.05), the GASP scores total ($F(1,39) = 5.369$, p. < 0.05) and the SCS total score ($F(1,39) = 4.422$, p. < 0.05). This indicates that the variances are significantly different for the two treatment conditions on these 3 measures.

Table 2: Test of Homogeneity of Variance

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Experience of Shame Scale	Based on Mean	7.097	1	39	.011
	Based on Median	6.224	1	39	.017
	Based on Median and with adjusted df	6.224	1	35.875	.017
	Based on trimmed mean	7.100	1	39	.011

GASP total	Based on Mean	5.369	1	39	.026
	Based on Median	2.485	1	39	.123
	Based on Median and with adjusted df	2.485	1	33.084	.124
	Based on trimmed mean	5.254	1	39	.027
(SCSC) self-compassion	Based on Mean	2.556	1	39	.118
	Based on Median	2.425	1	39	.128
	Based on Median and with adjusted df	2.425	1	38.336	.128
	Based on trimmed mean	2.643	1	39	.112
(SCSC) self-criticism	Based on Mean	2.909	1	39	.096
	Based on Median	3.022	1	39	.090
	Based on Median and with adjusted df	3.022	1	34.343	.091
	Based on trimmed mean	3.058	1	39	.088
Self-compassion scale total	Based on Mean	4.422	1	39	.042
	Based on Median	4.086	1	39	.050
	Based on Median and with adjusted df	4.086	1	37.093	.050
	Based on trimmed mean	4.495	1	39	.040
Fears of compassion scale total	Based on Mean	2.051	1	39	.160
	Based on Median	2.058	1	39	.159
	Based on Median and with adjusted df	2.058	1	38.013	.160
	Based on trimmed mean	2.158	1	39	.150

EDEQ- Global EDE	Based on Mean	1.657	1	39	.206
	Based on Median	1.516	1	39	.226
	Based on Median and with adjusted df	1.516	1	38.669	.226
	Based on trimmed mean	1.909	1	39	.175

6.5.3 Multicollinearity

The study used a regression analysis to determine the extent to which predictor variables shame, self-compassion, self-criticism and fear of compassion might predict eating disorder symptoms, the response variable in this study.

Multicollinearity is a concern when there are two or more predictor variables in a multiple regression model that are highly linearly related to each other or in other words are highly correlated. As multicollinearity makes it harder to distinguish which predictor variable accounts for the variance of scores in the dependant variable, the potential for errors is increased (Fields, 2013). Adding more independent variables to a multiple regression procedure does not mean the regression will offer better predictions. Although it will explain more of the variation in the dependent variable, the addition of more predictor variables creates more relationships among them. It is ideal that the predictor variables are correlated with the dependent variable but not with each other, however as 2 separate measures were used in the study to measure shame and self-compassion multicollinearity is expected between the 2 shame measures and the 2 selfcompassion measures.

To minimise the potential of multicollinearity and to avoid overfitting, a number of important preparatory steps were taken. Firstly, to determine whether there are any issues of multicollinearity or in other words to determine whether there is a strong relationship (high correlation, r>0.9) between any of the variables a correlation matrix was conducted (see table below). The correlation matrix displayed below indicates that none of the correlations violated this assumption.

Table 3: Multicollinearity test correlation matrix

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	6.503	2.050		3.172	.003		
	Experience of Shame Scale	.536	.620	.250	.865	.393	.130	7.681
	GASP total	.219	.296	.184	.738	.466	.175	5.713
	(SCSC) selfcompassion	-.048	.073	-.086	-.664	.511	.650	1.538
	(SCSC) self-criticism	-.121	.062	-.254	-1.935	.061	.628	1.592
	Self-compassion scale total	-1.351	.393	-.561	-3.436	.002	.407	2.460
	Fears of compassion scale total	-.087	.384	-.044	-.227	.822	.290	3.448

a. Dependent Variable: EDEQ- Global EDE

6.6 Analytic strategy

To explore the nature of the participant demographics and characteristics a selection of descriptive statistics and correlations were conducted on Time-1 data to identify potential confounding variables. As the data for this sample met the assumptions of normality and homogeneity of variance parametric tests were used to test for differences between groups.

6.7 Demographic Characteristics

A total of 41 eligible participants were recruited and were randomly assigned to the experimental or control conditions during July 2019 and March 2020. Of the 41 participants, 11 (27%) had a diagnosis of anorexia nervosa, 11 (27%) had a diagnosis of bulimia nervosa, and 9 (22%) had a diagnosis of Binge eating disorder (BED). 10 patients (24% of the full sample) fulfilled the DSMIV research criteria for OSFED. In total 20 participants were allocated to the control group and 21 to the experimental group.

Table 4: Total number of participants assigned to each condition at baseline specified according to eating disorder diagnosis.

Disorder subgroup	All participants (Total n41)	Waiting list control (n20)	Experimental condition (n21)
Anorexia	11	5	6
Bulimia	11	6	5
Binge Eating	9	4	5
OSFED	10	5	5
Total	41	20	21

In total 8 participants dropped out of treatment; 4 of these participants were from the control group and 4 participants were from the experimental group. Of the 8 participants that dropped out 3 had a diagnosis of anorexia, 3 had bulimia and 2 had OSFED. Interestingly none of the participants that dropped out of treatment belonged to the BED subcategory.

6.8 Analysis of Data at baseline

Prior to addressing the main research hypotheses, the two groups were compared according to baseline characteristics (total scores on the 6 measures at time-1). To check whether there was a significant difference between the two groups at time-1, independent-samples t-tests was performed to check for difference in mean scores.

Measures of central tendency and of dispersion for each of the 6 measures are presented in the table below. Table 5 displays mean scores and standard deviation for all participants at time 1. In table 6, mean totals and standard deviations are broken down according to treatment group.

Table 5: Mean scores and standard Deviation for time-1 for all participants

	N	Mean	Std. Deviation
Experience of Shame Scale	41	2.8500	.50169
GASP total	41	4.5227	.90551
(SCSC) self-compassion	41	7.215	1.9196
(SCSC) self-criticism	41	13.059	2.2699

Self-compassion scale total	41	2.2649	.44776
Fears of compassion scale total	41	1.9768	.54338
EDEQ- Global EDE	41	3.8646	1.07838
Time Log	17	78.58824	9.734339
Valid N (listwise)	17		

Table 6: Mean scores and standard Deviation for time-1 broken down according to treatment group

	Experimental group (n21)		Control group (n20)	
	Mean	Std. Deviation	Mean	Std. Deviation
Experience of Shame Scale	2.8324	.60615	2.8685	.37738
GASP total	4.4738	1.06529	4.5740	.72540
(SCSC) self-compassion	6.838	2.1435	7.610	1.6124
(SCSC) self-criticism	13.562	2.6492	12.530	1.6986
Self-compassion scale total	2.2100	.52617	2.3225	.35191
Fears of compassion scale total	1.9719	.60100	1.9820	.49127
EDEQ- Global EDE	4.0571	1.16933	3.6625	.96175
Time Log	78.58824	9.734339		
Valid N (listwise)				

Eating disorder examination questionnaires (EDE-Q)

Fairburn, Cooper and O'Connor (2014), published community norms measured for the healthy population for the EDE-Q global scores as mean=1.404 and standard deviation=1.130.

The mean for EDE-Q global score at time-1 was 4.0571 for the experimental group and 3.6625 for the control group. Both means are significantly higher than the community norms published by Fairburn et al., (2014), but consistent with those reported in treatment studies and research that have investigated eating disorder psychopathology (Fairburn, et al. 2009). This confirms that the participants recruited into the study were within the clinical range for an eating disorder as

measured by the EDE-Q. For visual inspection, the mean scores for the two groups are presented in the graph below.

Simple Bar Mean of EDEQ– Global EDE by Condition
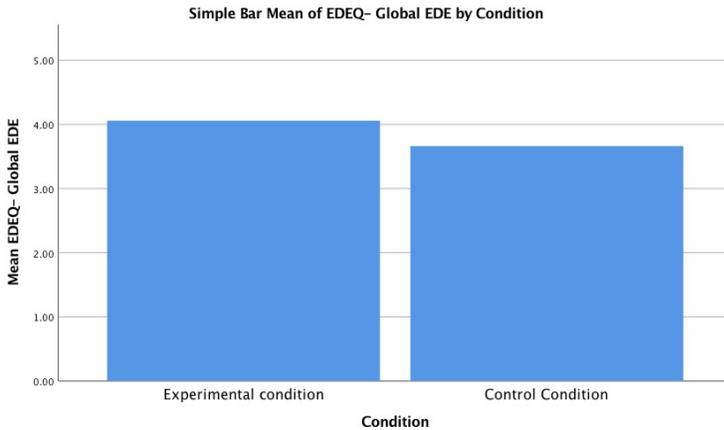
To check whether there was a significant difference between the means scores on the EDE-Q for the control condition and the experimental condition at time-1, an independent-samples t-test was performed. The results of this test are displayed in the table below. The test showed that, on the EDE-Q there was not a significant difference between the experimental and the control condition at time-1; t(39)=1.177, p= .246. This confirms that with regards to symptom severity the distribution of participants between the 2 conditions was fairly equal and balanced.

Table 7: Independent samples t-test to check mean difference between conditions on the EDE-Q at time-1.

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t for Equality of means | | | | | 95% Confidence Interval of the Difference | |
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EDEQ-Global EDE	Equal variances assumed	1.657	.206	1.177	39	.246	.39464	.33532	-.28360	1.07289
	Equal variances not assumed			1.183	38.210	.244	.39464	.33370	-.28079	1.07007

The EDE-Q mean scores for the 4 different types of eating disorder group at time-1 for the EDEQ are plotted on the graph displayed below.

