An exploration of Compassion Focused Imagery (CFI) in women with sub-clinical eating disorder symptoms

A thesis submitted to the University of Manchester for the degree of Doctor of Clinical Psychology (ClinPsyD) in the Faculty of Medical and Human Sciences

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School of Psychological Sciences
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Abstract

Compassion Focused Therapy (CFT) is an emerging transdiagnostic treatment which aims to attenuate common psychological problems including shame and self-criticism through building compassionate skills. These problems are considered relevant and implicated in the maintenance of eating disorders. Imagery in particular has attracted attention as an important treatment technique for its strong links with memory. The aim of this thesis was to explore the effect of Compassion Focused Imagery (CFI) in women with sub-clinical eating disorder symptoms.

Paper 1 is a systematic review of the CFT literature across disorders and in transdiagnostic groups. The main aims of the review were to evaluate the literature, synthesise the content of CFT across studies and provide preliminary effect size calculations. Eighteen articles were identified including clinical and non-clinical, treatment and experimental studies. The current body of evidence includes transdiagnostic samples, eating disorders, psychosis, acquired brain injury, depression, posttraumatic stress disorder (PTSD), personality disorder, individuals high in self-criticism and those with acne. The review includes a synthesis of intervention content, modalities, training and supervision of CFT within the literature. Strongest evidence was identified within transdiagnostic groups with more limited evidence for CFT within PTSD, personality disorders, acne sufferers and high self-critics. Effect sizes varied from 0-0.9 across shame, self-criticism and self-compassion outcomes. The area is limited by few controlled evaluations and heterogeneous content of interventions.

Paper 2 is an experimental study of the effect on CFI in an analogue (sub-clinical) sample of women with elevated levels of eating disorder symptoms. Following baseline assessments measuring shame, self-criticism, self-compassion and stress, anxiety and depression, women with global scores of 2.5 or over on the Eating Disorders Examination Questionnaire (EDE-Q) were randomly allocated to either CFI condition in which they were instructed to create an image of a compassionate other or to a neutral imagery condition which involved creating an image of a neutral object. A third group of individuals with global scores of 1.0 or less on the EDE-Q were recruited for comparison only. Following a practice period of five-to-seven days, participants were assessed a final time. Controlling for baseline scores, significantly greater reductions in shame were reported in the CFI group compared with the neutral imagery group. Increases in self-compassion and decreases in self-criticism and depression, anxiety and stress were favourable in the CFI group compared with those in the neutral imagery group; however, these findings did not reach statistical significance. Compassion focused imagery appeared to be well tolerated within the CFI group. Clinical and theoretical implications and future research directions are discussed.

The third chapter offers a reflective discussion on the methodological strengths and weaknesses, clinical and theoretical implications beginning with the systematic review followed by the empirical paper. Chapter 3 concludes with a final section on personal and professional reflections throughout the research process.
Declaration

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Emerging evidence for Compassion Focused Therapy (CFT) as a transdiagnostic treatment: a systematic review

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(Author guidelines see Appendices, p.118)

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1.0 Abstract

**Background:** Shame and self-criticism are important transdiagnostic problems implicated in the maintenance of mental health difficulties. Self-compassion has been found to be inversely related to self-criticism and shame and it is associated with wellbeing and positive mental health. Compassion focused therapy (CFT) is a transdiagnostic treatment which aims to increase self-compassion. This paper aimed to review the evidence for CFT as a transdiagnostic treatment and synthesize the content and modalities of CFT.

**Method:** Eighteen studies were identified and assessed for methodological quality using the Effective Public Health Practice Project (EPHPP). Effect sizes were calculated across measures of shame, self-criticism and self-compassion where data was available. Information relating to the content of CFT was extracted utilising a framework designed for the purposes of this study.

**Results:** The majority of evidence was identified within transdiagnostic groups, followed by disorder specific samples including eating disorders, psychosis, depression and acquired brain injury. Fewer studies have been conducted in PTSD, personality disorders, acne sufferers and high self-critics. Effect sizes varied from 0-0.9 across shame, self-criticism and self-compassion outcomes. There was wide heterogeneity in terms of what constituted CFT interventions.

**Limitations:** The literature is limited by few controlled designs, consistency of measurement, treatment protocols and heterogeneity of treatment content. Further limitations include quality of the evidence which is mixed and discrepancies between methodological quality and fidelity to the treatment model.

**Conclusions:** The evidence for CFT across disorder specific groups and transdiagnostic samples is burgeoning, however as yet it cannot be recommended over other evidence based therapies. Clinical implications for the practise of CFT and recommendations for future research are provided.

*Key words: transdiagnostic, compassion focused therapy, shame, self-criticism, self-compassion*
1.1 Introduction

1.1.1 Shame and self-criticism: transdiagnostic problems

The concept of the transdiagnostic approach was introduced by Fairburn, Cooper, and Shafran (2003) who invited researchers and clinicians to consider that “…transdiagnostic conceptualisation and treatment is relevant when major clinical features shared by two or more diagnostic states are maintained by common pathological processes” (p. 524, Fairburn et al., 2003).

The understanding of transdiagnostic processes was further extended by Harvey, Watkins, Mansell, and Shafran (2004) in their review of the evidence for the core transdiagnostic cognitive and behavioural psychopathological maintaining processes. There are several advantages to transdiagnostic approaches (McEvoy, Nathan, & Norton, 2009) as these can address limitations of single diagnosis models and are more representative of individuals who present to psychological services, often with 2.1 diagnosable disorders (Kessler et al., 1994).

Shame, self-criticism and reduced self-compassion are among considered transdiagnostic problems (Clark, 2012; Gilbert, 2009a). Compassion has been written about extensively (MacBeth & Gumley, 2012) and has its theoretical roots within Buddhism and has been extended within western practices of wellbeing. Gilbert outlined several qualities of compassion including warmth, strength, courage acceptance and non-judgement. Consistent across all conceptualisations of compassion are ideas of increased tolerance for emotional distress, acceptance and responsibility (for a review, see Barnard & Curry, 2011) and associations with increased wellbeing (MacBeth & Gumley, 2012; Neff, Kirkpatrick, & Rude, 2007).

Several studies have demonstrated negative associations between self-compassion and negative affective states including depression (Kuyken et al., 2010; Raes, 2011; Van Dam, Sheppard, Forsyth, & Earleywine, 2011), stress (Costa & Pinto-Gouveia, 2011; Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011) and anxiety (Roemer et al., 2009) across both clinical and non-clinical populations. Self-compassion is positively correlated with positive affective states and psychological wellbeing (Barnard & Curry, 2011; MacBeth & Gumley, 2012).

Social mentality theory explains that individuals have evolved to engage in a self-critical relationship with themselves to protect their place within social relationships (Gilbert, 2005a). Self-criticism was described by Schanche (2013) as an
individual’s efforts to eradicate experiences of negative emotional states (i.e., anxiety, shame & guilt). Individuals become vulnerable to this process through sustaining early relationships in which they are subordinated and the experience is one of inferiority, powerlessness and failure (Schanche, 2013). Mediational analyses indicate that self-compassion and ‘mattering to others’ has been found to partially mediate the relationship between attachment security and its influence on mental health (Raque-Bogdan et al., 2011).

In the first meta-analysis of the relationship between self-compassion and psychopathology, MacBeth and Gumley (2012) reported a large effect size between low levels of self-compassion and high levels of psychological distress; conversely, high levels of self-compassion were associated with low levels of psychological distress. They concluded that their findings support the promotion of self-compassion to alleviate psychological suffering, adding that further research to explore moderators of the relationship is needed.

1.1.2 Compassion Focused Therapy
Compassion Focused Therapy (CFT) and Compassionate Mind Training (CMT) were originally developed to treat individuals with high levels of shame and self-criticism (Gilbert, 2009b). Compassion Focused Therapy (CFT) relates to the theoretical model and the application of psychological therapy and CMT is the suite of techniques developed for use within CFT (Gilbert, 2009b). Individuals who had marked levels of shame and self-criticism were observed to have poorer responses to cognitive behavioural interventions, reporting that although they were able to generate alternative thoughts to those characterised by shame and self-criticism this was not accompanied by an affect shift and belief change. Although individuals reported they could “think differently” they did not “feel differently” (Laithwaite & Gumley, 2007; Lee, 2005). Gilbert has written extensively about addressing self-criticism within the context of CFT.

Compassion Focused Therapy (CFT) has its theoretical foundations in Gilbert’s (2009a) transdiagnostic model of affect regulation systems. The model of affect regulation is suggested to consist of three evolved systems (see Figure 1) which include the drive system, associated with driven or goal oriented behaviour; the threat system, associated with anxiety, anger, disgust and safety seeking
behaviours and the affiliative or soothing system, associated with contentment and safeness.

Gilbert’s affect regulation model details that psychopathology arises when individuals underuse the soothing system to regulate distress and overuse the drive or threat system in particular. One of the central aims of therapy, therefore, is to build the soothing system through the use of compassionate skills. There are a variety of skills utilised within CFT, incorporating mindfulness, soothing breathing, imagery and compassionate letter writing.

Figure 1. Three types of affect regulation system

From Gilbert, *The Compassionate Mind* (2009a), reprinted with permission from Constable & Robinson Ltd.

In the first systematic review of the CFT (searches conducted from inception to April 2012), Leaviss and Uttley (2015) identified 14 articles. Randomised controlled trials, observational studies, case series and case studies constituted the evidence base. The main aims of their review were to provide a summary of the emerging evidence of CFT and make recommendations for future research trials. Leaviss and Uttley (2015) concluded that evidence supported positive outcomes of CFT, but they also highlighted that the literature was limited by methodological weaknesses.
Recommenda
tions included using larger samples and more robust methodological designs, such as Randomised Controlled Trials (RCT).

There were a number of limitations and areas of omission in their review. Firstly, quality assessment was only in relation to areas of bias and overall quality was not reported. Secondly, there was limited detail of the content of CFT interventions, although the authors noted future research should implement frameworks to ensure fidelity. Thirdly, the review was limited in its generalisability due to the inclusion of unpublished studies and studies with small sample sizes (i.e., single cases and case series). Finally, effect sizes were not calculated.

Compassion Focused Therapy (CFT) is an emerging area which has continued to grow since the cut-off date (2012) included in Leaviss and Uttley’s review and therefore another systematic review which addresses the limitations within the previous review is needed.

1.1 Aims
The present review had the following aims: a) assess the methodological quality of CFT research studies and practice-based evidence, b) explore and summarise evidence of CFT in both clinical and non-clinical populations, c) provide a synthesis of the content and modalities of CFT delivered to date, d) provide preliminary data on the efficacy of CFT through calculation of effect sizes across CFT specific outcomes, specifically, shame, self-criticism and self-compassion where possible, and e) provide recommendations for future research design and clinical implications for practicing CFT.

1.2 Method
1.2.1 Search strategy
The following literature search included publications from 1985 to June 2015. The following databases were searched: Scopus, Medline, Embase, PsychINFO and Pubmed. The following search terms and combinations were utilised: Compassion focused therapy OR Compassionate mind training and Boolean searches: Compassion AND Focused AND Therapy or Compassionate AND mind AND training. In addition to database searching, the Compassionate Mind Foundation and reference lists of studies identified through the initial searches were also searched for relevant articles. Studies were included for further review based on the relevance of
title. Abstracts of relevant articles were then screened and included for further assessment. Full text articles, which were relevant on the basis of title and abstract, were examined. Any articles not meeting the criteria after further investigation were then excluded from the review.

1.2.2 Inclusion criteria
Studies were eligible for inclusion if they were in English, used human participants and were published in a peer-reviewed journal. Due to the exploratory nature of the literature review, studies utilising both clinical and non-clinical populations were considered for inclusion. Studies with outcomes related to mood or emotion regulation and/or CFT measures of self-compassion, shame and self-criticism were included for further assessment. Studies considered for inclusion had to describe the use of a variant of CFT or experimental manipulation using a CFT skill based on Gilbert’s theoretical model. This approach allowed for synthesis of skills which were derived from the same model, preserved fidelity and allowed for comparison across studies. Both group-based and individual therapies were included. Studies utilising uncontrolled designs and controlled designs where CFT was compared with another therapy were considered eligible to maximise the number of studies.

1.2.3 Exclusion criteria
Studies were excluded if they were theoretical or methodology papers, prospective trials, essays, single case designs, case series or qualitative analyses as these were not consistent with the aims of the paper, would not be comparable on account of the methodological differences and ineligible for quality assessment. Studies were also excluded if the CFT intervention or manipulation was based on a different theoretical model.

1.2.4 Methodological assessment
Studies were assessed for methodological quality using the Effective Public Health Practice Project (EPHPP) Quality Assessment Tool for Quantitative Studies (EPHPP, 1998). Quality ratings are derived through an assessment of six components including selection bias, study design, confounders, blinding, data collection methods, and withdrawals and dropouts. Each component is allocated a score of strong, moderate or weak. Global ratings are derived from the six component scores. A rating of strong is allocated to studies where there are no weak
rated components; moderate for studies with one weak component rating and weak for studies with two or more weak component ratings. The EPHPP has acceptable validity and good reliability (Cohen’s Kappa= 0.61-0.74; Thomas, Ciliska, Dobbins, & Micucci, 2004).

All studies regardless of their quality rating were included in the review. All data and methodological quality assessment was extracted and completed by the first author (ZT). A second rater (doctoral trainee), experienced with the use of the EPHPP and independent to the review team, completed ratings on all papers included in the review. Reliability between raters was acceptable (Cohen’s Kappa= 0.63). Where there was a discrepancy in rater scores a discussion took place, as per EPHPP guidelines until resolved. Reasons for disagreement included differences in the interpretation of the study, quality criteria and oversight.

1.2.5 Effect size calculations

Effect sizes were calculated on the core outcomes of CFT: compassion, shame and self-criticism. Where data were available, they were extracted and examined within Excel. No review to date has conducted effect size calculation within this body of literature.

1.3 Results

The initial database and additional searches returned 2078 studies. After excluding duplicates, animal studies, studies conducted before 1985, non-English and non-peer reviewed studies 376 articles remained. Three-hundred and forty-two did not meet the inclusion criteria based on title and abstract. Thirty-six full text articles were assessed for inclusion by the first and second authors (ZT and MS). A final 18 articles were excluded, leaving a total of 18 articles eligible for inclusion in the review. The process is detailed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher, Liberati, Tetzlaff & Altman, 2009) (see Figure 2 for PRISMA flow chart).
Figure 2. PRISMA flow diagram of study selection

Identification

Records identified through database searching (n = 2070)

Additional records identified through other sources (n = 8)

Total Records identified after duplicates, non-human studies, non-peer reviewed, pre-1985 articles removed (n = 376)

Screening

Titles screened (n = 376)

Records excluded (n = 342)

Eligibility

Number of full-text articles assessed for eligibility (n = 36)

Records excluded (n = 18)

Reasons

Case study (3)
Case series (1)
Behavioural (1)
Theoretical paper (7)
Book chapter (1)
Qualitative analysis (1)
Different theoretical model (4)

Included

Number of studies included in quantitative synthesis (n = 18)
Table 1. Characteristics across studies

