Compassion-Focused Therapy Techniques for Anger, Aggression and Personality Disorder

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Thesis declaration form

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signature:

Name: Iona Naismith

Date: 16th June 2016
Overview

This empirical paper is part of a joint project with another UCL DClinPsy trainee, Amanda Mwale. Her paper is entitled ‘Exploring barriers to generating compassionate imagery in individuals with a personality disorder: the role of the severity of adverse childhood experiences, self-compassion and affect’. An outline of each trainee’s contribution is given in Appendix One.

Part One of this volume is a literature review entitled ‘Self-Compassion and Self-Forgiveness Interventions for Anger and Aggression’. Self-compassion/forgiveness interventions for anger and aggression have been developed on the assumptions that aggression is often a response to shame, and that self-compassion/forgiveness is an effective way to reduce shame. However, no review has examined the empirical basis for these approaches. A systematic review identified nine papers exploring the relationship between anger, angry cognitions or aggression and self-compassion/forgiveness. Findings indicated that self-compassion and self-forgiveness are correlated with angry cognitions and aggression. However, experimental studies evaluating these approaches for populations with heightened aggression are needed in order to determine their efficacy.

Part Two of this volume is an empirical paper entitled ‘Barriers to compassionate imagery generation in personality disorder: intra- and interpersonal factors’. The study was designed to enhance the effectiveness of Compassion-Focused Therapy (CFT) for personality disorder (PD). It focuses specifically on the technique of compassion focused imagery (CFI), which many clients find challenging. Fifty-three clients with PD diagnoses completed measures of hypothesised barriers to compassionate imagery (such as self-criticism and mental imagery ability) before trialling CFI. Analysis involved correlation of outcomes of CFI with measures of
hypothesised barriers. Qualitative data on CFI experiences were also gathered through group discussions. Subsequently, the study evaluated the outcomes of one week of CFI practice.

Part Three of this volume is a critical appraisal, which reflects on strengths and learning points from the two papers above.
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Personal thanks to my mum and dad for proof-reads, homemade scones, and a lifetime of support and encouragement; to Theresa Schwaiger for mutual thesis support; and to Alejandro Leaño for wonderful company writing the thesis, cheerleading me through my final year of the DClinPsy, and inspiring my next steps.
Part 1: Literature Review

Self-Compassion and Self-Forgiveness Interventions for Anger and Aggression
**Aims:** Shame has been identified as a causal factor in many aggressive acts, but most current interventions for anger and aggression are not grounded in the evidence for the treatment of shame. Interventions that build self-compassion or self-forgiveness have been proposed for shame-based anger and aggression, but their effectiveness has not been established. This review therefore explores the relationship between self-compassion and self-forgiveness with anger and aggression.

**Method:** Medline, Psycinfo, Web of Science, and Cochrane were searched from inception to October 2015. Data were extracted that assessed the relationship between self-compassion or self-forgiveness, and anger, hostility, angry cognitions and aggressive behaviour.

**Results:** Nine studies met the inclusion criteria. Most were high-quality studies, but were correlational in design and did not use samples with heightened aggression or anger. Findings pointed towards a negative correlation between self-compassion and aggression and angry cognitions, but no correlation between self-compassion and angry affect.

**Conclusions:** Insufficient evidence exists to determine whether self-compassion can reduce shame-based anger and aggression. Empirical studies of the effectiveness of self-compassion interventions in samples with heightened anger and aggression are necessary to strengthen the growing evidence base and to clarify directional pathways between these domains.
Introduction

Aggression and violence can cause devastation for victims, perpetrators, and those around them. In addition, it is hugely costly for society through legal trials, incarceration and rehabilitation. Developing more effective interventions for anger and aggression therefore has great potential to benefit individuals, communities, and wider society. This paper explores the hypothesis that self-compassion and self-forgiveness interventions (which aim to reduce shame and self-criticism) may be an effective component of treatment for anger and aggression, based upon the conceptualisation that aggressive behaviour is often a response to high levels of shame.

Shame as a cause of anger and aggression

Gilligan (2003) states that “the basic psychological motive, or cause, of violent behaviour is the wish to ward off or eliminate the feeling of shame and humiliation”. Shame is commonly defined as feeling or believing ourselves to be defective or inadequate, or feeling and believing that others view us this way, which leads to a desire to escape and hide (Gilbert, 1998). It is theorized to be an adaptive evolutionary response to believing that we have made a social transgression that will lead us to be rejected from a social group on which our survival depends. Since shame can be triggered by negative evaluations from others or the self, it can lead us to experience both the internal (mental) and external worlds as hostile, persecuting, and unsafe.

Aggression involves physical or verbal responses intended to express anger, assert dominance, or intimidate others. Such behaviour can have devastating effects on victims, perpetrators, their families, and communities. A distinction is commonly made between instrumental aggression (using threat or force to achieve a goal, such as committing armed
robberies to acquire money) and expressive aggression (where the primary intent is to inflict harm on others and is not related to an instrumental goal) (Collins, 2008).

Drawing on clinical experience in forensic settings, Gilligan (2003) argues that even crimes that we would typically classify as instrumental violence are often triggered by a desire to reduce or avoid shame. However, this paper does not presume that all instances of violence are rooted in shame: certainly, anger (which underlies most or all expressive aggression) is not conceptualised by modern theories as being solely triggered by shame (Berkowitz & Harmon-Jones, 2004). Rather, it is theorised to be a response to aversive conditions such as physical pain or social stresses, which are interpreted in a certain way: (i) representing punishment or an obstacle to one’s goals; and (ii) believing that attack will be effective in eliminating the unpleasant situation or attaining the desired goal. The aversive conditions may represent a shame-based situation (believing ourselves to have made a social transgression and thus being defective or inadequate) but other triggers are possible. Thus, this paper is predicated on the assumption that shame does initiate many (but not all) episodes of violence and aggression.

Theorists have described shame as leading to two possible responses (Lewis, 1971; Tangney, Wagner, Fletcher, & Gramzow, 2001). Firstly, one may experience negative attributions of the self that are internal, stable and global, and accompanying unpleasant phenomenology such as depression and feelings of worthlessness; this has been labelled ‘expressed shame’. Secondly, one may repress shame and convert it into other forms such as anger or blaming others (‘converted shame’) in an attempt to preserve self-esteem – for example, by blaming others for one’s own shame-inducing
behaviours, one can shift hostility towards the self onto others, and relieve aversive feelings. This is detailed in figure 1.

**Figure 1: A hypothesised model of how shame leads to anger and hostility**

![Diagram showing the relationship between shame, stable negative self-attributions, and anger and hostility](image)

In support of this second process, many studies have shown that shame-prone individuals are more likely to feel anger and hostility, behave aggressively, and externalise blame (Hoglund & Nicholas, 1995; Tangney, Stuewig, Mashek, & Hastings, 2011; Tangney, Wagner, Fletcher, & Gramzow, 1991; Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996). Controlled studies have also shown that expression of anger and aggression increases if shame is situationally-induced (Bennett, Sullivan, & Lewis, 2005; Thomaes, Stegge, Olthof, Bushman, & Nezlek, 2011). Other studies have found that experiences of shame in therapy sessions are correlated with experiencing anger (Lewis, 1971; Retzinger, 1991).

In support of the model that postulates two responses to shame, Stuewig, Tangney, Heigel, Harty, and McCloskey (2010) studied diverse samples (from college students to prison inmates) and found there was no direct relationship between shame-proneness and aggressive behaviour, but that shame reliably led to aggressive behaviour when externalisation of blame occurred. Similarly, a study of adolescents incarcerated for violent crimes found a greater prevalence of violent delinquent behaviour in those who had low shame expression and high externalisation of blame, compared to those with high expressed shame and low blame-
externalisation (Gold, Sullivan, & Lewis, 2011), which supports the dual-process model of shame.

Gilligan (2003) argues that shame will be converted into violent behaviour under specific circumstances. Firstly, the experienced level of shame must feel overwhelming and intolerable. Secondly, the person has not developed tendencies for guilt or remorse which usually inhibit violent acts. Thirdly, the person’s sense of self-esteem is not robust enough to recover from the shaming incident through non-violent means (such as recalling that he/she has other strengths, or that others view him/her positively). Fourthly, he argues that a reliance on violence to maintain one’s reputation is more common in males due to societal gender roles.

Some studies have found contradictory evidence for the link between shame and violence. Owen and Fox (2011) found that violent and non-violent offenders did not differ significantly on levels of shame (Owen & Fox, 2011); whilst Farmer and Andrews (2009) found that shame and anger were not correlated in male young offenders and that young offenders reported lower levels of shame than undergraduate student controls. Owen and Fox (2011) theorized that the violent offending group may have under-reported or denied experiences of shame as a coping mechanism; however, Farmer and Andrews (2009) found that group differences in shame identified in their study could not be explained by levels of defensiveness, negating the idea that the offenders were more motivated to present a socially desirable self. An alternative explanation is that anger is such a successful means of regulating shame that it conceals any positive association between the two emotions, either because anger replaces shame quickly so it is never attended to; or because anger blocks the labelling of shame
so that the person experiences a negative emotion but cannot differentiate it from anger (Farmer & Andrews, 2009).

A series of case studies by Miller (1985) indicated that the relationship between shame and anger is bidirectional: we can also feel ashamed of our anger. It seems plausible that in many cases, a vicious cycle may be set up between anger and shame: for example, violent offenders may rely on aggression to reduce their shame, but then experience more shame about their subsequent aggressive acts.

*Self-compassion and self-forgiveness*

Self-compassion involves being kind and caring towards oneself when presented with suffering, failure or perceived inadequacy. Neff (2003b) has defined self-compassion as being composed of three main components: self-kindness, common humanity, and mindfulness. ‘Self-kindness’ involves being open to and moved by one’s own suffering, and being warm and non-judgemental toward oneself. ‘Common humanity’ means acknowledging that all humans experience suffering, failure, and inadequacies, and therefore that everyone (including oneself) deserves compassion in the face of these difficulties. This is important because self-kindness in the absence of common humanity could cause one to ignore the needs of others in order to prioritize one’s own. ‘Mindfulness’ describes a state of mind in which we acknowledge thoughts and feelings with acceptance and without judgement. This is important because avoiding or repressing painful feelings prevents one from feeling compassion for them; similarly, becoming absorbed in one’s own feelings leads to self-pity rather than self-compassion, and can increase the intensity of distress.

The concept of self-forgiveness is addressed in a largely separate body of psychological literature to that of self-compassion; with little reflection on their similarities and differences. Given that the concepts are closely related, and that both have been considered as
interventions for anger and aggression, we consider here its relation to self-compassion. It is hoped that a review of these two approaches in parallel will encourage those researching and using these approaches to consider the other and draw upon its strengths, since drawing from related fields can trigger greater understanding and innovation. To this end, it is important to consider whether self-forgiveness and self-compassion are sufficiently similar that they could play a similar role in reducing shame-based aggression.

Hall and Fincham (2005) define self-forgiveness as “a set of motivational changes whereby one becomes decreasingly motivated to avoid stimuli associated with the offense, decreasingly motivated to retaliate against the self (e.g., punish the self, engage in self-destructive behaviours, etc.), and increasingly motivated to act benevolently toward the self”.

The definitions of ‘Self-compassion’ and ‘Self-forgiveness’ both acknowledge the importance of the processes by which we arrive at this attitude towards the self, not simply the end-state itself. In the literature on self-forgiveness, a distinction has been made between genuine self-forgiveness (which requires accepting responsibility, expressing remorse, and behaving reparatively, and is often accompanied by guilt and regret) and pseudo self-forgiveness (where the individual deflects blame onto others or downplays the harm that they have caused) (Hall & Fincham, 2005, 2008; Tangney, Boone, & Dearing, 2005). Pseudo self-forgiveness is associated with reduced guilt and shame, lower empathic responsiveness, and increased externalisation of blame (Tangney et al., 2005).

Mirroring these ideas, Gilbert (2010a) emphasizes that genuine self-compassion is taking responsibility for one’s actions, not simply being kind to oneself. Gilbert (2010d)
states that “the compassionate way is to take responsibility and try to improve things as best we can by learning from, and building on, our mistakes”, which he labels “compassionate self-correction”. Similarly, Neff (2003) emphasizes that self-compassion must include being mindful of difficult feelings rather than avoiding or repressing them.

The commonly agreed definition of self-compassion includes the concept of ‘Common Humanity’ – recognizing that failure, suffering and inadequacies are an inevitable part of being human. Neff (2003b) argues that this is also an essential quality in self-forgiveness, and quotes the forgiveness researchers Enright, Freedman, and Rique (1998), who state that when we forgive, “we welcome the other into the human community; we see each other as equally worthy of respect” – that is, recognizing one’s failings or imperfections as being part of the human condition.