Simple Bar Mean of EDEQ– Global EDE by Diagnosis
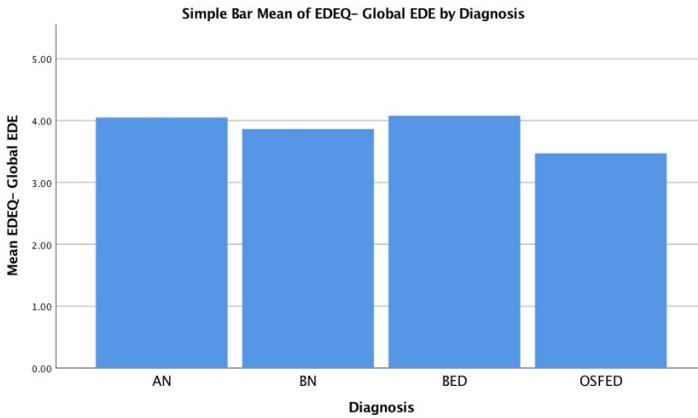
A one-way analysis of variance (ANOVA) was performed to compare the means on the EDE-Q for each group. There was no significant difference between the groups on the EDE-Q ; $F_{(3,37)}$= .655, p= .585. This confirmed that the 4 eating disorder groups did not differ significantly with regards symptom severity, thus it was possible to treat the 4 eating disorder diagnosis subcategories collectively as a single unified diagnosis. Although, it would have been ideal to examine the diagnostic subcategories separately, it would not have been statistically meaningful or powerful, given that the study was unable to recruit a sufficient number of participants as a result of the Covid-19 pandemic.

Table 8: Analysis of variance (ANOVA) to check mean difference between eating disorder groups on the EDE-Q at time-1

ANOVA

EDEQ- Global EDE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.344	3	.781	.655	.585
Within Groups	44.172	37	1.194		
Total	46.516	40			

Experience of Shame Scale (ESS)

According to the data published by Andrews, Qian and Valentine (2002) the community norms for the non-clinical population on the ESS are, mean=2.223 and standard deviation= .558. In this study, the mean for the ESS at time-1 was 2.8500, which indicated that the participants in this

study reported greater levels of shame on the ESS at time-1, than the general non-clinical population.

For the ESS the mean score for the experimental group was 2.8324 and for the control group the mean was 2.8685. For visual inspection ESS mean scores for the two treatment conditions at time-1, is presented in the graph below.
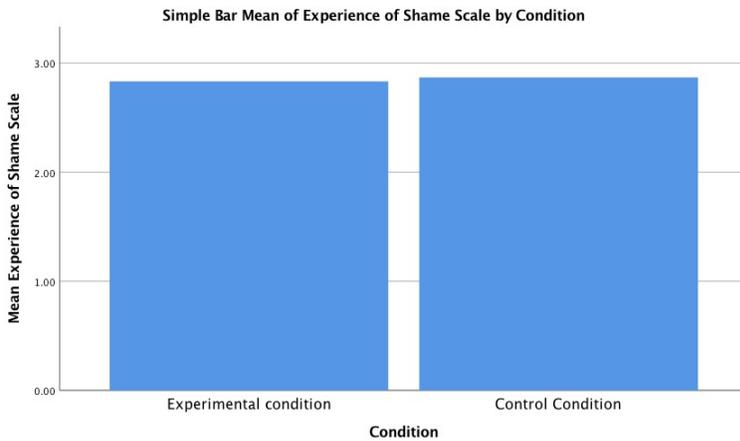
Simple Bar Mean of Experience of Shame Scale by Condition

To confirm whether there was a significant difference between the experimental and control groups on the ESS at time-1, an independent-samples t-test was performed. There was no significant difference between the experimental and the control group on the ESS at time-1; t(39)= -.228, p= .821. This confirmed that the distribution of participants between the 2 conditions was fairly equal and balanced.

Table 9: Independent samples t-test to check mean difference between conditions on the ESS at time-1.

Independent Samples Test

		Levene's Test for Equality of Variances		t- or Equality of s					95% fidence Interval Diffe	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Experience of Shame Scale	Equal variances assumed	7.097	.011	-.228	39	.821	-.03612	.15864	-.35700	.28476

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Equal variances not assumed			-.230	33.714	.819	-.03612	.15690	-.35507	.28283

Guilt and Shame Proneness scale GASP

For the GASP scale, the mean score for the experimental group was 4.4738 and for the control group the mean was 4.5740. For visual inspection the mean difference between the experimental group and the control group is presented in the graph below.

To confirm whether there was a significant difference between the two treatment conditions on the GASP at time-1, an independent-samples t-test was performed. There was no significant difference between the experimental and the control group on the GASP at time-1; t(39)= -.350, p= .728. Again, this confirmed that the distribution of participants between the 2 conditions was fairly equal and balanced.

**Table 10:** Independent samples t-test to check mean difference between conditions on the GASP at time-1.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
GASP total	Equal variances assumed	5.369	.026	-.350	39	.728	-.10019	.28607	-.67882	.47844
	Equal variances not assumed			-.353	35.386	.726	-.10019	.28346	-.67542	.47504

Self-Compassion and Self-Criticism Scale (SCSC)

For the SCSC the mean score for the experimental group was 6.838 on the self-compassion subscale and 13.562 for the self-criticism subscale. The mean score for the control group was 7.610 on the self-compassion subscale and 12.530 for the self-criticism subscale. For visual inspection, the mean difference between the experimental group and the control group on the SCSC is presented in the graph below.
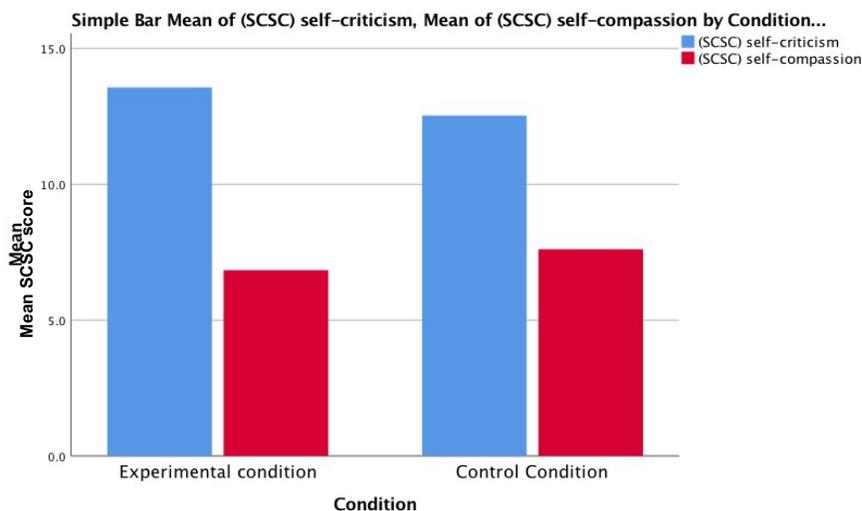
To confirm whether there was a significant difference between the two treatment conditions on the SCSC at time-1, an independent-samples t-test was performed. There was no significant difference between the experimental and the control condition on the self-compassion subscale of the SCSC at time-1; t(39)= -1.298, p= .202. Likewise there was no significant difference between the experimental and the control condition on the self-criticism subscale at time-1; t(39)= 1.476, p= .148. This again shows that the distribution of participants between the 2 conditions was fairly equal and balanced.

Table 11: Independent samples t-test to check mean difference between conditions on the SCSC at time-1.

Independent Samples Test

		Levene's Test for Equality of Variances		-test for Equal tM eans						
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
(SCSC) selfcompassion	Equal variances assumed	2.556	.118	-1.298	39	.202	-.7719	.5947	-1.9748	.4310
	Equal variances not assumed			-1.307	37.057	.199	-.7719	.5906	-1.9685	.4247
(SCSC) selfcriticism	Equal variances assumed	2.909	.096	1.476	39	.148	1.0319	.6990	-.3819	2.4457
	Equal variances not assumed			1.492	34.271	.145	1.0319	.6917	-.3734	2.4372

Self-compassion Scale (SCS)

According to the data published by Neff (2003) the mean score for the non-clinical student population on the SCS was mean = 18.26 (SD 3.99). In this study, the mean score for the SCS at time-1 was 2.26. Being considerably lower than the community norms reported by Neff (2003), this mean indicates that, compared to the general non-clinical population, the participants recruited into this study reported lower levels of self-compassion on the SCS at time-1.

For the SCS the mean score for the experimental group was 2.2100 and for the control group the mean was 2.3225. For visual inspection the mean difference between the experimental group and the control group on SCS is presented in the graph below.

To confirm whether there was a significant difference between the two treatment conditions on the SCS at time-1, an independent-samples t-test was performed. There was no significant difference between the experimental and the control condition on the SCS at time-1; $t(39)= .801$, $p= .428$. These results confirm that the distribution of participants between the 2 conditions was fairly equal and balanced.
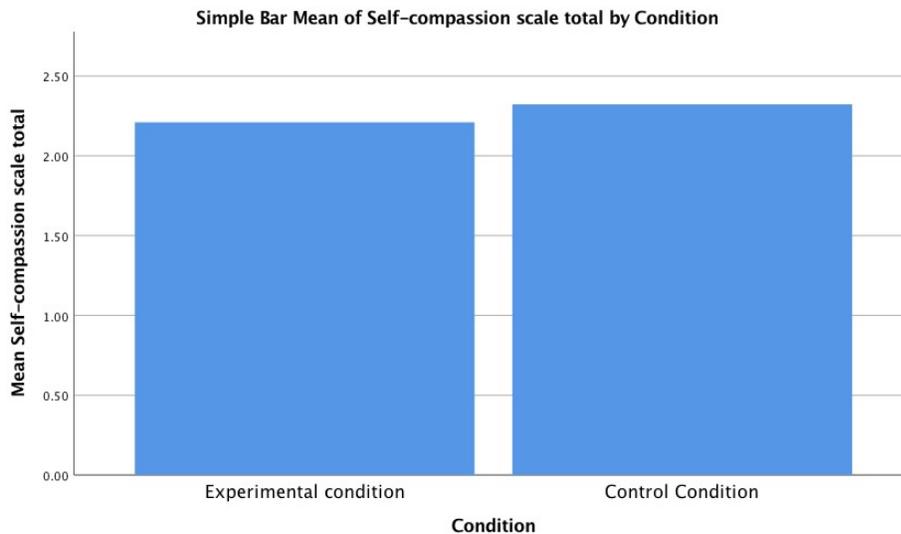
Table 12: Independent samples t-test to check mean difference between conditions on the SCS at time-1.

Independent Samples Test

		Levene's Test for Equality of Variances		est for Equality of Means					95 ence Interval ifference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SCS	Equal variances assumed	4.422	.042	-.801	39	.428	-.11250	.14053	-.39675	.17175
	Equal variances not assumed			-.808	35.058	.424	-.11250	.13920	-.39506	.17006

Fears of Compassion scale (FCS)

For the FCS the mean score for the experimental group was 1.9719 and for the control group the mean was 1.9820. This is considerably higher than the mean scores reported by Gilbert et al., (2011) for a healthy non-clinical student population. For visual inspection the mean difference between the experimental group and the control group on FCS is presented in the graph below.