<table>
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<tr>
<th>Population</th>
<th>Author</th>
<th>Country</th>
<th>N</th>
<th>Study design</th>
<th>Treatment description</th>
<th>Modality</th>
<th>Shame</th>
<th>Self-criticism</th>
<th>Compassion</th>
<th>Additional measures</th>
<th>Follow up</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transdiagnostic CMHT</td>
<td>Denner and Holland (2011)</td>
<td>UK</td>
<td>4</td>
<td>Single group design</td>
<td>CFT 14 weekly (2hr) sessions</td>
<td>Group</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>GAD-7, PHQ-9, SCS, FSCRS, FSCS</td>
<td>N</td>
<td>No statistical analyses. Results show trends of reduction across self-criticism and self-attacking and increases in self-compassion.</td>
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<td>Treatment Description</td>
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<td>Shame</td>
<td>Self-criticism</td>
<td>Compassion</td>
<td>Additional Measures</td>
<td>Follow up</td>
<td>Key Findings</td>
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<tr>
<td>Transdiagnostic CMHT</td>
<td>Judge, Cleghorn, McEwan, and Gilbert (2012)</td>
<td>27</td>
<td>Single group design</td>
<td>CFT 12-14 weekly (2 hr 15 min) sessions</td>
<td>Group</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>BDI, BAI, FSCRS, FSCS, ISS, OAS, SCS, SBS, Weekly Diary Measuring Self-attacking and self-soothing</td>
<td>N</td>
<td>Significant reductions in depression, anxiety, stress, self-criticism, shame, submissive behaviour and social comparison</td>
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<tr>
<td>Transdiagnostic inpatient</td>
<td>Heriot-Maitland, Vidal, Ball, and Irons (2014)</td>
<td>57</td>
<td>Single group design</td>
<td>CFT 4 sessions (Psychoeducation, Mindfulness, Compassion, Imagery)</td>
<td>Group</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Distress and calmness and ratings of understanding and helpfulness semi-structured interviews</td>
<td>N</td>
<td>Significant decrease in distress ratings and increase in calmness ratings</td>
<td></td>
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<tr>
<td>Transdiagnostic eating disorders</td>
<td>Gale, Gilbert, Read, and Goss (2014)</td>
<td>139</td>
<td>Retrospective analysis of outcomes</td>
<td>CBT + CFT step 1-4 week, 2hrs/week psychoeducation step 2-20 group sessions (over 16 weeks)</td>
<td>Group</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Global EDE-Q, SEDS, CORE-OM, Reliable Change Index</td>
<td>N</td>
<td>Significant improvements across all measures from pre to post treatment Patients with bulimia</td>
<td></td>
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<tr>
<td>Population</td>
<td>Author</td>
<td>Country</td>
<td>N</td>
<td>Study design</td>
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<tr>
<td>Binge eating disorder</td>
<td>Kelly and Carter (2014)</td>
<td>Canada</td>
<td>41</td>
<td>Pilot RCT</td>
<td>Food planning + CFT exercises OR Food planning + behavioural strategies OR Wait-list control</td>
<td>Self-help</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Global EDE-Q, binge eating frequency, CES-D, FCS, SCS, CEQ, Homework rating scale</td>
<td>N</td>
<td>Improved significantly more than those with anorexia</td>
</tr>
<tr>
<td>Psychosis</td>
<td>Laithwaite et al. (2009)</td>
<td>UK</td>
<td>18</td>
<td>Single group design</td>
<td>20 sessions (weekly) CFT</td>
<td>Group</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>SCS, OAS, SCS, BDI-II, RSE, SIP-AD, PANS</td>
<td>6 weeks</td>
<td>Significant improvements in social comparison</td>
</tr>
<tr>
<td>Population</td>
<td>Author</td>
<td>Country</td>
<td>N</td>
<td>Study design</td>
<td>Treatment description</td>
<td>Modality</td>
<td>Shame</td>
<td>Self-criticism</td>
<td>Compassion</td>
<td>Additional measures</td>
<td>Follow up</td>
<td>Key findings</td>
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<tr>
<td>Psychosis</td>
<td>Braehler et al. (2013)</td>
<td>UK</td>
<td>40</td>
<td>Prospective RCT</td>
<td>CFT 16 sessions (2hrs/week) CFT+ TAU OR TAU</td>
<td>Group</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>NRSS, CGI-I, BDI-II, PANAS, FORSE, PBIQ-R</td>
<td>N</td>
<td>CFT&gt;TAU Clinical improvement Increase Compassion Reduction depression</td>
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<tr>
<td>Subclinical psychotic symptoms</td>
<td>Lincoln, Hohenhaus, and Hartmann (2013)</td>
<td>Germany</td>
<td>71</td>
<td>RCT</td>
<td>Compassionate imagery OR Neutral imagery</td>
<td>Individual</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Paranoia checklist, CAPE, ADS, RSE</td>
<td>N</td>
<td>CFT&gt;control Decreases in negative emotion, Increases self-esteem decrease in paranoid thought</td>
</tr>
<tr>
<td>Acquired brain injury</td>
<td>O'Neill and McMillan (2012)</td>
<td>UK</td>
<td>24</td>
<td>RCT</td>
<td>Compassionate imagery (1 session) OR relaxation condition</td>
<td>Individual</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>SCS, EQ, relaxation measure</td>
<td>N</td>
<td>No intervention effect No within treatment effect</td>
</tr>
<tr>
<td>Population</td>
<td>Author</td>
<td>Country</td>
<td>N</td>
<td>Study design</td>
<td>Treatment description</td>
<td>Modality</td>
<td>Shame</td>
<td>Self-criticism</td>
<td>Compassion</td>
<td>Additional measures</td>
<td>Follow up</td>
<td>Key findings</td>
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<tr>
<td>Acquired brain injury</td>
<td>Ashworth, Clarke, Jones, Jennings, and Longworth (2014)</td>
<td>UK</td>
<td>12</td>
<td>Mixed methods</td>
<td>24 sessions CFT</td>
<td>Individual and group CFT</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>HADS; FSCRS</td>
<td>3 months</td>
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<tr>
<td>Depression</td>
<td>Gilbert and Irons (2004)</td>
<td>UK</td>
<td>8</td>
<td>Single group design</td>
<td>4 sessions (1.5 hours/week)</td>
<td>Group</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Self-attacking and self-reassuring diary, HADS, criticism pre-post CM training, compassion pre-post CM training</td>
<td>6 weeks</td>
<td>Non-significant reduction in self-criticism. Significant increase in ease of generating soothing/self-compassionate images.</td>
</tr>
<tr>
<td>Population</td>
<td>Author</td>
<td>Country</td>
<td>N</td>
<td>Study design</td>
<td>Treatment description</td>
<td>Modality</td>
<td>Shame</td>
<td>Self-criticism</td>
<td>Compassion</td>
<td>Additional measures</td>
<td>Follow up</td>
<td>Key findings</td>
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<td>Depression/anxiety</td>
<td>Noorbala, Borjali, Ahmadian-Attari, and Noorbala (2013)</td>
<td>Iran</td>
<td>19</td>
<td>RCT</td>
<td>CMT (12 sessions) Or control (no intervention)</td>
<td>Group</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>BDI, AS, LSCS</td>
<td>2 months</td>
<td>CMT &gt; control significant decreases in depression and anxiety at follow-up</td>
</tr>
<tr>
<td>PTSD</td>
<td>Beaumont, Galpin and Jenkins (2012)</td>
<td>UK</td>
<td>32</td>
<td>RCT</td>
<td>(12 session) CBT OR CBT +CMT</td>
<td>Individual</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>HADS, IES, SCS</td>
<td>N</td>
<td>Significant reduction in anxiety, depression, avoidant behaviour, intrusive thoughts, hyper-arousal symptoms across both groups CBT+CMT significantly higher compassion scores post therapy</td>
</tr>
<tr>
<td>Population</td>
<td>Author</td>
<td>Country</td>
<td>N</td>
<td>Study design</td>
<td>Treatment description</td>
<td>Modality</td>
<td>Shame</td>
<td>Self-criticism</td>
<td>Compassion</td>
<td>Additional measures</td>
<td>Follow up</td>
<td>Key findings</td>
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<tr>
<td>Personality disorder</td>
<td>Lucre and Corten (2013)</td>
<td>UK</td>
<td>8</td>
<td>Single group design</td>
<td>CFT 16 weeks</td>
<td>Group</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>OAS, SCS, FSCRS, CORE</td>
<td>1 year</td>
<td>Significant reductions in shame, social comparison, feelings of hating oneself, depression, anxiety, stress, self-criticism, shame, submissive behaviour and social comparison Increase in self-reassurance</td>
</tr>
<tr>
<td>Self-critics</td>
<td>Rockliff, Gilbert, McEwan, Lightman, and Glover (2008)</td>
<td>UK</td>
<td>22</td>
<td>Single group design</td>
<td>Relaxation imagery, compassionate imagery, control imagery</td>
<td>Individual</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>FSCRS, SCS, AAS, SSS, DASS</td>
<td>N</td>
<td>CFI associated with stimulation of soothing affect system, attenuation of HPA Results mediated by attachment style and self-criticism</td>
</tr>
<tr>
<td>Population</td>
<td>Author</td>
<td>Country</td>
<td>N</td>
<td>Study design</td>
<td>Treatment description</td>
<td>Modality</td>
<td>Shame</td>
<td>Self-criticism</td>
<td>Compassion</td>
<td>Additional measures</td>
<td>Follow up</td>
<td>Key findings</td>
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<tr>
<td>High self-critics</td>
<td>Duarte, McEwan, Barnes, Gilbert, and Maratos (2014)</td>
<td>UK</td>
<td>24</td>
<td>Mixed Methods design</td>
<td>Compassionate imagery, control imagery, no intervention control</td>
<td>Individual</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>FSCRS, AAM, SAAS, TPAS, PANAS</td>
<td>N</td>
<td>High self-critics respond negatively to imagery compared with low self-critics</td>
</tr>
<tr>
<td>Acne sufferers</td>
<td>Kelly, Zuroff and Shapira (2009)</td>
<td>Canada</td>
<td>75</td>
<td>RCT</td>
<td>Self-soothing condition (1hr-self-help CFT exercises-compassionate imagery, and letter) OR attack resisting condition (attack resisting image, letter) OR control condition</td>
<td>Individual</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>DEQ, BDI, ESS, SKINDEX</td>
<td>N</td>
<td>Self-soothing condition lowered shame and skin complaint Attack resisting condition lowered depression (more for high critics than low) shame and skin complaint</td>
</tr>
</tbody>
</table>

*Abbreviations: AAM- Alpha Amylase Measurement; AAS- Adult Attachment Scale; AAQ-II- Acceptance & Action Questionnaire; AS- Anxiety Scale; ADS- Allgemeine Depressions Skala; BAI- Beck Anxiety Inventory; BDI-II- Beck Depression Inventory II; BAVQ; Belief about Voices Questionnaire; CAPE- Community Assessment of Psychic Experiences; CEQ- Credibility/Expectancy Questionnaire; CES-D- Center for Epidemiologic Studies Depression Scale; CGI-I- Clinical Global Impression-Improvement Scale; CMHT- Community Mental Health Team; CORE- Clinical Outcomes in Routine Evaluation; DASS- Depression and Anxiety Stress Scale; DEQ- Depression Experiences Questionnaire; EDE-Q- Eating Disorder Examination Questionnaire; ESS- Experiences of Shame Scale; EQ- Empathy Quotient; FORSE- Fear of Recurrence Scale; FSCRS- Forms of criticism/self-attacking and self-reassuring scale; FCS- Fears*
of Compassion Scale; FRS- Fear of Recurrence Scale; FSCS- Functions of self-criticism/attacking scale; FSCRS- Forms of Self-Criticism and Self-Reassurance Scale; GAD-7- Generalised Anxiety Disorder- 7 item; HADS- Hospital Anxiety and Depression Scale; HIV stigma scale; HPA- Hypothalamic Pituitary Adrenal Axis System; HRS- Homework Rating Scale; IES- Impact of Events scale; ISS- Internalized Shame Scale; LSCS- Levels of Self-criticism Scale; NRSS- Narrative Recovery Style Scale; OAS- Other as Shamer Scale; PANAS- Positive and Negative Affect Scale; PANS- Positive and Negative Syndrome Scale; PBIQ-R- Personal Beliefs about Illness Questionnaire- Revised; PHQ-9- Patient Health Questionnaire; RCT- Randomised Controlled Trial; Robson Self-concept Questionnaire; RSE- The Rosenberg Self-Esteem measure; SAAS- State Adult Attachment Scale; SBS-Submissive behaviour scale; SCS- Social Comparison Scale; SCS- Self-Compassion Scale; SEDS- Stirling Eating Disorder Scale; SSS- Social Safeness Scale; STAXI-AI-State Trait Anger Expression Inventory; SCL-90- Symptom Inventory; SIP-AD- The Self-Image Profile for Adults; TPAS- Types of Positive Affect Scale; VRS- Voice Rank Scale; Weekly Diary Measuring Self- attacking and self-soothing
1.3.1 Available evidence of CFT in both clinical and non-clinical populations

1.3.1.1 Location and sample
The majority of studies (14) included within the present review were conducted within the United Kingdom (UK; see Table 1). Fewer studies were conducted elsewhere; Canada (two), Germany (one) and Iran (one) respectively. Most studies (nine) were completed with adults over the age of 18 years in the context of routine clinical services. A smaller proportion of studies were randomised controlled trials of CFT interventions (six) and experimental studies investigating components of the intervention (three).

1.3.1.2 Presenting problems
There was a high degree of heterogeneity with respect to presenting problems. Four studies (Denner & Holland, 2011; Gilbert & Procter, 2006; Heriot-Maitland et al., 2014; Judge et al., 2012) included clients with heterogeneous presentations. Two studies included individuals with eating disorders; one with transdiagnostic eating disorders (Gale et al., 2014) and one study utilised a binge eating disorder (BED) population (Kelly & Carter, 2014). Two studies were with a clinical population of individuals with a diagnosis of psychosis (Braehler et al., 2013; Laithwaite et al., 2009) and one with a student population (Lincoln et al., 2013) with sub-clinical psychotic symptoms. Two studies (Gilbert & Irons, 2004; Noorbala et al., 2013) examined CFT within depressed populations. Two further studies (Ashworth et al., 2014; O'Neill & McMillan, 2012) included individuals who had acquired brain injury (ABI). Two further studies (Duarte et al., 2014; Rockliff et al., 2008) used individuals who were high in self-criticism. One study (Kelly et al., 2009) investigated the effect on CFT within acne suffers. Lastly, one study (Lucre & Corten, 2013) included a group of individuals with personality disorder (PD) diagnoses and another (Beaumont, Galpin, & Jenkins, 2012) examined CFT in individuals with posttraumatic stress disorder (PTSD).

1.3.1.3 Transdiagnostic studies
Four papers examined the clinical effectiveness of group CFT in transdiagnostic samples in naturalistic settings. Gilbert and Procter (2006) reported significant reductions in depression, anxiety, self-criticism, shame, inferiority and submissive behaviour and significant increase in self-soothing, warmth, and reassurance for the self from pre to post follow-up in a small group of
individuals. Consistent with this, Denner and Holland (2011) reported trends of reduction across self-criticism and self-attacking and increases in self-compassion from pre to post follow-up, again in a small sample of individuals. Larger samples were used in two clinical effectiveness studies. Significant reductions in depression, anxiety, stress, self-criticism, shame, submissive behaviour and social comparison were reported by Judge et al. (2012) from pre to post therapy. In a recent group evaluation, significant decreases in distress ratings and an increase in calmness ratings were found following a four-session group CFT programme (Heriot-Maitland et al., 2014).

1.3.1.4 Eating disorders
Gale et al. (2014) were the first to examine the clinical effectiveness of group CFT in transdiagnostic adult outpatient eating disorder populations. They reported significant improvements across all measures from pre to post treatment. They also noted that patients with bulimia improved significantly more than those with anorexia.

A recent three-arm RCT study by Kelly and Carter (2014) examined the efficacy of food planning combined with CFT exercises with food planning combined with behavioural strategies and wait-list control (WLC). They reported significant reductions in eating disorder pathology, eating concern and weight concern and significant increases of self-compassion in individuals randomised to the CFT group compared with the two other conditions (behavioural strategies combined with food planning and the WLC group).

1.3.1.5 Psychosis
Two studies (Braehler et al., 2013; Laithwaite et al., 2009) examined the clinical effectiveness of group CFT within individuals with a diagnosis of psychosis. In their prospective RCT, Braehler et al. (2013) found that CFT was associated with significant clinical improvements and self-compassion as measured by the CGI-I and BDI-II respectively and decreases in depression, when compared with treatment as usual.

Results from a further clinical effectiveness study of group CFT in individuals with psychosis indicated significant improvements in social comparisons and self-esteem and significant decreases in depression and external shame from pre to post-therapy (Laithwaite et al., 2009).
Lincoln and colleagues (2013) examined the effect of compassionate imagery in a group of individuals with sub-clinical psychotic symptoms. Using an RCT design they compared a compassionate imagery exercise with a neutral imagery exercise. Those randomised to the compassionate imagery condition reported significantly lower levels of negative emotion and fewer paranoid thoughts and increases in self-esteem compared with those randomised to a neutral imagery condition.

1.3.1.6 Acquired brain injury
Two studies were identified which examined the effect of CFT in individuals with acquired brain injury. A recent study investigated the effect of 24 sessions (group and individual therapy combined) of CFT (Ashworth et al., 2014). Significant reductions in anxiety, depression and self-criticism and increases in self-reassurance were reported from baseline assessment to post-treatment. These findings were not maintained at follow-up.

O’Neill and McMillan (2012) conducted an RCT to examine the efficacy of compassionate imagery in individuals with head injuries and reported no significant differences across measures of self-compassion, empathy or relaxation.

1.3.1.7 Depression
Two studies utilised group CFT in individuals with depression. In their seminal study, Gilbert and Irons (2004) reported significant increases in generating soothing and self-compassionate images and non-significant reductions in self-criticism from baseline to post compassionate mind training.

A recent study comparing CFT with a control group (no intervention) found significant decreases in depression and anxiety and non-significant decreases in self-criticism in those allocated to CFT (Noorbala et al., 2013).

1.3.1.8 Additional evidence
Further studies have been identified examining the effectiveness of CFT in individuals with Posttraumatic stress disorder (PTSD), personality disorder (PD), acne and individuals high in self-criticism.

Beaumont and colleagues (2012) conducted an RCT comparing 12 (individual) sessions of CFT and CBT with CBT only in individuals with PTSD.
Individuals allocated to CFT+CBT reported significant increases of self-compassion and calmness as well as significant decreases in distress ratings when compared with individuals receiving CBT only. There were significant decreases in anxiety, depression, avoidant behaviour, intrusive thoughts and symptoms of hyper arousal across both groups.

A small single group analysis of a 16-week group CFT was completed by Lucre and Corten (2013), who reported significant reductions in shame, social comparison, and feelings of hating oneself as well as anxiety, depression, stress, shame, submissive behaviour and self-criticism from baseline to end of group. They also reported significant increases in ability to be self-reassuring.

In a three-arm RCT, self-help CFT (compassionate imagery and letter writing) was compared with two other conditions; attack resisting condition (attack resisting imagery and letter) or a control condition in individuals with acne (Kelly et al., 2009). Individuals randomised to the self-soothing condition reported significantly lower levels of shame and skin complaints. The attack resisting condition was associated with greater decreases in depression, shame and skin complaints in individuals who were higher in self-criticism.

Rockliff and colleagues (2008) examined physiological measures across three different types of imagery: compassionate, relaxation and control imagery respectively. They reported that compassionate imagery was associated with stimulation of the soothing affect system and attenuation of the hypothalamic pituitary adrenal axis (HPA). However, this effect was mediated by attachment style and self-criticism.

A recent study examined different conditions of imagery in individuals with high and low self-criticism (Duarte et al., 2014). They reported that individuals high in self-criticism responded negatively to imagery when compared with individuals who were low in self-criticism.

1.3.1.9 Methodological quality: EPPHP

Five studies (Duarte et al., 2014; Kelly & Carter, 2014; Lincoln et al., 2013; Noorbala et al., 2013; Rockliff et al., 2008) were awarded a quality rating of strong (see Table 2). Eight studies (Ashworth et al., 2014; Beaumont et al., 2012; Braehler et al., 2013; Denner & Holland, 2011; Gale et al., 2014; Laithwaite et al., 2009; Lucre & Corten, 2013; O'Neill & McMillan, 2012) were rated as
*moderate* and five (Gilbert & Irons, 2004; Gilbert & Procter, 2006; Heriot-Maitland et al., 2014; Judge et al., 2012; Kelly et al., 2009) gained a rating of *weak*. 
Table 2. Component and global quality ratings across papers

<table>
<thead>
<tr>
<th>Study</th>
<th>Selection bias</th>
<th>Study design</th>
<th>Confounders</th>
<th>Blinding</th>
<th>Data collection</th>
<th>Dropouts</th>
<th>Global score</th>
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</thead>
<tbody>
<tr>
<td>Gilbert &amp; Irons (2004)</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Gilbert &amp; Procter (2006)</td>
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<td>3</td>
<td>3</td>
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<td>Denner &amp; Holland (2011)</td>
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<tr>
<td>Judge et al., (2012)</td>
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<td>3</td>
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<td>Weak</td>
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<tr>
<td>Heriot-Maitland et al., (2014)</td>
<td>2</td>
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<td>Kelly et al. (2009)</td>
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<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>Weak</td>
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</table>