Neff (2003b) also states that “feeling compassion for oneself is similar to feeling forgiveness for oneself”. However, other theorists have claimed that a difference that distinguishes self-compassion is an affective feeling of warmth. Gilbert (2010b) states that “forgiveness doesn’t mean that you’ll ever like the person you’re forgiving”, whereas he identifies warmth as a key aspect of self-compassion. Worthington et al. (2005) argue that “people may sometimes forgive without feeling compassion for a transgressor”, although nevertheless “forgiveness comes far more readily when there is something in the situation that allows the victim to identify with the transgressor” and to feel compassion for them. The definition of self-forgiveness as detailed above requires that the person exercises self-kindness and is “increasingly motivated to act benevolently toward the self” (Hall & Fincham, 2005), but does not go so far as demanding an affective quality of warmth.

These ideas are summarized in Table 1.
Table 1: A comparison of self-compassion and self-forgiveness

<table>
<thead>
<tr>
<th>Qualities of Self-compassion</th>
<th>Qualities of Self-forgiveness</th>
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<tbody>
<tr>
<td>Self-kindness</td>
<td>Motivated to treat oneself more benevolently and with less punishment</td>
</tr>
<tr>
<td>Taking responsibility for one’s actions</td>
<td>Taking responsibility for one’s actions</td>
</tr>
<tr>
<td>Mindful of difficult feelings (not avoiding or repressing them)</td>
<td>Decreasingly motivated to avoid stimuli associated with the offence</td>
</tr>
<tr>
<td>Warmth</td>
<td>No corresponding quality</td>
</tr>
<tr>
<td>Common humanity</td>
<td>Common humanity</td>
</tr>
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</table>

Although the concepts of self-forgiveness and self-compassion are slightly distinct, this paper argues that the two are sufficiently similar that it is worthwhile considering them both in the same review. In other words, we believe that self-forgiveness is sufficiently similar to self-compassion that both could reduce shame-based aggression by the same process. Nonetheless, all studies in this review are clearly labelled as either self-compassion or self-forgiveness studies, so that the concepts are not conflated for readers.

A second consideration is that although the two concepts have similar definitions, since self-compassion and self-forgiveness interventions have been developed quite separately, they may vary in the processes they change and thus the outcomes that they produce (in the same way that CBT and psychodynamic therapy for depression target the same problem through different processes, and thus may vary in efficacy). The two therapies are therefore described and contrasted below.

**Self-forgiveness and self-compassion interventions**

Gilbert (2010c) developed Compassion-Focused Therapy (CFT) to treat shame and self-criticism. CFT builds on standard cognitive-behavioural therapy (CBT) by helping patients to regulate negative emotions using the positive emotion of self-compassion, rather than simply
relying on cognitive or behavioural strategies. Initially developed for treatment-resistant depression, it has developed into a trans-diagnostic approach which can be integrated into individualised CBT, or (more commonly) offered as short-term group therapy. CFT includes psychoeducation about the importance of self-compassion, consideration of the challenges of developing self-compassion, and practicing techniques to generate self-compassionate feelings. Many of the techniques are derived from Buddhist practices, such as loving-kindness meditation (spending time focusing on positive feelings for the self and others), which can also be found in mindfulness interventions.

Although there are no commonly-accepted guidelines or manual for self-forgiveness interventions, Cornish and Wade (2015) propose a therapeutic model of self-forgiveness based on techniques from empirically-supported interventions to promote interpersonal forgiveness (e.g. Greenberg, Warwar, & Malcolm, 2008; Worthington, 2001). This focuses on 4-components: responsibility, remorse, restoration and renewal. Clients should be supported to take (appropriate) responsibility for their actions through therapists providing a safe, accepting environment that reduces client defensiveness (Fisher & Exline, 2006). Secondly, shame-based (global) responses are transformed to remorse-based (offense-specific) emotional responses such as guilt and regret. This is achieved through psychoeducation about the differences between shame and guilt and the negative consequences of self-condemnation; therapists modelling unconditional positive regard for clients; and self-compassion skill development.

Restoration involves taking action to repair damage caused (e.g. apologising to the victim) and recommitment to the values violated by the offense (e.g. drawing out and strengthening the client’s values that were violated by the offence, and setting boundaries for behaviours that led to the offence). Finally, renewal involves generation of self-compassion (for example, acknowledging the difficulties of living up to one’s values, or that one could not have fully
known the negative consequences of the offence; and focusing on the clients’ efforts and lessons learnt since the offence).

In sum, the two therapies focus on similar processes that include: psychoeducation about the benefits of guilt (condemnation of one’s actions) as opposed to shame (self-condemnation); unconditional positive regard from therapist; support to take responsibility for one’s behaviour; and acknowledging other contextual factors that contributed to the offence and the fact that failings and imperfection are part of the human condition. Self-forgiveness interventions may focus more on restoration and recommitment to values, whilst self-compassion interventions have unique elements such as mindfulness development; particular techniques to generate compassionate affect (e.g. compassion focused imagery); and drawing on neuropsychology and evolutionary perspectives to emphasize that inadequacies and failings are part of being human. However, as outlined here, the end-goal and many of the techniques are very similar and can justifiably be considered together.

**Self-compassion, self-forgiveness and shame**

A key aim of CFT is to reduce a sense of shame in participants and increase a sense of safeness (Gilbert & Procter, 2006). CFT is grounded in evidence that generating feelings of warmth and affection towards ourselves reduces feelings of threat, through the same processes that are triggered by genuine signals of warmth or affection from others (Gilbert & Procter, 2006).

CFT has been shown to significantly reduce shame in a chronic day hospital population (Gilbert & Procter, 2006). This same study also found reductions in self-criticism, depression and anxiety. Johnson and O'Brien (2013) found that in shame-prone students, the use of brief self-compassion interventions was more effective at reducing shame than control conditions (no task, or a task involving expressing one’s
feelings). More generally, higher self-compassion has been linked with a range of indicators of psychological wellbeing, including lower self-criticism, depression, anxiety and rumination; and higher social connectedness and emotional intelligence (Johnson & O'Brien, 2013; Neff, 2003a).

Self-forgiveness has also been shown to correlate negatively with shame (Fisher & Exline, 2006; Strelan, 2007; Webb, Robinson, Brower, & Zucker, 2006). Several empirical studies examined the impact of self-forgiveness interventions on shame and related concepts. Scherer, Worthington, Hook, and Campana (2011) found that a 4-hour self-forgiveness intervention for alcohol abusers led to significantly increased self-forgiveness and significantly lower shame (although the study suffered from a high rate of attrition). Griffin et al. (2015) found that a six-hour self-help intervention centred around self-forgiveness for interpersonal offences was effective in increasing self-forgiveness and reducing self-condemnation, both associated with shame.

_Self-compassion and self-forgiveness interventions for anger and aggression_

Given the evidence that shame underlies much aggressive behaviour, many theorists have recommended that clinical interventions on violence target the reduction of shame (Gold et al., 2011; Hosser, Windzio, & Greve, 2008). However, most typical treatments for aggression and anger do not target shame to create change. The National Institute for Health and Clinical Excellence (NICE, 2009) guidelines for Antisocial personality disorder (ASPD) recommends group-based cognitive and behavioural interventions to address problems such as impulsivity, interpersonal difficulties and antisocial behaviour. In line with this, a review by McGuire (2008) states that “the most consistent outcome effects are for a collection of methods derived from the cognitive social learning model (behavioural, cognitive, interpersonal and problem-solving training methods)”, although he notes the need for better controlled outcome studies to
determine which interventions are superior. Common CBT-based interventions for aggression and violence include the anger management program developed by Novaco (1975, 1997) (helping clients to understand the relationship between angry affect, cognition and behaviour and to develop alternate responses); the cognitive model of offender rehabilitation by Ross and Fabiano (1985) which draws on social learning theory and teaches cognitive skills; and the Violence Prevention Programme which includes behavioural and cognitive change techniques, arousal management, and empathy enhancement (Cortoni, Nunes, & Latendresse, 2006).

Although some of these programmes acknowledge shame as a trigger to violence, they do not directly address it. Many interventions for violence and aggression have focused on boosting self-esteem, based on the premise that violence is used to bolster self-esteem and thus avoid shame (Kusche & Greenberg, 2012; Ringwalt, Graham, Paschall, Flewelling, & Browne, 1996). For example, Novaco (1975) cites self-esteem as the second of nine key targets for successful anger management. However, researchers have argued that increasing self-esteem may unintentionally have negative consequences, since instances of shame are likely to increase in frequency if one develops a self-view that is falsely inflated since it will be more often challenged by external evaluations (Baumeister, Smart, & Boden, 1996). Indeed, Thomaes et al. (2011) found that adolescents responded to shaming incidents with higher aggression when their self-esteem was higher.

More generally, CBT aims to increase client awareness of unhelpful thought processes and to change these through cognitive strategies; thus, if they do bring in the concept of shame, it is likely to be in the form of changing shame-based cognitions.

An alternative route to reducing aggression via reduction of shame is through compassion-focused therapy (CFT), which focuses on regulating shame through
emotional strategies rather than cognitive strategies. Thus, CFT focuses on strengthening positive emotion systems which can inhibit threat-based emotions such as shame. CFT aims to replace feelings of shame about one’s actions with guilt: in other words, a transition from evaluating oneself negatively to evaluating one’s actions negatively. Guilt tends to trigger reparative behaviours, empathy and responsibility taking (Tangney et al., 2011).

Based on these principles, Compassion-Focused Therapy was adapted into a 12-session group therapy for problematic anger, called the ‘True-Strength Program’, which includes teaching in mindfulness meditation, thought defusion, and development of compassion for self and others (Kolts, 2013). However, no findings have yet been published regarding its outcomes. In relation to this review, it is also important to emphasize that evidence of positive outcomes for this programme would not necessarily imply that the change in anger or aggression is mediated by self-compassion (as opposed to other modules, including compassion for others). In general, current evidence for the impact of self-compassion on interpersonal outcomes (as opposed to intrapersonal) is limited (Neff & Beretvas, 2013).

Literature on self-forgiveness mirrors that of self-compassion: despite a theoretical model for self-forgiveness based treatments for aggression (Day, Gerace, Wilson, & Howells, 2008) and clinical guidelines for cultivating self-forgiveness in interpersonal offenders (Cornish & Wade, 2015), there is a limited evidence-base. Few studies have investigated the effects of cultivating self-forgiveness in interpersonal offenders (Woodyatt & Wenzel, 2013b, 2014), and these have examined outcomes such as reconciliation with victims, rather than levels of anger and aggression.

Most of the literature on self-compassion or self-forgiveness for aggression is predicated on a model that identifies shame as the mediating factor in this relationship. However, other mediators have been hypothesised in this relationship: for example, social connectedness and
self-control are significant risk factors for aggression and are both positively correlated with self-compassion (Morley, 2015). Self-compassion might work to reduce aggression through any of these pathways, or several simultaneously.

It is important to note that lower forgiveness, empathy or compassion for others is well established in the literature as an important factor in reducing aggression (Eaton & Struthers, 2006; Kaukiainen et al., 1999; Strayer & Roberts, 2004); however, this review is confined to exploring the relationship between aggression and compassion or forgiveness for the self.

The literature has fairly consistently indicated a link between trait anger or aggression and self-forgiveness (Macaskill, 2012; Rohde-Brown & Rudestam, 2011; Ross, Hertenstein, & Wrobel, 2007). This poses a challenge when trying to establish whether self-compassion or self-forgiveness interventions might have a positive effect on anger or aggression, because we cannot rely with certainty on correlational evidence to establish the existence of such a model. A correlation between the two domains of interest could reflect that self-compassion reduces state anger or aggressive behaviour, but it could also simply indicate that trait anger predicts both state anger or aggression and self-compassion or self-forgiveness. Thus, as for any theoretical model, studies using longitudinal or experimental designs would therefore be more informative.

Description and aims of the present review:
This systematic review examines how self-compassion and self-forgiveness are related to aggression, anger and hostility. Some researchers have defined ‘hostility’ as a trait variable, involving a tendency to feel anger to others or wish harm on others (del Barrio, Aluja, & Spielberger, 2004; Smith, 1992); which is conceptually distinct from the affective state of anger with which this study is concerned. However, hostility was included as a search term because
the literature also uses this as an umbrella term referring to thoughts, feelings, or actions characteristic of the affective state of anger. For example, the Hostility subscale of the SCL-90-R (Derogatis & Savitz, 2000) asks participants to rate distress they have experienced in the past seven days from anger-related symptoms of psychopathology (e.g. “Temper outbursts that you could not control”). In order to avoid conflating trait and state variables, studies measuring hostility were only included in the present review if the measure was designed to measure an affect state. For brevity, this report at times refers to the ‘aggression domain’ (hostility, anger, and aggression).