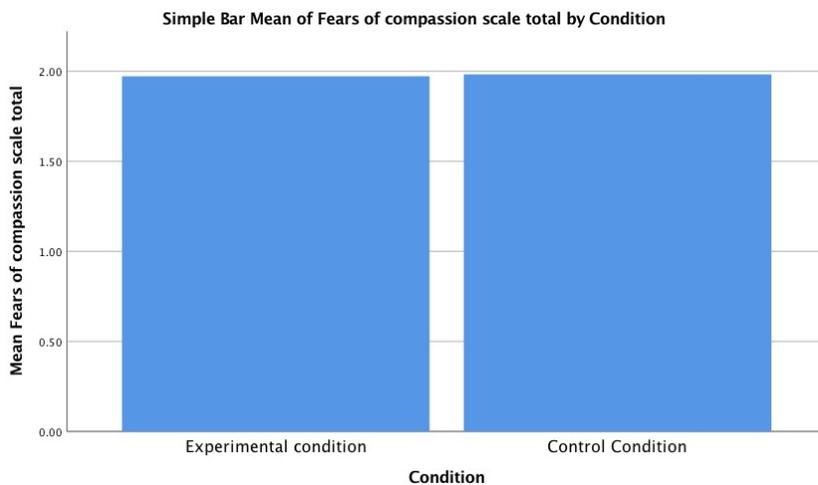Simple Bar Mean of Fears of compassion scale total by Condition

To confirm whether there was a significant difference between the two treatment conditions on the FCS at time-1, an independent-samples t-test was performed. There was no significant difference between the experimental and the control condition on the FCS at time-1; t(39)= .059, p= .953. Once again, this confirmed that the distribution of participants between the 2 conditions was fairly equal and balanced.

Table 13: Independent samples t-test to check mean difference between conditions on the FCS at time-1.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
FCS	Equal variances assumed	2.051	.160	-.059	39	.953	-.01010	.17193	-.35785	.33766
	Equal variances not assumed			-.059	38.144	.953	-.01010	.17108	-.35638	.33619

In conclusion, measures of central tendency and of dispersion and analysis of mean using ttests and ANOVA, confirm that mean scores between the experimental and the control condition were equivalent across groups.

6.9 Hypothesis testing no.1: The association between variables of interest at time-1.

The researcher hypothesised that the data collected at time-1 will show a positive correlation between shame and fears of compassion, and between shame and eating disorder symptoms and a negative correlation between shame and self-compassion. The researcher also hypothesised that the data collected at time-1 will show a negative correlation between fears of compassion and self-compassion. To test these hypotheses and to explore the relationship between each of the variables, measured at time-1, Pearson's correlation coefficient analysis was performed.

Pearson's correlation indicates that there was a significant positive association between the two shame measures on the GASP and ESS at time- 1, $r(41) = .857$, p= <.0001.

Consistent with the researcher hypothesis analysis confirmed that there was a significant positive association between the two shame measures and the EDE-Q: the ESS and the EDEQ, $r(41)= .679$, p= <.0001; and the GASP and the EDE-Q, $r(41)= .622$, p= <.0001.

The relationship between the two shame measures (ESS and GASP) and the Fear of Compassion scale (FCS) also support the researchers hypothesis. There was a significant positive association between ESS and the FCS ($r(41)$= .735, p= <.0001) and between GASP and the FCS ($r(41)$= .518, p= <.0001.

The relationship between the two shame measures (ESS & GASPS) and the Self-Compassion Scale (SCS) also supported the hypothesis. Pearson's correlation analysis indicated that there was a significant positive association between the ESS and the SCS ($r(41)$ = -.582, p= <.0001) and between the GASP and the SCS ($r(41)$ = -.572, p= <.0001). This supports the hypothesis that greater levels of shame correlate with lower levels of compassion as measured by the SCS.

Interestingly, the relationship between the two shame measures (ESS & GASPS) and the other self-compassion measure (SCSC self-compassion subscale) was not in support of the research hypothesis. A non-significant association was identified between the self-compassion subscale of the SCSC and the ESS ($r(41)$ = -.230, p= .074) and between the self-compassion subscale of the SCSC and the GASP ($r(41)$ = -.045, p= .390). Likewise, the association between the shame measures (ESS and GASP) and the other subscale of the SCSC (self-criticism) was inconsistent with the hypothesis. The analysis of time-1 data showed that there was no association between the ESS and the SCSC self-criticism subscale ($r(41)$ = .163, p= .155) and between the GASP and the SCSC self-criticism subscale ($r(41)$ = .306, p= .026).

Pearson's correlation analysis indicated that there was a positive association between the 2 selfcompassion measures (SCS and the self-compassion subscale of the SCSC). However, this was only significant at the 0.05 level ($r(41)$ = .352, p< 0.05).

The relationship between self-compassion and self-criticism was consistent with the hypothesis. The negative association between the two subscales of the SCSC scale (self-compassion and self-criticism) was significant at the 0.05 level ($r(41)$ = -.270, p= <.05). The negative association between the other self-compassion measure (SCS) and the self-criticism subscale of the SCSC was significant at a slightly stronger level ($r(41)$ = -.495, p= <.0001).

Consistent with the hypothesis self-compassion associated negatively with fears of compassion (FCS). A significant negative relationship was calculated between the SCS and the FCS ($r(41)$ = -.647, p= <.0001) and between the self-compassion subscale of SCSC and the FCS ($r(41)$ = .473, p= <.0001). This suggests that low self-compassion relates to greater fears of compassion.

A non-significant associated was identified between fears of compassion (FCS) and the selfcriticism subscale of the SCSC scale (r(41) = .217, p= .086).

In conclusion, the results of the Pearson's correlation coefficient analysis showed that there was a positive correlation between shame and fears of compassion, and between shame and eating disorder symptoms and a negative correlation between shame and self-compassion. It also showed a negative correlation between fears of compassion and self-compassion. As this is consistent with the research hypothesis, the researcher is able to reject the null hypothesis.

6.10 Multiple Regression Analysis

To test a number of the hypotheses specified by the researcher multiple regression analysis was used. Before carrying out this analysis the assumption of linearity and heteroscedasticity was examined. To check whether there is a linear relationship between the dependent variable and each of independent variables, and between the dependent variable and the independent variables collectively, scatterplots and partial regression (P-P) plots were created using SPSS software. Visually inspection of these, confirm that the data does not violate neither assumption.

For optimal statistical power, 10 sets of measures are required per variable to run a multiple regression analysis (Fields, 2013). As the study collected data from 41 participants at time-1, a maximum of 4 variables was included in each analysis.

6.11 Hypothesis testing no. 2: Are the variables of interest able to predict symptom severity?

The researcher hypothesised that shame, self-compassion and fear of compassion can indicate symptom severity in individuals with eating disorders. The key assumption being that greater symptom severity will correlate with greater levels of shame and fear of compassion and will low levels of self-compassion. To clarify whether variables shame, self-compassion and fear of compassion are able to predict symptom severity and to confirm which of these variables are strong predictors and which contribute nothing, multiple regression analysis using the standard method was performed on data collected from all 41 participants at Time-1.

In the first instance the following 4 variables were included in the multiple regression analysis; the total scores on the shame measure ESS, the scores on the self-criticism subscale of the SCSC measure, the total scores on the self-compassion scale (SCS) and the total scores on the fears of compassion scale (FCS). As the study used 2 measures for self-compassion it was considered appropriate to eliminate one of the self-compassion measures to maintain within the 4 variables limit. The self-compassion subscale of the SCSC was excluded and the SCS measure, was chosen for this analysis as it is a more robust measure of self-compassion (Williams, Dalgleish, Karl, & Kuyken, 2014). When the regression analysis was performed on these 4 variables a significant model emerged $F_{(4.36)} = 14.895$, $p < .001$. This model indicated that 58.1% of the variance in Eating disorder examination questionnaires (EDE-Q) scores (adjusted $R^2 = .581$) can be predicted from the variables ESS scores, self-criticism subscale of the SCSC scores, SCS total scores and the FCS total scores.

Table 14: multiple regression analysis to test whether shame (ESS), self-compassion (SCS) and fear of compassion (FCS) can indicate symptom severity (EDE-Q).

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.996	4	7.249	14.895	.000[b]
	Residual	17.521	36	.487		
	Total	46.516	40			

a. Dependent Variable: EDEQ- Global EDE
b. Predictors: (Constant), Fears of compassion scale total, (SCSC) self-criticism, Experience of Shame Scale, Self-compassion scale total

The regression coefficients for the predictor variables entered in the model are presented in the table below. As highlighted in the table, experience of shame (ESS) and self-compassion (SCS) were calculated to be the most significant predictors and had a positive relationship with eating disorder examination questionnaire (EDE-Q). The self-criticism subscale of the SCSC and fears of compassion (FCS) were non-significant predictors.

Table 15: regression coefficients matrix showing predictive power of shame (ESS), self-compassion (SCS) and fear of compassion (FCS).

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)	6.074	1.885		3.222	.003	2.250	9.898
	Experience of Shame Scale	.884	.333	.411	2.655	.012	.209	1.560
	Self-compassion scale total	-1.415	.378	-.587	-3.744	.001	-2.181	-.648
	(SCSC) self-criticism	-.101	.057	-.212	-1.769	.085	-.216	.015
	Fears of compassion scale total	-.106	.327	-.053	-.324	.748	-.769	.557

a. Dependent Variable: EDEQ- Global EDE

To examine whether self-compassion as measured by the other self-compassion measure was equally significant as a predictor, the two subscales of SCSC measure (the self-criticism scale and the self-compassion scale), were included in a separate multiple regression analysis. On this occasion a non-significant model emerged, $F_{(2.38)} = 1.468$, p .243. This model indicated that only 2.3% of the variance in eating disorder examination questionnaire (EDE-Q) (adjusted R^2=.023) can be predicted by the two subscales of the SCSC measure. The summary of this analysis is displayed in the table below.

Table 16: regression coefficients matrix showing predictive power of the two subscales of SCSC measure (the selfcriticism scale and the self-compassion scale).