1= strong, 2= moderate, 3= weak

1.3.2 The implementation of CFT

1.3.2.1 Protocol and manual usage

Interventions were drawn from or adapted from related CFT literature (Gilbert, 1992, 2000, 2001, 2005b, 2007, 2009a, 2009b, 2010; Gilbert & Irons, 2004; Gilbert & Irons, 2005; Gilbert & Procter, 2006; Goss, 2011) and CBT literature (Fairburn, 1981) and adapted versions by Laithwaite et al. (2009), and Lucre and Corten (2013) (see Table 3). A small number of papers (Rockliff et al., 2008;
Judge et al., 2012) did not make reference to a published protocol and one study reported use of a standard script but did not report which one was used (O’Neil & McMillan, 2012). Although the majority of papers referenced a protocol or manual the degree of detail was limited with the majority of papers not reporting a detailed session protocol. Specifically, operationalisation of treatment manuals and implementation of CFT skills was limited.
<table>
<thead>
<tr>
<th>Study</th>
<th>Total sessions</th>
<th>Psychoeducation</th>
<th>Content</th>
<th>Imagery</th>
<th>Blocks</th>
<th>Evidence type</th>
<th>Protocol</th>
<th>Professional</th>
<th>CFT training</th>
<th>Supervision</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Diary of self-critical thinking and ability to be self-compassionate</td>
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<td></td>
<td></td>
<td></td>
<td>compassionate and mindful ways of attending to fears and safety strategies</td>
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<td>Study</td>
<td>Total sessions</td>
<td>Psychoeducation</td>
<td>Content</td>
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<td>Blocks</td>
<td>Evidence type</td>
<td>Protocol</td>
<td>Professional</td>
<td>CFT training</td>
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<tr>
<td>Judge et al. (2012)</td>
<td>12-14 sessions (Group)</td>
<td>Explain evolutionary model</td>
<td>Formulation within CFT model</td>
<td>Compassionate self &amp; compassionate other</td>
<td>N</td>
<td>Practice-based</td>
<td>Did not report</td>
<td>CP</td>
<td>3 day CFT training</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Core exercises (soothing breathing, compassionate letter writing, compassionate behaviour)</td>
<td></td>
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<tr>
<td>Heriot-Maitland et al. (2014)</td>
<td>4 sessions (group)</td>
<td>Psychoeducation-old/new brain, 3 systems</td>
<td>Mindfulness (attention, step back from reactions, urges, mind wandering, refocussing attention, mindfulness)</td>
<td>Safe place &amp; compassionate other</td>
<td>Y</td>
<td>Practice-based</td>
<td>Gilbert (2009)</td>
<td>CP, facilitated by CP &amp; ward staff</td>
<td>Specific CFT training</td>
<td>Specialist CFT practitioner</td>
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<td></td>
<td></td>
<td></td>
<td>Compassion (tolerate emotions, qualities of compassion, compassionate skills-attention, reasoning and behaviour, compassion flowing in and out)</td>
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<tr>
<td>Gale et al. (2014)</td>
<td>4 psychoed + 20 CFT sessions (group)</td>
<td>ED education and recovery tasks CFT, theory and concept of compassion</td>
<td>Explore use of compassion for difficulties Distress tolerance skills. Manage being weighed. Weight and shape worries</td>
<td>Safe place &amp; compassionate other imagery</td>
<td>Y</td>
<td>Practice-based</td>
<td>Gilbert &amp; Procter (2006), Gilbert (2010), Fairburn (1981)</td>
<td>CP</td>
<td>Formal CFT training</td>
<td>CFT and CBT supervision</td>
</tr>
<tr>
<td>Study</td>
<td>Total sessions</td>
<td>Psychoeducation</td>
<td>Content</td>
<td>Imagery</td>
<td>Blocks</td>
<td>Evidence type</td>
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<tr>
<td>Kelly and Carter (2014)</td>
<td>3 weeks (individual video guided)</td>
<td>ED- vicious cycle of bingeing and regular eating CFT- self-blame and self-compassion</td>
<td>Compassion flowing in and out, compassionate letter writing, compassionate mind-set (through imagery self-talk and letter writing) agreed recovery targets. Increase intake (1500 kcals) using compassionate focus, imagery and developing compassionate thinking and behaviours. Relapse prevention. Saying goodbye with compassionate focus</td>
<td>Compassionate other &amp; compassionate self</td>
<td>N</td>
<td>RCT</td>
<td>Goss (2011)</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Laithwaite et al. (2009)</td>
<td>20 sessions (group)</td>
<td>Understanding psychosis and recovery Understanding compassion and developing the ideal friend (concept of compassion)</td>
<td>Compassionate responding and Compassionate letter writing Compassion diary recording self-critical thoughts and responses of ideal friend.</td>
<td>Compassionate ideal</td>
<td>N</td>
<td>Practice-based</td>
<td>Based on Gilbert (2001)</td>
<td>CPs, trainee CPs, Aps and advanced practitioners</td>
<td>N</td>
<td>Supervision provided</td>
</tr>
<tr>
<td>Study</td>
<td>Total sessions</td>
<td>Psychoeducation</td>
<td>Content</td>
<td>Imagery</td>
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<tr>
<td>Braehler et al. (2013)</td>
<td>16 (group)</td>
<td>Developing plans for recovery after psychosis</td>
<td>Recovery plan (triggers, warning signs, safety behaviours, action plan and coping strategies).</td>
<td>Imagery</td>
<td>Y</td>
<td>RCT</td>
<td>Laithwaite et al. (2009)</td>
<td>CPs</td>
<td>3 CFT day workshop</td>
<td>Peer supervision and individual fortnightly</td>
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<tr>
<td>Lincoln et al. (2012)</td>
<td>I (1:1)</td>
<td>impact of psychosis on life and blocks to recovery in terms of evolutionary CFT model</td>
<td>Mindfulness, appreciation, attention, behaviour, reframing applied in relation to internal and external threat</td>
<td>Imagery</td>
<td>N</td>
<td>Experiment</td>
<td>Gilbert (2010)</td>
<td>MSc student</td>
<td>N</td>
<td>N</td>
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<tr>
<td>O’Neill and McMillan (2012)</td>
<td>I session-30 minutes (1:1)</td>
<td>Breathing technique, relaxation</td>
<td>Experimental imagery</td>
<td>N</td>
<td>RCT</td>
<td>Reports use of standard script but no citation</td>
<td>N</td>
<td>N</td>
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<tr>
<td>Ashworth et al. (2014)</td>
<td>18 weeks (group) + 18 (1:1)</td>
<td>Socialisation to CFT, three systems, origin and function of self-criticism, what is compassion, skills</td>
<td>Y</td>
<td>Practice-based</td>
<td>Gilbert (2009a)</td>
<td>CPs</td>
<td>3 day CFT training</td>
<td>CP with CFT expertise</td>
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<td>Study</td>
<td>Total sessions</td>
<td>Psychoeducation Content</td>
<td>Imagery</td>
<td>Blocks Evidence type</td>
<td>Protocol</td>
<td>Professional CFT training</td>
<td>CFT Supervision</td>
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<td>Noorbala et al. (2013)</td>
<td>12 sessions (group)</td>
<td>tools to manage consequences (adapted for cognitive difficulties)</td>
<td>Compassionate imagery</td>
<td>N/A</td>
<td>RCT</td>
<td>Based on Gilbert (2005)</td>
<td>N</td>
<td>N</td>
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<td></td>
<td></td>
<td>(breathing,) old brain/new brain, group work process to foster caring</td>
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<td>1:1 individual sessions (formulation, addressing blocks and barriers, CMT, therapeutic relationship)</td>
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<td>Exploration of self to self-relating and behaviour</td>
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<td>Soothing breathing, mindfulness and compassionate letter writing</td>
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<td>Confrontation of factors leading to fears of self-compassion.</td>
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<td>Compassionate letter writing, self-compassion diary/journal, self-reflection, refocussing attention</td>
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<td>CBT therapist</td>
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<td>Thought balancing, Empty chair</td>
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<td>Study</td>
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<td>Psychoeducation</td>
<td>Content</td>
<td>Imagery</td>
<td>Blocks type</td>
<td>Evidence type</td>
<td>Protocol</td>
<td>Professional</td>
<td>CFT training</td>
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<tr>
<td>Lucre and Corten (2013)</td>
<td>16 sessions (group)</td>
<td>Three systems, formulation and brain design, Functions of self-criticism and fears of giving it up, Development of soothing system</td>
<td>Relaxation, mindfulness, observe self with self-kindness, warmth, challenge internal bully. Grounding work (using senses- stone or smell). CMT specific exercises, compassionate relationships with self and others- compassion flowing out. Semi-precious stones as transitional objects and reminders to practice. Between session practice: mindful attention to breathing, experiential acts of self-compassion. Compassion toolkit (diagrammatic/pictorial representations of group process and exploration)</td>
<td>Imagery</td>
<td>Y</td>
<td>Practice-based</td>
<td>Newly developed</td>
<td>CBT therapist and Group facilitator</td>
<td>3 day CMT training</td>
<td>Bi-monthly group and individual supervision with PG</td>
</tr>
<tr>
<td>Duarte et al. (2014)</td>
<td>1 experimental</td>
<td>N</td>
<td>Imagery</td>
<td>Imagery</td>
<td>N</td>
<td>Experiment</td>
<td>Rockliff et al., 2011</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<tr>
<td>Study</td>
<td>Total sessions</td>
<td>Psychoeducation</td>
<td>Content</td>
<td>Imagery</td>
<td>Blocks</td>
<td>Evidence type</td>
<td>Protocol</td>
<td>Professional</td>
<td>CFT training</td>
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<tr>
<td>Rockliff et al. (2008)</td>
<td>1-experimental (1:1)</td>
<td>Limited</td>
<td>Compassionate other (3x 5 min)</td>
<td>Compassionate other</td>
<td>N</td>
<td>Experiment</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Kelly et al. (2009)</td>
<td>2 (self-help)</td>
<td>self-criticism as a form of self to self-relating</td>
<td>Compassionate letter writing</td>
<td>Compassionate other</td>
<td>N</td>
<td>RCT</td>
<td>Gilbert (1992, 2000, 2005a, 2007), Gilbert &amp; Irons (2005)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Abbreviations: ABI- Acquired Brain Injury; APs- Assistant Psychologists; CBT- Cognitive Behaviour Therapy; CFT- Compassion Focused Therapy; CMT- Compassionate Mind Training; CP- Clinical Psychologist; ED- Eating Disorder; PG- Paul Gilbert; RCT- Randomised Controlled Trial*
1.3.2.2 Content
There was a large degree of heterogeneity in terms of the content reported across the included studies (see Table 3). Through consulting the literature and from our own practice we devised a checklist of the aspects, which are consistent across CFT. These included psychoeducation, CFT skills, imagery, management of blocks to compassion, use of a CFT protocol, training and supervision.

1.3.2.3 Psychoeducation
The majority of studies described or referred to a psychoeducational component of their treatment. The description of psychoeducation varied but general themes included: 1) explanation of self-compassion and self-criticism, 2) evolutionary concepts (i.e. brain design, old brain/new brain), and 3) socialisation to three systems. Three studies (Beaumont et al., 2012; Lincoln et al., 2013; O'Neill & McMillan, 2012) did not report a psychoeducational component to the content of their CFT.

1.3.2.4 Skills
In terms of the skills, again there was considerable variety in the breadth of skills utilised across the included papers (see Table 3). The most commonly utilised were compassionate imagery, compassionate letter writing, safe place, soothing breathing, and compassion flowing in and out.

1.3.2.5 Imagery
All studies reported using a form of compassionate imagery within the intervention. The most frequently reported exercise was the compassionate other exercise (Gilbert, 2009a), utilised by several studies (Gale et al., 2014; Heriot-Maitland et al., 2014; Judge et al., 2012; Kelly & Carter, 2014; Kelly et al., 2009; Laithwaite et al., 2009; Lincoln et al., 2013; Rockliff et al., 2008). Several studies reported using a compassionate image, but did not specify content. Two studies reported using the compassionate self image (Gilbert, 2009a).

1.3.2.6 Blocks to compassion
In terms of blocks, or barriers, to accessing compassion, six studies reported addressing these (Ashworth et al., 2014; Braehler et al., 2013; Denner &
Holland, 2011; Gale et al., 2014; Gilbert & Procter, 2006; Heriot-Maitland et al., 2014).

1.3.2.7 Modalities
The most common modality of treatment was group treatment, with ten studies (Braehler et al., 2013; Denner & Holland, 2011; Gale et al., 2014; Gilbert & Irons, 2004; Gilbert & Procter, 2006; Heriot-Maitland et al., 2014; Judge et al., 2012; Laithwaite et al., 2009; Lucre & Corten, 2013; Noorbala et al., 2013) reporting delivery of CFT in a group setting. The remaining modalities included individualised CFT (Beaumont et al., 2012; Duarte et al., 2014; Lincoln et al., 2013; O’Neill & McMillan, 2012; Rockliff et al., 2008), group treatment combined with individual sessions (Ashworth et al., 2014) and through self-help (Kelly & Carter, 2014; Kelly et al., 2009).

1.3.2.8 Therapist preparation and training
The majority of studies reported that the intervention was delivered by a Clinical Psychologist (CP). A smaller number of studies reported delivery by a Cognitive Behavioural Therapist (CBT) and MSc student. Types of training reported were three-day CFT training (Ashworth et al., 2014; Braehler et al., 2013; Judge et al., 2012; Lucre & Corten, 2013), CFT training (Gale et al., 2014; Heriot-Maitland et al., 2014) and attendance at a workshop (Denner & Holland, 2011). There were no reports detailing fidelity to treatment.

1.3.2.9 Supervision
Supervision was varied across studies and included supervision by a CP, peer supervision, individual supervision and consultation with Professor Paul Gilbert, the developer of CFT. Some authors reported that supervision was provided by a CFT specialist.
1.3.3 Preliminary data on the efficacy of CFT: Assessment of compassion, self-criticism and shame

1.3.3.1 Compassion

Eight studies (Beaumont et al., 2012; Denner & Holland, 2011; Gilbert & Irons, 2004; Gilbert & Procter, 2006; Kelly & Carter, 2014; Laithwaite et al., 2009; O'Neill & McMillan, 2012; Rockliff et al., 2008) included measures of self-compassion (see Table 4). The most commonly used measure was the Self-Compassion Scale (SCS; Neff, 2003). From the studies with sufficient data to calculate effect sizes, Gilbert and Irons (2004), Gilbert and Procter (2006) and Kelly and Carter (2014) obtained large effect sizes using Cohen’s criteria (see Table 4). Beaumont and colleagues achieved a medium effect size and Laithwaite et al. (2009) and O’Neill and McMillan (2012) demonstrated small effect sizes.
Table 4. Effect sizes across measures of compassion, self-criticism and shame

<table>
<thead>
<tr>
<th></th>
<th>Compassion measure</th>
<th>N</th>
<th>z/t</th>
<th>η²</th>
<th>r</th>
<th>Self-criticism measure</th>
<th>N</th>
<th>z/t</th>
<th>η²</th>
<th>r</th>
<th>Shame measure</th>
<th>N</th>
<th>z/t</th>
<th>η²</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilbert and Irons (2004)</td>
<td>SCS</td>
<td>8</td>
<td>2.94</td>
<td>0.55</td>
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<td>diary (FSCS)</td>
<td>8</td>
<td>1.32</td>
<td>0.20</td>
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<td>No</td>
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<tr>
<td>Gilbert and Procter (2006)</td>
<td>SCS</td>
<td>6</td>
<td>2.21</td>
<td>0.90</td>
<td></td>
<td>self-correction (FSCS)</td>
<td>6</td>
<td>1.05</td>
<td>0.43</td>
<td>OAS</td>
<td>6</td>
<td>2.2</td>
<td>0.90</td>
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<tr>
<td>Denner and Holland (2011)</td>
<td>Data not suitable</td>
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<td>FCSC/ FSCRS data not suitable (FSCS)</td>
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<tr>
<td>Judge et al. (2012)</td>
<td>No</td>
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<td></td>
<td>self-correction (FSCS)</td>
<td>6</td>
<td>0.03</td>
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<td>internal shame</td>
<td>0.60</td>
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<tr>
<td>Heriot-Maitland et al. (2014)</td>
<td>No</td>
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<td>self-persecution (FSCRS)</td>
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<td>external shame</td>
<td>0.38</td>
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<td>inadequate self (FSCRS)</td>
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<td>hated self (FSCRS) rea ssure self</td>
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<td>Measure</td>
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<td>Measure</td>
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Abbreviations: FSCS- Functions of self-criticism/attacking scale; FSCRS- Forms of criticism/self-attacking and self-reassuring scale; LSCS- Levels of Self-Criticism Scale; OAS- Other as Shamer Scale; SCS- Self-compassion Scale;
1.3.3.2 Self-criticism

A large number of studies also utilised a measure of self-criticism (Ashworth et al., 2014; Denner & Holland, 2011; Duarte et al., 2014; Gilbert & Irons, 2004; Gilbert & Procter, 2006; Judge et al., 2012; Lucre & Corten, 2013; Noorbala et al., 2013; Rockliff et al., 2008). The Forms of Self-Criticism/Attacking and Self-Reassuring Scale (FSCRS; Gilbert, Clarke, Hempel, Miles, & Irons, 2004) and Functions of Self-Criticising/Attacking Scale (FSCS; Gilbert et al., 2004) were the most commonly used. The Levels of Self-Criticism Scale (LSCS; Thompson & Zuroff, 2004) and a Diary measure of self-criticising were used in one study each. Using Cohen’s (1988) criteria, Noorbala et al. (2013) demonstrated a small effect. Judge et al. (2012) obtained a small effect and Gilbert and Procter (2006) a medium effect for the FSCS subscale of Self-Correction. In terms of the other FSCS and FSCRS subscales; Self-Persecution (FSCS) and Inadequate, Hated and Reassurance self (FSCRS) respectively, Gilbert and Procter (2006), Ashworth et al. (2006), Judge et al. (2012) and Gilbert and Irons (2004) reached large effect sizes. It was not possible to calculate effect sizes across the other studies due to insufficient information or unsuitable data type.

1.3.3.3 Shame

A smaller number of studies measured shame-based outcomes (Gilbert & Procter, 2006; Judge et al., 2012; Kelly et al., 2009; Laithwaite et al., 2009; Lucre & Corten, 2013). The most commonly used tool was the Other as Shamer Scale (OAS; Goss, Gilbert, & Allan, 1994) whilst one study (Kelly et al., 2009) utilised the Experiences of Shame Scale (EOS; Andrews, Qian, & Valentine, 2002). With respect to effect sizes, both Gilbert and Procter (2006) and Judge et al. (2012) obtained large effect sizes. Both Laithwaite et al. (2009) and Kelly et al. (2009) obtained small effect sizes.

Only two studies (Gilbert & Procter, 2006) assessed measures across all three domains of shame, self-criticism and self-compassion. Three studies (Braehler et al., 2013; Lincoln et al., 2013; Gale et al., 2014) did not include any assessment of shame, self-criticism or self-compassion.
1.4 Discussion
In the present review we sought to assess the methodological quality and synthesise CFT research studies and practice-based evidence. We also aimed to provide a synthesis of the content of CFT protocols and provide preliminary data on the efficacy of CFT across specific outcomes, specifically, shame, self-criticism and self-compassion. Through our searches we identified 18 clinical and experimental articles across transdiagnostic samples and a number of other presenting problems; eating disorders, psychosis, acquired brain injury, depression, PTSD, PD, self-critics and acne sufferers.

1.4.1 Quality of evidence
Few studies included in the review gained a score of strong. Indeed, of these papers awarded a rating of strong, they were experimental paradigms or short-term CFT interventions. Although they attracted strong ratings in terms of their methodological quality, their reporting of fidelity to the model and implementation was not consistently comparable with the quality of their ratings.

The seminal studies of CFT (Gilbert & Irons, 2004; Gilbert & Procter, 2006) within clinical settings received weak ratings, however arguably these studies are closest to the theoretical model and have the highest implementation fidelity. Furthermore, these studies were found to have the highest effect sizes across measures of interest (i.e., compassion, self-criticism and shame).

One possible explanation is that much of the available evidence of CFT is drawn from practice-based research, whereby evidence is developed within a clinical setting, often by the therapy developers, without use of control groups. Whilst large scale RCTs are utilised for their rigour, there is a great deal of knowledge to be gained from practice-based research. Additionally, practice, which is solely based on an evidence-based practice paradigm, is not sufficient. That said, there is also an argument for integrating aspects of evidence-based research as this is said to result in best practice. For example, the use of outcomes measures, manuals and clear reporting. Crowe and Sheppard (2011) highlighted that “… it cannot be determined solely from what is reported whether explanations are missing because of space pressure, a lack of understanding, or because the work was not done.” (pp. 80).
1.4.2 Areas of CFT evidence

From the available evidence, CFT has been delivered across a number of disorders including transdiagnostic samples. We note there are a number of published self-help materials across a number of difficulties including trauma (Lee & James, 2012), anger (Kolts & Gilbert, 2012), self-confidence (Welford, 2012), and eating disorders (Goss, 2011). In terms of the strength of published evidence, CFT has been implemented within transdiagnostic samples more frequently than any other population. More limited evidence was available for CFT within eating disorders, psychosis, depressed and acquired brain injury populations.