In this review, studies are included that: (i) examine the correlations between self-compassion or self-forgiveness and anger, hostility, anger-related cognitions, and aggression; and (ii) examine changes in these same variables following self-compassion or self-forgiveness interventions. Studies investigating associations between self-compassion/forgiveness and trait anger are excluded from this review because they do not inform the question regarding whether these interventions can reduce aggression.

**Method**

**Eligibility Criteria**

Studies were eligible for inclusion if they:

i. Used a quantitative measure of self-compassion or self-forgiveness

ii. Used a reliable and valid measure of aggressive behaviour, state anger or hostility, or anger-related cognitions (measures of the ‘aggression domain’).

iii. Examined the bivariate association between self-compassion/forgiveness and the aggression domain

iv. Were published in English.

v. Were published in peer reviewed journals.
No restrictions on clinical group were imposed.

Data sources and search strategy

A comprehensive search of PsycInfo, Medline, Web of Science and the Cochrane Library was carried out using a combination of keyword searches and Medical Subject Headings (MeSH). The search was performed in October 2015.

The MeSH terms and keyword searches included:

1. self-compassion; self-forgiv*

2. anger; aggress* (for aggression, etc.); hostil* (for hostility, etc.); violen* (for violence, etc.); offend* (for offending, etc.); conflict; interpersonal; reconcil* (for reconciliation, etc.)

Additionally, the reference lists of all relevant papers were searched.

Study selection

The author screened titles and abstracts for inclusion, and then accessed full texts and assessed them for eligibility. If full text versions of articles were not available, authors were contacted directly by e-mail. Queries about the inclusion of specific studies were discussed with a supervisor.

After removal of duplicates, the search strategy yielded a total of 228 papers. A diagram of the study selection process is given in Figure 2.
Nine papers were excluded due to being in a foreign language; 55 as they were reviews or theoretical papers; 33 because they did not include a measure of self-compassion/forgiveness; 105 because they did not measure the aggression domain; 11 because they did not analyse the relationship between these two domains; four because they were unpublished dissertations; and two for using the same data as another study included in this review. The remaining nine studies are included in the present review.
Data extraction

From each paper, the following data were extracted: study design, sample size, socio-demographic/clinical characteristics, measurement scales of self-compassion/forgiveness and of the aggression domain, and measures of association between self-compassion/forgiveness and the aggression domain.

Results

Sample Characteristics

Nine studies met the inclusion criteria for the review; eight quantitative and one qualitative. The key features and findings of the included studies are shown in Table 2.
### Table 2: Design and main findings of studies identified by the review

Key: ARI = Autonomy and Relatedness Inventory; CTS-2 = Revised Conflict Tactic Scale; HFS = Heartland Forgiveness Scale; IBM = Intimate Bond Measure; PCS = Peer Conflict Scale; SCL-90-R = Symptom Checklist-90-Revision; SCS = Self Compassion Scale; STAXI–2= State-Trait Anger Expression Inventory-2. ‘SF’ stands for self-forgiveness and ‘SC’ for self-compassion.

<table>
<thead>
<tr>
<th>Reference</th>
<th>N</th>
<th>Sample</th>
<th>Measure of self-compassion domain</th>
<th>Measure of Aggression domain (Domain measured)</th>
<th>Major findings</th>
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<tbody>
<tr>
<td>Barber, Maltby, and Macaskill</td>
<td>200</td>
<td>Community sample of students (45.5% male, 88.5% Caucasian, mean age 21.29 years)</td>
<td>6 items from HFS</td>
<td>Anger Ruminiation Scale (cognition)</td>
<td>SF was negatively correlated with 3 of the 4 subscales of the Anger ruminination scale: Angry after-thoughts $(r = -.24, p &lt; .006)$, Thoughts of revenge $(r = -.25, p &lt; .006)$, and Angry memories$(r = -.40, p &lt; .006)$; but not Understanding causes $(r = -.12)$.</td>
</tr>
<tr>
<td>Barry, Loflin, and Doucette</td>
<td>105</td>
<td>Male adolescent school drop-outs (mean age 16.8 years, 62.5% Caucasian, 29.1% African-American)</td>
<td>SCS</td>
<td>PCS (behaviour)</td>
<td>SC demonstrated significant negative correlations with reactive aggression $(r = -.24, p &lt; .05)$ and proactive aggression $(r = -.20, p &lt; .05)$.</td>
</tr>
<tr>
<td>Keng, Smoski, Robins, Ekblad, and Brantley</td>
<td>56</td>
<td>Community sample of adults (16% male, 91% Caucasian, mean age 46.25 years). Treatment group n = SCS</td>
<td>The Spielberger Anger Expression Scale (affect and behaviour)</td>
<td>Pre-intervention, higher self-compassion was significantly correlated with lower suppression of anger $(r = -.60, p &lt; .01)$, but not with aggressive behaviour $(r = -.10)$.</td>
<td></td>
</tr>
</tbody>
</table>
Participants who completed a mindfulness intervention (including loving-kindness meditation) demonstrated a significantly greater increase in self-compassion from pre- to post-intervention ($\beta = .36, p = .006, f^2 = .24$), and greater decreases in anger suppression ($\beta = -.39, p = .001, f^2 = .36$) and aggressive behaviour ($\beta = -.28, p = .005, f^2 = .24$), compared to wait-list controls. However, changes in self-compassion did not mediate the changes in aggressive anger expression or suppression of anger from pre to post-intervention.

Lee and Bang (2010)

<table>
<thead>
<tr>
<th>60</th>
<th>Women who reported depressed mood (n = 30, mean age 41.46 years), and controls (n = 30, mean age 40.36 years)</th>
<th>SCS</th>
<th>Hostility subscale of SCL-90-R (affect)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Clients in an 8-session self-compassion and mindfulness group (including weekly Loving Kindness Meditation practice) showed greater reduction in hostility than waitlist controls ($F(1,58) = 34.11, p < .01, \eta^2 = 0.608$) and greater increases in self-compassion than controls ($F(1, 58) = 47.78, p < 0.01, \eta^2 = 0.672$).

Liao, Kashubeck-West, Weng, and Deitz (2015)

<table>
<thead>
<tr>
<th>265</th>
<th>Community sample of non-heterosexual adults (37% male, 79% Caucasian, mean age 34.31 years)</th>
<th>SCS</th>
<th>Anger Rumination Scale (cognition)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Anger rumination and self-compassion were significantly correlated ($r = 0.52, p < .01$). Each subscale of the ARS was correlated with each subscale of the SCS at $p < .01$ (correlations ranged from $r = .43$ to $r = .49$).

Neff and Beretvas (2013)

<table>
<thead>
<tr>
<th>208</th>
<th>Heterosexual adults in long-term relationships (mean age 26.9 years, 82% caucasian)</th>
<th>SCS</th>
<th>IBM; ARI; CTS-2 (behaviour)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SC was negatively correlated with partner’s perceptions of domineering behavior ($r = -0.38, p < .05$), controlling behaviour ($r = -0.26, p < .05$) and verbal aggression ($r = -0.46, p < .05$). After controlling for self-esteem, the associations remained
significant between SC and domineering behavior and verbal aggression, although not between SC and controlling behaviour.

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measures</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neff and Vonk (2009) [Study 1]</td>
<td>Community sample of adults, 26% male, mean age 38.6 years</td>
<td>SCS</td>
<td>18 items of Anger Response Inventory (affect)</td>
</tr>
<tr>
<td>Rohde-Brown and Rudestam (2011)</td>
<td>Community sample of adults recently separated. [Main demographics not reported]</td>
<td>SFS (Adapted to capture current and retrospective feelings /beliefs)</td>
<td>STAXI–2 (affect)</td>
</tr>
<tr>
<td>Zechmeister and Romero (2002)</td>
<td>Community sample of adults (39.3% male, 72.1% Caucasian, mean age 27.7 years).</td>
<td>Single item regarding self-forgiveness about an interpersonal offence.</td>
<td>Narrative analysis for affective responses (affect)</td>
</tr>
</tbody>
</table>
Quality of Included Studies

The quality of studies included in this review was analysed using quality assessment checklists for qualitative and quantitative studies (Kmet, Lee, & Cook, 2004). The checklists were used to assess studies on a set of criteria, providing a maximum possible score of 28. This maximum is lowered when one or more criteria are not applicable. Thus, the two randomized controlled trials (RCTs) in this review could each attain a maximum possible score of 26 (they were not rated in relation to blinding of subjects, since this cannot be done with therapy interventions). The six cross-sectional studies in this review could each attain a maximum possible score of 20, since they could not be rated for blinding of subjects and of investigators, random allocation, and controlling for confounding between conditions.

In order to improve reliability, 3 of the 9 papers (33%) were rated by a second coder. Discrepancies were resolved through discussion between coders, and the scores presented in this paper are final agreed scores. Inter-rater agreement for individual scores was 66%, with Cohen’s Kappa indicating that inter-rater reliability was fair and not significantly higher than chance level (κ = .277, p = .074). However, all discrepancies were only of 1 point, and discrepancies between maximum quality ratings of studies were 1 point at most.

Following the checklist guidelines, summary scores were calculated for each study by dividing total score attained by the maximum score possible. Whilst no definitive cut-points are given by Kmet et al. (2004), they suggest that a cut-point of < 0.75 for inclusion in a systematic review would be conservative, whilst a cut point of <.55 would be relatively liberal. Six of the nine studies attained a summary score of 0.80 or more (with many scoring very highly). The other studies attained scores of 0.73 (Lee & Bang, 2010), 0.70 (Zechmeister & Romero, 2002) and 0.70 (Rohde-Brown & Rudestam, 2011).
A detailed explanation of the studies’ methodological strengths and limitations along with their summary scores are given in Table 3 (quantitative studies) and Table 4 (the qualitative study).
### Table 3: Quality evaluation of quantitative studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Criterion of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Question / objective sufficiently described?</td>
</tr>
<tr>
<td>Barber et al. (2005)</td>
<td>(2). To explore which dimensions of anger rumination best predict scores in forgiveness of self and others.</td>
</tr>
<tr>
<td>Barry et al.</td>
<td>(2). To explore the relationship between</td>
</tr>
</tbody>
</table>

Key: ARI = Autonomy and Relatedness Inventory; CTS-2 = Revised Conflict Tactic Scale; HFS = Heartland Forgiveness Scale; IBM = Intimate Bond Measure; PCS = Peer Conflict Scale; SCL-90-R = Symptom Checklist-90-Revision; SCS = Self Compassion Scale; STAXI-2= State-Trait Anger Expression Inventory-2. ‘SF’ stands for self-forgiveness and ‘SC’ for self-compassion.

Criteria met: YES (2), PARTIAL (1), NO (0), N/A (not scored)
<table>
<thead>
<tr>
<th>Year</th>
<th>Study Title</th>
<th>Objective</th>
<th>Methodology</th>
<th>Participants</th>
<th>Randomisation/Intervention</th>
<th>Blinding</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
<td>narcissism and self-compassion, as well as the potential mitigating role of self-compassion in the connection between narcissism and aggression or internalizing problems</td>
<td>for the study hypothesis (although limited in scope for present review’s aims).</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(prevalence of aggression likely to be high, but results may not generalize to wider population) Possible sampling bias: due to skew in PCS scores, four outliers (&gt;3 above the sample mean) were excluded. These represented those with the highest rates of aggression.</td>
<td></td>
<td>(prevalence of aggression likely to be high, but results may not generalize to wider population) Possible sampling bias: due to skew in PCS scores, four outliers (&gt;3 above the sample mean) were excluded. These represented those with the highest rates of aggression.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keng et al. (2012)</td>
<td>To examine whether to mindfulness and self-compassion mediate the effects of mindfulness-based stress reduction on variables including worry, anger suppression and anger expression</td>
<td>(2). RCT (mindfulness and self-compassion group vs. waitlist controls)</td>
<td>(1). Sample 84% female so findings may not generalize well to men, which has a higher prevalence of anger and aggression problems.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(2). See Table 2.</td>
<td></td>
<td>(2). See Table 2.</td>
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<tr>
<td></td>
<td>(2). Randomisation process and intervention clearly described in a previous paper.</td>
<td></td>
<td>(0). Not done or not reported.</td>
<td></td>
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<tr>
<td></td>
<td>N/A. Participants were blinded to condition during baseline assessments; but could not be blinded during/after intervention.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Study Goals</td>
<td>Methodology</td>
<td>Sample Characteristics</td>
<td>Findings and Observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lee and Bang (2010)</td>
<td>(2). To examine whether group MBCT with self-compassion enhancement would reduce psychological symptoms and negative affect, and enhance psychological well-being and positive affect.</td>
<td>(2). RCT. (8-week group with weekly loving kindness meditation vs. waitlist controls)</td>
<td>(1). Sample all female so findings may not generalize well to men, which has a higher prevalence of anger and aggression problems.</td>
<td>(2). See Table 2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liao et al. (2015)</td>
<td>(2). To explore whether expectations of rejection, anger rumination or self-compassion might mediate the relationship from perceived discrimination to distress in sexual minority individuals; and to explore associations among hypothesized mediators</td>
<td>(2). Cross-sectional. This is appropriate for the study hypothesis (although limited in scope for present review).</td>
<td>(2). Sample all sexual minority males. This is appropriate for this study’s aims.</td>
<td>(2). See Table 2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neff and Beretvas</td>
<td>(2). To explore whether being self-compassionate is linked to healthier romantic-relationship</td>
<td>(2). Cross-sectional. This is appropriate for the study hypothesis (although limited in scope for</td>
<td>(2). Heterosexual adults in long-term relationships. This is appropriate for this study’s aims.</td>
<td>(2). See Table 2.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N/A. It is not possible to blind subjects for therapy interventions.
<table>
<thead>
<tr>
<th>Year</th>
<th>Authors</th>
<th>Study's Aims</th>
<th>Methodology</th>
<th>Sample Characteristics</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Neff and Vonk [Study 1]</td>
<td>To investigate how self-compassion and global self-esteem are related to ego-focused reactivity and positive mood states.</td>
<td>Cross-sectional.  This is appropriate for the study hypothesis (although limited in scope for present review).</td>
<td>Sample relatively representative of general population.</td>
<td>(2). See Table 2.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2011</td>
<td>Rohde-Brown and Rudestam</td>
<td>To examine the role of forgiveness and affect in relation to divorce adjustment</td>
<td>Cross-sectional.  This is appropriate for the study hypothesis (although limited in scope for present review).</td>
<td>Sample recruited from a range of settings.</td>
<td>(0). Demographics not reported.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Table 3 (cont.): Quality evaluation of quantitative studies