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)	4.411	1.354		3.259	.002	1.671	7.152
	(SCSC) selfcompassion	-.135	.091	-.241	-1.483	.146	-.320	.049
	(SCSC) selfcriticism	.033	.077	.069	.426	.673	-.123	.189

a. Dependent Variable: EDEQ- Global EDE

To avoid multicollinearity problems, Cohen and colleagues (2011) recommend that in multiple regression analysis each GASP subscale is considered individually. For this reason, the predictive strength of each subscale of this shame measure was analysed in a separate multiple regression analysis. The results of this analysis confirmed a significant model; $F(4.36) = 8.492$, $p<.001$. This model indicated that 42.8% of the variance in Eating disorder examination questionnaires scores (adjusted $R^2=.428$) can be predicted from the 4 subscales of the GASP measure; Guilt-Negative-Behaviour-Evaluation (Guilt-NBE), Guilt-Repair, Shame- Negative-SelfEvaluation (Shame-NSE), and Shame-Withdraw.

Table 17: multiple regression analysis to test whether the 4 subscales of the GASP measure can indicate symptom severity (EDE-Q).

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.583	4	5.646	8.492	.000[b]
	Residual	23.933	36	.665		
	Total	46.516	40			

a. Dependent Variable: EDEQ- Global EDE
b. Predictors: (Constant), GASP- Shame withdrawel, GASP-Shame negative self evaluation, GASP-Guilt Repair, GASP- Guilt negative behaviour evaluation

The regression coefficients for the predictor variables entered in the model are presented in the table below. The results show that shame negative self-evaluation subscale of the GASP measure was the most significant predictor and had a positive relationship with eating disorder examination questionnaire (EDE-Q) scores. The remaining 3 subscales, Guilt negative behaviour evaluation, Guilt Repair and shame withdrawal were all poor predictors.

Table 18: regression coefficients matrix showing predictive power of each of the four subscales of GASP measure.

Coefficients[a]

Model		dardized cients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	.241	.717		.337	.738	-1.212	1.694
	GASP- Guilt negative behaviour evaluation	.168	.161	.192	1.046	.303	-.158	.495
	GASP- Guilt Repair	.048	.165	.049	.289	.774	-.286	.381
	GASP-Shame negative selfevaluation	.479	.166	.498	2.893	.006	.143	.815

GASP- Shame withdrawal	.074	.138	.081	.536	.595	-.207	.355

a. Dependent Variable: EDEQ- Global EDE

According to the previous analysis, the total score of the fears of compassion scale was a nonsignificant predictor for the dependent variable. However, as this scale comprises of 3 subscales the predictive strength of each of these subscales was examined in a separate multiple regression analysis. Interestingly, when the regression analysis was performed in this format a significant model emerged; $F_{(3.37)} = 9.656$, $p<.001$. This model indicates that 39.4% of the variance in Eating disorder examination questionnaires scores (adjusted $R^2=.394$) can be predicted from the 3 subscales of the FCS measure; fear of compassion for others, fear of compassion from others, and fear of compassion to self.

Table 19: multiple regression analysis to test whether the 3 subscales of the FCS measure can indicate symptom severity (EDE-Q)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.427	3	6.809	9.656	.000[b]
	Residual	26.089	37	.705		
	Total	46.516	40			

a. Dependent Variable: EDEQ- Global EDE
b. Predictors: (Constant), Fears of compassion scale- to self, Fears of compassion scale- from others, Fears of compassion scale- for others

The regression coefficients for the predictor variables entered in the model are presented in the table below. Fear of compassion for others and fear of receiving compassion from others, were identified as the strongest predictors and were shown to have a positive relationship with eating disorder examination questionnaire (EDE-Q). Fear of self-compassion was interestingly a poor predictor and contributed very little predictive strength.

Table 20: regression coefficients matrix showing predictive power of each of the three subscales of FCS measure.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0 Confidence Interval r B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.697	.505		3.361	.002	.674	2.720
	Fears of compassion scale- for others	.749	.273	.453	2.741	.009	.195	1.304
	Fears of compassion scale- from others	.740	.284	.415	2.605	.013	.164	1.315
	Fears of compassion scale- to self	-.253	.295	-.150	-.856	.398	-.851	.346

a. Dependent Variable: EDEQ- Global EDE

In conclusion, multiple regression analysis confirmed that shame measured by the ESS and the shame negative self-evaluation subscale of the GASP measure is a significant predictor for eating disorder symptom severity. This supports the hypothesis that with greater levels of shame symptom severity is increased. However, with regards to self-compassion mixed findings have emerged. As predicted self-compassion measured by the SCS was confirmed to be a significant predictor for symptom severity, confirming the hypothesis. Contrary to this the analysis which examined the predictive power of the other self-compassion measure do not support the hypothesis. According to the later analysis self-compassion as measured by the self-compassion subscale of the SCSC is not a significant predictor for symptom severity.

One possible explanation for this discrepancy is that the two self-compassion measures differ significantly in their approach to self-compassion. Whilst the SCS is a 26-item questionnaire that assesses thoughts, emotions, and behaviours associated with six aspects of self- compassion; self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. The SCCS contains five self-threatening scenarios that are designed to elicit states selfcompassion. However, according to Falconer, and colleagues (2015) the SCCS is conceptually only similar to the self-kindness subscale of SCS. Williams, Dalgleish, Karl, & Kuyken, (2014) highlight that the SCS is a more robust and comprehensive measure as it acknowledges other aspects of self-compassion that is missing from the SCSC. Furthermore, given that the 5scenarios detailed in the SCSC measure, are fairly general they may not sufficiently capture selfcompassion relevant to the eating disorder population.

6.12 Hypothesis testing no. 3: will individuals low in self-compassion struggle with the self-compassion intervention and therefore spend less time writing in their diaries?

Previous research suggests that individuals low in self-compassion typically struggle to cultivate self-compassion and may resist it (REF). For this reason, this study hypothesised that those individuals with low self-compassion may struggle with the self-compassion intervention and will therefore spend less time writing in their diaries.

To test this hypothesis a multiple regression analysis was performed. For this analysis the two self-compassion measures were selected as predictive variables. The aim of the analysis was to test whether these two variables could predict the total number of minutes spent writing in the journals. Contrary to the hypothesis, a non-significant model emerged, $F_{(2.14)} = .879$, p .437. This indicates that only 0.15% of the variance in time spent writing (adjusted $R^2 = .015$) can be predicted by levels of self-compassion as measured by the two measures at time-1.

6.13 Hypothesis testing no. 4: Is 2 weeks of self-compassion journal keeping able to improvement levels of shame, self-compassion, fear of compassion and eating disorder symptoms?

The study hypothesised that after 2 weeks of self-compassion journal keeping there will be improvement in levels of shame, self-compassion, fear of compassion and in eating disorder symptoms in the experimental group. To test this hypothesis, mean difference between time-1 and time-2 data for each of the 6 measures was examined using an independent-samples t-test. The statistical significance value was set at less than .05 ($p < .05$) and to indicate the uncertainty around the estimates 95% confidence intervals (CIs) were used (Fields, 2013).

In an earlier section a number of assumption necessary for an independent-samples t-test was confirmed. In addition to these, two additional assumptions were checked before performing ttest analysis. Firstly, it was confirmed that one of the dependent variables was measured on a continuous scale and the other on a nominal scale. Secondly, as different participants were allocated to each treatment condition, the independence of observations assumption was confirmed.

Firstly, to check whether there is a significant mean difference between time-1 and time-2 data for the EDE-Q, an independent samples t-test was performed comparing the two conditions. The results of this analysis are displayed in the table below. The results showed that there was no significant mean difference in EDE-Q scores at time-1 and time-2 for the two conditions; $t(31)= .090$, $p= .929$. This indicates that after 2 weeks of self-compassion diary keeping, no significant change was measured on the EDE-Q for the experimental condition. In light of this evidence, the null hypothesis was accepted.

Table 21: independent samples t-test to measure change on the EDE-Q between time-1 and time-2 for the two conditions (experimental and control)

Independent Samples Test

		Levene's Test for Equality of Variances		t-	for Equality of ans				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference EDEQ	Equal variances assumed	3.996	.054	.090	31	.929	.01011	.11256	-.21946	.23968
	Equal variances not assumed			.092	18.242	.927	.01011	.10952	-.21977	.23999

To check whether there is a significant mean difference between time-1 and time-2 data for the ESS, an independent samples t-test was again performed comparing the two conditions. The results of this analysis are displayed in the table below. Consistent with the results of the previous t-test, no significant mean difference between time-1 and time-2 scores of the ESS scores was detected for the two conditions; $t(31)= -.363$, $p= .719$. Once again, this indicated that after 2 weeks of self-compassion diary keeping, no significant change was measured on the ESS for the experimental condition. In light of this evidence, the null hypothesis was again accepted.

Table 22: independent samples t-test to measure change on the ESS between time-1 and time-2 for the two conditions (experimental and control)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference ESS	Equal variances assumed	.510	.480	-.363	31	.719	-.01000	.02751	-.06611	.04611
	Equal variances not assumed			-.366	30.084	.717	-.01000	.02731	-.06577	.04577

An independent samples t-test was again performed to check whether a significant degree of change was recorded in the GASP scores for the experimental condition after 2 weeks of selfcompassion journal keeping. On this occasion the results of the independent t-test was significant; t(31)= -3.116, p<0.05. The results showed that the experimental condition had a much larger mean difference of -.2294. The mean difference between time-1 and time-2 scores for GASP was much smaller for the control group (.0156). This showed that after 2 weeks of self-compassion journal keeping the experimental group reported greater improvements on the GASP compared to the control group. In light of these results the null hypothesis was rejected on this occasion.

Table 23: independent samples t-test to measure change on the GASP between time-1 and time-2 for the two conditions (experimental and control)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference GASP	Equal variances assumed	7.494	.010	-3.116	31	.004	-.24504	.07863	-.40540	-.08467
	Equal variances not assumed			-3.190	20.771	.004	-.24504	.07681	-.40488	-.08519

To check whether a significant degree of change was recorded in the self-compassion subscale of the SCSC an independent samples t-test was again performed. Once again the results of this test was significant; t(31)= 3.647, p<0.05. On the self-compassion subscale of the SCSC, the mean difference between time-1 and time-2 for the control group was -.3875. The mean difference for the experimental condition was significantly larger; 1.2882. This confirmed that after 2 weeks of self-compassion journal keeping the experimental group reported greater improvements on the self-compassion subscale of the SCSC compared to the control group. Once again, in light of these results the null hypothesis was rejected.