The available evidence for psychosis includes two studies utilising the same manual and a further experimental study looking at only the effect of one session of compassionate imagery on sub-clinical psychotic symptoms.

In relation to eating disorders, the Gale et al. (2014) paper was a clinical effectiveness paper of all available data within the service. Gale et al. reported very high effect sizes, but there were a number of limitations including large quantities of missing data. The additional paper was limited in terms of the CFT session length and was delivered individually by audio presentation; a different modality from the other treatments.

The evidence for CFT for individuals who have sustained an acquired brain injury is based on two papers, one with multiple combined individual and group sessions and a further experimental investigation examining just one session. Similarly, within depressed populations two papers were identified, Gilbert’s seminal paper and a further study conducted in Iran, which was reportedly based on Gilbert’s (2005b) work.

Comparatively fewer studies were identified for a number of other disorders including PTSD, PD and across individuals with acne and those high in self-criticism.

1.4.3 CFT treatment modalities and content

Although the majority of included literature reported that the version of CFT used was based on or adapted from Gilbert, there was limited information regarding the actual content of the interventions. Therapist training and supervision were reported across many of the studies. The majority was delivered by CPs. Future research studies could investigate whether other health professionals are able to deliver CFT.
Although supervision provides an opportunity to assess fidelity to the model, there were no reports of this.

With respect to the content of therapy, is varied considerably across studies, making it difficult to determine what organisation of skills and techniques can be considered CFT. Further research is needed to identify which of the CFT skills are “active” and essential or necessary within the treatment as this is limited to the small pool of experimental studies. Several studies reported using focus groups, however independently conducted qualitative studies may help to identify which compassionate skills are implicated within the therapeutic process by both clinicians and clients alike. Various forms of compassionate imagery were cited across all studies, suggesting that compassionate imagery specifically is an essential component to CFT.

Addressing blocks was common across a number of studies. A number of recent papers (Duarte et al., 2014; Rockliff et al., 2008) suggest that individuals with difficulties in activating their soothing system through particularly high levels of shame and self-criticism or fears of compassion may require the therapist to pay special attention to managing these blocks during implementation of CFT skills.

In terms of how CFT is delivered, a number of studies delivered treatment via a group. CFT may therefore exert its therapeutic effect through the group therapy process. Smith (2008) described that positive group therapy experiences can promote normalisation and result in de-shaming experiences for group members. Indeed, many of the group delivered CFT treatments cited the group process as instrumental in the therapeutic journey. Future studies may examine whether there is an association between mode of delivery and efficacy. More broadly, Bates (2005) has discussed the therapeutic power of group therapies, “…we have been struck by how participants are instinctively able to sense the texture of each other’s distress and to respond with a sensitivity that can engage an individual to attend to their inner experience with greater emotional depth. Often their responses to someone in distress greatly exceeded the quality of the group leader’s comments.” (p. 372, Bates, 2005).
1.4.4 Measurement of the targets of therapy; shame, self-criticism and self-compassion

Elevated shame and self-criticism and their negative association with levels of self-compassion are transdiagnostic problems. Measurement of these variables therefore remains important in order to examine mediational roles of shame and self-criticism in the maintenance of psychopathology. Consistent measurement of these variables will also pave the way for a full meta-analytic review. With respect to the literature, the measurement of all three variables across studies was not consistent, particularly shame and therefore it is recommended that these are considered when developing assessment batteries. Where these variables were included they were consistently measured using the same measures; SCS, FSCS/FSCRS and OAS for self-compassion, forms and functions of self-criticism and shame respectively.

1.4.5 Effect sizes across shame, self-criticism and self-compassion

This is first study to provide information on effect sizes within this body of literature. One of the seminal studies (Gilbert & Procter, 2006) demonstrated the largest effect sizes ($r=0.90$) across measures of compassion and shame and self-criticism ($r=0.43$) respectively. The available evidence suggests that small to large effects across self-compassion, shame and self-criticism are evident when CFT is implemented across disorders. A number of the transdiagnostic studies provide evidence that CFT is a valuable treatment and can be implemented despite differing presentations within the therapeutic setting and furthermore, shame, self-criticism and low levels of self-compassion are not disorder specific processes.

1.4.6 Limitations

With respect to the quality rating tool, although the EPHPP has established validity and reliability making it favourable to other quality rating tools (Crowe & Sheppard, 2011), there were a number of limitations which should be considered. A number of studies were rated as weak in terms of their quality; however, some of these studies were instrumental in terms of contributing to the understanding of CFT. It was noted that experimental research studies attained higher quality ratings than practice-based research. One possible explanation is that research studies are written in a way that is compatible with quality rating tools and utilise designs, such as RCT which gain higher quality ratings. However, the experimental
paradigms included as part of this review explain less in terms CFT delivered as a whole therapy.

Furthermore, grey literature, non-English studies and unpublished studies were not included, thereby excluding some studies. A small number of single case designs and case series were identified through this present review. These were not included within the present study, given the difficulties presented by comparing qualitative and quantitative research designs (Crow & Shepherd, 2011) and assessing qualitative studies using the EPHPP (Thomas et al., 2004). Nevertheless these studies appear of value in that they further understanding of CFT.

Quality ratings on the EPHPP are derived through a summary score, this method of determining quality rating has been criticised because it is suggested that one score may obscure methodological weaknesses and dilute methodological strengths of studies (Jüni, Witschi, Bloch, & Egger, 1999). Nevertheless, there is no favourable robust recommended tool for quality assessment (Katrak, Bialocerkowski, Massy-Westropp, Kumar, & Grimmer, 2004).

1.4.7 Clinical implications

The findings highlight that when implementing CFT clinicians should follow a published manual or protocol and obtain supervision from a suitably trained clinician with experience in CFT. A checklist for clinicians based on the framework provided within the present review could be useful to ensure fidelity to the treatment model.

Training for CFT is relatively brief (three days) and therefore the therapy may be more widely available to service users then other modalities that require longer and more costly training. This would be subject to research demonstrating equivalent or favourable effects of CFT compared with other NICE guideline recommended interventions.

With respect to delivery modalities, group CFT has the greatest evidence although there have been no direct comparisons of individual vs group modalities. The transdiagnostic nature of CFT confers potential benefits to services through being able to run groups with mixed presentations and to service users by focusing on common problems such as shame and self-criticism rather than stigmatising through use of diagnostic labels. Further research is required to determine optimum length to guide future practice.
Given the evidence to date, CFT cannot be recommended over other evidence-based therapies, but CFT may be indicated when other evidence based-treatments have failed, when individuals have marked levels of shame and self-criticism, or when this is determined by patient choice. When working with individuals with high levels of shame and self-criticism imagery should be implemented when individuals have established distress tolerance skills. Further research would be of great value in identifying whether CFT confers advantage for individuals high in shame and self-criticism over alternative treatments as the model suggests.

**1.4.8 Recommendations for future research**

In the interest of establishing consistency around the form and delivery of CFT, it is recommended that future practice-based research provides detailed reporting of treatment session protocols and clear syntheses of whether their version of CFT included psychoeducation, CFT skills, imagery, management of blocks to compassion, use of a CFT protocol, therapist training and supervision. Although imagery appears to be a key component of CFT, further research is needed to establish active components. Several studies integrated CFT with CBT, future studies should investigate comparing CBT as usual with CBT enhanced with CFT. Much of the available evidence details that treatments are predominantly offered by CPs, further research could investigate whether CFT is suitable for delivery by other professionals.

In terms of measurement, we recommend the use of shame, self-criticism and self-compassion measures consistent with the literature (e.g., OAS, FSCS/FSCRS and SCS respectively) so that future practice based research and evidence based research can be compared via meta-analytic methods. The limited follow-up assessment within the literature makes it difficult to estimate whether effects are sustained over time, further research to this end is needed.

To our knowledge there have been no studies investigating gender differences, although both genders are represented within the literature. As highlighted within the review much of the research has been conducted within the UK. Of the reviewed papers, only one paper (Noorbala et al., 2013) was conducted outside western tradition. The findings suggest that within an Iranian population CFT is acceptable. Further research could investigate the cultural sensitivity of CFT.
and acceptability and feasibility both within culturally diverse populations within and outside of the UK. Furthermore, we are not aware of any studies examining CFT within child and adolescent populations.

1.4.9 Conclusion
Compassion focused therapy (CFT) has a limited but growing evidence base across disorders and in transdiagnostic groups. In particular, CFT offers promise in targeting common psychological problems, shame and self-criticism. Further practise-based and empirical research addressing the areas outlined within this review will aid in examining the therapy as a whole and individual active components.
1.5 References


Judge, L., Cleghorn, A., McEwan, K., & Gilbert, P. (2012). An Exploration of Group-Based Compassion Focused Therapy for a Heterogeneous Range of


Van Dam, N. T., Sheppard, S. C., Forsyth, J. P., & Earleywine, M. (2011). Self-compassion is a better predictor than mindfulness of symptom severity and

An exploration of the effect of Compassion Focused Imagery (CFI) in women with sub-clinical eating disorder symptoms

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(Author guidelines see Appendices, p.133)
2.0 Abstract

Objective: Research focusing on the implementation of imagery techniques, specifically Compassion Focused Imagery (CFI) within eating problems is limited. The following research aimed to examine the effect of CFI within a sample of women with sub-clinical eating disorder symptoms.

Method: The following was an experimental investigation of the effect of CFI compared with neutral imagery on levels of shame, self-compassion, self-criticism, depression, stress and anxiety in women with sub-clinical levels of eating disorder symptoms (global EDE-Q >=2.5). Following baseline assessment, 42 women aged 18-30 years were randomly allocated to receive either guided CFI or neutral imagery. Participants were assessed following 5-to-7 days of self-practice. A third sample of 24 women with low eating disorder symptoms (global EDE-Q <=1) was recruited to form a comparison sample, completing only the assessments.

Results: Adjusting for baseline scores, significant decreases were observed in shame in the CFI group compared with the neutral imagery group. There were no other significant group differences. Individuals randomised to CFI reported greater, albeit non-significant increases in self-compassions and reductions across self-criticism and depression, stress and anxiety compared with individuals receiving neutral imagery. Findings also suggest that CFI is well tolerated and acceptable. Baseline levels of self-criticism were found to significantly predict participant reports of how soothing the images were.

Discussion: The findings partially support the notion that CFI is valuable therapeutic tool that is acceptable to women with sub-clinical eating disorder symptoms. Limitations and implications for further clinical practice and further research are discussed.

Keywords: eating disorders, compassion focused therapy, imagery
2.1 Introduction

2.1.1 Shame and self-criticism across the eating disorders

Elevated levels of shame and self-criticism are common within eating problems (Kelly & Carter, 2013; Speranza et al., 2003; Swan & Andrews, 2003). For example, qualitative literature has illustrated the role of shame as having both a causal and consequential relationship with eating problems (Skårderud, 2007). Unsurprisingly, individuals experiencing high levels of shame and self-criticism may experience difficulties with self-compassion (Gilbert, McEwan, Matos, & Rivis, 2011). Indeed, a recent study demonstrated a negative relationship between shame and self-criticism with self-compassion in people with eating problems (Ferreira, Pinto-Gouveia, & Duarte, 2013).

Social mentalities theory explains that individuals with early experiences of shaming internalise these experiences (Gilbert, 2005). In their three-part-model, Treasure, Corfield, and Cardi (2012) suggested that eating disorder symptoms are exerted to manage the harmful effects of shaming experiences. Matos, Ferreira, Duarte, and Pinto-Gouveia (2015) reported that early shame memories involving others were significantly correlated with unfavourable social rank perceptions and increased severity of eating disorder psychopathology. Their data demonstrated that social comparisons on physical appearance mediated the impact of shame memories of eating disorder psychopathology (Matos et al., 2015). Further data have demonstrated that individuals with eating disorders have attentional biases towards social-rank related stimuli and lower positive self-evaluation compared with healthy controls (Cardi, Di Matteo, Gilbert, & Treasure, 2014). Thus, Cardi et al. (2014) recommended that attentional training towards compassionate images might lead to decreases in attentional biases toward rank-based stimuli.

Decreases in shame and increases in self-compassion have been linked with decreases in the severity of eating disorder symptoms in individuals receiving inpatient treatment, suggesting that shame may be a variable in the maintenance of eating disorder psychopathology (Kelly, Carter, & Borairi, 2014). Furthermore, recent research has demonstrated that compared with low self-compassion, those with high self-compassion have lower levels of body surveillance, body shame, negative eating attitudes, and depression (Liss & Erchull, 2015).
2.1.2 Compassion focused therapy
High levels of shame and self-criticism have been highlighted as potential barriers to successful treatment outcomes (Clark, 2012). Relapse rates and attrition are high within the treatment for eating problems (Treasure, Claudino, & Zucker, 2010) and for the most common presentation, Eating Disorder Not Otherwise Specified (EDNOS), there is limited evidence for any particular treatment (Wilson, 2005). One possible explanation for poorer treatment outcomes are potential limitations of Cognitive Behaviour Therapy (CBT) in addressing emotionally held beliefs within eating disorders (Cooper, 2011; Somerville & Cooper, 2007). This suggests the need for an intervention that specifically targets shame and self-criticism within the treatment of eating problems (Gale, Gilbert, Read, & Goss, 2014).

There is an emerging evidence base for the use of Compassion Focused Therapy (CFT) in the treatment of other psychological disorders in which self-criticism, shame and fear of self-compassion are features of the psychopathology (for a review see Leaviss & Uttley, 2015). Compassion Focused Therapy (CFT) is based on Gilbert’s model of three affect regulation systems: threat, drive and soothing (Gilbert, 2005). Gilbert (2009b) theorised that vulnerability to psychopathology results when individuals overuse their drive or threat systems and underuse their soothing system. The aim of CFT is therefore to support individuals to learn tolerance for emotional distress, take responsibility for their difficulties and manage them through the affiliative or soothing system. A core aim of CFT is to support individuals through skills practice (i.e., exposure to compassion, imagery and shifting attention) to develop and strengthen their “soothing” system (Gilbert, 2009b).

2.1.3 Compassion focused therapy and eating disorders
Preliminary data indicate that CBT combined with CFT is effective in the treatment of eating problems (Gale et al., 2014). A recent, service evaluation (Tsivos & Sampson, submitted) found comparable outcomes in a group of individuals with transdiagnostic eating problems. Additionally, highly significant reductions were noted across measures of eating disorder behaviour, shame, self-criticism and highly significant increases in affiliative outcomes (i.e., self-compassion). Further research comparing CFT against food planning combined with behavioural strategies and a waitlist control group in a sample of women (n= 41) with binge eating disorder
found that CFT compares favourably with both the alternative and control groups in terms of frequency of binges and concerns around weight and shape (Kelly & Carter, 2014). Women who were randomised to the CFT group also reported significant increases in self-compassion compared with those receiving the other two treatments (Kelly & Carter, 2014). Although these preliminary findings are promising, further investigation is warranted to evaluate specific components of the treatment that are implicated in clinical improvements.

2.1.4 Cultivating compassion through imagery

The role of imagery in psychopathology has been described as a transdiagnostic process with common key properties including intrusive images being misperceived as reality, extreme appraisals and association with exerting control (Brewin, Gregory, Lipton, & Burgess, 2010). Associations with recurrent and intrusive images has been found in posttraumatic stress disorder (Ehlers & Clark, 2000), agoraphobia (Day, Holmes, & Hackmann, 2004), social phobia (Hackmann, Clark, & McManus, 2000), obsessive compulsive disorder (Speckens, Hackmann, Ehlers, & Cuthbert, 2007), depression (Reynolds & Brewin, 1999), psychosis (Morrison et al., 2002) and bipolar disorder (Mansell & Lam, 2004).

Imagery techniques are therefore utilised in psychotherapy due to the strong connection between imagery and emotions (Holmes, Arntz, & Smucker, 2007; Holmes & Mathews, 2010; Ronen, 2011). Within CFT, Compassion Focused Imagery (CFI) is one of the core therapeutic components. It has been proposed that CFI results in a decrease of subordinate experiences through activation of attachment systems. It is thought that activation of these affect systems then leads to increased tolerance of previously avoided emotions and therefore a reduction in self-criticism (Schanche, 2013).

Earlier research exploring CFI in a population of students with sub-clinical psychotic symptoms found that students who received CFI reported significantly lower levels of negative emotion, frequency of paranoid thoughts and higher self-esteem than those who received neutral imagery (Lincoln, Hohenhaus, & Hartmann, 2013). There is also preliminary data indicating that CFI alone compared with control imagery can stimulate the soothing affect system and attenuate hypothalamic-pituitary-adrenal activity (Rockliff, Gilbert, McEwan, Lightman, & Glover, 2008). However, the authors suggested that this link may be mediated by
attachment style and self-criticism. Further data from a study investigating the effect of CFI in acquired brain injury (ABI) suggest that there were no significant differences of CFI on self-compassion, empathy or relaxation when compared with a relaxation exercise (O’Neill & McMillan, 2012).

A small number of studies have utilised imagery within the treatment of eating disorders (Cooper, 2011; Esplen, Garfinkel, Olmsted, Gallop, & Kennedy, 1998; Ohanian, 2002). However, a review highlighted the need for further research and evaluation of imagery techniques specifically focusing on shame and self-criticism within the treatment of eating problems (Tatham, 2011) and although there is a small but growing evidence base of CFT in the treatment of eating disorders, there is yet to be an examination of specific therapeutic techniques.

The following research proposes to examine CFI, specifically the compassionate other (Gilbert, 2009a) exercise, to examine its effect on eating disorder symptoms, shame, self-criticism and self-compassion in a group of females who have sub-clinical symptoms of eating disorders. A secondary aim of the proposed research is to gain a preliminary understanding of the implementation of the imagery practise.

2.1.5 Hypotheses

The primary hypothesis is that individuals with sub-clinical levels of eating problems receiving CFI will report significant improvements across several self-reported outcomes compared with those receiving neutral imagery from baseline to follow-up. A further aim of the present investigation was to examine the compliance of imagery practice within the CFI group. Specific hypotheses are outlined in relation to each dependent variable. Compared with individuals receiving neutral imagery those receiving CFI will report (when controlling for baseline measures):

a. Significant increases in self-compassion measured by the Self-Compassion Scale (SCS; Neff, 2003)
b. Significant reductions in externally perceived shame as measured by the Other as Shamer Scale (OAS; Allan, Gilbert, & Goss, 1994)
c. Significant reductions in the forms and functions of self-criticism as measured by Forms of Self-Criticism Scale (FSCS; Gilbert, Clarke, Hempel,
Miles, & Irons, 2004) and Functions of Self Criticism and Reassuring scale (FSCRS; Gilbert et al., 2004) respectively
d. Significant reductions in eating disorder pathology as measured by the Eating Disorders Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994)
e. A subsidiary hypothesis is that any hypothesised changes following CFI will result in comparable outcomes to a healthy comparison sample.