Key: ARI = Autonomy and Relatedness Inventory; CTS-2 = Revised Conflict Tactic Scale; HFS = Heartland Forgiveness Scale; IBM = Intimate Bond Measure; PCS = Peer Conflict Scale; SCL-90-R = Symptom Checklist-90-Revision; SCS = Self Compassion Scale; STAXI–2= State-Trait Anger Expression Inventory-2. ‘SF’ stands for self-forgiveness and ‘SC’ for self-compassion.

Criteria met: YES (2), PARTIAL (1), NO (0), N/A (not scored)

<table>
<thead>
<tr>
<th>Study</th>
<th>Criterion of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?</td>
</tr>
<tr>
<td></td>
<td>10. Analytic methods described /justified and appropriate?</td>
</tr>
<tr>
<td></td>
<td>11. Some estimate of variance is reported for the main results?</td>
</tr>
<tr>
<td></td>
<td>12. Controlled for confounding?</td>
</tr>
<tr>
<td></td>
<td>13. Results reported in sufficient detail?</td>
</tr>
<tr>
<td></td>
<td>14. Conclusions supported by the results?</td>
</tr>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Barber et al. (2005)</td>
<td>(2).The HFS has good internal reliability ($\alpha = .87$) and good validity (Yamhure-Thompson &amp; Snyder, 2003)</td>
</tr>
<tr>
<td></td>
<td>The self-report Anger Rumination Scale has adequate reliability and validity with a Cronbach's alpha of .93 for the full scale and reliabilities ranging from .72 to .86 for the subscales (Sukhodolsky, Golub, &amp; Cromwell, 2001).</td>
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<tr>
<td></td>
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</tr>
<tr>
<td><strong>Barry et al. (2015)</strong></td>
<td>was sufficient.</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td>The self-report PCS (Marsee et al., 2011) assesses reactive and proactive aggression. In this study both had good internal reliability ($\alpha = .88$; .94). However, scores were positively skewed which may indicate socially desirable response patterns. Scores were also lower than those in other studies with comparable samples.</td>
<td>(2). Statistically significant results were achieved for major outcomes, implying that sample size was sufficient.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Keng et al. (2012)</strong></th>
<th>(2). The SCS has good psychometric properties (described above).</th>
<th>(2). Statistically significant results were achieved for major outcomes, implying that sample size was sufficient.</th>
<th>(1). Control group matched on demographics. Possible confounds include aspects of intervention that did not focus on self-</th>
<th>(2). Yes</th>
<th>0.85</th>
</tr>
</thead>
<tbody>
<tr>
<td>The self-report Spielberger Anger Expression Scale (Knight, Chisholm, Pauling, &amp; Waal-Manning, 1988) includes two subscales; Anger-Out (aggressive behaviour) and Anger-In (inhibition of anger). Both have high internal reliabilities ($\alpha = .70$; $\alpha = .73$).</td>
<td>(2). Holm’s procedure used to reduce risk of Type 1 error from multiple testing</td>
<td>(2). S.E. and 95% confidence intervals provided for all findings.</td>
<td>(2). Yes</td>
<td>(2). Yes</td>
<td>0.85</td>
</tr>
<tr>
<td>Study</td>
<td>Remarks</td>
<td>Methodological Considerations</td>
<td>Overall Considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Lee and Bang (2010) | 1. Korean version of the SCS. Korean version of the self-report SCL-90-R (Kim, Kim, & Won, 1984). The SCL-90-R’s hostility subscale has 6 items, which produce good internal consistency and test-retest reliability. However, the construct validity of the SCL-90-R has been criticised and some studies indicate it is more appropriate as a unifactorial measure of psychological distress (Cyr, McKenna-Foley, & Peacock, 1985).  
2. Statistically significant results were achieved for major outcomes, implying that sample size was sufficient.  
2. Good: used a Bonferroni correction to control for Type 1 error inflation  
0. Not provided.  
1. Control group matched on education, age, & marital status. Possible confounds include aspects of intervention that did not focus on self-compassion, & general effects of being in a group. | (2). Statistically significant results were achieved for major outcomes, implying that sample size was sufficient.  
(2). Good: used a Bonferroni correction to control for Type 1 error inflation  
(0). Not provided.  
(1). Control group matched on education, age, & marital status. Possible confounds include aspects of intervention that did not focus on self-compassion, & general effects of being in a group. | (2). Presence of a control group  
(2). Good: used a Bonferroni correction to control for Type 1 error inflation  
(0). Not provided.  
(1). Control group matched on education, age, & marital status. Possible confounds include aspects of intervention that did not focus on self-compassion, & general effects of being in a group. |
| Liao et al. (2015) | 2. SCS has good psychometric properties (see above).  
The self-report Anger Rumination Scale has good psychometric properties (see above). In this study, the Cronbach’s alpha was .94.  
2. Statistically significant results were achieved for major outcomes, implying that sample size was sufficient.  
2. Analyses seem appropriate for study design and aims.  
1. Standard errors provided for model developed with | (2). Analyses seem appropriate for study design and aims.  
(1). Standard errors provided for model developed with  
N/A – cross-sectional study  
(2). Yes  
(2). Yes | (2). Analyses seem appropriate for study design and aims.  
(1). Standard errors provided for model developed with  
N/A – cross-sectional study  
(2). Yes  
(2). Yes |
<p>| <strong>Neff and Beretvas (2013)</strong> | (2). SCS has good psychometric properties (see above). Partner’s ratings of behaviour using the IBM; ARI; and CTS-2 were used to measure the aggression domain (all designed to be completed by partners). The ‘Psychological Aggression’ subscale of the CTS-2 was used (Straus &amp; Gelles, 1990), which measures the use of emotionally injurious behaviours. It has acceptable reliability ($\alpha=.76$). The ARI and IBM each have various subscales measuring aspects of relational behaviour; their ‘Dominance’ and ‘Control’ subscales respectively were deemed relevant for this report. Neff and Beretvas (2013) found moderate to high internal consistency for Control on the IBM ($\alpha=.90$), Dominance on the ARI ($\alpha=.71$); and the CTS-2 ($\alpha=.69$). | implying that sample size was sufficient. | structural equation modelling, but not for other findings. | (2). Statistically significant results were achieved for major outcomes, implying that sample size was sufficient. | (1). Risk of Type 1 error due to multiple regression analyses (16 in total) | (2). Standard errors given for all analyses, including whether self-compassion predicts perceived relationship behaviours. | N/A – cross-sectional study | (2).Yes | (2).Yes | 0.95 |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Description</th>
<th>Psychometric Properties</th>
<th>Sample Size</th>
<th>Power Analysis</th>
<th>Type of Study</th>
<th>Correction</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neff and Vonk (2009) [Study 1]</td>
<td>SCS has good psychometric properties (see above). The Anger Response Inventory is a self-report measure of anger. It has good internal consistency (α=.82) and high construct validity (Tangney et al., 1996).</td>
<td>Very large sample size. Statistically significant results were achieved for major outcomes, implying that sample size was sufficient.</td>
<td>Not reported.</td>
<td>N/A – cross-sectional study</td>
<td>Yes</td>
<td>Yes</td>
<td>0.95</td>
</tr>
<tr>
<td>Rohde-Brown and Rudestam (2011)</td>
<td>The SFS measure feelings and beliefs of self-forgiveness. This study found high internal consistency for both (α = .86 and .81). This study also used the original version but also a non-validated version which asked retrospectively about self-forgiveness at the time of separation. The STAXI-2 (Spielberger, 1999) measures state and trait anger. The main scale and subscales have moderate to high internal consistency, high face validity, and high construct validity with other measures of anger or hostility.</td>
<td>N = 91. Power analysis indicated that this is sufficient for identifying a moderate effect.</td>
<td>No correction applied to reduce risk of Type 1 error inflation from multiple testing</td>
<td>N/A – cross-sectional study</td>
<td>Yes</td>
<td>Yes</td>
<td>0.70</td>
</tr>
</tbody>
</table>
Table 4: Quality evaluation of qualitative studies

‘SF’ stands for self-forgiveness and ‘SC’ for self-compassion.

Criteria met: YES (2), PARTIAL (1), NO (0), N/A (not scored)

<table>
<thead>
<tr>
<th>Study</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zechmeister and Romero (2002)</td>
<td>1. Question /objective sufficiently described?</td>
</tr>
<tr>
<td></td>
<td>2. Study design evident and appropriate?</td>
</tr>
<tr>
<td></td>
<td>3. Context for the study clear?</td>
</tr>
<tr>
<td></td>
<td>4. Connection to a theoretical framework / wider body of knowledge?</td>
</tr>
<tr>
<td></td>
<td>5. Sampling strategy described, relevant and justified?</td>
</tr>
<tr>
<td>(2) To examine differential</td>
<td>(2) Use of narrative method is described and justified.</td>
</tr>
<tr>
<td>attributions made by offenders</td>
<td>Participants narrated an interpersonal offence and stated whether they</td>
</tr>
<tr>
<td>and victims. To identify the</td>
<td>had forgiven themselves.</td>
</tr>
<tr>
<td>effect of forgiveness on</td>
<td></td>
</tr>
<tr>
<td>these attributions.</td>
<td></td>
</tr>
<tr>
<td>(2). The context is adequately</td>
<td>(2). Self-forgiveness literature is described clearly.</td>
</tr>
<tr>
<td>described.</td>
<td></td>
</tr>
<tr>
<td>(1). Findings may not generalize</td>
<td>(1). Findings may not generalize to general population as predominantly a</td>
</tr>
<tr>
<td>to general population as</td>
<td>student sample. Large sample size for a qualitative study.</td>
</tr>
<tr>
<td>predominantly a student sample.</td>
<td></td>
</tr>
<tr>
<td>(6). Data collection methods</td>
<td>(7). Data analysis clearly described and systematic?</td>
</tr>
<tr>
<td>methods clearly described and</td>
<td></td>
</tr>
<tr>
<td>systematic?</td>
<td></td>
</tr>
<tr>
<td>(8). Use of verification</td>
<td>(9). Conclusions supported by the results?</td>
</tr>
<tr>
<td>procedure(s) to establish</td>
<td></td>
</tr>
<tr>
<td>credibility?</td>
<td></td>
</tr>
<tr>
<td>(10). Reflexivity of the account?</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2). Offenders were asked to write a narrative about the offence, and to describe whether or not they had forgiven themselves for the offence.</td>
</tr>
</tbody>
</table>
The qualitative study (Zechmeister & Romero, 2002) met many criteria fully, but was limited by a lack of verification procedures (such as peer review) to establish credibility, and lack of personal and epistemological reflexivity (consideration of how their methods and own personal characteristics might have impacted on their findings).

All eight quantitative studies have suitable sample sizes, clearly reported results, and research designs that are appropriate for the study aims. In addition, all excluding that of Rohde-Brown and Rudestam (2011), had robust measures and clearly described samples.