Table 24: independent samples t-test to measure change on the self-compassion subscale of the SCSC between time-1 and time-2 for the two conditions (experimental and control)

Independent Samples Test

		Levene's Test for Equality of Variances		t-Test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference\ SCSC1	Equal variances assumed	2.087	.159	3.647	31	.001	1.67574	.45952	.73853	2.61294
	Equal variances not assumed			3.650	30.959	.001	1.67574	.45915	.73925	2.61222

With regards to the other subscale (self-criticism) of the same measure (SCSC) the results of the t-test was also significant; t(31)= -3.017, p<0.05. The results showed that the experimental condition had a much larger mean difference of -.6059. The mean difference between time-1 and time-2 for the control group was much smaller; .7750. In line with the hypothesis, this difference confirmed that after 2 weeks of self-compassion journal keeping the experimental group reported greater improvements on the self-criticism subscale of the SCSC compared to the control group. Once again, the null hypothesis was rejected following this analysis.

Table 25: independent samples t-test to measure change on the self-criticism subscale of the SCSC between time-1 and time-2 for the two conditions (experimental and control)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference SCSC2	Equal variances assumed	4.391	.044	-3.017	31	.005	-1.38088	.45766	-2.31430	-.44747
	Equal variances not assumed			-2.946	18.715	.008	-1.38088	.46876	-2.36302	-.39874

An independent samples t-test was again performed to check whether a significant degree of change was recorded in the SCS for the experimental condition after 2 weeks of selfcompassion journal keeping. The results of this analysis are displayed in the table below. Contrary to the hypothesis, the results showed that there was no significant mean difference in SCS scores at time-1 and time-2 scores for the two conditions; t(31)= -1.030, p= .311. This indicates that after 2 weeks of self-compassion diary keeping, no significant change was measured on the SCS for the experimental condition. For this reason, the null hypothesis was accepted.

Table 26: independent samples t-test to measure change on the SCS between time-1 and time-2 for the two conditions (experimental and control)

Independent Samples Test

		Levene's Test for Equality of Variances		t for Equality of means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference SCS	Equal variances assumed	4.854	.035	-1.030	31	.311	-15.88188	15.41356	-47.31803	15.55428
	Equal variances not assumed			-.999	15.000	.334	-15.88188	15.90397	-49.78035	18.01660

Finally, to check whether a significant degree of change was recorded in the FCS, an independent samples t-test was again performed. Interestingly the results of the independent ttest was significant; t(31)= -3.280, p<0.05. The results showed that the experimental condition had a much larger mean difference of -.1212. Time-1 and time-2 FCS mean difference for the control group was .0006. This confirmed that after 2 weeks of self-compassion journal keeping the experimental group reported greater improvements on the FCS compared to the control group. Once again, in light of these results the null hypothesis was rejected.

Table 27: independent samples t-test to measure change on the FCS between time-1 and time-2 for the two conditions (experimental and control)

Independent Samples Test

		Levene's Test for Equality of Variances		t for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference FCS	Equal variances assumed	13.819	.001	-3.280	31	.003	-.12180	.03713	-.19753	-.04607
	Equal variances not assumed			-3.361	20.194	.003	-.12180	.03624	-.19735	-.04625

In conclusion, the analysis of mean difference between time-1 and time-2 showed that, 2-weeks of self-compassion journal keeping was able to achieve improvements on the GASP, the SCSC and the FCS but not on the EDE-Q, SCS and ESS.

To understand these findings in a meaningful way it is important that the difference between these scales are considered. Both the GASP and the SCSC are state based measures that use scenarios to measure the extent to which guilt, shame, self-compassion and self-criticism are experienced at a state level. The SCS and the ESS on the other hand measure trait dimensions of shame and self-compassion. Improvement on the GASP and the SCSC indicate that following 2-weeks of self-compassion diary keeping, improvements to experiences of shame and selfcompassion at a state level is possible. However, with regards to trait experience of shame and self-compassion this intervention is unable to achieve meaningful change within a 2-week period. Likewise, whilst the intervention is able to target fear of compassion within a 2-week

period it is unable to achieve meaningful change in eating disorder symptoms within the same length of time.

Earlier analysis had confirmed that the ESS and the SCS had a positive relationship with eating disorder examination questionnaire (EDE-Q) and thus they were identified to be the most significant predictors of symptoms severity. The FCS and the SCSC on the other hand were both confirmed to be poor predictors of symptom severity (EDE-Q). Given this, it is unsurprising that meaningful change was absent uniformly in the ESS, SCS and the EDE-Q but confirmed with the GASP, FCS and the SCSC.

6.14 Hypothesis testing no. 5: Were greater improvements recorded in those individuals who spend longer writing in their diary?

The researcher expected to record greater improvements in those individuals who spend longer writing in their diary. To test this hypothesis the relationship between time spent writing and the improvements measured on the GASP, FCS and the SCSC were explored using Pearson's correlation coefficient analysis. For this analysis the mean difference recorded between time-1 and time-2 data on the GASP, FCS and the SCSC was compared to time-log variable. The researcher expected that there will be a correlational relationship between time spent writing and the improvements recorded on the GASP, the FCS and the SCSC.

Contrary to the researcher's predictions a non-significant relationship was identified between time spent writing variable and the improvements measured on the GASP ($r= -.135$, $n= 17$, $p= .605$), the improvements measured on the FCS ($r= -.209$, $n= 17$, $p= .422$) and on both subscales of the SCSC (self-compassion, $r= .269$, $n= 17$, $p= .296$; self-criticism, $r= -.297$, $n= 17$, $p= .422$).

The results of this analysis showed that time spent writing did not correlate with improvements measured on the GASP, FCS and the SCSC. This confirmed that the length of time the participants spent writing in their diaries did not have an effect on the degree of improvement they reported on the 3 measures.

7. Discussion

7.1 Overview

The aim of this study was to investigate whether compassionate journal keeping as a self-help intervention for 2 weeks would be able to address experiences of shame, low self-compassion, fear of compassion and disorder symptoms in individuals with an eating disorder.   Eating disorder research and theories of eating psychopathology are no longer interested in simply classifying cognitive and behavioural symptoms that define the psychopathology, instead there is now a shift towards understanding personality and emotional processes that contribute to the development and the maintenance of the disorder. Newer evidence from clinical trials that have explored these processes indicate that heightened experiences of shame, low selfcompassion and a greater fear of compassion are common in individuals who experience problems relating to eating and that these processes have a negative effect on symptom severity. It has also been established that these processes also contribute to the success of therapeutic interventions and impact on the sustainability of positive psychotherapeutic outcomes (Kelly and Tasco, 2016; Kelly, Carter, Zuroff and Borairi, 2013; Grabhorn et al., 2006). As the evidence for the association between these processes and eating disorders has become more apparent the need for novel interventions that are able to address the maladaptive dynamics which bind these processes has been identified (McIntosh et al., 2015; Hays, 2013; Steele and Wade, 2008). Compassion focused therapy (CFT) as a contemporary third-wave approach has garnered strong evidence supporting its therapeutic effectiveness for psychological disorders such as depression (Thew, et al., 2017; Gilbert and Procter, 2006), anxiety disorders (Werner, et al., 2012) and post-traumatic stress disorder (Lawrence and Lee, 2014). Its efficacy for the treatment of heightened shame experiences, self-directed hostility, guilt, low self-compassion and fear of compassion has been established within clinical practice and within the clinical research literature (Gilbert and Procter, 2006). Researchers such as Goss, and Allan, (2014) have highlighted how the theoretical understanding of Compassion focused therapy (CFT) can help to explain eating disorder psychopathology and how CFT informed interventions can be adapted for the treatment of these clinical disorders. As compassion focused interventions for eating disorders have demonstrated clinical-feasibility, preliminary data from multiple studies are

reporting promising results (Williams, Tsivos, Brown, Whitelock and Sampson, 2017; Kelly, Wisniewski, Martin-Wagar and Hoffman, 2017; Goss and Allan, 2014; Showell, 2012).

The primary aim of this doctoral research was to further contribute to our theoretical understanding of Compassion focused therapy (CFT) for eating disorders by considering whether a CFT-informed journal-keeping intervention delivered as a self-help task is of therapeutic significance for individuals with an eating disorder. The study was particularly interested in investigating whether a CFT-informed diary-keeping intervention can be delivered as a self-help task. The study wanted to establish what effect such task would have on experiences of shame, low self-compassion and fear of self-compassion and to undercover whether improvements on these processes can result in improvements in disorder symptoms. Also motivated by the public health care need for early access to effective interventions the study wanted to investigate the suitability of low intensity interventions for eating disorders.

The study was designed to investigate whether there will be any improvements in shame, selfcompassion, fear of compassion and in disorder symptoms in individuals with an eating disorder after 2 weeks of self-compassion journal keeping as a self-help intervention. It was hypothesised that greater improvements to levels of shame, self-compassion and fear of compassion will result in greater symptom reduction and that there will be greater improvements to shame, selfcompassion, fear of compassion and eating disorder symptoms in those individuals who spend longer writing in their diary.

In addition, it was predicted that there would be a positive correlation between shame and fear of compassion, and negative correlations between shame and self-compassion and between fear of compassion and self-compassion at the start of the experiment (time-1). It was also hypothesised that individuals with low self-compassion would struggle with the self-intervention and would subsequently spend less time recording in their diaries. Thus, it was expected that there will be a negative correlation between level of self-compassion measured at time-1 and the total amount of time participants in the experimental group spent writing in their diaries.

7.2 Baseline findings: how shame, self-compassion and fear of compassion is experienced by individuals presenting with an eating disorder.