2.2 Method

2.2.1 Research design and randomisation
This study employed a Randomised controlled trial (RCT) design to evaluate the effect of CFI compared with a control condition (neutral imagery) in females with sub-clinical eating problems. A third group of women with low eating disorder symptoms were included to form a comparison condition. A three (groups: CFI vs control and healthy comparison condition) x two (assessment time-points: baseline and post) design was used.

2.2.2 Participants and recruitment
Participants were eligible for inclusion if they were female aged 18-30 years and able to read and write English. Individuals with a global score of 2.5 and over on the EDE-Q were invited to take part in the study. Participants were excluded if they obtained a global EDE-Q score between 1.1 and 2.4. Cut-off scores were drawn from those set in similar studies (Luce, Crowther, & Pole, 2008; Mond, Hay, Rodgers, & Owen, 2006). Participants were a self-selecting sample recruited online through a University of Manchester webpage, poster advertisements, email announcements, a research participation scheme in the School of Psychological Sciences and another running in parallel with an identical sampling procedure and inclusion criteria (Appendices, p.143).

2.2.3 Procedure and randomisation
Individuals meeting initial eligibility criteria (English speaking, female and over 18 years) were invited to complete an online screen via Select Survey for eating problem symptoms using the global score from the EDE-Q. Participants who met the eligibility criteria (global EDE-Q scores ≥ 2.5) were then invited to participate in the research. Individuals scoring 1.0 and below on the EDE-Q were recruited to form a comparison group. The research took place in a confidential space at the University
of Manchester. Participants were compensated with £5 or academic course credits (for those enrolled in the research scheme) on completion of the study (Time 2).

Following administration of measures at baseline (Time 1) participants were randomly allocated to receive either CFI or neutral imagery. Individuals in the comparison group completed only assessments. Group assignment was by true block randomisation. The randomisation list for the experimental arm of the study was compiled by a statistician external to the research team and operationalised using sealed opaque envelopes. Randomisation was completed following completion of baseline assessments. Measures were completed again following a period of 5-7 days to allow for flexibility around students lectures and other commitments (Time 2).

This research study was approved by a University of Manchester ethical review panel (ref 14183, Appendices, p.144). All participants received full details of the study (Appendices, p.145), provided informed consent (Appendices, p.148) and participants were monitored for wellbeing throughout the study and routinely provided with information on self-help services. (Appendices, p.149). A distress and risk protocol was developed to safeguard participant wellbeing (Appendices, p.150). The first author (ZT) managed screening database and data collection. Clinical supervision was provided by the second author (MS), a Clinical Psychologist (CP), trained in CFT.

2.2.4 Compassion focused imagery protocol

The Ideal Compassionate Other- exercise is an imagery exercise used to activate the soothing system through visualising a person or being who engenders compassionate qualities; strength, warmth, wisdom, non-judgement and acceptance (Gilbert, 2009a). For the present research study a 25-minute-guided audio was utilised (with permission from Professor Paul Gilbert).

Individuals randomised to the CFI condition were socialised to Gilbert’s (2009b) model of affect regulation by ZT, a Trainee Clinical Psychologist. During the socialisation process, each of the three systems was introduced and example thoughts, feelings and behaviours for each of the systems were provided. The drive system was explained as the mind-set or system that one might be in when trying to achieve a goal (i.e., revising for an exam). The threat system was explained as a system which activates anxiety (i.e., doing a public speech without preparing) and finally the soothing system was explained as a system which is associated with
contentment and safeness (i.e., sitting with a friend, stroking an animal or having a head massage). Participants then confirmed whether they were able to identify an experience of each system.

The aim of the exercise was outlined, i.e., to activate the *soothing system* through a guided exercise to create an image of an ideal compassionate other. Participants were advised to close their eyes engage their soothing system through soothing rhythm breathing and be guided by the exercise. Participants were advised that they may notice their mind wandering and in this event they were instructed to gently bring their focus back to the exercise.

On completion of the exercise, participants were debriefed and asked if they had experienced any distress during the exercise. All participants were asked if they had been able to construct an image. They were then instructed to complete at least one practice using the audio, hosted on a secure internet webpage before the follow up session, 5-7 days later.

### 2.2.5 Neutral imagery condition
In the neutral imagery condition individuals were advised that they would complete an exercise in which they were instructed to imagine a neutral object; a chair. This task, lasting approximately 10 minutes was used with permission from Lincoln et al. (2013).

### 2.2.6 Comparison condition
In the comparison condition participants completed questionnaires only.

### 2.2.7 Outcome measures
#### 2.2.7.1 Background Questionnaire
The Background Questionnaire (BQ) is a structured background questionnaire for the purposes of collecting sociodemographic, educational and health data. This questionnaire was developed for the purposes of this study (Appendices, p.151).

#### 2.2.7.2 Eating Disorders Examination Questionnaire
The Eating Disorders Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994) is a 28-item-measure which assesses the frequency of four (subscales) key eating problem behaviours including restraint, eating concern, shape concern and weight concern. A global score is the average across all four subscales. Each subscale item is rated on a 7-point Likert scale (0= no days, to 6= everyday). High scores indicate
increased severity. The EDE-Q is well validated with good to excellent internal consistency ($\alpha = 0.78$ to 0.93) and good to excellent test-retest reliability from 0.81 to 0.94 (Luce et al., 2008) for the global score. The present study demonstrated excellent internal consistency ($\alpha = 0.94$).

### 2.2.7.3 Functions of Self-Criticizing/Attacking scale

The Functions of Self-Criticizing/Attacking scale (FSCS; Gilbert et al., 2004, Appendices, p.153) is a 21-item scale scored on a 5-point Likert scale (0= not at all like me, to 4= extremely like me) measuring the reasons why people self-attack. Subscales include self-persecution and self-correction and a global score. The FSCS has excellent internal consistency in previous studies ($\alpha = 0.92$; Gilbert et al., 2004) and the present one ($\alpha = 0.93$).

### 2.2.7.4 Forms of Self-Criticising/Attacking and Self-Reassuring Scale

The Forms of Self-Criticising/Attacking and Self-Reassuring Scale (FSCRS; Gilbert et al., 2004, Appendices, p.154) is a 24-item scale, which assesses how critical and supportive people are towards themselves during periods of distress. There are three subscales: self-criticalness consisting of inadequate self, hated self and self-reassurance. Items are scored from 0-4 on a 5-point Likert scale (0= not at like me, to 4= extremely like me). The inadequate self-subscale has excellent internal consistency ($\alpha = 0.90$) and good internal consistency was reported for the hated self ($\alpha = 0.86$) and self-reassurance ($\alpha = 0.86$) subscales (Gilbert et al., 2004). Within the present study the internal consistency for the total scale was ($\alpha = 0.62$).

### 2.2.7.5 Other as Shamer Scale

The Other as Shamer Scale (OAS; Allan et al., 1994, Appendices, p.156), consists of 18-items measuring beliefs individuals have about how others evaluate them. High scores represent higher frequency of external shaming. Items are rated on a 5-point scale (0= never, to 4= almost always) on the basis of how frequently they are judged by others. The OAS has high internal consistency ($\alpha = 0.92$-0.96; Allan et al., 1994) and within the present study this was acceptable ($\alpha = 0.72$).

### 2.2.7.6 Self-Compassion Scale

The Self-Compassion Scale (SCS; Neff, 2003, Appendices, p.157) is a 26-item measure which assesses the frequency of acting in a self-compassion manner. There are six subscales scored on a 5-point scale (1= almost never, to 5= almost always)
including self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identified. A total score produces a global self-compassion score. All subscales have good internal consistency, self-kindness (α=0.78), self-judgement (α=0.77), common humanity (α=0.80), isolation (α=0.79), mindfulness (α=0.75) and over-identified (α=0.81). The global scale has excellent internal consistency (α =0.92; Neff, 2003).

2.2.7.7 Depression and Anxiety Stress Scales
The Depression and Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995) consists of 21-items which measure the presence and severity of depression, anxiety and stress. The DASS subscales and total scale have good to excellent internal consistency: depression (α=0.88), anxiety (α=0.82) stress (α=0.90) and total (α=0.93) (Henry & Crawford, 2005). In the present study the total scale had excellent internal consistency (α= 0.95).

2.2.7.8 Imagery Compliance; CFI condition only
Compassionate imagery practice between Time 1 and Time 2 was assessed by the imagery compliance questionnaire (adapted from Kelly, Zuroff, & Shapira, 2009; Appendices, p.159). The original measure has three items assessing the frequency of between-session practice, vividness of the imagery and the extent to which the individuals experienced intervention-specific emotions. For the purposes of the present study, two items were added; frequency of informal practice and whether the image was used to manage a difficult event. The intervention-specific emotions item was changed to the extent to which individuals feel soothed by their image (rated on a 5 point Likert scale ‘completely soothed’ to ‘not soothed at all’).

2.2.8 Power calculation and statistical analyses
For comparing three groups the study would have had 80% power to detect an effect size of at least 0.922 with 25 participants in each group, 75 participants in total (see Appendices, p.160).

Analyses compared experimental groups (high sub-clinical eating disorder symptoms), imagery and neutral imagery with the comparison (low eating disorder symptoms) to test for the effect of the imagery. Age and all baseline measures (global EDE-Q, SCS, OAS, FSCS, FSCRS & DASS) were entered as covariates. Group effects were investigated using pair-wise comparisons of three groups using a
quasi Bonferroni correction for multiple testing, i.e. testing at the 2% rather than the usual 5% significance level. Analyses were conducted using SPSS Version 22. Instances of individual missing items (i.e., where participants had omitted a single questionnaire item) were managed by replacing them with the mean of the scale score.

2.3 Results

2.3.1 Participant characteristics and flow through study

Forty-six women met eligibility criteria for the experimental arm of the study and 24 for the comparison group (see Figure 1. CONSORT diagram). Four of the eligible participants did not reply to the invitation to take part in the study. Eight participants were recruited from a study running in parallel, with the same screening procedure and eligibility criteria. Forty-two women consented to take part in the study and completed baselines, 21 participants were randomly allocated to the CFI condition and 21 to the neutral imagery condition. All but one participant randomised to the CFI condition returned for the Time 2 assessment. Twenty-four participants were recruited to form a comparison group, with 23 completing the assessments at both time points. It was not possible to determine why the two individuals dropped out of the study. Participants were recruited on a rolling basis from September 2014 until April 2015. For participant characteristics, see Table 1.
Figure 1. CONSORT diagram of participant involvement

- Initiated screen \((n = 449)\)
  - Excluded: Did not complete screen \((n = 298)\)
- Completed screen \((n = 151)\)
  - Excluded: Did not meet inclusion criteria \((n = 81)\)
- Experimental Arm \((n = 46)\)
  - Baseline \((n = 42)\)
  - Randomised \((n = 42)\)
  - Allocated to compassion focused imagery condition \((n = 21)\)
  - Post-test \((n = 20)\)
- Comparison Arm \((n = 24)\)
  - Baseline \((n = 24)\)
  - Allocated to neutral imagery condition \((n = 21)\)
  - Post-test \((n = 21)\)
  - Post-test \((n = 23)\)
Table 1. Sociodemographics and participants characteristics at baseline

<table>
<thead>
<tr>
<th></th>
<th>CFI Group (n=21)</th>
<th>Neutral Imagery Group (n=21)</th>
<th>Comp Group (n=24)</th>
<th>X² (df)</th>
<th>p</th>
<th>Total (n=66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>21.95 (3.5)</td>
<td>22.10 (3.9)</td>
<td>25.96 (4.3)</td>
<td>7.75 (2)</td>
<td>0.01</td>
<td>23.45 (4.3)</td>
</tr>
<tr>
<td>(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Global EDE-Q</td>
<td>3.49 (0.84)</td>
<td>3.50 (0.78)</td>
<td>0.52 (0.36)</td>
<td>149.95 (2)</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Diagnosis (%)</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>None</td>
<td>65</td>
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<td>95.8</td>
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<td>4.6</td>
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<td>Health service access (%)</td>
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<td>2.32</td>
<td>0.31</td>
<td>4.6</td>
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<td>Counsellor</td>
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<td>28.6</td>
<td>4.2</td>
<td>9.44</td>
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<td>0.35</td>
<td>1.5</td>
</tr>
<tr>
<td>Other</td>
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<td>12.5</td>
<td>6.34</td>
<td>0.04</td>
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</tr>
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<td></td>
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<td>11.1</td>
<td>.20</td>
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<tr>
<td>Ethnicity (%)</td>
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<td>British</td>
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<td>Other ethnic background</td>
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<tr>
<td>Education level (%)</td>
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<td></td>
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<tr>
<td>A Levels</td>
<td>66.7</td>
<td>76.2</td>
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<td>Other</td>
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<td>4.8</td>
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<td>4.8</td>
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<td></td>
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<td>3</td>
</tr>
</tbody>
</table>

SD= standard deviation, n= number, m= mean, EDE-Q= Eating Disorder Examination Questionnaire
2.3.2 Hypothesis testing
Complete datasets were available for 41 participants in the experimental arm of the study and 23 for the comparison arm. Preliminary investigations suggested that there were significant group differences on age $F(2,36)= 7.75, p =0.01$ and global EDE-Q scores $F(2,63)= 149.95, p=0.001$ at baseline. Post hoc tests indicated differences in age and global EDE-Q scores were between the comparison group and the experimental groups. There were no significant differences in participant characteristics at baseline between the two experimental groups (see Table 2 for means and standard deviations). Preliminary checks of the data through visual inspection of histograms and skewness and kurtosis data suggested data met assumptions for parametric testing. Further analysis suggests EDE-Q, DASS and OAS data were not normally distributed; however, it was decided that owing to the large sample size, parametric testing would be utilised (Pallant, 2007). In order to address the concerns over normality, simple bootstrapping for 1,000 samples was implemented. Within the data there were two outliers on the DASS, however, inspection of the mean and 5% trimmed mean (as recommended by Pallant, 2007) indicated little difference and therefore, the outliers were retained.

2.3.4 Primary analysis
After adjusting for baseline scores and age, there was a significant group effect on depression, anxiety and stress (DASS); $F(2,54)= 5.53, p= 0.007, \eta^2= 0.17$ and shame (OAS); $F(2,54)=5.80, p= 0.005, \eta^2= 0.18$ (see Table 2). There was no group effect on eating disorder symptoms (EDE-Q) scores $F(2,54)= 0.62, p= 0.54, \eta^2= 0.02$ or forms of self-criticism (FSCS), $F(2, 54)= 2.53, p= 0.09, \eta^2=0.09$ or function of self-criticism and reassurance (FSCRS), $F(2, 54)= 0.89, p= 0.42, \eta^2= 0.03$. Finally, there was no group effect on self-compassion (SCS); $F(2,54)= 3.98, p= 0.024, \eta^2= 0.13$. 
Table 2. Means and standard deviations (SD) from baseline to post-test for all three groups

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline</th>
<th>Post-test</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>High eating symptoms</td>
<td>High eating symptoms</td>
</tr>
<tr>
<td></td>
<td>CFI</td>
<td>Neutral Imagery</td>
</tr>
<tr>
<td>EDE-Q</td>
<td>3.49 (0.84)</td>
<td>3.51 (0.76)</td>
</tr>
<tr>
<td>DASS</td>
<td>47.52 (26.92)</td>
<td>46.86 (25.33)</td>
</tr>
<tr>
<td>FSCS</td>
<td>31.00 (15.10)</td>
<td>30.33 (13.59)</td>
</tr>
<tr>
<td>FSCRS</td>
<td>46.67 (9.29)</td>
<td>45.38 (6.92)</td>
</tr>
<tr>
<td>SCS</td>
<td>2.43 (0.51)</td>
<td>2.45 (0.65)</td>
</tr>
<tr>
<td>OAS</td>
<td>31.81 (11.73)</td>
<td>30.29 (12.84)</td>
</tr>
</tbody>
</table>
Abbreviations= CFI- Compassion Focused Imagery; EDE-Q= Eating Disorders Examination Questionnaire; DASS= Depression Anxiety and Stress Scale; FSCS= Forms of Self-Criticism Scale; FSCRS= Functions of Self-Criticism and Reassurance Scale; SCS= Self-compassion Scale; OAS= Other as Shamer Scale.
Pairwise comparisons with Bonferroni adjustments for multiple comparisons were conducted to determine the direction of the group differences. In terms of shame (OAS), the CFI group scored significantly lower ($m=18.12$, CI=13.24-23.07) than the neutral imagery group ($m=24.65$, CI=19.84-29.47) (mean difference= 6.5, $p=0.006$). There were no significant differences in shame (OAS) scores between the comparison group ($m=17.53$, CI=10.49-24.56) and the neutral imagery group ($m=24.65$, CI=19.84-29.47) (mean difference= 7.13, $p=0.36$) or the comparison group and the CFI group (mean difference= 0.63, $p=1.00$).

Participants in the CFI group reported ($m=32.00$, CI=20.67-43.31) lower levels of depression, stress and anxiety (DASS) compared with the neutral imagery group ($m=44.64$, CI=33.55-55.73) but these differences narrowly missed significance (mean difference= 12.65, $p=0.023$). Further differences between the comparison group ($m=20.12$, CI=3.19-36.34) and the neutral imagery group ($m=44.64$, CI=33.55-55.73) were not significant (mean difference= 24.52, $p=0.07$). Finally, differences between the comparison group ($m=20.12$, CI=3.19-36.34) and CFI group ($m=32.00$, CI=20.67-43.31) were also not found to be significant (mean difference= 11.87, $p=0.78$).

A further comparison was conducted between the CFI and comparison group on Time 2 shame outcomes only, to examine whether CFI shame scores were comparable with the comparison group as per hypothesis d. Shame scores within the CFI group remained significantly higher than those in the comparison group $t(41)=5.76$, $p=0.001$ (mean difference= 17.09, CI= 9.91-24.27).

### 2.3.5 Compassionate imagery condition

In terms of the implementation of the imagery, the average number of practices from Time 1 to Time 2 was 1.9 (SD= 1.45) with a range of 0 practices to 6 practices. Individuals reportedly completed self-guided practice (by spontaneously attending to their image) on average 3.7 (SD=4.08) times with a range of 0 to 15 episodes of practice. In terms of the vividness of the imagery, responses ranged from 1 to 4, with an average of 3.2 (SD= 0.95). Participants reported a range of between 2 and 5 and an average of 3.8 (SD= 0.98) with respect to the degree to which their image was soothing. Finally, 60% of participants reported that they had used their image to manage a difficult event.
2.3.6 Exploratory analysis

A regression analysis was conducted to assess the ability of FSCS scores at Time 2 to predict how soothing the imagery was experienced by individuals who were randomised to the compassionate imagery group. The total variance explained by the model was 20%, F (1,18) = p= 0.047 (β= -0.45).

2.4 Discussion

The present study explored the effect of CFI in women with sub-clinical eating disorder pathology. Our data supported the primary hypothesis, b, that CFI would be associated with significant reductions in externally perceived shame compared with neutral imagery. Further primary hypotheses that CFI would be associated with significant increases in self-compassion and significant reductions in the forms and functions of self-criticism and severity of eating problems were not supported, although these findings were in the hypothesised direction. A subsidiary hypothesis detailing that following CFI individuals with eating problems would report comparable outcomes with a healthy comparison sample, was also not supported. This hypothesis was only examined in relation to shame, given the group level differences and was not supported.