Although the quality of studies in this review was generally high, an important point is that the quality checklists have been developed to assess the internal validity of the studies – that is, the extent to which the study’s design, conduct and analyses has minimized possible errors and biases in responding to the questions posed by that particular study. This may differ somewhat from whether the study is able to respond accurately to the aims of this review. For instance, six studies are correlational in design which is appropriate for the hypotheses of those particular studies, but cannot confirm or deny the causal hypotheses of the present review. Two studies are RCTs, but the interventions under evaluation primarily involve mindfulness, with only some elements of self-compassion (loving-kindness meditation). Two studies have female-only or predominantly female samples (Keng et al., 2012; Lee & Bang, 2010), which limits their applicability to the present review: although anger does not show sex differences, physical aggression is more prevalent in males cross-culturally (Archer, 2004). On a similar note, Neff and Beretvas (2013) targeted a specific population (heterosexual adults in long-term relationships) that was relevant to their research question, but may not represent the typical sample of people with aggression problems. Indeed, aggression is correlated with higher rates of separation in relationships, even after controlling for prior relationship satisfaction (Shortt, Capaldi, Kim, & Owen, 2006).
Self-compassion and angry/hostile affect

Five studies investigated the relationship between self-compassion/forgiveness and angry or hostile affect (Keng et al., 2012; Lee & Bang, 2010; Neff & Vonk, 2009; Rohde-Brown & Rudestam, 2011; Zechmeister & Romero, 2002).

Two were randomised-controlled trials which compared outcomes of mindfulness group interventions (including elements of self-compassion or loving-kindness meditation) to waitlist control conditions. Lee and Bang (2010) found that group members experienced increased self-compassion and reduced hostility following the intervention, compared to controls, but did not examine whether the former mediated the latter. Keng et al. (2012) also found that their experimental group demonstrated greater increases in self-compassion and greater reduction in anger compared to controls, yet mediation analyses indicated that self-compassion did not mediate the change in anger. It may be that a larger sample size may have found an effect; alternatively, the authors hypothesize that the reduction in anger might instead be a result of participants developing emotion regulation strategies or improved interpersonal functioning. Both studies have several limitations in relation to this review’s aims: the samples are predominantly or solely female and do not present with heightened anger; the waitlist conditions did not control for general effects of being in a group (which could introduce confounds); and finally, the interventions do not target anger or focus predominantly on self-compassion, thus there is less reason to expect changes in anger or hostility to be mediated by changes in self-compassion.

Two cross-sectional studies examined self-compassion and angry/hostile affect. One was a community-based survey with 2,187 participants, who completed self-ratings of anger and, four months later, self-ratings of self-compassion (Neff & Vonk, 2009). Higher self-
compassion was associated with lower anger, even after controlling for self-esteem. In contrast, Rohde-Brown and Rudestam (2011) studied recent divorcees and did not find a correlation between self-forgiveness and anger (self-forgiveness measures were not specifically related to the divorce, but the design likely primed participants to respond in this way). Two of the self-forgiveness measures used in this study were not validated (as detailed in Tables 3 and 4) and so results using these measures are not discussed here. The validated measures indicated that state anger was not significantly correlated with self-forgiving thoughts or feelings. This study achieved one of the lowest quality rating in this review, yet none of the methodological flaws (failure to describe sample characteristics, not correcting for Type 1 error, and use of some non-validated measures) would challenge the validity or reliability of the results just described. However, one important consideration is again that the study does not target a population with particularly high levels of anger or aggression.

The final study that examined this relationship was a narrative study in which participants described incidents in which they committed, or were victim to, an interpersonal transgression (Zechmeister & Romero, 2002). Offenders who referenced self-forgiveness were significantly more likely to reference feelings of anger about the offence. However, this evidence cannot indicate a correlation between self-forgiveness and heightened levels of anger for several reasons. Firstly, a single reference to anger is unlikely to be a pathological reaction that has negative consequences for the victim or offender.

Furthermore, it is important to be cautious about making deductions or drawing generalizable conclusions from qualitative findings. Narrative methodologies do not force participants to include all relevant information, thus participants who did not reference anger or self-forgiveness may still have experienced these to a high degree. Nonetheless, narrative studies can inform us about themes in participants’ responses. Interestingly, this study found
that respondents who claimed to have forgiven themselves were not only more likely to mention anger, but more likely to describe apologising to their victims, feeling guilt for the offence and feeling at peace with their actions; and less likely to refer to self-blame. These findings support the theory that self-forgiveness assists the conversion of shame into guilt, thus increasing motivation to make amends for past offences.

**Self-compassion and angry cognitions**

Two cross-sectional studies investigated the relationship between self-compassion/forgiveness and angry cognitions or attitudes. Liao et al. (2015) surveyed 265 sexual minority individuals to identify possible mediators of the pathway from perceived discrimination to distress. Hypothesised mediators included anger rumination and self-compassion. A significant negative correlation was found (indicating that higher self-compassion was associated with less angry rumination). Each subscale of the Anger Rumination Scale (Angry after-thoughts, Thoughts of revenge, Angry memories and Understanding causes) was significantly correlated with each subscale of the Self-Compassion Scale.

Barber et al. (2005) conducted a study on students to investigate correlations between anger rumination and forgiveness of self and others. They found that self-forgiveness was negatively correlated with three of the four subscales of the Anger Rumination Scale, but not the subscale of ‘Understanding causes’.

Both studies achieved high quality ratings and hence their results strongly support a correlation between the self-compassion domain and anger-related cognitions. However, their cross-sectional designs prevent us from drawing conclusions about causal relationships underlying the association.

**Self-compassion and aggressive behaviour**
Three studies investigated the relationship between self-compassion/forgiveness and aggressive behaviour. Two are cross-sectional (Barry et al., 2015; Neff & Beretvas, 2013). The former investigated whether self-compassion mitigated the relationship between narcissism and aggression in male adolescents; whilst the latter investigated whether being self-compassionate is linked to differences in romantic-relationship behaviour, such as levels of verbal aggression. Both studies found that self-compassion was significantly negatively correlated with all measures of aggressive behaviour administered, even after controlling for self-esteem.

As noted previously, the sample used by Neff and Beretvas (2013) may not be representative of the typical person with aggression problems since aggression is negatively associated with relationship maintenance; however, the study did not find floor effects on measures of aggression and so the sample demographics would not seem to invalidate the results. A more important issue is the possibility of Type 1 error, given the number of analyses carried out (eight regressions were carried out for males and for females). However, the finding of significant results for all three measures of aggression gives strength to their conclusion.

The second study (Barry et al., 2015) found measures of aggression to be positively skewed and lower than other studies with comparable samples, which may indicate socially desirable response patterns. Data for four participants who reported the highest levels of aggression were removed to reduce skew. The possible unreliability of their data on aggression therefore reduces the strength of their evidence.

The final study that explored the relationship between self-compassion and aggressive behaviour is the RCT by Keng et al. (2012), which has been described in this review in relation
to associations between self-compassion and anger. Similar outcomes were found for the relationship between self-compassion and aggression as for self-compassion and anger: patients receiving a mindfulness and loving-kindness intervention demonstrated greater improvement in aggressive behaviour than controls, but this difference was not found to be mediated by the changes in self-compassion. Again, since the intervention was targeting stress and centred on mindfulness (with loving-kindness meditation only as a minor component), we cannot generalise the claims to the effectiveness of interventions targeting anger or aggression, with a focus on self-compassion, as these may produce different psychological changes. Additionally, the population was a community sample which did not present with heightened aggression.

**Discussion**

This systematic review identified studies that were high in quality, but limited in number and in applicability to the questions posed by this review. The main limitations were a lack of experimental designs that involved interventions focused on self-compassion/forgiveness, and samples drawn from populations that were largely unlikely to display a high prevalence of aggression.

Overall, this review found preliminary evidence that higher self-compassion or self-forgiveness is correlated with lower aggressive behaviour, and lower angry cognitions, although the causal processes underlying these relationships are unclear. Evidence regarding the relationship between self-compassion or self-forgiveness and state anger or hostility was less conclusive (of the four quantitative studies that examined this, two found higher self-compassion/forgiveness to be associated with lower anger/hostility; one found non-significant results; and one found a change in both variables but no mediation effect between them).
Understanding the findings

Self-compassion and forgiveness interventions have been developed to reduce shame-based aggression and anger. This review postulated that shame underlies many, but not all, instances of aggression. All studies in this review examined all instances of anger and aggression (rather than specifically shame-based ones) which might explain why some found a non-significant relationship between self-compassion and anger or aggression.

This review found two studies indicating that a negative association exists between self-compassion/forgiveness and aggressive behaviour, however, we can only speculate as to the causal relationship underlying this. One explanation is the one hypothesized by this paper: higher self-compassion/forgiveness reduces shame, which then reduces the need to defend against shame through aggression. If so, this would point towards self-compassion and self-forgiveness interventions as a promising supplement to existing interventions for aggression.

An alternative possibility is that this correlation exists because aggression is a barrier to developing self-compassion or self-forgiveness. Acts of violent aggression may be hard to forgive and thus tend to trigger avoidance responses rather than self-compassion/forgiveness. Indirect causal pathways may also be at play: for example, aggressive behaviour may be an obstacle to building close relationships, which provide more models for compassionate feelings.

Another possibility is that aggression and self-compassion/forgiveness share a common cause such as certain childhood traumas, but neither variable influences the other. If so, this would not indicate self-compassion as a promising focus for aggression interventions. Evidently, further research using experimental designs is required to determine which of these processes are occurring.
Similar uncertainties exist regarding the causal processes underlying the correlation between angry cognitions and low self-compassion or self-forgiveness. It might be, as hypothesized by this study, that low self-compassion has the potential to calm angry thinking. However it could be that the opposite causal pathway occurs: experimentally inducing angry rumination has been shown to lead to reduced self-forgiveness (Law & Chapman, 2015).

**Limitations of the review**

One possible limitation of the present review is the inter-rater reliability regarding quality of studies (66% agreement), which is lower than the agreement ratings of 73% to 100% for papers rated in the original study (Kmet et al., 2004). This wide range of agreement ratings in the original study indicates the subjectivity of this checklist, although less training on use of the checklist may also have contributed to the lower scores in this review. Nonetheless in the present review, maximum quality scores for the three studies scored by both coders differed by at most one point, indicating a low probability that inter-rater reliability influenced the findings of this review.

A number of challenges exist in researching any interventions for aggressive behaviour. Aggression (certainly physical aggression) is a relatively rare act, even in aggression-prone individuals; thus long-term or high-powered studies are needed to identify a change in frequency of aggression. This may underlie the lack of experimental studies that have evaluated the approaches considered by this review.

A limitation of the present review is that many of the studies identified did not target populations with high rates of aggression. As previously described, shame is thought to lead to two possible responses: expressed shame (stable and global negative attributions of the self) or converted shame (where shame is experienced instead as anger or blaming of others).
Based on this model, the hypothesised change process of reduced aggression following self-compassion is only likely to emerge in the latter group. Equally, the potential of these approaches may be masked if studies include all clients presenting with high aggression. Aggressive behaviours can appear similar at a surface level but be functionally very different, and thus require very different interventions (Tremblay 2000). Although this review hypothesises shame to underlie many acts of aggression, it is acknowledged that some aggressive acts are primarily driven by instrumental motivations. Thus, evaluating an intervention for shame-based aggression will require accurate identification of a clinical population for whom shame is a key trigger of their aggression. Only one study in this review used a sample that may fulfil this criteria (Barry et al., 2015), and they concluded that their sample likely under-reported their aggression (nevertheless, a negative correlation was found between self-compassion and aggression).

Even if a sample of clients with high shame-based aggression could be identified, multiple causal factors are involved in the occurrence of aggression, from neurobiological to hormonal to cognitive to environmental (Tremblay 2000). Thus, an intervention that targets only one factor is unlikely to have a strong effect on behavioural change. To evaluate the efficacy of self-forgiveness/compassion approaches on aggression will therefore require large sample sizes given that effect sizes may be relatively small. (Self-compassion/forgiveness interventions alone are unlikely to be the most effective treatment for anger and aggression, but should be trialled as stand-alone treatments to examine their efficacy).

Seven of the eight quantitative studies included in this review use only self-report measures of aggression, which may be vulnerable to a social desirability response bias. Additionally, there is a risk of confounding variables, as lower self-compassion/forgiveness may be associated with greater shame about aggressive acts, and thus a greater likelihood of
under-reporting one’s aggressive behaviour and attitudes in order to defend against shame. The one exception is the study by Neff and Beretvas (2013) which uses validated measures of partner’s ratings of aggressive behaviour. This offers a possible strategy for future research.