The participants recruited in this study scored considerably above the community norms measured for the healthy population for the EDE-Q global by Fairburn, Cooper and O'Connor (2014) as such it can be concluded with confidence that the participants were within the clinical range for an eating disorder. In addition, the participants scored above the community norm scores measured for the non-clinical population on the measures for shame (Cohen, et al., 2011; Andrews, et al., 2002) and fear of compassion; (Gilbert et al., 2011) and scored below the non-clinical norms on measures for self-compassion (Neff, 2003). These scores, consistent with existing findings suggests that individuals with an eating disorder do experience a greater degree of shame, struggle to express self-compassion and are highly fearful of compassion compared to the non-clinical population (Kelly and Tasco, 2016; Kelly, Carter and Borairi, 2014; Kelly, Carter, Zuroff and Borairi, 2013; Ferreira, Pinto-Gouveia and Duarte, 2013; Grabhorn et al., 2006).

The baseline measures for the participants revealed a relationship between shame, selfcompassion, fears of compassion, and eating disorder symptoms, which is consistent with the findings in the literature. A positive correlation was found between the two shame measures and the EDE-Q which confirmed the hypothesis that greater levels of shame would be associated with greater symptom severity. Analysis of baseline data also confirmed a similar positive relationship between the two shame measures (ESS & GASPS) and the Fear of Compassion scale (FCS). This result is consistent with the findings reported by Kelly, Wisniewski, MartinWagar and Hoffman (2017) and supports the hypothesis that greater levels of shame would be associated with greater fear of compassion. The relationship between the two shame measures (ESS & GASPS) and the Self-Compassion Scale (SCS) was also in line with the study's hypotheses. The negative correlation between the shame measures and the SCS indicated that greater levels of shame were associated with lower levels of compassion as measured by the SCS. With regards to self-compassion and fear of compassion, a negative relationship was also confirmed. The significant negative relationship between the SCS and the FCS and between the self-compassion subscale of SCSC and the FCS confirmed the hypothesis that low selfcompassion is associated with greater fear of compassion. In conclusion, the pattern of associations between the variables of shame, fear of compassion and self-compassion is largely consistent with the predictions within the study and the findings reported in

the literature (Kelly, et al., 2017; Oliveira, et al., 2017; Thew, et al., 2017; Kelly and Tasco, 2016; Kelly, et al., 2014; Ferreira, et al., 2014; Carter, et al., 2013; Ferreira, et al., 2013; Gilbert, 2010; Grabhorn, et al., 2006). These findings suggest that, compared to the non-clinical population, individuals with an eating disorder experience heightened levels of shame and fear of compassion in combination with low feelings of self-compassion and that there is a clear association between these processes and symptom severity.

The strong relationship between shame and self-compassion can be explained in a number of ways. Shame is not only an emotion that relates to social comparison and feelings of inferiority but also a state that is experienced when the self is perceived to be lacking in certain internalised standards (Troop, et al., 2008). Despite the complexity of the emotion, it is largely categorised as internal or external shame. Despite key differences between both forms of shame, they embody certain common themes that interrelate them. Thus, the experience of feeling shamed by an external, powerful, other is comparable with the internal experience of being feeling ashamed of oneself for being morally bad, inept, worthless and inferior. Irrespective of its formal or clinical definition, shame relates to self-reflection or self-perception and to self-comparison, and usually involves an explicit fear or an anticipation of evoking disgust in others and sense of disgust within oneself (Troop & Redshaw, 2012). According to researchers such as Troop and Redshaw (2012) poor self-compassion and self-directed hostility are cognitive precursor to internal shame and that as self-compassion strengthens social connectivity, its absence is undoubtfully related to external shame. As a result of their selfdirected hostility, individuals that struggle to demonstrate self-warmth and self-acceptance at times of distress experience themselves as flawed and thus in interpersonal relationships and in their relationship with themselves, they are prone to feelings of shame (Gilbert, 2003; Gilbert and Procter, 2006). What this essentially implies is that self-directed hostility and lack of selfcompassion heightens experiences of shame both in the individuals' internal self-to-self relationship and in their external relationships with others.

Despite there being a strong relationship between the two shame measures and the SCS measure of self-compassion, the relationship between the two shame measures and the other self-compassion measure (SCSC) was not significant. Why one measure of self-compassion had a strong relationship with both shame measures whilst the other measure did not, is a question worth exploring further. One possible explanation for this discrepancy is that there may be construct differences between the two self-compassion measures. This implies that there

may be theoretical differences between the two scales of self-compassion and that each scale measures different constructs of self-compassion. In support of this possibility, the Pearson's correlation coefficient analysis showed that the correlation between the two self-compassion measures is only positively significant at the 0.05 level. A weak positive relationship between the two scales of self-compassion was also identified by Halamova, Kanovsky, and Pacuchova (2018). To explain this discrepancy Halamova et al., (2018) suggests that there is constructional difference in how each scale approaches self-compassion and criticism; whilst one measure approaches the constructs as an emotional state experienced in response to a particular situation the other measure concentrates on self-compassion as a stable personality trait and explores components of self-compassion such as self-kindness, judgement, overidentification, mindfulness, common humanity and isolation in a more detail way. When this definition of the constructional difference between the SCSC and SCS is considered it may be plausible to assume that heightened experiences of shame in individuals with an eating disorder associates more with low self-compassion experienced as a stable personality trait than with low selfcompassion experienced as a momentary emotional state.

Surprisingly, there was no significant relationship between the fears of compassion scale (FCS) and the self-criticism subscale of the SCSC scale as predicted within this study, which contrasts with the existing literature that reports that self-criticism positively associates with fear of compassion (Gilbert, 2004; 2010).

In line with the findings reported by Halamova et al. (2018) and Falconer, King and Brewin (2015) there was no significant relationship between the self-compassion and the self-criticism subscales of the scenario-based SCSC measure in this study. Notably, Falconer et al., (2015) specifies that self-criticism and self-compassion are not polar opposites of a single construct but two independent processes that are closely related and therefore according to Halamova et al. (2018) the construct of self-compassion is not related to the degree of self-criticism one is likely to express in a given situation. In contrast to the weak association recorded between selfcompassion and self-criticism as a state emotion, a strong association was identified between self-criticism and self-compassion measured as a stable personality trait by the SCS. This once again highlights that there may be key differences between self-compassion and self-criticism experienced as an emotional state in response to a particular situation and between these processes when experienced as a stable personality characteristic. This also infers that

whilst both processes are associated, they are distinctively different and have unique underlying dynamics (Halamova et al., 2018; Kupeli et al., 2013).

7.3 Can experiences of shame, low self-compassion, fear of compassion explain eating psychopathology?

One primary aim for the study was to understand the association between the variables of interest and eating disorder psychopathology. The study expected that symptom severity could be predicted based on level of shame, self-compassion and fear of compassion. To test this hypothesis a multiple regression analysis was performed on data collected from all participants at baseline. This analysis identified shame, as measured by the ESS and by the Shame-Negative-Self-Evaluation subscale of the GSPS as the strongest predictors for eating disorder pathology, measured by the EDE-Q. Self-compassion as measured by the personality trait measure SCS was also calculated to be a significant predictor for eating disorder pathology. In support of Goss and Allan's (2014) theoretical model of eating disorders, and a number of other empirical studies, this confirms that not only is there a strong relationship between shame, low self-compassion and eating disorder pathology but that heightened levels of shame and poor self-compassion can exacerbate symptom severity (Kelly and Tasca, 2016; Ferreira, Matos, Duarte and Pinton-gouveia, 2014; Ferreira, Pinto-Gouveia and Duarte, 2013; Kelly, Carter, Zuroff and Borairi, 2013; Kelly, Carter, Zuroff, & Borairi, 2013; Murray, Waller, & Legg, 2000; Doran & Lewis, 2012; Magnus, Kowalski and McHugh, 2010; Gee & Troop, 2003; Sanftner, Barlow, Marschall, & Tangney, 1995).

Low self-compassion and self-criticism that may be driven by increased levels of self-hatred and disgust, is common in individuals with an eating disorder and have been found to heighten feelings of shame and reinforce eating disorder psychopathology and to exacerbate symptoms. It is critical that treatment incorporates therapy procedures that are able to directly target these processes, as the inability to recognise and adequately address them in the therapeutic relationship can jeopardize efficacy (Rüsch, Lieb, Göttler, Hermann, Schramm, Richter, and Bohus, 2007). However, evidence from researchers such as Keith et al., (2009) and Swan and Andrews (2003) highlight that even after successful treatment experiences of bodily shame remain significantly high in women who no longer present with any symptoms of an eating disorder. According to both groups of researchers current eating disorder interventions that

tackle disorder symptoms fail to fully address all dimensions of shame and low self-compassion. For this reason, Swan and Andrews (2003) and Keith et al., (2009) encourage that distinct and novel interventions specifically designed to address shame and low self-compassion need to be developed and incorporated into eating disorder treatment. There is consensus across studies in regards to shame with researchers proposing that shame is explored both at the assessment and the treatment stages for greater effectiveness and improved outcomes (Swan & Andrews, 2003).

Kelly, Carter, & Borairi, (2013) specify that the cultivation of self-compassion can be an effective emotion regulation strategy in addressing shame in the treatment of eating disorders. A considerable body of evidence shows that cultivation of self-compassion can lead to a reduction in both shame and eating disorder symptoms in individuals with eating disorders (Gale, Gilbert, Read, & Goss, 2014; Kelly, Carter, & Borairi, 2014; Kelly & Waring, 2018). According to Kelly & Waring, (2018) the experience of shame is a barrier that hinders engagement. They propose that the introduction of alternative interventions that encourage self-compassion will not only address this barrier but also increase motivation for change and better prepare the individual for treatment.

7.4 Does 2 weeks of compassionate journal keeping as a self-help intervention address experiences of shame, low self-compassion, fear of compassion and disorder symptoms in individuals with an eating disorder?

The key aim of this study was to investigate whether a self-compassion informed journal keeping task delivered as a self-help intervention could achieve improvements in shame, selfcompassion, fear of compassion and eating disorder symptoms in individuals with an eating disorder over a 2-week period. The results confirmed that after 2-weeks of self-compassion diary keeping participants in the experimental group recorded improvement on the GASP, the SCSC and the FCS scores but not on the EDE-Q, SCS and the ESS.