We also collected provisional exploratory data around the implementation of CFI. The implementation data suggested that the majority of those randomised to receive CFI engaged in both formal and informal practice of their image. Of particular note, these participants reported that they had used their image in order to cope with a difficult event.

The exploratory regression analysis indicated that total scores on the FSCS predicted reports of how soothing images were experienced in the CFI condition. Specifically that every one point increase on the FSCS predicted a 0.45 point decrease in terms of how soothing the image was rated.

In terms of our primary hypotheses, there are a number of possible explanations for this pattern of findings. One possibility is that the ‘dose’ of imagery was not sufficient to lead to significant changes across the outcome measures. Previous studies have posited that for some individuals, those high in trait self-criticism may experience heightened threat in response to constructing compassionate imagery. Duarte, McEwan, Barnes, Gilbert, and Maratos (2014), found that high self-critics responded more negatively to compassionate imagery in a
single trial when compared with low self-critics as evidenced by greater increases in the stress hormone, alpha amylase in high self-critics. Rockliff et al. (2008) reported comparable findings in their investigation of the effect of compassionate imagery on heart rate and salivary cortisol. High self-critics may struggle and in some cases feel threatened to engage with compassionate imagery due to positive beliefs around self-criticism and fears of compassion (Gilbert & Irons, 2005).

The findings from our regression analysis are consistent with and support the notion that individuals high in self-criticism experience blocks when engaging with compassionate imagery. It was not possible within the present study to complete subgroup analyses of high and low self-criticism; however, it may be important for future research to assess and stratify for levels of self-criticism (Duarte et al., 2014). Consistent with Duarte et al. (2014), our data also suggests that within clinical practice it may be important to assess and manage self-criticism as this can be a block to developing compassionate skills.

In line with the proposal that shame may be an important target in the maintenance of eating disorder psychopathology (Kelly et al., 2014), the present study provides preliminary evidence that CFI is associated with significant reductions in levels of shame within individuals who have sub-clinical eating disorder symptoms. However the decreases did not result in comparable shames scores with the comparison group.

The risk procedure and protocol was activated during the study. All participants expressed a preference for further support and therefore a referral to local support services was facilitated. Future studies should ensure continued monitoring of participant wellbeing.

2.4.1 Imagery compliance

Data from the implementation of CFI recorded that none of the participants randomised to the CFI group experienced their image as ‘not soothing at all’. The frequency of imagery practice suggests that individuals can and do engage in self-practice, suggesting that the content of the imagery is well tolerated. Indeed, acceptability of the exercise may be further evidenced by the reports that the majority of participants utilised the imagery to manage a distressing event. Furthermore, only one participant was lost from the CFI group. Literature suggested that there is a positive correlation between retention and high acceptability (Tarrier,
Liversidge, & Gregg, 2006). However, all participants received financial compensation at the end of the study which might partially explain low attrition.

### 2.4.2 Limitations

There are a number of limitations within the present study which warrant mention. Due to multiple testing, we adopted a conservative statistic which may have increased the type 2 error within the study. All data were in the direction hypotheses and several of our results were significant at the less conservative 0.05 level. Owing to the number of outcome measures it was not possible to investigate individual subscales within the analysis. As such, effects may have been missed at the subscale level.

Both Time 1 and Time 2 assessments were administered by the first author (ZT), who also implemented the experimental protocol. Whilst this introduces potential response bias, it may have helped to minimise attrition through rapport building and was a strength of the present study. In terms of eating disorder behaviours, although this was included in the analysis, it should be highlighted that these findings are limited by chronicity of the EDE-Q; it measures symptoms of 28-day-period which covered both time points within the design. In terms of the time points, the effects were examined within a 7-day-period and therefore any sustained or delayed effect of the imagery was beyond measurement.

We acknowledged that the design was limited by its reliance on subjective reports of both imagery construction, frequency of practice and all outcome measurement. There may be scope to develop a measure assessing the degree to which individuals have transposed the key qualities of compassion onto their constructed image.

With respect to the neutral imagery exercise, this was shorter in duration compared with the CFI exercise and not delivered by audio (as in the compassionate imagery condition). Possible limitations of this are that although the neutral imagery was not compassionate in content, it may have been experienced by participants as soothing (i.e., through a warm voice tone). The control group were not asked to practice neutral imagery for homework. It is possible that practice effects may have impacted on between group differences and therefore future research should control for this by instructing the control group to practice the neutral imagery between Time 1 and Time 2.
Whilst there were some limitations to the generalisability of the present samples, the decision to include only women was due to possible phenomenological gender differences (Lewinsohn, Seeley, Moerk, & Striegel-Moore, 2002; Mond & Arrighi, 2011). Given the sub-clinical levels of eating, the generalisability of these findings to clinical samples is somewhat limited. Notwithstanding, the findings may be particularly relevant for individuals ‘at-risk’ of eating disorders. A final limitation worthy of note is that participants were recruited via self-selection sampling and offered monetary compensation to take part. This may bias selection and introduce demand characteristics (e.g. social desirability effects) that potentially influence outcomes.

### 2.4.3 Clinical implications

The findings of the present study, specifically the significant decreases in shame associated with CFI, offer preliminary support that this particular CFI exercise has potential therapeutic value in the population under investigation. Given the role and prevalence of shame within eating disorders, CFI is therefore a promising therapeutic technique. On the basis that CFI may lead to elevated threat responses in high self-critics it is recommended that clinicians assess level of self-criticism and fear of compassion prior to doing imagery work. When clinicians identify high self-critics it is recommended that CFI is introduced later in therapy, in the context of established CFT practise and developed distress tolerance skills.

Individuals low in self-criticism may potentially benefit from a briefer, more specific CFT/CFI intervention than the current treatment length of CFT-E; around 20 sessions plus follow-up sessions. This is supported by the present findings and those from a brief intervention utilising CFI in individuals with binge eating disorder that demonstrated effectiveness in reducing shame and eating disorder symptomatology (Kelly & Carter, 2014). A further consideration for clinical practice is length of preparatory work before using imagery. Findings from the present study implicate the possibility of a subgroup, who again may be lower in self-criticism and have a more developed soothing system generally and therefore can access the compassionate system without this preparatory work. Within the present study participants engaged in limited soothing rhythm breathing prior to construction of a compassionate image, comparatively shorter than the 2+ sessions developing strategies (soothing rhythm breathing and safe place) to activate the soothing system.
in order to access the compassionate system as per model. Again it would be interesting to see if this is the case in clinical populations and this would inform treatment length, resulting in the more efficient use of often overstretched resources.

More generally, as CFI is part of a more comprehensive set of compassionate skills used transdiagnostically, this may also apply to other populations who have lower self-criticism.

2.4.4 Recommendations for future research

Given the interpretation that subgroups may have diluted the impact of the imagery, future studies should stratify for levels of self-criticism to test the effect levels of self-criticism have on the propensity of the image to be experienced as soothing. Since the present study did not include men, gender remains an important covariate to consider in future studies. Replicating the present study with clinical samples would help strengthen generalisability.

Qualitative investigations of imagery content would also provide an understanding of what compassionate qualities are represented within images and whether any aspects of compassion (i.e., strength, non-judgement, responsibility, warmth and acceptance) appear particularly potent.

With respect to measures, future studies should utilise similar measures for the purposes of comparing research findings. Future studies may benefit from inclusion of a formal measure of imagery manipulation; for example a state measure of emotion, and inclusion of physiological measures such as cortisol or imaging. Longer follow-up assessment periods would help to investigate practice effects. Finally, greater samples sizes would promote examination of subscales.

2.4.5 Conclusion

The present study represents the first experimental exploration of compassionate imagery in women who have sub-clinical levels of eating disorder symptoms. Further investigation of the mechanisms implicated within CFI is warranted.
2.5 References


Eating Behaviors, 14(2), 207-210. doi: http://dx.doi.org/10.1016/j.eatbeh.2013.01.005


Lovibond, P. F., & Lovibond, S. H. (1995). The Structure of Negative Emotional States - Comparison of the Depression Anxiety Stress Scales (Dass) with the


Paper 3

Critical discussion and personal reflections

Word count: 5821
3.0 Overview
This third paper is a critical discussion of the research process as a whole and includes a detailed discussion on the strengths and weaknesses of the study; methodological limitations, clinical and theoretical implications; recommendations for future research, concluding with personal and professional reflections. For clarity, this paper is split into three sections, beginning with the systematic review (Paper 1), followed by the empirical paper (Paper 2) and finally personal reflections.

3.1 Background
This thesis represents a departure from my previous PhD research experience within the area of perinatal psychology, although the protective and pervasive impact of early relationships is very much relevant within this research.

My interest within eating disorders began whilst on clinical placement in an outpatient eating disorders service during the first year of my clinical training. At the time, the service was offering Compassion Focused Therapy (CFT) as a treatment pathway. My interest in the application of CFT in eating disorders expanded as I completed my ClinPsyD small scale research project in the service: An evaluation of group CFT in eating disorders.

Returning to complete a one year specialist placement in eating disorders provided further opportunity to work with eating disorders using both Cognitive Behavioural Therapy for eating disorders (CBT-E) and individualised CFT. I also had the opportunity to co-facilitate a transdiagnostic CFT group in an adult community mental health team (CMHT). The present research project is the fortuitous result of many interesting discussions and reflections of the application of CFT emerging from clinical supervision and team discussions, along with my experiences over the course of clinical training.
3.2 Systematic review

3.2.1 Rationale

An initial proposal to conduct a review of the application of imagery within eating disorders was timely and appropriate given the research topic. However, a limited number of studies were identified during initial literature scoping exercises meant that a review of this type was not sufficient for a doctoral thesis.

Further discussions and initial searches highlighted that there had been no systematic review of CFT. This led to the idea of completing a review of the transdiagnostic application of CFT. Unfortunately, shortly after completing the initial searches the review by Leaviss and Uttley (2015) was published, forcing reconsideration of the review topic. This was undoubtedly a setback, albeit demonstrative of the growing evidence base of CFT and retrospectively, a good experience in adapting and problem solving as a researcher.

On reviewing the manuscript, a number of further areas of focus were identified which had not been addressed by this review, particularly the paucity of research around the content of CFT across studies. Furthermore, a number of further articles had recently been published. In their review, Leaviss and Uttley (2015) assessed only core quality domains of selection/allocation of participants, blinding, compliance/fidelity and reporting of findings, whilst the present review extended the quality assessment, using a valid and reliable quantitative assessment tool and also examined areas of study design, data collection measures, withdrawals and dropout in addition to the aforementioned areas. A further novel aspect of the review completed for this thesis was the calculation of effect sizes across primary outcomes associated with CFT: self-compassion, shame and self-criticism. Taken together, the proposed systematic review for the purposes of the thesis was sufficiently different from that of Leaviss and Uttley (2015) and novel in its contribution to the literature.

3.2.2 Searches

In order to maximise the number of eligible articles for review, multiple databases were searched, as well as looking through reference lists of eligible articles and screening the Compassionate Mind website (2015). Inclusion and exclusion criteria were agreed on during discussions within the supervisory team. The study was strengthened by the use of two raters, (myself and field supervisor, MS) to jointly make decisions on whether to include all full text articles.
3.2.3 Inclusion/exclusion criteria

Eighteen papers were included in the review. A further five case studies and qualitative papers were identified within the search, although these would have increased the number of the papers, the decision to exclude these studies was due to the limited generalisability and the difficulties associated with comparing methodology. Grey literature, namely unpublished studies, was excluded due to potential concerns over methodological quality, reporting bias and adherence to ethical standards. Furthermore, in order to assure the integrity of studies to the CFT model, studies based on a different theoretical model were not included.

3.2.4 Quality rating tool

Once the papers had been agreed on, a quality rating tool was selected appropriate for the methodologies across the studies. The Effective Public Health Practice Project (EPHPP, 1998) was selected because it could be used flexibly across quantitative studies making it appropriate for use with both controlled and uncontrolled studies. The EPHPP had also demonstrated reliability and validity (Thomas, Ciliska, Dobbins, & Micucci, 2004).

On synthesis of quality assessment and the content of CFT interventions it was noted that there were discrepancies between methodological quality and fidelity to the therapeutic model. This generated question around the use of quality assessment tools in general within the review literature. Katrak, Bialocerkowski, Massy-Westropp, Kumar, and Grimmer (2004) captured this limitation: “We found no gold standard appraisal tool for any type of study…Variable quality evaluations may be produced when different critical appraisal tools are used in the same literature. Thus, interpretations of critical analysis must be carefully considered in light of the critical appraisal tool used.” (p. 8 Katrak et al., 2004).

In terms of the domains on the EPHPP, there are a couple of points to note. Firstly, with respect to outcome measures, these are given a dichotomous rating of either ‘yes’ or ‘no’. There is no guidance related to how to rate studies which used some validated and reliable measures and also included measures with no reported psychometric information. Therefore, within the present study these criteria were applied to primary outcome measures. Secondly, the domain of statistical analysis is not included in the global quality score, which is a limitation given that data from statistical analyses are extracted for review.
With respect to the reliability of the EPHPP, within this thesis there were some difficulties with agreement on component ratings, particularly when deciding relevant confounders. Differences in the interpretation of this criteria resulted in discrepancies between raters, although overall agreement was acceptable ($\alpha= 0.63$).

Lastly, studies utilising a Randomised Controlled Trial (RCT) design are awarded higher scores. This is a limitation in that it may have led to inflated scores for some studies (with RCT designs) and decreased scores of well conducted uncontrolled studies with high fidelity to the CFT model and large effect sizes.

3.2.5 Limitations
It was not possible to calculate the effect sizes across two studies and therefore this somewhat elevates the risk of bias in the findings reported within the systematic review. Kirkham et al. (2010) reported that this is a common limitation of systematic reviews and cited that 55% of reviews they identified within their own review on reporting and publication bias had not reported full data sufficient to calculate effect sizes.

It is also noted that a number of the studies included in the review were developer led studies. Further reporting bias was a possibility through what Eisner (2009) described as ‘systematic bias’, which may be elevated when developers are involved in the research. However, other reasons include poor adherence to fidelity and implementation, both of which are noted within this emergent area.

3.2.6 Clinical implications
The application of CFT across a number of psychological disorders and within heterogeneous groups of mental health difficulties is a burgeoning area, with the most amount of evidence for transdiagnostic samples. A number of important practitioner points emerged from the review.

Firstly, there is a need for formal guides or manuals to be made available for practitioners to enable fidelity to the CFT treatment model for both treatment but also to ensure replicability within research. As highlighted within the review there were large variations in delivery of content.

Secondly, in terms of delivery modalities the review highlighted that group-based CFT may present many opportunities for compassionate responses from other members in a way that individual therapy may not. However, further investigation
and comparisons of delivery modalities is needed. For example by comparing individual CFT with group-based CFT.

Thirdly, few studies compared CFT with other evidence-based therapies and therefore further research is needed. On account of this, there is little evidence to support use of CFT over another therapy; however, combining CFT with CBT is associated with clinical improvements.

3.2.7 Future reviews
As the area grows, future studies could conduct a full meta-analytic study. A future focus of reviews could be on experimental studies of therapeutic ‘active ingredients’ as the experimental field within CFT develops. Furthermore, as a number of single case designs and case series were identified, but excluded, future reviews could synthesise data from these studies. It is also recommended that future reviews utilise the same quality assessment tool to promote comparisons between reviews.
3.3 Empirical Paper

3.3.1. Participant characteristics

Although there is debate within the literature regarding whether there are epidemiological gender differences within eating problems, it was decided that men would not be included. Furthermore, the literature review highlighted that although both genders have been represented within CFT research, possible differences have not been examined. Indeed, MacBeth and Gumley (2012) suggested that gender is an important covariate, which has received little attention in compassion research. This limits the generalisability of the present study and future research should consider examining whether there are gender differences within the application of Compassion Focused Imagery (CFI) in eating problems.

The criteria for inclusion into the experimental arm of the study was based on previous studies citing that individuals with global Eating Disorder Examination Questionnaire (EDE-Q) scores \( \geq 2.3 \) (with objective bingeing and/or compensatory exercise; Mond, Hay, Rodgers, Owen, & Beumont, 2004) and \( \geq 2.8 \). EDE-Q (Mond et al., 2008) had sensitivity rates of 0.83 and 0.72 and specificity rates of 0.96 and 0.73 respectively. For clinical caseness, Mond et al. (2004) reported that their data indicted a global EDE-Q score of 2.97. Guided by the literature, the initial cut-off global EDE-Q score for the present study was \( \geq 3.0 \). However, following difficulties with recruitment this was lowered to \( \geq 2.5 \), a cut-off between the scores within the literature and therefore, still with reasonable specificity and sensitivity. Finally, baseline EDE-Q means across both experimental groups were 3.49 and 3.50 respectively. The comparison group was based on non-caseness at global EDE-Q scores \( < 1.3 \). Within the present study a cut-off was set at \( \leq 1 \).

Originally screening had also included the Eating Attitudes Test (EAT; Garner, Olmsted, Bohr, & Garfinkel, 1982), however the EAT was removed from the screening process in an effort to minimise attrition during screening and reduce the length of time associated with scoring both EDE-Q and the EAT.

The use of an analogue (non-clinical) sample in the present study has both advantages and disadvantages. Reynolds and Streiner (1998) outlined that analogue samples, consistently utilised within psychotherapy and measure construction, are useful for informing designs of future studies and evaluating acceptability of treatments, particularly in new areas of research such as CFT.
Analogue samples, also present certain disadvantages. The main drawback of analogue studies, explained by Reynolds and Streiner (1998), is their limited generalisability to clinical populations owing to major differences in social class, age and educational level. However, they also acknowledged that university students represented a ‘high risk’ group for eating disorders (Reynolds & Streiner, 1998).

3.3.2 Design
An RCT design using both control and comparison groups was a robust choice for the examination of the effect of CFI on the battery of outcomes. Randomised designs are considered to be the gold standard for evaluating therapeutic effects (Akobeng, 2005; Kang, Ragan, & Park, 2008). The design employed within the present study allowed for investigation of the effect of CFI.

An alternative to the experimental investigation could have been a qualitative study on the imagery within a single group. A qualitative investigation would have allowed for rich data on the experience and acceptability of CFI, informing future research of the application within eating disorders.

Due to time limitations and resource within the present study the interval between assessments was five-to-seven days. The results were considered in the context of this interval within the empirical paper. Furthermore, time limits also prevented longer follow-up of the participants. Literature suggests positive correlations between frequency of practice and compassion expressed towards others (Jazaieri et al., 2013). Therefore, it would be of value to investigate whether the effect on shame was sustained, practice continued and if there were any effects of longer practice through conducting a longer follow-up.

3.3.3 The imagery
In terms of the imagery exercise, the compassionate other exercise (Gilbert, 2009a) is a frequently used advanced exercise within CFT and therefore there is high fidelity to the model. Indeed, the voice is Professor Paul Gilbert’s, who developed CFT. The trade-off of having an exercise with high fidelity to the CFT model is that it was not possible to have a control exercise using the same voice, length and delivery. On reflection, the study would have been strengthened by using the same voice. A further limitation of the present methodology was that the control group did not practice the neutral imagery exercise in between Time 1 and Time 2, limiting the
robustness of the findings. Future research should use the same voice in both recordings in order to address any effect of voice tone or time of exercise. Additionally, participants allocated to the control condition should engage in practice in between sessions.