A final point to consider is the validity of self-compassion and self-forgiveness measures. As discussed in the introduction, genuine self-forgiveness (reducing self-condemnation by accepting responsibility, feeling remorse, and behaving reparatively) can on the surface look very like pseudo self-forgiveness (achieving the same outcome by deflecting blame or minimizing harm caused). All existing measures of self-forgiveness measure an outcome (involving self-kindness or a lack of self-condemnation), without examining the states that preceded it, such as acceptance of responsibility; therefore, it is possible that they are measuring pseudo self-forgiveness (Woodyatt & Wenzel, 2013b).

Whilst descriptions of self-compassion refer to responsibility taking, it has not been established that the Self-Compassion Scale taps into this aspect. However, certain items such as “I try to see my failings as part of the human condition” do at face value describe emotion-management strategies that relate more to genuine self-forgiveness rather than pseudo self-forgiveness. Furthermore, when developing the Self-Compassion Scale (Neff, 2003a), it was confirmed to have divergent validity with self-esteem and narcissism (a non-significant correlation with narcissism was found, and correlations with narcissism are less strong than self-esteem scores are). This can be understood as therefore representing ‘genuine’ self-compassion rather than self-kindness stemming from denying one’s mistakes or flaws.

It is likely that pseudo self-forgiveness would not have the same relationship to aggression as genuine self-forgiveness does: Woodyatt and Wenzel (2013b) argue that pseudo self-forgiveness would cause offenders to lack motivation to make amends, experience
“shame-rage spirals”, and re-establish their status and power. If the studies in this review were in fact measuring pseudo-self-forgiveness, we would expect to find a non-significant or positive correlation with aggression because pseudo self-forgiveness involves conversion of shame into anger or blame-externalisation, which would likely lead to greater aggression. The finding from this review that aggression is negatively correlated with self-compassion/forgiveness therefore suggests that these measures may be valid. Future research could use a measure of ‘pseudo self-forgiveness’ to confirm this, such as that developed by Woodyatt and Wenzel (2013b) which measures deflection of blame and derogation of victims.

Insights from the wider research

Two studies which did not meet the criteria for this review, yet provide promising evidence for the use of self-compassion-based interventions for the treatment of aggression, examined the effectiveness of the Compassion Workshop (Stosny, 1995). The Compassion Workshop is an intervention designed for domestic violence perpetrators, which centres on the principle that domestic violence is an attempt to externalise blame onto victims for the perpetrator’s own mistakes. It seeks to help the abuser reduce blame externalisation through self- and other-compassion. Two studies have compared the compassion workshop to CBT interventions for domestic violence, and both found that the former led to greater improvements on measures of physical and verbal aggression, as well as on self-esteem, than did the CBT intervention (Murphy, Stosny, & Morrel, 2005; Stosny, 1995). The latter also found that the compassion intervention was associated with greater changes in compassion for one’s partner, compared to CBT.

A limitation of both studies (and the reason that they did not meet criteria for this review) is that neither measured self-compassion; thus, it is unclear whether this was the
mediating mechanism for the changes in aggression (it may, for example, have been compassion for others, which as stated previously is well-established in the literature as a predictor of aggression).

Some studies have examined associations between self-compassion/forgiveness and other interpersonal behaviours relating to conflict, other than aggression or anger. These indicate there may be other beneficial implications of these approaches to the treatment of anger and aggression. For example, Yarnell and Neff (2013) found that people high in self-compassion were more likely to resolve relationship conflicts with romantic partners using compromise solutions, and less likely to self-subordinate their needs. Hall and Fincham (2008) found that over time, increases in self-forgiveness regarding an interpersonal transgression were associated with increasing conciliatory behaviours toward victims. Woodyatt and Wenzel (2013b) found that genuine self-forgiveness for interpersonal transgressions was positively associated with empathic orientation towards victims, and a follow-up longitudinal study found that genuine self-forgiveness predicts an increased desire to reconcile over the course of a week (Woodyatt & Wenzel, 2014). Schanche, Stiles, McCullough, Svartberg, and Nielsen (2011) studied 50 clients with cluster C personality disorders, and found that self-compassion significantly predicted a decrease in interpersonal problems during therapy. A strength of this study is that self-compassion was not measured through self-report but by observer ratings of patients’ self-descriptions in therapy, since self-report ratings can be less reliable due to factors such as social desirability bias.

Baker & McNulty (2011) found that higher self-compassion was generally associated with greater motivation to correct interpersonal mistakes. They hypothesize that this change is mediated by increased self-esteem, which enables people to consider their mistakes. However, they found that the opposite relationship was present for men low in
conscientiousness, which they theorized as occurring because self-compassion reduces negative emotions that can motivate us to correct interpersonal mistakes. This suggests that self-compassion/forgiveness interventions may be contraindicated in certain populations, unless an intervention first targets conscientiousness.

Future research

The lack of studies with experimental designs identified by the present review indicates a clear opportunity for future research into the causal processes underlying correlations between self-compassion/forgiveness and aggression, and angry cognitions. Researching the efficacy of whole treatment programs that use self-compassion or self-forgiveness (such as the ‘True-Strength Program’ for anger (Kolts, 2013)) will be important; however, studies that separate out different psychological processes used in these modules (such as mindfulness, compassion to others, and compassion to the self) are vital in identifying the active agents in these therapies and thus maximising the efficacy of treatments. For example, studying CFT interventions that cover a broader spectrum of techniques might not have highlighted that self-compassion interventions may be contraindicated in low-conscientious people (Baker & McNulty, 2011).

Based on the theory that heightened shame commonly underlies aggression, initial pilot studies could offer an intervention in self-compassion/forgiveness to a population who present with heightened aggression (assessments could be conducted to identify those whose behaviour can be understood as a shame-based response rather than instrumental violence). The study should explore whether this intervention leads to increased self-compassion and decreased shame and aggression. Ideally, other factors such as social connectedness, self-control and self-esteem would also be measured (at baseline and post-intervention) which
have also been hypothesised to mediate the relationship between self-compassion/forgiveness and aggression (Morley, 2015).

Violent offenders, or individuals in the community with conduct disorder or anti-social personality disorder, would be appropriate participants, given their high rates of aggression. Although forensic settings offer an obvious source of participants, programmes for offenders typically have high rates of attrition so any study on this population would need a large sample size to avoid being under-powered. Given the limitations of self-report measures of aggression, these could be supplemented with reports from partners/family members, observer ratings, or rates of aggressive reoffending. However, given the low base-rate of aggressive acts, it would be necessary for frequency of aggressive acts to be measured over a relatively long time.

Should pilot studies find a significant effect on shame and aggression, this could be expanded to controlled trials that compare treatment as usual (TAU) for aggression to a treatment of equal length and intensity but adapted to include aspects of self-compassion/forgiveness. When working with clients at high-risk of being aggressive, there is an obvious barrier to conducting controlled studies in that service needs and risk management are typically prioritized over research interests. However, a strength of self-compassion/forgiveness interventions is the ease at which they can be integrated into other cognitive-behavioural interventions: self-compassion exercises are typically used by clinicians as one part of a “toolbox” of interventions offered to a client. A study comparing TAU versus TAU plus a self-compassion/forgiveness module would be more acceptable to ethics committees and service managers than a study comparing TAU to a radically different intervention.
**Clinical Implications**

This review has identified a lack of evidence regarding the effectiveness of self-compassion or self-forgiveness interventions for aggression and anger, despite the prevalence of these elements in aggression interventions. This highlights the caution that should be taken in inferring the efficacy of an approach from a high rate of publications.

One criticism levelled against these approaches is that self-compassion or self-forgiveness might reduce anger and aggression simply by turning anger inwards, that is, replacing externalising problems with internalising ones (Robins, Keng, Ekblad, & Brantley, 2012). However, this explanation would not be in line with the lower rates of internalising problems in self-compassionate individuals. Furthermore, evidence suggests that well-designed self-compassion interventions will not lead to this difficulty: Keng et al. (2012) found that mindfulness and self-compassion intervention was associated with reduced aggression, but not increased anger suppression.

If an evidence base for self-forgiveness/compassion interventions for aggression is established, this review proposes that techniques from the two fields should be integrated to enable the establishment of a best-practice approach. For example, models for self-forgiveness interventions (e.g. Cornish & Wade, 2015) could be supplemented with techniques from the literature on self-compassion for anger and aggression such as the Compassion Workshop for perpetrators of domestic violence (Stosny, 1995) and the True Strength group (Kolts, 2013). Insights from these two fields might usefully inform anger management as well as restorative justice approaches (such as Victim Impact Training programs) which aim to enhance the capacity of offenders to experience shame-free guilt about harmful actions.
It may be valuable to screen clients for appropriateness of self-forgiveness or self-compassion interventions. In support of this idea, Tangney et al. (2011) studied a group of offenders and concluded that “there is considerable variance in felony offenders’ propensity to experience shame” and that certain groups (such as those with substance abuse, higher impulsivity, and self-reported criminogenic cognitions) were more prone to shame. They found that shame-proneness of inmates was unrelated to clinician ratings of psychopathy and violent risk, implying that some offenders with high risk of violence may not benefit significantly from shame-based interventions. Additionally, given preliminary evidence that the association between self-compassion and aggression may be in the opposite direction in those low in conscientiousness (Baker & McNulty, 2011), it may be that interventions are contraindicated or will require adaptation for these groups; however, replication of these results is required before drawing such a conclusion.

An important distinction to be made is between self-compassion/forgiveness for past offences that may be triggering shame, and current ongoing offending behaviours. Cornish and Wade (2015) argue that self-forgiveness may be contraindicated for people currently engaging in behaviours that harm others (such as cases of domestic violence) because it reduces negative affect that would otherwise be a stimulus for change.

Finally, it is vital that treatment does not lead to minimization of harm caused, or one’s own sense of responsibility – so-called ‘emotional shortcuts’ to reduce shame and guilt associated with interpersonal offending. To this end, it is important for clinicians to be able to distinguish pseudo self-forgiveness and self-compassion from their genuine counterparts (Woodyatt & Wenzel, 2013a).

Conclusions
Shame-based models of aggression have led to the development of a number of interventions for aggression and anger that are grounded in self-compassion and self-forgiveness. However, this review has highlighted a dearth of evidence regarding the efficacy and effectiveness of self-compassion/forgiveness interventions for anger and aggression. The quality of anger and aggression interventions has considerable potential to help or harm perpetrators, victims, communities and wider society. Therefore, there is a pressing need for pilot and controlled studies that examine the efficacy of self-compassion/forgiveness interventions that are being offered to clients presenting with high anger or aggression.

References


Part 2: Empirical Paper

Barriers to Compassionate Imagery Generation in Personality Disorder: Intra- and Interpersonal Factors.
Abstract

Background: Compassion-focused therapy (CFT) has potential to benefit clients with a personality disorder (PD), given the inflated levels of shame and self-criticism in this population. However, clinical observation indicates that clients with PD may find techniques from this approach challenging.

Aims: To trial one aspect of CFT, compassion-focused imagery (CFI), with this population and identify factors that predict clients’ ability to generate CFI and experience self-compassion during the task.

Method: Fifty-three participants with a diagnosis of at least one PD completed measures of self-compassion, self-reassurance, shame, forms of self-criticism, fear of self-compassion, affect, current relationship experiences and mental imagery abilities. Subsequently, they engaged in CFI tasks and then rated the vividness of their image, its compassionate traits, and degree of self-compassionate affect generated. A negative mood-manipulation was carried out and CFI tasks and outcome measures were repeated. Group discussions about the CFI were conducted and then analysed thematically, to further understand participants’ experiences. Additionally, participants were invited to practice CFI daily for one week then re-rate their self-compassion.

Results: Negative mood and low mental imagery ability were significant barriers to the generation of compassionate images and feelings. Qualitative analysis identified mistrust and negative intrusive memories as other common barriers. Attrition was high for the follow-up and was associated with higher baseline self-compassion. However, one week of daily CFI led to a significant increase in self-compassion in the 28% of participants who practiced regularly. Higher baseline self-compassion was associated with dropout from follow-up.
Conclusions: CFI appears to be effective in improving self-compassion for some clients, and may appeal particularly to clients low in self-compassion. However, it is less effective in the presence of negative affect. Clients with low mental imagery ability should be offered alternative techniques.
Introduction

Compassion-focused therapy

Compassion-focused therapy (CFT) recognises that high shame and self-criticism are often at the root of psychological distress, and therefore aims to reduce shame and self-criticism through the development of compassion for self and others (Gilbert, 2010a; Gilbert & Irons, 2005).

CFT conceptualises humans as having an effective emotion-regulation system (the ‘soothing system’) which in infancy is activated by parental warmth and affection (Bowlby, 1969, 1973; Kohut, 1977), and in later life can be activated by accessing memories of such experiences. However, CFT theorises that a lack of parental warmth and affection in infancy leads to an underdeveloped soothing system and consequently to difficulties regulating our emotions in adulthood.