The GASP and the SCSC are both scenario-based scales that measure experiences of shame and self-compassion as an emotional state. The changes recorded on these two scales for the experimental group suggests that following 2-weeks of self-compassion diary-keeping improvement can be achieved for the level of shame, self-compassion and self-criticism an individual is likely to experience as an emotional state in response to a particular situation. In contrast the ESS and the SCS are scales that focus on experiences of shame and selfcompassion as a stable personality trait. Lack of change on these measures indicate that the self-help intervention is unable to truly achieve meaningful change in elevated feelings of shame

and poor self-compassion that is entrenched in one's personality and has become a stable trait. These results once again highlight variations between trait-focused and state-focused measures of self-compassion and shame and also suggest that there may be fundamental differences within shame and low self-compassion, either experienced as emotional state versus a core personality trait. Clinically, different interventions may be needed to address these variations in state and trait factors. Improvements that were measured on the GASP and the SCSC indicate that 2-weeks of self-compassion diary keeping task delivered as a self-help intervention, can achieve improvements to experiences of shame and self-compassion at a state level. However, with regards to trait experience of shame and self-compassion a different intervention may be needed or a period of time greater than 2-weeks may be necessary to observe meaningful change.

Interestingly, the self-help intervention was also successful at achieving improvements on the FCS. For Kelly and Carter (2013) self-compassion and fear of self-compassion were the strongest predictors of changes on the EDE-Q over time; over a 12-week treatment period very little change in eating disorder symptoms was observed in those individuals who reported lower degrees of self-compassion and high levels of fear of self-compassion. Kelly and Carter (2013) highlighted that fear of compassion is the most significant barrier to self-compassion and recommended that in order to achieve true self-compassion, resistance and/or fear of compassion needs to be addressed early in treatment (Kelly, Carter, Zuroff and Borairi, 2013; Kelly and Carter, 2013; Gilbert, et al., 2011). Importantly the results of this study suggest that the CFT informed diary keeping self-help task might be one such intervention that can be used to target fear of compassion as an early intervention.

The improvements that were recorded on the trait measures SCSC and GASP, and the positive change recorded on the FCS shows that the considered intervention is suitable for individuals with an eating disorder. Consistent with the findings reported by Kelly and Carter (2015) and Zendegui, et al., (2014) this suggests that CFT informed self-help intervention can be used with this clinical group and that the therapeutic effects of this intervention can be observed early in treatment. Adding to research that found support for the efficacy of low-intensity interventions for BED and bulimia, (Perkins et al., 2006; Beintner et al., 2014; Traviss-Turner et al., 2017) the results of this study suggest that low intensity interventions may also be appropriate for anorexia and for OSFED and suggests that such interventions can be considered more routinely within evidence-based treatment protocols.

In addition to the lack of improvement for ESS and the SCS there was no meaningful change found on the eating disorder examination questionnaire (EDE-Q) following 2 weeks of diary keeping. Baseline scores on the ESS measure for shame and the SCS measure for selfcompassion were both identified as the most significant predictors of symptom severity whilst the baseline scores on the FCS and the SCSC were both confirmed to be poor predictors of symptom severity (EDE-Q). It plausible that as the Experience of Shame scale (ESS), Selfcompassion Scale (SCS) and the Eating Disorders examinations questionnaire (EDE-Q) measures better reflect the severity of symptoms they may be more resistant to change. Thus, it is unsurprising that meaningful change was absent uniformly on the ESS, SCS and the EDE-Q, but confirmed with the GASP, FCS and the SCSC.

To summarise these findings it appears that the processes that bind the association between shame and low-compassion experienced as a personality trait at the core of one's self-identity and the characteristics and the severity of one's eating psychopathology cannot be addressed within a 2-week period using a self-help intervention designed to cultivate self-compassion. However, momentary or short-term experiences of low-compassion and shame and fear of compassion can be addressed within this time period using this intervention. Low intensity treatment usually includes a collection of interventions that are brought together to achieve therapeutic effectiveness. Thus, a single intervention such as the CFT informed journal keeping intervention investigated as part of this study, may not be sufficient enough on its own to achieve improvements. However, as the intervention demonstrated a degree of therapeutic efficacy for shame and low self-compassion that is experienced as a momentary emotional state and on fears of compassion within this study, future research could support this intervention an efficacious intervention that can be offered in conjunction to other interventions for the treatment of eating disorders. It will also be important to establish whether meaningful change in trait experiences of low self-compassion and shame and severity of symptoms can be sustained over time.

7.5 Time logs

It was expected that greatest improvements will be observed in those individuals who spend the greatest length of time writing in their diary. The results of the study found no relationship between improvements and time spent writing a self-compassion diary. This surprising finding

suggests that participants did not necessarily benefit more from the self-compassion task when they spent more time writing.

Individuals who struggle to cultivate feelings of compassion towards themselves at times of suffering find it difficult to regulate their distress (Neff, 2003). When an individual's ability to soothe their own emotional distress is poorly developed, their ability to tolerate difficult emotions will also be impaired. To cope with this unhealthy dynamic such individuals typically avoid connecting with emotions that arouse pain and suffering. According to East et al., (2010) this clinical group tend to struggle with tasks that promote engagement with emotions as this form of experiential avoidance is highly prevalent in individuals with an eating disorder. Based on this theoretical understanding it was hypothesised that individuals low in self-compassion at baseline will struggle with the self-compassion task and will spend less time writing in their journals compared to those participants who reported higher levels of self-compassion. However, contrary to this prediction no significant relationship was recorded between the level of selfcompassion one expressed at the start of the study and the length of time they spent writing in their diary. This suggests that those individuals who demonstrated the greatest degree of low self-compassion did not necessarily spend less time writing a self-compassion diary. Neff (2003) specifies that as self-compassion focused interventions promote a kind and non-judgemental attitude towards one's suffering, such interventions enable individuals to tolerate and to soothe their distress. It is possible that the self-compassion element of the expressive writing task modified the individuals' need for experiential avoidance and allowed the individual to connect with their distressing internal experiences. Thus, individuals lowest in self-compassion did not spend less time recording their journals than those who expressed higher levels of selfcompassion.

It has been established that experiential avoidance can be a therapy-hindering process as it can prevent therapeutic reflection (East et al., 2010). Interventions that are able to address this problem particularly at an early stage within treatment has the potential to enhance client engagement and to improve therapeutic effectiveness. It will be important to explore whether the CFT informed expressive writing self-help intervention has the capacity to promote distress tolerance and whether this can motivate individuals to connect with internal experiences of pain and suffering and whether this might have a subsequent positive impact on therapeutic engagement and treatment outcomes.

7.6 Clinical implications

Based on the findings of this study it cannot be stated with confidence that the self-compassion informed task has the capacity to enhance emotion tolerance and has the ability to motivate individuals that display experiential avoidance to engage with their internal experiences. However, the findings do raise a number of questions which can be considered in future trials. One key conclusion, that can be drawn from the findings of this study is that self-compassionate writing delivered as a self-guided intervention can enhance self-compassion and reduce feelings of shame that is experienced as an emotional state, and that these improvements can be observed early in treatment.

In the current health climate resources are limited and most services struggle to respond to the growing need for effective interventions for the treatment of eating disorders. Beintner and colleagues (2014) specify that only 15% of sufferers of an eating disorder receive psychological treatment. Long waiting times and restrictions to the total number of sessions clinicians are able to offer not only affect treatment success but also impact on the quality of the service (Talbot, Thériault and French, 2017). Eating disorders, particularly anorexia nervosa, have profound effects on physical health and psychosocial functioning and can cause long lasting impairments (Dalle Grave, et al., 2013a). As the rate of recovery is significantly reduced if the disorder is either not treated or poorly treated for more than 3 years (Treasure and Russell, 2011), early access to effective treatment is essential. Low intensity interventions such as self-help and guided self-help, can be delivered quickly and widely to large groups of individuals and are regularly considered as part of a stepped-care approach in the treatment of common mental health problems such as depression and anxiety (Talbot, et al., 2017). However, due to the complex nature of eating disorders low intensity interventions may not be routinely considered for these conditions and a stepped care approach may not be implemented. The results of this study and the growing body of evidence from a number of other trials suggests that low intensity interventions such as self-help and guided self-help can be therapeutically effective for eating disorders (Talbot, et al., 2017).

7.7 Limitations

There are a number of limitations and considerations within this study that require further discussion and need to be addressed. The quantitative experimental design that was selected

for this study was able to elucidate the relationships between a number of contributory factors and individual processes that relate to the aetiology and maintenance of eating disorders. The quantitative approach highlighted the independent and combined roles of experiences of shame, self-compassion and fear of compassion. Whilst these findings are consistent with our existing theoretical knowledge of eating disorders and support a number of hypotheses of this study, it is not possible to fully explain the truly complex relationship that exists between these variables and eating psychopathology.

Shame, self-compassion and fear of compassion are complex processes and have distinct and unique effects on how eating disorder symptoms are experienced and presented by different populations. Despite the fact that shame is associated with eating psychopathology and other mental health problems, it is a distinctive experience within its own right and there are marked differences in how shame associates with different eating disturbances within different populations e.g. male's vs female's and clinical vs non-clinical populations (Keith, Gillanders, & Simpson, 2009; Doran & Lewis, 2012). Doran and Lewis (2012) report that in the non-clinical female population characterological and bodily shame are the strongest predictors of eating disturbed symptomatology, whereas for the non-clinical male population and the female clinical population bodily shame alone is the strongest predictor of eating disturbed symptomatology. Studies have shown that women affected by disturbed eating behaviours tend to experience shame in relation to their bodily appearance and eating problems, more so than the shame they experience in relation to other behaviours (Sanftner et al., 1995). However, the shame that is associated with eating disturbances not only associates with the body and its appearance but with other aspects of the self (Keith et al., 2009; Doran and Lewis, 2012). These studies suggested that eating disturbances are more influenced by shame experienced in relation to personal habits, social mannerisms, the sort of person the individual thinks they are, their personal ability and their bodily shame as opposed to the shame one might experience when they have done something wrong or when they feel that they have failed in a competitive situation.

As qualitative studies are better able to gain access to subjective experiences of individuals, a qualitative study may be considered in the future to investigate the unique dynamics that drive the perpetual relationship that exists between shame, self-compassion, fear of compassion and eating psychopathology. A qualitative or a mixed methods methodological design would have also supported the findings by exploring the degree in which the participants complied with the

self-compassion task to address an important limitation to this study. Whilst time logs were able to measure how long participants spent on the task, they were not able to confirm whether the participants were successful at demonstrating self-compassion in their writing. Adapting the design of the study to a qualitative format could have allowed the researcher to study the content of the journals to confirm whether participants were able to demonstrate selfcompassion in their writing when using self-help material. However, recording a journal is a private process and sharing one's journal with a researcher may be unpleasant for some participants. Not being able to privately express their feelings in their journals may discourage some participants from taking part. To give participants the privacy, a qualitative analysis of the journal responses was excluded in the design of this study.