### 3.3.4 Outcome assessments

In terms of the outcomes, these were measures with good psychometric properties and commonly used within the literature allowing for comparison with the wider literature. However, the study was insufficiently powered to examine subscales of each measure and therefore a number of significant effects at the subscale level may have been missed. Future studies with adequate power could investigate effects at the subscale level. A further limitation was that randomisation and the post-assessment were not completed blind.

In terms of the measure of eating disorder behaviour, the present study was limited by the chronicity of the EDE-Q. Specifically, the baseline and post-assessments occurred within the 28-day time period, thereby limiting the measurement of any effect of imagery on eating pathology. This could have been addressed by the inclusion of an appropriate measure, which could be re-administered within the time frame.

Imagery compliance between baseline and follow-up assessment was measured using an adapted version of imagery compliance measure developed by Kelly, Zuroff, and Shapira (2009) in their study on CFT in acne sufferers. Findings in Paper 1 are comparable with those reported by Kelly et al. (2009). Following a two-week practice period, Kelly and colleagues reported that participants practiced their imagery on average 2.44 times and images were rated 2.88 (out of 5) in terms of their vividness. Over one week within the present study images were recalled on average 3.7 times and images were rated on average as 3.2 (out of 5) for vividness. The study would have benefited from administering this measure within the neutral imagery group, which would have allowed for comparison between CFI and neutral imagery groups. Had it been possible, it would have added further robustness to the study.

Although all participants were asked whether they had been able to construct an image and had experienced activation (even if only fleeting) of their soothing system, there was no formal measure of this. There is no known measure of this
within the literature and therefore this is an important consideration for future research. The study would have also benefited from the inclusion of a measure of previous experiences as well as positive and negative beliefs about imagery practice. This may have been an important covariate.

3.3.5 Screening and recruitment

The recruitment for the present project was particularly challenging given the limited amount of time within which to screen individuals for eligibility and meet with eligible participants at two time points before the thesis deadline. The total number of contact sessions for the present study was 130. The successful screening and recruitment of this number reflects perseverance, exceptional organisational skills and continued optimism around achieving the target. A degree of flexibility of meeting days and time was essential to minimise attrition. As a result, time between study sessions was five to seven days. However, this had implications for the experimental protocol in that inevitably some individuals had longer between session intervals.

A screening database using Select Survey was utilised to assess prospective participants for eligibility. This required frequent monitoring of the database to review scores, identify and invite eligible participants to take part in the research. This aspect of the project was particularly time intensive.

Student populations were of interest due to the higher incidence of eating pathology. Psychology students received academic credit for their participation and therefore this group was the initial focus of recruitment efforts. However, a decision to recruit students from other schools within the university was taken after initial recruitment moved slowly. Students were also recruited through the Schools of Nursing and Pharmacy. These efforts yielded a significant proportion of the total number of participants in the study. Retrospectively, a more widespread recruitment effort may have resulted in a higher end sample size, although the study was adequately powered.

3.3.6 Barriers to participation

Prospective participants may, not unlike clinical populations, experience ambivalence regarding their eating problems, however severe. Indeed, some individuals may unsurprisingly hold positive beliefs regarding eating disorder
behaviours leading to reluctance to engage with research. Although this was a non-clinical sample, some individuals may have been cognisant of the stigma associated with some of their experiences, influencing their decision not to take part in the research. Indeed, the potential for CFT to activate the threat system in some individuals may have also led to reluctance to take part. A further consideration is that individuals within clinical services may have accessed services a number of times before completing a full course of therapy. This behaviour may have been paralleled within the population of interest, leading again to a reluctance to participate in the research.

3.3.7 Implementation

All participants readily identified with experiences of each of the three systems during the socialisation process and no participants requested to discontinue the audio. Whilst all participants reported being able to construct an image, the study is limited in that there was no formal measure of how fleeting or vivid the image was during the initial exercise. However, assessment of the vividness of imagery was collected at Time 2.

For in-between session practice, the imagery itself was hosted on a secure website and could be downloaded on computer or other mobile device. On the whole, participants did not report any difficulties in accessing the audio content and the website was regularly checked to ensure it was operational. There were however, two occasions when participants were initially unable to access the content, although this was repaired quickly by IT support from the School of Psychological Sciences. To minimise social desirability in reporting frequency of practice, future studies could implement an online system that records frequency of practice.

3.3.8 Limitations as a whole

In general the study is limited by the short duration of practice (time between baseline and follow-up assessment). Further limitations have been discussed in relation to the differences between the CFI group and the neutral imagery group. The comparison group was found to be significantly older than the experimental group, although this was controlled for in the analysis. Although university samples of women are considered an at-risk group and given the levels of anxiety and depression within the sample, there remain limits to generalising the findings to clinical samples.
It should also be acknowledged that due to difficulties with recruitment the target sample size of 50 (25 in each group) for the experimental arm was not achieved; however, with 41, the study still had reasonable power. For example, with 20 participants in each group the study would have had 80% power to detect differences of 1.04 (See Appendices, p.160). A further caveat to the current findings is the possible inflation of error rate given the conservative p-value of 0.02 was adopted.

3.3.9 Implications for theory
The findings from the present study provide partial support for the effectiveness of CFI in individuals with sub-clinical levels of eating disorders. Specifically, the findings provide support for the notion that CFI can lead to reductions in shame, although the exact nature of this mechanism is unknown. Schanche (2013) proposed that reductions in shame would be associated with decreases in self-criticism. Differences across other outcome measures were in the direction hypothesised, but these differences were not significant.

The hypothesis that individuals manage threats via their soothing system was partially supported by reports that individuals had utilised their image to manage a difficult situation (Gilbert, 2009b). Although CFI was associated with increases in self-compassion relative to the neutral imagery group, these differences were not significant. However, this could be accounted for by the conservative p-value, as discussed above.

The exploratory findings on the impact of self-criticism on how soothing participants rated their image, is consistent with research that individuals with elevated levels of shame and self-criticism may find CFI threatening in some way (Duarte, McEwan, Barnes, Gilbert, & Maratos, 2014; Rockliff, Gilbert, McEwan, Lightman, & Glover, 2008).

3.3.10 Implications for clinical practice
As highlighted within the review (Paper 1), there have been no studies on the use of CFI within eating disorders. Therefore the present study provides foundational evidence for future studies, particularly around the acceptability and highlights some of the challenges about using imagery in individuals with sub-clinical eating problems. Furthermore, following their comparison of eating disorder and university
(at-risk) samples Kelly, Vimalakanthan, and Carter (2014) recommended that university samples, who represent an ‘at risk’ population would benefit from CFT to promote the increase of self-compassion and decrease of self-criticism. The present study provides some preliminary support for use of CFT to the aforementioned end.

Clinical implications for the following research should be considered in light of the limitations to the generalisability of non-clinical groups whilst concurrently acknowledging the ‘at-risk’ nature of women within university populations (see previous section Participant characteristics). Indeed, the total Depression Anxiety and Stress Scale (DASS) scores from the present population are indicative of moderate to severe symptoms based on the criteria defined by Lovibond and Lovibond (1995). By adopting Bentall’s (2006) conceptualisation of mental health difficulties on a continuum and not a dichotomy, the present findings have some bearing on clinical samples.

Firstly, delivered with fidelity to the model, CFI has the potential to reduce shame in individuals with elevated levels of eating disorder symptoms. However, clinicians should consider assessing self-criticism because the present study suggests that this may influence the degree to which individuals are soothed by their image. In the context of high self-critics a higher dose of imagery with pre-imagery building of distress-tolerance skills may be particularly important. Equally, low self-critics who engage more comfortably with CFI may need less preparatory work and ultimately clinical resource.

Given the observations within the present study and frequency of practice, the findings also suggest that CFI was tolerated. Owing to the significant reductions in shame relative to the neutral imagery group, CFI may be a viable distress tolerance skill for use within university students. Through personal communications with the student counselling service it emerged that the exam period was associated with increased access to student counselling, resulting in waiting times of several weeks. Although not formally assessed, many participants expressed an interest in continuing with their practice. This taken together with the finding that students had used the image to manage a difficult situation, audio-guided CFI has potential to provide support for students, although further research would be needed.
3.3.11 Further research

Recommendations for further research have been provided throughout this section of the thesis. In brief, future research could be improved by addressing limitations from the present study. These include addressing limits of the sample by including men. In terms of outcome assessment, future research should include measures of previous practice and/or positive and negative beliefs about imagery. For comparison between this and future studies the same measures should be used and subscales examined because scales do not necessarily represent unitary constructs. Future studies could employ longer practice times and follow-up assessment to examine the effect of dose and longitudinal effects. The design of future studies could be improved by including a more equivalent control group, ensuring practice of the control task and measuring the compliance.

Moving forward within this area, there is scope for conducting qualitative research around the experience of imagery, content of images and whether these overlap with theoretical constructs of compassion. Future studies could also examine the effects of other CFT imagery techniques. Finally, future studies could examine the effects of imagery in clinical groups in situ.

Due to the possible mediating or moderating effect of levels of shame and self-criticism, future research should stratify high and low scoring self-critics to investigate possible differences in soothing system activation between high and low scorers.

3.4 Personal Reflections
3.4.1 Self-practice

Throughout the research process, I engaged in compassionate imagery practice, cultivating my own compassionate image and more broadly applying the principles of CFT daily. Self-practice has been an important part of my own journey throughout the research process. A recent systematic review highlighted that self-practice of therapeutic techniques has been associated with increases in empathy for clients and the management of challenges within therapeutic practice and general increases in confidence and competence as a therapist (Gale & Schroder, 2014).

Personal practice has promoted a deepening of my understanding around the implementation of CFI but has also been an important skill for managing my own stress and self-criticism through the later stages of my clinical training. Indeed,
qualitative research has captured the positive correlation between imagery self-practice and confidence and propensity to use the technique clinically (Bell, Mackie, & Bennett-Levy, 2014).

3.4.2 Professional issues
Managing the demands of both clinical and research endeavours has undoubtedly been one of the most challenging aspects of clinical training. Previous research training has proved invaluable over the last three years. However, at times I have had to remind myself of the context within which the work has taken place. Completing a piece of research alongside clinical activity has provided an experience of the realities of conducting research as a clinician and facilitated the development of the necessary skills, i.e., time management, organisation, communication and prioritisation. In order to retain our unique contribution as psychologists, research, audit and service evaluation remain an important part our role, if not a core clinical competency (Kinderman, 2013).

3.4.3 Ethical considerations
During the initial conception of the research idea, there was consideration about whether the imagery would be an aversive experience for participants and if this was an ethical implication. At the time the literature around increases in threat responses from high self-critics, whilst doing imagery had not yet emerged (Duarte et al., 2014). Recent qualitative research found that “The potential for raising high affect in clients was the most commonly cited reason for caution, apprehension and avoidance and imagery use.” (p. 9, Bell et al., 2014). This issue was discussed further with the research subcommittee panel and again with the University’s ethics panel. In order to contain affect, it was agreed that all participants randomised to the CFI condition would be reminded that they could stop the exercise prematurely and were debriefed following the exercise. During the course of the research there were no reports of experiences of negative or distressing affect. Participants reported both increases and decreases in emotional arousal on completing the exercise, however there were no reports of distress.

Reflecting on experiences of delivery and guiding clients through imagery on my clinical placements was an important process in the development of the project. However, consultation with the department’s Community Liaison Group (CLG) or a
local Patient and Public Involvement (PPI) group would have added further understanding of relevance of the research for service users and acceptability of the imagery to individuals respectively (Britt, 2013).

Adhering to the role of ‘researcher’ and resist positioning towards ‘clinician’ presented further challenges that were necessary to prevent contamination of research conditions. This was noted particularly whilst on an eating disorders placement. As part of the research was acknowledging that participants were selected due to elevated symptoms, all participants identified with this. A balance between sensitively acknowledging and validating experiences of the participants, whilst adhering to the research protocol presented a continued challenge, albeit valued experience for future clinical research. Clinical supervision was utilised to reflect on these experiences and discuss the management of these dilemmas.

A number of psychological risks were disclosed during the course of research. Although the risk protocol presented a clear framework for managing these risks safely, there were some anxieties around the management of these risks outside a therapeutic relationship and framework of the NHS. However, these were discussed in clinical supervision and the safeguards were considered appropriate.

3.4.4 Social context

Sadly, within undergraduate female populations there is high prevalence of eating disorders and mental health problems. The present sample is comparable with those reported elsewhere. Around 20% of the experimental group reported having a psychological or physical health condition and almost 10% of the population reported use of antidepressant or anxiolytic medication to manage their symptoms. These rates represent a group of individuals who may benefit from targeted preventative interventions via the increase in self-compassion (Kelly et al., 2014). Given the acceptability of the exercise, there is scope for further research within CFT to target this population. For example, through promoting time limited self-guided practices.

3.5 Conclusion

The following thesis has offered a critical review (Paper 1) of the emergent literature around CFT, a transdiagnostic treatment approach, detailing clinical opportunities and limitations of the application of CFT to transdiagnostic populations. The
empirical section (Paper 2) of this thesis was an examination of an advanced CFT skill and provides preliminary, partially supportive evidence for the use of CFI within “at risk” eating disorder samples and has some implications for use of CFT within the treatment of individuals experiencing eating disorders. Both papers of this thesis are not without limitation and further research into this area is indicated.
3.6 References


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4. Appendices
Appendix A. Journal of Affective Disorders- Author Guidelines

JOURNAL OF AFFECTIVE DISORDERS

OFFICIAL JOURNAL OF THE INTERNATIONAL SOCIETY FOR AFFECTIVE DISORDERS

AUTHOR INFORMATION PACK

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DESCRIPTION

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Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically.

Examples: as demonstrated (Allbn, 2000a, 2000b, 1999; Allbn and Jones, 1999). Kromer et al. (2010) have recently shown....

List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Examples:
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Reference to a book:
Reference to a chapter in an edited book:
Metzam, G.R., Adams, L.B., 2009. How to prepare an electronic version of your article, in: Jones, B.S.,
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Appendix B. International Journal of Eating Disorders- Author Guidelines
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The journal accepts for review manuscripts that have not been published or are not currently elsewhere under review.

CONTENT TYPES

Manuscripts published by JED include: (1) Original Articles; (2) Brief Reports; (3) Critical analysis and Synthesis (systematic reviews and meta-analyses); (4) Commentaries; (5) Clinical Case Reports; (6) and "An Idea Worth Researching". All word limits relate to the body of the text (i.e., not including abstract, references, tables or figures). These are maximum lengths, and authors are encouraged to keep their reports as short as possible while communicating clearly. The review criteria will include appropriateness of length.

When uploading their manuscripts, authors will be asked to complete a brief checklist indicating that the authors have followed the author guidelines pertaining to the article type.

To summarize, the article types are:

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   Word Limit: 7,000 words, excluding abstract, references, tables and figures
   Abstract: 250 words
   References: 40 are recommended; more are permissible, for cause
   Figures/Tables: a maximum of 8 essential tables/figures, overall

The methods section should include a statement about sample selection, response rate, and other factors that would impact selection or response bias and, in turn, representativeness of the sample. Inclusion of small samples requires justification and authors should be mindful of the recommendations concerning minimal sample sizes in subfields (e.g., genetic research, instrument development, etc., where adequate samples may number in the hundreds). If the study involves qualitative data, authors need to include a statement about sample size in relation to theme saturation. Authors also are asked to provide information about reliability and validity of study measures. If the work involves cross-cultural assessment or assessment in a new language or study population, authors should provide information about local literacy in the language of assessment, the validity of (or process for validating) a translation of an assessment, and for inclusion of regional samples, a statement about the representativeness of the regional sample (or distinction from) the national sample. If statistical analyses are employed, effect size estimates should be reported in the results section.

(2) Brief Research Reports. This manuscript format is intended for manuscripts describing studies with straightforward research designs, pilot or "proof of concept" studies, and
replications.

Word Limit: 1,500 words, excluding abstract, references, tables and figures
Abstract: 200 words
References: 20 are recommended, more are permissible, for cause
Figures/Tables: a maximum of 2 essential tables/figures, overall

The methods section should include a statement about sample selection, response rate, and other factors that would impact selection or response bias and, in turn, representativeness of the sample. Inclusion of small samples requires justification and authors should be mindful of recommendations concerning minimal sample sizes in subfields (e.g., genetic research, instrument development, etc., where adequate samples may number in the hundreds). If the study involves qualitative data, authors need to include a statement about sample size in relation to theme saturation. Authors also are asked to provide information about reliability and validity of study measures. If the work involves cross-cultural assessment or assessment in a new language or study population, authors should provide information about local literacy in the language of assessment, the validity of (or process for validating) a translation of an assessment, and for inclusion of regional samples, a statement about the representativeness of the regional sample (or distinction from) the national sample. If statistical analyses are employed, effect size estimates should be reported in the results section.

(3) Critical Analysis and Synthesis/Review articles critically review the status of a given research area and propose new directions for research and/or practice. Both systematic and meta-analytic review papers are welcomed if they review a literature that is advanced and/or developed to the point of warranting a review and synthesis of existing studies. Reviews of topics with a limited number of studies are unlikely to be deemed as substantive enough for a Critical Review paper. Moreover, the journal is not interested in papers that merely describe or compile a list of previous studies without a critical synthesis of the literature that moves the field forward.

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References: 100
Figures/Tables: no maximum, but should be appropriate to the material covered

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(4) Commentaries are written only at the invitation of the Editors, when multiple perspectives on or critical appraisal of an article would assist in placing that article in context.

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Abstract: no abstract
References. 5, using the footnote format rather than the journal’s standard format.
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Word Limit: 3,000 words, excluding abstract, references, tables and figures
Abstract: 150 words
References: 20
Figures/Tables: a maximum of 2 essential tables/figures, overall

(6) “An Idea Worth Researching” is a format where authors propose an idea that may not yet have adequate empirical support or be ready for full empirical testing, but holds great promise for advancing our understanding of eating disorders. Authors are encouraged to write a piece that is bold, forward looking, and suggestive of new and exciting avenues for research and/or practice in the field.
Word Limit: 1,500 words maximum, excluding abstract, references, tables and figures
Abstract: no abstract
References: 5 maximum, in footnote format
Figures/Tables: a maximum of 2 essential tables/figures, overall

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The Methods section should include a statement that the research was reviewed and approved by an institutional review board, and that participation involved informed consent.

Every effort should be taken to ensure the anonymity of the patient concerned, and any clinicians not involved as authors. If there is any potentially identifiable information, then it is the responsibility of the authors to seek and obtain approval from the local Institutional Review Board (IRB) (or equivalent) for the case to be reported, and a copy of that approval should be made available to the Editor on request.

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ADDITIONAL GUIDELINES FOR COPYEDITING OF MANUSCRIPTS FOR INTERNATIONAL JOURNAL OF EATING DISORDERS

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2. The term “participants” should be used instead of “subjects”.

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4. When referring to gender, “males” and “females” should be used in cases where the study samples include both children (below age 18) and adults; when the participants comprise adults only, the terms “men” and “women” should be used. In articles that refer to children (i.e., below the age of 13), “boys” and “girls” should be used.