CFT teaches people to become more aware of self-criticism and to manage this through self-compassion, which involves recognising and validating one’s own distress and difficulties. Neff (2003b) has defined self-compassion as being composed of three main components: self-kindness, common humanity, and mindfulness. ‘Self-kindness’ involves being open to one’s own suffering, and responding with warmth and non-judgement. ‘Common humanity’ means acknowledging that all humans experience suffering, failure, and inadequacies, and therefore that everyone (including oneself) deserves compassion in the face of these difficulties. ‘Mindfulness’ is a process of accepting thoughts and feelings, rather than avoiding them or becoming overly absorbed in them.

A recent systematic review Leaviss and Uttley (2015) identified 14 studies that evaluate CFT, including three randomized controlled studies (RCTs). Participants with a range of diagnoses were studied (including depression, schizophrenia, and bipolar disorder), as well as
non-clinical samples high in shame or self-criticism. Most interventions were delivered in a group format. Overall, the review concluded that “CFT shows promise as an intervention for mood disorders, particularly those high in self-criticism”. For example, a study of a six-member CFT group for depression found increased self-compassion and decreased self-criticism, depression and anxiety post-intervention (Gilbert & Procter, 2006). A 19-member CFT group in a high-security psychosis service led to significant improvements in depression, self-esteem, and social-comparison, which were maintained at six-week follow-up (Laithwaite et al., 2009). Heriot-Maitland, Vidal, Ball, and Irons (2014) studied CFT groups on an inpatient ward (consisting of 57 patients with psychosis, personality disorder, depression and other conditions) and found a significant decrease in distress and a significant increase in calmness following the intervention.

A key technique in CFT is compassion-focused imagery (CFI). Mental imagery techniques involve actively generating and manipulating representations of objects or events in the mind, using any of the senses. In CFI, clients remember or image people or places having compassionate thoughts and feelings for them, to strengthen representations of themselves as deserving of compassion (Gilbert, 2010b). This reflects current evidence indicating that effective treatment of mood disorders does not involve altering the negative thoughts, memories and images that support them, but creates and strengthens alternative positive/helpful representations so that clients tend to retrieve these instead (Brewin, Gregory, Lipton, & Burgess, 2010). A pilot study of CFI found an increase in self-reported abilities to self-soothe (Gilbert & Irons, 2004). No decrease in self-criticism was seen, perhaps due to the small sample size (six participants). A study of 71 participants with sub-clinical symptoms of psychosis found that a brief CFI intervention reduced negative emotion and paranoia and improved self-esteem (Lincoln, Hohenhaus, & Hartmann, 2013).
A similar intervention, ‘Loving-Kindness Meditation’, involves directing loving or friendly feelings toward oneself and others, and has been demonstrated to increase positive emotions, mindfulness, and perceived social support (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008).

**Compassion-focused therapy for people with personality disorder**


The evidence for treatment of personality disorders (PDs) varies widely according to the specific diagnosis. Empirically-supported therapies for Borderline Personality Disorder (BPD) include Dialectical Behaviour Therapy (DBT), Mentalization-Based Therapy, Cognitive Therapy and Schema-Focused Therapy (McMain, 2015); however, other PDs have far fewer evidence-based therapies. Two challenges in treatment of PD are its cost (current evidence-based therapies tend to be lengthy and cost-intensive) and inconsistent outcomes. For example, DBT for BPD produces poorer outcomes in the presence of more severe baseline psychopathy, historical childhood abuse or neglect, and poor quality of current relationships (Gunderson et al., 2006). In the context of limited healthcare budgets, there is a need to identify ways to make these therapies more clinically- and cost-effective.

At face value, CFT seems to be a promising treatment for clients with PD. Firstly, all forms of PD are rooted in aversive early life experiences (Bateman & Fonagy, 2004; Ruesch et al., 2007), and experiences of abuse and neglect predict poorer treatment outcomes for clients with BPD (Gunderson et al., 2006). CFT directly targets the consequences of aversive experiences by helping build a self-soothing system in people who lacked opportunities to build this naturally.
Secondly, CFT aims to reduce self-criticism, which is significantly higher in clients with BPD versus healthy controls (Arntz, Weertman, & Salet, 2011) and in depressed clients with comorbid BPD compared to depressed controls with no BPD (Koerner & Linehan, 1996; Southwick, Yehuda, & Giller, 1995; Wixom, Ludolph, & Westen, 1993). Clients with BPD also display greater tendencies to criticize and malevolently interpret others (Arntz et al., 2011), so may additionally benefit from CFT modules on compassionate interacting with others. CFT may be less appropriate or require adaptation depending on the PD diagnosis: heightened self-criticism (but not criticism and malevolent interpretations of others) has also been found in avoidant and dependent PD, whilst clients with Obsessive Compulsive Personality Disorder (OCPD) do not differ from controls on any of these tendencies (Arntz et al., 2011).

Shame (another key target of CFT) is highly elevated in BPD and narcissistic PD compared to non-clinical controls (Ritter et al., 2014; Scheel et al., 2014). Cluster-C PD symptoms are associated with heightened shame proneness and shame aversion (the tendency to perceive shame as especially painful and undesirable), even after controlling for negative and positive affect (Schoenleber & Berenbaum, 2010).

Self-criticism, shame and the related concept of self-loathing (or self-hatred) are significant obstacles for therapists working with BPD. Krawitz (2012) describes standard self-esteem interventions as “frequently ineffective with severe chronic self-loathing clients” since attempts to challenge negative self-concepts can be experienced as “invalidating and therefore damaging of the therapeutic alliance or triggering a deepening of our clients’ self-loathing”. He proposes that such clients may prefer CFT since it encourages a compassionate attitude towards one’s inadequacies rather than invalidating them.

Currently, evidence for the effectiveness of CFT for people with PD is limited but promising. One 16-session CFT group for nine clients with PD found significant improvements
in depression, stress, distress, and self-hatred, which were maintained at 1-year follow-up (Lucre & Corten, 2013). Jacob et al. (2011) found that CFI was significantly more effective than a control task at regulating negative emotions for women with BPD. A third task (positive memory recall) was equally effective, but may also have activated the soothing system since most participants chose positive memories related to socialising with a loved one. The fact that BPD clients choose to regulate their emotions through recalling social interactions indicates that acceptability of CFT might be high in this population.

Aims of the present study

The present study explores which factors impede people with PD from generating CFI and experiencing self-compassion, so that CFT for PD can be adapted to address the barriers that are identified. Following previous research on CFI, the effectiveness of the intervention was measured by the image’s vividness, how strongly the image represented attributes or qualities of compassion, and the degree of compassionate affect experienced during CFI (Kelly, Zuroff, Foa, & Gilbert, 2010; Rockliff et al., 2011). Kelly et al. (2010) found that a three-week self-compassionate imagery intervention to increase self-regulation of smoking was more effective in participants who generated highly vivid imagery, suggesting that more vivid CFI may lead to higher levels of experienced self-compassion.

Another thesis conducted jointly with this one explores whether early experiences predict outcomes of CFI (Mwale, 2016); for example, whether CFI generation is harder for people who have few experiences of affection and warmth in childhood, based on the theory that such experiences are needed to develop an effective soothing system (Gilbert, 2009). This study instead explores whether a range of proximal factors impede CFI generation and
experience of compassion affect (which may of course be rooted in early childhood experiences). The following factors are hypothesised to predict CFI outcomes:

(i) **Self-compassion and self-reassurance.** Although no previous literature has examined the relationship between self-compassion and CFI, it is hypothesised that higher baseline self-compassion indicates a more developed soothing system and thus will predict better CFI outcomes. Closely related to self-compassion is the concept of self-reassurance; defined as the ability to “focus on one’s positives and be reassuring to self when things go wrong” (Gilbert et al., 2004, p35). Self-reassurance is a narrower construct than self-compassion: it has been described as reflecting the self-kindness element of self-compassion, without touching upon the elements of common humanity and mindfulness (Kupeli, Chilcot, Schmidt, Campbell, & Troop, 2013). Trait self-reassurance has been shown to be associated with ease and clarity of generating warm and supportive images of the self (Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006)

(ii) **General mental imagery ability.** It has long been known that mental imagery abilities and experiences vary widely across individuals (Galton, 1883). Some people report images that resemble genuine sensory experiences – for instance, they can “see” a breakfast table laid out in front of them and “feel” themselves reaching for a croissant – whilst others report very little detail in their images. Poor imagery abilities are therefore a likely barrier to generating CFI, and perhaps also an obstacle to experiencing self-compassion, given the previously-described finding that high imagery vividness is associated with greater efficacy of CFI interventions (Kelly et al., 2010).

(iii) **Fear of self-compassion.** Gilbert (2010b) reports from clinical experience that many clients believe self-compassion to be self-indulgent and therefore may experience anxiety from CFT tasks; whilst others fear becoming overwhelmed with emotion if they begin
to be self-compassionate. Difficult attachment histories (a key component of PD) can lead individuals to experience compassionate emotions as threatening, thus resulting in a variety of blocking responses such as dissociation, avoidance and self-coldness (Feeney & Collins, 2001; Gilbert, McEwan, Matos, & Rivas, 2011; Mikulincer, Shaver, Gillath, & Nitzberg, 2005). The literature distinguishes fear of self-compassion from fear of compassion from others (the present study involves accepting compassion from others); however, the two are highly correlated in non-clinical populations (Gilbert et al., 2011).

(iv) **Self-criticism.** Since high self-critics can rely on self-criticism to maintain their standards, they often view self-criticism positively and believe that replacing this with self-compassion will cause their standards to drop (Gilbert, 2010b). High self-critics (HSCs) have described greater difficulty generating CFI and more resistance to compassion affect compared to low self-critics (LSCs) (Duarte, McEwan, Barnes, Gilbert, & Maratos, 2015); yet HSCs also demonstrate a larger improvement in self-regulation following self-compassionate imagery (Kelly et al., 2010). These contrasting results could indicate that CFI is more challenging but also more effective for HSCs. Alternatively, it may be that the samples of these studies differed in severity of self-criticism and that self-criticism has a non-linear relationship with CFI’s effectiveness: for example, moderate self-critics may benefit from CFI, whilst LSCs may not due to ceiling effects of self-compassion, and HSCs may disengage for fear of lowering their standards. Some theorists have distinguished between self-criticism that stems from a sense of personal inadequacy, and that which stems from a desire to hurt or persecute oneself (Gilbert et al., 2004). This is supported by factor analyses of self-criticism data (Castilho, Pinto-Gouveia, & Duarte, 2015; Kupeli et al., 2013) and evidence that self-hatred and self-inadequacy are linked to different psychological difficulties: self-hatred is uniquely predictive of self-harm, depression and anxiety (Gilbert et al., 2010). Self-inadequacy is more closely related to use of
self-criticism to achieve internalized standards or “self-correct” (Gilbert et al., 2004). Although previous CFI studies have not distinguished these forms of self-criticism (Duarte et al., 2015; Rockliff et al., 2011) the present study postulates that self-hatred and self-inadequacy are both predictive of poorer CFI outcomes.

(v) **Shame.** High shame has been posited as a difficulty that can be managed with self-compassion, but also as an obstacle to it (Gilbert, 2010b), since people who experience high levels of shame may feel that they are undeserving of self-compassion.

(vi) **Positive and negative affect.** A qualitative study found that participants with BPD cited overwhelming emotions as the key barrier to using learnt coping skills, as it left them feeling unable or unwilling to use the skills (Barnicot, Couldrey, Sandhu, & Priebe, 2015). This may also apply to CFI.

(vii) **Current experiences of close relationships.** Positive close relationships in adulthood may be useful templates for generating CFI, yet in an absence of such relationships, CFI may trigger feelings of sadness and yearning to experience compassion which may lead clients to disengage (Gilbert, 2010b). Supporting this theory, a study of a non-clinical sample found that low social safeness (the extent to which one perceives one’s social world to be safe and soothing) was associated with a threat-like physiological response to a single trial of CFI, rather than the usual soothing response (Rockliff, Gilbert, McEwan, Lightman, & Glover, 2008).

(viii) **Type of CFI exercise.** Gilbert (2010b) has developed a range of CFI exercises, involving people, objects or places and using either memory or imagination. The present study compares generation of CFI from memory versus imagination. Both are key techniques in CFT, yet no evidence indicates whether one is more effective at building self-compassion. Participants with low general imagery ability might prefer CFI from memory, whilst those with few memories of compassion might prefer CFI from imagination.
This study also used group discussions to gather qualitative data on participants’ experiences of CFI. It was hoped that this would assist in correct interpretation of quantitative findings, enable identification of barriers not considered a-priori, and provide information on successful experiences of generating CFI (e.g. instances when clients overcame barriers to CFI).