A qualitative approach could also be used to conduct interviews to explore how the participants experienced the self-help task, to further examine the processes of cultivating self-compassion and to explore the experiential elements of the task and its effect on their eating psychopathology. Interviews were excluded when designing this study as the aim was to understand processes that underpin therapeutic change and to provide evidence of how effective an intervention is, by measuring the variables of interest before and after the considered intervention using questionnaires. This is in line with the recommendations made by Marks & Yardley, (2004) who state that the most effective way to test the efficacy of an intervention is to administer the evaluated intervention under ideal experimental conditions where all variables are identified and controlled.

Another limitation to the present study was the small sample size. Due to Covid-19, recruitment for the study ended prematurely and thus the desired number of participants could not be recruited. In addition to Covid-19, disengagement also impacted on the sample size. Eight participants did not complete the questionnaires at time 2 and were recorded to have droppedout or to have disengaged from the study. As no contact with these participants could be made it was not possible to determine why they did not complete the questionnaires at time-2. There are a number of possible explanations for disengagement. Firstly, the participants may have decided not to record self-compassion diaries as planned and for this reason they decided not to continue with the study. It is plausible that these participants did not find the task suitable for their needs and they decided that they will not benefit from the intervention. It is also possible that the self-help instructions were not sufficiently informative and failed to specify the task and to engage the participants. Furthermore, it is conceivable that a number of participants may have

found the demands of responding to six questionnaires, which take up a substantial amount of time to complete, too difficult and as such they may have chosen not to complete the questionnaires at time-2.

The overall drop-out rate was calculated at 20%. This is significantly lower than 32.9% drop-out rate reported by Brewin, Wales, Cashmore, Plateau, Dean, Cousins and Arcelus (2016) in their study of self-help for eating disorders and significantly lower than the 30-50% drop-out rate reported in studies that investigated the efficacy of CBT-E for eating disorders (Agras, et al., 2000; Fairburn, et al., 2009 & 2015; Byrne, et al., 2011, Dalle Grave, et al., 2013a). There may be a number of reasons why fewer participants in this study dropped out compared to the other studies. Firstly, in this study the self-help intervention was delivered over a two-week period, which is considerably lower to the length of interventions administered in other trials e.g. 6-12 months plus a follow-up period in Dalle Grave, et al., (2013a), Byrne, et al., (2011), Fairburn, et al., (2009 & 2015), and Agras, et al., (2000). The two-week period may have increased the probability of participant completion with the maintenance of higher levels of motivation in the short-term, which may have reduced as time progressed. Furthermore, the self-compassion intervention did not overtly challenge key eating disorder behaviours and cognitions and adopted a less directive approach to change. Participants who experienced ambivalent feeling towards change may have found this approach less pressuring and more engaging, thus they may have felt more motivated to continue.

The greatest limitation of a small sample size is poor statistical power and problems with generalisability. As a small number of individuals were tested as part of this trial it may not be appropriate to generalise the results of the study to the wider eating disorder population. Furthermore, to determine whether there was any difference between the four eating disorder subcategories and the degree of improvement achieved post-intervention, it would have been necessary to consider each of the disorder subcategories independently. However, as the study was unable to recruit a sufficient number of participants, it would not have been statistically meaningful or powerful to analyse the disorder subcategories separately. Using a one-way analysis of variance (ANOVA) to confirm that there was no significant difference with regards to symptom severity between the 4 eating disorder groups, it was possible to treat the four disorder subcategories as a single unified diagnosis. Whilst this made the statistical analysis of the data possible it did not allow the study to confirm whether there was significant difference between the disorder subcategories and the degree of change recorded on the variables of interest

following the 2-week period. This is something that could be replicated within a similar study with more participants and power to explore the impact between conditions.

Another important limitation for the study is that a 2-week period may not be a sufficient length of time to adequately measure change in variables. This may explain why change was measured on the scenario-based measures, the SCSC and the GASP that are designed to better measure change in a shorter period of time than the trait measures. Additional modifications to the design could include asking participants to continue recording self-compassion journals for a period longer than 2-weeks with the inclusion of a qualitative analysis of journal responses. This will allow the researcher to confirm with greater accuracy whether the investigated intervention is able to address experiences of shame and low self-compassion that are embedded in the characteristics of their personality. However, a longer length study may encounter difficulties in retaining participant. Furthermore, as some participants may not consent to a qualitative analysis of their journal response, recruitment for such a study may be difficult.

Including a third active treatment condition may also be a useful adaptation that could be considered in future trials. An additional treatment condition would allow the researcher to confirm whether change achieved was a result of the self-compassion intervention or whether it was a by-product of receiving an intervention irrelevant of its specific characteristics.

7.8 Conclusion

Despite these limitations the results of this study are able to highlight that CFT informed interventions can be of therapeutic significance for individuals presenting with an eating disorder. Despite the established treatment efficacy of a number of therapeutic approaches for eating disorders which are supported by strong evidence (Dalle Grave, et al., 2013a; Byrne, et al., 2011; Fairburn, et al., 2009 & 2015; and Agras, et al., 2000), the recovery rates remain low. In addition, disengagement is a major concern and there are mixed opinions about the properties of effective therapy for the treatment of anorexia nervosa (McIntosh et al., 2015). For this reason, novel interventions are needed to enhance treatment efficacy and to improve treatment outcomes. By confirming that a CFT informed self-help intervention can be used with this clinical group, the results of this study are able to offer a degree of evidence in favour of compassion focused therapy for eating disorders and of low intensity interventions for eating disorders. This

is especially important given that a stepped-care approach can address a number of public health concerns such as increased waiting times and high demands that resources struggle to meet. It can also ensure early access to effective treatment, which is fundamental for successful recovery and for improvement sustainability.

Whilst this study is unable to confirm with certainty that self-compassion focused interventions can improve affect regulation and address processes that contribute to the severity and the manifestation of disordered eating it is able to confirm that shame, low self-compassion and fear of compassion are highly relevant to this clinical group and also able to suggest that CFT informed intervention for eating disorders need to be considered further in future studies. One especially important area that can considered in future trials is to test whether interventions that support the cultivation of self-compassion offered early in treatment can improve engagement and motivation for change and whether this can improve overall outcome and the sustainability of improvements.

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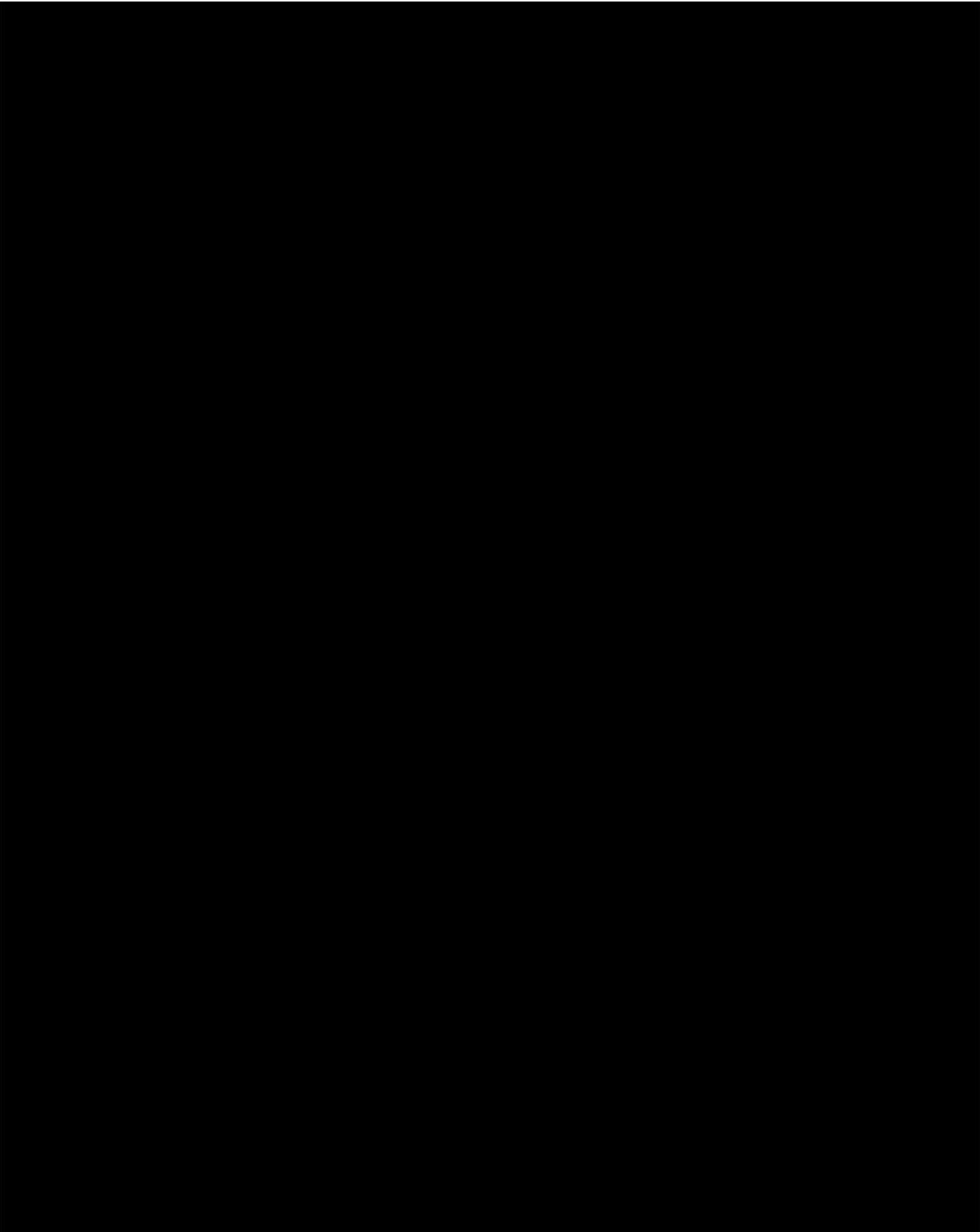
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PART B: PUBLISHABLE JOURNAL ARTICLE

PART C: EXTENDED CLIENT STUDY