5. In articles that refer to genetic material, the names of genes should be spelled out in full the first time they appear in the text, after which an italicized abbreviation can be substituted.

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Appendix C. Study Advertisement

An evaluation of compassion focused imagery in attitudes towards eating
Ref 14184

We are interested in the effect a specific aspect of the compassion focused imagery has on people’s attitudes towards eating, their eating behaviour and how they feel about themselves. Compassionate imagery involves imagining and visualising helpful things (for example a helpful person, or a place which makes us feel good).

Participation in this study is completely voluntary. If you choose to take part we will first ask you to complete an online screening questionnaire. If you are eligible for the study you may be invited to attend an appointment with the researcher and will be asked to sign a consent form and complete some questionnaires. After completing some questionnaires, you will be randomly allocated to either complete some tasks involving visualization or to a control group.

If you are allocated to the compassionate imagery group you will complete an exercise with the researcher which will involve using visualisation techniques. You will be asked to practice this exercise at least 1 time over a one week period. If you are allocated to the control group you will not complete the compassionate exercise with the researcher, but a different task. If you are participating in the control group you will only complete the questionnaires. If you are not eligible for the study we may still ask you to take part in a comparison group.

About one week after entering the study we will ask you to attend another appointment to complete the same questionnaires you did at the beginning of the study.

If you would like more information or are interested in participating in this study and are female and 18 to 30 years old, please email Zoe:

Zoe-Lydia.talvosa@postgrad.manchester.ac.uk
Mobile 07507318037
Appendix D. Ethical approval letter

Secretary to Research Ethics Committee 5
Faculty Office - Devonshire House

Tel: 0161 275 0288
Email: jared.ruff@manchester.ac.uk

Dr Zoe-Lydia Tsivos
School of Psychological Sciences

16th July 2014

Dear Dr Tsivos

Research Ethics Committee 5 (Flagged Humanities) - Project Ref 14184

Tsivos, Fox, Wittkowski: An evaluation of compassion focused imagery in an analogue sample with eating problems (ref 14184)

I am writing to thank you for meeting with the University Ethics Committee 5 (flagged Humanities) on 19th May 2014 and for submitting the requested changes and clarification to the original material. This letter formally confirms approval for the above project and that no further changes are required to the documentation submitted to the committee.

This approval is effective for a period of five years and if the project continues beyond that period it must be submitted for review. It is the Committee's practice to warn investigators that they should not depart from the agreed protocol without seeking the approval of the Committee, as any significant deviation could invalidate the insurance arrangements and constitute research misconduct. We also ask that any information sheet should carry a University logo or other indication of where it came from, and that, in accordance with University policy, any data carrying personal identifiers must be encrypted when not held on a university computer or kept as a hard copy in a location which is accessible only to those involved with the research.

Finally, I would be grateful if you could complete and return the attached form at the end of the project.

I hope the research goes well.

Yours sincerely

Jared Ruff
Senior Research Manager
Faculty of Humanities and Secretary to UREC 5 (Flagged Humanities)
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Appendix E. Participant information sheet

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Version 1-12/01/2014

An evaluation of compassion focused imagery in attitudes towards eating

Participant Information Sheet

You are being invited to take part in a research study as part of a student project for doctoral degree. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the study about?

This project will look at the effect a specific aspect of the compassion focused therapy has on attitudes towards eating, their eating behaviour and how they feel about themselves. We are specifically interested in compassionate imagery. Compassionate imagery involves imagining and visualising helpful things (for example a helpful person, or a place which makes us feel good). This research will also look at whether the compassionate imagery helps actually make people feel good about themselves (i.e., self-compassion) and feel less self-critical.

Why have I been asked to take part?

You have been asked to take part because you are female aged 18-30.

What will happen if I do not take part?

Participation in this research is completely voluntary. You do not have to take part. If you wish to withdraw from the study at any point just tell the researcher that you do not wish to continue. We will destroy identifiable information but we will continue to use the data collected up to your withdrawal.

If I decide to take part, what will I have to do?

If you do decide to take part you will be given this information sheet to keep. You will complete an online survey asking you questions about your eating. If you are eligible for the study you will be invited to attend an appointment with the researcher and will be asked to
sign a consent form and complete some questionnaires. If you decide to take part you are still free to withdraw at any time without giving a reason and without detriment to yourself.

You will then be randomly allocated to either the compassionate imagery group or the control group. There will also be a group of individuals who have no eating difficulties but are very similar in other ways, this is called a comparison group. Due to the nature of the design of the study you will not be able to decide which group you will join.

If you are allocated to the compassionate imagery group you will complete an exercise with the researcher which will involve using visualisation techniques. You will be asked to practice this exercise at least 1 time over a one week period. If you are allocated to the control group you will not complete the compassionate exercise with the researcher, but a different task. If you are participating in the comparison group you will only complete the questionnaires.

One week after entering the study we will ask you to attend another appointment to complete the same questionnaires you did at the beginning of the study.

Will I be paid for participating in the research?
To compensate for your time you will be paid £5 or receive 10 SONA credits for your participation.

What is the duration of the research?
The study will involve two meetings lasting approximately one hour each, and you will complete 6 questionnaires.

Where will the research be conducted?
The research will take place within the department of psychological sciences at the University of Manchester.

How will the results be used?
The results from this study will help us understand whether the specific imagery exercise has an effect on eating attitudes and behaviour. We hope that the results from this study will lead to better care for people who are coping with severe eating difficulties.

What if there is a problem?
If there are any issues regarding this research that you would prefer not to discuss with members of the research team, please contact the Research Governance and Integrity Team by either writing to 'The Research Governance and Integrity Manager, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester M13 9PL', by emailing: Research.Complaints@manchester.ac.uk, or by telephoning 0161 275 7583 or 275 8093.
What will happen to the information I supply?

The answers you give will be anonymous. However, in the event of risk of harm to yourself or someone else it will be necessary to breach confidentiality and your GP may be contacted. All data will be stored in a locked filing cabinet accessed only by the researcher and authorised persons to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a participant. Your personal contact details will be stored separately from your other answers, also in locked storage.

What will happen when the study is complete?

You will be involved in the study for approximately 1 week. Once all the data has been collected and analysed, the results will be written up in a report which will be sent to academic journals to be published and the findings will be presented at conferences. A summary report of the findings will also be written for the participants of the study. If you decide you would like a copy of this summary, you will receive it when the study has finished.

Who has reviewed the study?

All research is looked at by an independent group of people called a Research Ethics Committee (REC), to protect your interests. This study has been reviewed by the University Research Ethics Committee and was given a favourable opinion on. The REC reference number is.

What do I do now?

Once you have had time to read this information, the researcher will ask you whether you wish to take part or not. If you have decided not to take part, then we would like to thank you for taking the time to read this information. If you have decided that you would like to take part, the researcher will give you an opportunity to ask any questions that you may have. You will be asked to sign a form confirming that you consent for your questionnaire responses to be used in the study.

Thank you for taking the time to read this information sheet. Please contact us if you are interested in participating or would like further information.

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Appendix F. Consent form

Consent form (Version 2) 25/06/2014

Title of Project: An evaluation of compassion focused imagery in attitudes towards eating

Please Initial Box

1. I confirm that I have read and understood the information sheet dated 25/06/2014 (version 2) for the above study, I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

3. I give my permission for my GP to be informed in the unlikely event of any risk.

4. I agree to take part in the above study.

5. I understand the reasons for disclosing my contact details and agree to this.

Optional consent

6. I would like to receive a summary of the findings from the study.

7. I give permission to be contacted about future studies.

8. I give my permission for my data to be retained by the researcher and used confidentially in connection with the study if I withdraw.

Name of Participant Date Signature

Name of Person taking consent Date Signature
Appendix G. Self-help support

Compassionate imagery and eating attitudes

Information

Food and eating are a big part of our lives. Individual attitudes, likes, dislikes and quantities vary greatly. For some people, difficulties with food arise when it is used to cope with boredom, worries, anger, loneliness, shame or sadness. Food becomes a problem when it is used to help people to cope with painful situations or feelings, or to relieve stress perhaps without them even realising it. Eating difficulties can impact on physical and emotional wellbeing as well as relationships with others. If you are concerned about yourself you should contact your General Practitioner. There are also a range of useful support and information services:

- Samaritans (24 hours every day) 0845 790 9090
- MIND Information Line 0161 272 8205
- Crisis line (8pm – 12 midnight every day) 0808 808 2007
- NHS Direct (24 hours every day) 0845 4647
- University of Manchester self-help 0161 275 2864
- Self Help Services, The Big Life Company 0161 226 5412
- Beat Adult Helpline 0845 634 1414

The Beat Adult Helpline is open to anyone over 18 who needs support and information relating to an eating difficulties, including sufferers, carers and professionals.
Appendix H. Distress protocol

Distress and risk management protocol

Prior to beginning the study and throughout the study:
1) When meeting with consenting participants in the first face-to-face session, participants will be reminded that participation is voluntary and they can withdraw from the study at any time. This will also be outlined clearly within the Participant Information Sheet (PIS).
2) Confidentiality and risk will be explained to all consenting participants as well as the researcher’s responsibility to break confidentiality where significant risk of harm to self or others is disclosed. This will also be outlined in the PIS.
3) Participants will be offered breaks throughout sessions and regularly asked whether they wish to continue participating.
4) All sessions will occur in a safe, confidential location (bookable rooms in the university) during normal working hours.

In the unlikely event of distress experienced and/or risk disclosure during the course of the research and the following procedures will be followed:
1) In the unlikely event of signs of discomfort or stress occurring with the research setting the session will be stopped, and the researcher will offer support, and the opportunity to discuss what the participant found upsetting if the participant chooses to discuss this. The participant will be offered the opportunity to continue.
2) Participants will be provided with and encouraged to access support outlined on an information sheet. This may include access to local support services university services (Student Counselling service) and/or eating disorder specific charities with helplines (i.e., BEAT).
3) Where significant risk to self or other is disclosed the researcher will complete a risk assessment and will explore self-harm, suicidality and other risk issues (i.e., severity, history, intensity, duration, protective factors, presence of suicidal thoughts and intent). If the risk was deemed significant the researcher may break confidentiality and contact the participant’s GP and local A & E if immediate risk to life.
4) The trainee will utilize supervision (with research and clinical supervisors) to discuss any distress and/or risk issues and their management.
5) All participants will be debriefed as to the purpose of the research study at the conclusion of the study and they will also receive a copy of the information sheet detailing support services.
Appendix I. Background questionnaire

This questionnaire collects information about you. Please read and answer every question in this booklet. All information provided will be treated in strict confidence and will not be made available to any other source without your written approval.

Today’s date: ………/…………/…………

(day) (month) (year)

Birthdate: ………/…………/…………

(day) (month) (year)

1. Country of Birth

If not born in UK, where were you born (country)? …………………………………………

Which ethnic group do you most identify with?

- British
- Irish
- Other white background
- Indian
- Pakistani
- Bangladeshi
- Other Asian Background
- Other Ethnic Group

(please specify) ………

Specify your native language…………………………
2. **Education**

What is your highest level of education that you have completed?

- No qualifications ☐
- GCSEs, CSEs, or O-levels ☐ To end of year ___
- A levels/ BTEC
- Trade/apprenticeship
- University degree
- Other (please specify)__________________________ ☐

3. **Health**

In the last six months have you sought professional help for any psychological or physical health difficulty you may have experienced? Please tick all that apply:

- Psychologist ☐ Yes ☐ No
- Psychiatrist ☐ Yes ☐ No
- Counsellor ☐ Yes ☐ No
- Social Worker ☐ Yes ☐ No
- Other Professional ☐ Yes ☐ No If yes, please indicate what type of professional

*Have you been diagnosed with a psychological, psychiatric or physical health difficulty?*

☐ Yes ☐ No

If YES, please specify……………………………………

Are you currently taking prescription medication? If YES, please specify……………Note.

This information is treated confidentially. Your response to this question is optional.
Appendix J. Functions of self-criticizing/attacking scale

THE FUNCTIONS OF SELF-CRITICIZING/ATTACKING SCALE (FSCS)

There can be many reasons why people become critical and angry with themselves. Read each statement carefully and circle the number that best describes how much each statement is true for you.

Use the scale below.

<table>
<thead>
<tr>
<th>Not at all like me</th>
<th>A little bit like me</th>
<th>Moderately like me</th>
<th>Quite a bit like me</th>
<th>Extremely like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

I get critical and angry with myself:

1. To make sure I keep up my standards.  
2. To stop myself being happy.  
3. To show I care about my mistakes.  
4. Because, if I punish myself I feel better.  
5. To stop me being lazy.  
6. To harm part of myself.  
7. To keep myself in check.  
8. To punish myself for my mistakes.  
9. To cope with feelings of disgust with myself.  
10. To take revenge on part of myself.  
11. To stop me getting overconfident.  
12. To stop me being angry with others.  
13. To destroy a part of me.  
14. To make me concentrate.  
15. To gain reassurance from others.  
16. To stop me becoming arrogant.  
17. To prevent future embarrassments.  
18. To remind me of my past failures.  
19. To keep me from making minor mistakes.  
20. To remind me of my responsibilities.  
21. To get at the things I hate in myself.

If you can think of any other reasons why you become self-critical please write them in the space below:

..............................................................................................................................................................
..............................................................................................................................................................

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Appendix K. Forms of self-criticising/attacking and self-reassurance scale

THE FORMS OF SELF-CRITICISING/ATTACKING & SELF-REASSURING SCALE (FSCRS)

When things go wrong in our lives or don’t work out as we hoped, and we feel we could have done better, we sometimes have negative and self-critical thoughts and feelings. These may take the form of feeling worthless, useless or inferior etc. However, people can also try to be supportive of themselves. Below are a series of thoughts and feelings that people sometimes have. Read each statement carefully and circle the number that best describes how much each statement is true for you.

Please use the scale below.

<table>
<thead>
<tr>
<th>Not at all like me</th>
<th>A little bit like me</th>
<th>Moderately like me</th>
<th>Quite a bit like me</th>
<th>Extremely like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

When things go wrong for me:

1. I am easily disappointed with myself.  
2. There is a part of me that puts me down.  
3. I am able to remind myself of positive things about myself.  
4. I find it difficult to control my anger and frustration at myself.  
5. I find it easy to forgive myself.  
6. There is a part of me that feels I am not good enough.  
7. I feel beaten down by my own self-critical thoughts.  
8. I still like being me.  
9. I have become so angry with myself that I want to hurt or injure myself.  
10. I have a sense of disgust with myself.  
11. I can still feel lovable and acceptable.  
12. I stop caring about myself.  
13. I find it easy to like myself.  
15. I call myself names.  
16. I am gentle and supportive with myself.  
17. I can’t accept failures and setbacks without feeling inadequate.  
18. I think I deserve my self-criticism.

© Gilbert et al., 2004
<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>I am able to care and look after myself.</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>20</td>
<td>There is a part of me that wants to get rid of the bits I don’t like.</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>21</td>
<td>I encourage myself for the future.</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>22</td>
<td>I do not like being me.</td>
<td>0 1 2 3 4</td>
</tr>
</tbody>
</table>
Appendix L. Other as shamer scale

OTHER AS SHAMER SCALE (OAS)

We are interested in how people think others see them. Below is a list of statements describing feelings or experiences about how you may feel other people see you.

Read each statement carefully and circle the number to the right of the item that indicates the frequency with which you find yourself feeling or experiencing what is described in the statement. Use the scale below.

0 = NEVER  1 = SELDOM  2 = SOMETIME  3 = FREQUENTLY  4 = ALMOST ALWAYS

1. I feel other people see me as not good enough.
2. I think that other people look down on me.
3. Other people put me down a lot.
4. I feel insecure about others' opinions of me.
5. Other people see me as not measuring up to them.
6. Other people see me as small and insignificant.
7. Other people see me as somehow defective as a person.
8. People see me as unimportant compared to others.
9. Other people look for my faults.
10. People see me as striving for perfection but being unable to reach my own standards.
11. I think others are able to see my defects.
12. Others are critical or punishing when I make a mistake.
13. People distance themselves from me when I make mistakes.
14. Other people always remember my mistakes.
15. Others see me as fragile.
16. Others see me as empty and unfulfilled.
17. Others think there is something missing in me.
18. Other people think I have lost control over my body and feelings.

SCORING

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### Appendix M. Self-compassion scale

**HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES**

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

<table>
<thead>
<tr>
<th>Almost never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Almost always</th>
</tr>
</thead>
</table>

1. I'm disapproving and judgmental about my own flaws and inadequacies.
2. When I'm feeling down I tend to obsess and fixate on everything that’s wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I’m feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I’m intolerant and impatient towards those aspects of my personality I don’t like.
12. When I’m going through a very hard time, I give myself the caring and tenderness I need.
13. When I’m feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don’t like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.
18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

19. I'm kind to myself when I'm experiencing suffering.

20. When something upsets me I get carried away with my feelings.

21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

22. When I'm feeling down I try to approach my feelings with curiosity and openness.

23. I'm tolerant of my own flaws and inadequacies.

24. When something painful happens I tend to blow the incident out of proportion.

25. When I fail at something that's important to me, I tend to feel alone in my failure.

26. I try to be understanding and patient towards those aspects of my personality I don't like.
Appendix N. Compliance measure

Compassion focused imagery and eating attitudes
(adapted from Kelly et al., 2009)

These questions are about your compassionate image.

1. Please indicate the total number of times you practiced the exercise using the recording across the week

2. Please indicate the total number of times you brought your compassionate other image to mind without the recording across the week

3. How vivid was your image

<table>
<thead>
<tr>
<th>Perfectly clear and as vivid as normal vision</th>
<th>No image at all, you only know that you are thinking of the image</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

4. To what extent did you feel soothed by your image

<table>
<thead>
<tr>
<th>Not at all soothed</th>
<th>Completely soothed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

5. Did you use your compassionate other to manage something difficult?

Yes
No
Appendix O. Power calculation

One Session Intervention for Eating Disorder
Sample Size Calculations

The study will compare three groups with outcome measurements pre and post intervention.

The sample size/power calculations had to take account of multiple pairwise group testing and are based on using a one-way ANOVA model followed by pair-wise comparisons of 3 groups using a quasi Bonferroni correction for multiple testing, i.e. testing at the 2% rather than the usual 5% significance level.

The calculations are based on comparing between-subject means; this assumes that the outcome means are normally distributed. The effect size is defined as the difference in means divided by the common standard deviation.

The sample size/power calculations were performed using two-sided independent sample t-tests at 2% significant level and 80% power in nQuery Advisor 7.0.

<table>
<thead>
<tr>
<th>Number of Participants per Group</th>
<th>20</th>
<th>23</th>
<th>25</th>
<th>28</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect Size</td>
<td>1.039</td>
<td>0.964</td>
<td>0.922</td>
<td>0.869</td>
<td>0.838</td>
</tr>
</tbody>
</table>

For comparing 3 groups the study will have 80% power to detect an effect size of at least 0.922 with 25 participants in each group, thus 75 participants in total.

The power calculations for analyses of covariance (ANCOVA) apply the conventional 10:1 rule for number of participants to number of predictors.

With 75 participants the study will have reasonable power to detect differences for a maximum of 7 independent predictors in the model, which include group factor, and covariate of baseline measurement.