An additional aim of this study was to explore participants’ willingness to practise CFI following a single trial, and the effect of practice on CFI outcomes. Thus, participants were invited to engage in CFI twice a day for one week, then report on frequency of practice, re-rate their self-compassion, and describe their experiences.

Hypotheses

1. That low self-compassion, low self-reassurance, weak mental imagery abilities, high self-criticism (both in the form of self-hatred and of self-inadequacy), high shame, high fear of self-compassion, high negative affect, low positive affect, and poor experiences of close relationships will be associated with:

   (i) the generation of less vivid CFI

   (ii) CFI that is weaker in qualities of compassion.

   (iii) Greater difficulty generating self-compassionate affect.

2. Regular practice of compassionate imagery will be associated with an increase in self-compassion over one week.

Method

Participants

Fifty-three adults were recruited who were attending, or on the waitlist of, an out-patient PD service. Participants were 44 females and 9 males, with a mean age of 32 years (ranging from
18 to 57). Seventy-six percent were white, 11% Asian or Asian British, 6% black or black British, 4% mixed, and 4% other. Fifty-nine percent were unemployed or on disability allowance, whilst 25% were employed or self-employed. Full demographic data is presented in Table 1.

To be accepted to the service, clients must meet DSM-V criteria for a diagnosis of a PD (American Psychiatric Association, 2013). Forty-six had a diagnosis of BPD, two of Narcissistic PD, and one of Personality Disorder Not Otherwise Specified (PDNOS), whilst data was unavailable for four participants. Common comorbid diagnoses included Generalised Anxiety Disorder (GAD; twelve participants), Avoidant PD (nine participants), Major Depressive Disorder (MDD; nine participants), lifetime alcohol or substance abuse (six participants), and post-traumatic stress disorder (PTSD; six participants). The service does not accept clients with florid psychosis, personality disorder due to head injury, or learning disability (identified by an IQ below 70 on the Wechsler Adult Intelligence Scale) so these groups were not represented in our study. Average length of treatment at the time of testing (excluding any previous treatment cycles) was 6.5 months (range 0 to 22 months). No participants had previous experience of CFT.
<table>
<thead>
<tr>
<th>Table 1: Demographic data of participants.</th>
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<tr>
<th><strong>Age (years)</strong></th>
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<th><strong>Gender (%)</strong></th>
<th>Male</th>
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<th><strong>Ethnicity (%)</strong></th>
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<td>Divorced</td>
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<td>Widowed</td>
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<td>Other</td>
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<th><strong>Employment (%)</strong></th>
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<td></td>
<td>Vocational</td>
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<td>Homemaker</td>
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<td>Post-graduate degree</td>
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<th><strong>Secondary diagnosis (%)</strong></th>
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<tr>
<td>Primary diagnosis (%)</td>
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<td>PDNOS</td>
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<td>MDD</td>
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<td>Missing</td>
<td>4 (7.5)</td>
<td>Lifetime alcohol/substance abuse</td>
<td>6 (11.3)</td>
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<td>PTSD</td>
<td>6 (11.3)</td>
<td>Obsessive-Compulsive PD</td>
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<td></td>
<td>Social Anxiety</td>
<td>3 (5.7)</td>
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* Due to space limitations, only secondary diagnoses with a frequency of ≤ 3 in the present sample are presented here.
Measures

**Demographic questionnaire.** Participants completed a questionnaire to collect data on age, gender, ethnicity, employment status and marital status. This questionnaire is provided in Appendix Two.

**Structured Clinical Interview for DSM-IV-TR Axis-II Personality Disorders (SCID-II) (First, Gibbon, Spitzer, Williams, & Benjamin, 1997).** The SCID-II is a structured clinical interview tool for clinicians, which identifies whether a client meets the diagnostic criteria for any PD. It has high levels of validity and reliability (Lobbestael, Leurgans, & Arntz, 2011; Shear et al., 2000). Qualified clinicians trained in this tool determined SCID-II diagnoses for all participants, as part of the initial assessment process at the service where recruitment took place.

**Outcome measures:**

*The Self-Compassion Scale-Short Form (SCS-SF)* (Raes, Pommier, Neff, & Van Gucht, 2011). This self-report scale was developed from an original 26-item scale (Neff, 2003a), and includes 12 short statements describing self-compassionate behaviours. Participants rate how often they engage in each behaviour on a Likert scale from 1 (almost never) to 5 (almost always). The SCS-SF demonstrated good internal consistency (Cronbach’s alpha ≥ .86) and a near-perfect correlation with the long form SCS (r ≥ .97) in three samples (Raes et al., 2011).

*Measures of imagery experience:*

No suitable validated measures were identified to evaluate the outcomes of CFI. However, a series of self-report items were drawn from previous literature that explored CFI experiences (Duarte et al., 2015; Kelly et al., 2010; Rockliff et al., 2011). Our intention was to measure affective, cognitive and imagery-based indicators of successfully generating compassionate imagery. To measure compassionate affect, we selected an item
that asked participants to rate ease of experiencing compassion during CFI (1 = very easy to 10 = very difficult). This has face validity but uncertain reliability and validity, and has not produced significant associations with predictor variables in previous studies (Duarte et al., 2015; Rockliff et al., 2011). No other items were found that directly tap the degree of compassionate affect experienced. (Previous literature has asked participants to rate whether they felt tense, sad or resistant following CFI, however these appear to relate to affective obstacles to compassion so were not used).

For the cognitive aspect, we included four items asking to what extent the image had core qualities of a ‘compassionate other’ - (i) Wisdom, (ii) Strength, (iii) Dependability, and (iv) Warmth & kindness, rated from 1 (= e.g. no wisdom) to 10 (= e.g. infinitely wise). These were taken from an eight-item measure that significantly correlated with variables such as self-criticism in previous research, although reliability and validity has not been reported (Duarte et al., 2015; Rockliff et al., 2011). Due to this study’s time limitations, only four items with the highest face validity to the concept of compassion were used.

Imagery vividness was measured using four items that instructed participants to rate vividness of their image in terms of (i) sound, (ii) sight, (iii) movement and (iv) interactions with the image; from 1 = clear as if in person, to 5 = no image at all. These were taken from a previous study which found them to have high internal consistency (Cronbach α = .85 to .92) (Kelly et al., 2010).

Participants were also asked to report the degree of effort made in each exercise (from 1 = no effort to 10 = tried hard).

High internal consistency was found for the four imagery items (α = 0.82) and for the four cognitive items (α = .95). For both scales, all items appeared worthy of retention since alpha decreased or remained the same if any item was removed. Correlations between the
four imagery items were large, indicating high convergence ($r = .697$ to .862); so too for correlations between cognitive items ($r = .754$ to .900). Divergent validity was examined by correlating items across different domains. The affective item had moderate-to-large correlations with the four cognitive items ($r = .550$ to .564) and four imagery items ($r = .483$ to .595). Similarly, the four cognitive items had moderate-to-large correlations with the four imagery items ($r = .386$ to .588). These are considerably lower than correlations between items from the same domain. Thus, reliability and validity analyses across the nine items confirmed our theorized model of three separate outcome measures relating to affective, cognitive and imagery aspects. We labelled these outcome measures respectively ‘Compassionate Affect’ (one item), ‘Qualities of Compassion (four items), and ‘Vividness of CFI’ (four items). Full versions of these questionnaires are included in Appendix Two.

In order to assess participants’ abilities to generate mental imagery, a set of items was developed to measure outcomes of a task involving generation of ‘Relaxing Imagery’. These items corresponded to the four imagery items used for the CFI task. Again, the full set of measures is included in Appendix Two. High internal consistency was found using three of the four relaxing imagery items ($\alpha = .886$): the fourth item (interacting with the image) generated a floor-effect which lowered the Cronbach’s $\alpha$ to .003, so was not retained. The remaining three items were therefore conceptualised as a measure of general mental imagery ability and labelled the ‘General Imagery Vividness Scale’.

*Measures of hypothesised predictor variables:*

*Positive and Negative Affect Schedule (PANAS) (Watson, Clark, & Tellegen, 1988).* This is comprised of two scales, measuring positive and negative mood respectively. Each consists of ten descriptors (e.g. excited, nervous, irritable) and respondents rate their mood against these on a 5-point Likert scale (ranging from 1 – very slightly to not at all to 5 – extremely). The
PANAS has been widely used in clinical research which has established its high validity and reliability, including high internal-consistency (\(\alpha = .86\) to \(.90\) for Positive Affect and \(.84\) to \(.87\) for Negative Affect) (Watson et al., 1988).

The Forms of Self-Criticism/Attacking and Self-Reassuring Scale (FSCRS) (Gilbert, Clark, Hempel, Miles, & Irons, 2004). This self-report scale consists of 22 items relating to how we think and feel when things go wrong for us. For all items, responses are given on a 5-point Likert scale ranging from 0 (not at all like me), to 4 (extremely like me). A principal components analysis reported in the original paper established three factors. The nine-item Self-Inadequacy component measures self-criticism stemming from a sense of personal inadequacy (e.g. “I remember and dwell on my failings”). The five-item Self-Hatred component measures self-criticism stemming from a desire to hurt or persecute oneself (e.g. “I call myself names”). A mean of items from each component is calculated, producing a mean score from 0-4, with higher mean scores indicating greater self-criticism. The final component, Self-reassurance, measures the ability to reassure oneself at times of difficulty. It consists of eight items (e.g. “I still like being me”). Again a mean is calculated, with higher mean scores indicating greater self-reassurance. The original study found high internal consistency for self-inadequacy (\(\alpha = .90\)), self-hatred (\(\alpha = .86\)) and self-reassurance (\(\alpha = .86\)). Subsequent studies using exploratory and confirmatory factor analysis have also concluded that a three-factor model best fits data from both clinical and non-clinical samples. However, many studies have found high correlations between the self-hatred and self-inadequacy components of between \(.68\) and \(.80\) (Gilbert et al., 2004; Gilbert et al., 2010, Richter, Gilbert & McEwan, 2009). For this reason, many studies using the FSCRS have merged the two components to produce a single self-criticism scale (Gilbert et al., 2006; Rockliff et al., 2011).
The Fear of Compassion scales (Gilbert et al., 2011). The present study uses only one of the three scales (Fear of Compassion towards Self), which consists of 15 items measured on a Likert scale from 0 (Don’t agree at all) to 4 (Completely agree). The original study reported high internal consistency for this scale ($\alpha = 0.92$).

The Experience of Shame Scale (ESS) (Andrews, Qian, & Valentine, 2002). This 25-item questionnaire assesses shame in eight different domains (including shame of saying something wrong, failure in competitive situations, and bodily shame). Within each domain, respondents are asked about experiential, cognitive and behavioural components of shame. On a four-point scale, ranging from 1 (not at all) to 4 (very much), respondents rate to what extent they have felt this type of shame in the past year. This yields total scores ranging from 25 to 100. The original paper found high internal consistency ($\alpha = .92$) and test–retest reliability, $r (88) = .83$.

Experiences in Close Relationship Scale-Short Form (ECR-S) (Wei, Russell, Mallinckrodt, & Vogel, 2007). This 12-item questionnaire measures how people generally experience emotionally intimate relationships. It has two subscales, Avoidance (whether one avoids committing in relationships for fear of getting hurt) and Anxiety (how anxious one is of being abandoned or unloved). Items are rated on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). Wei et al. (2007) found high internal consistency for the Anxiety subscale ($\alpha = .77$) and for the Avoidance subscale ($\alpha = .78$).

Power calculation
A power calculation was conducted based on previous research by Duarte et al. (2015), which measured CFI experience using the questions by Rockliff et al. (2011), on which our scales of Compassionate Affect, Vividness of CFI, and Qualities of Compassion were based. High self-critics were identified by a composite score on the self-hatred and self-inadequacy
components of the Forms of Self-Criticism/Attacking and Self-Reassuring Scale (Gilbert et al., 2004). Compared to low self-critics, high critics had greater difficulty experiencing their image having compassionate qualities \((t(26) = 3.17, p = .004)\), which corresponds to our Qualities of Compassion outcome measure; however, no significant group differences were seen on Compassionate Affect or Vividness of CFI measures. Effect size was not reported, but was estimated for present purposes as \(d = 1.243\) (large), using the t statistic and the total \(n \) \([d = 2t / \sqrt{n – 2}]\) since group means were also not reported. A power calculation was carried out using the “G*Power 3” computer program (Faul, Erdfelder, Lang, & Buchner, 2007), specifying \(\alpha = 5\%\) and desired power = 80%. The required sample size was estimated at 18.

A second power calculation was conducted using data from Neff (2003), who correlated scores on the Self-Compassion Scale with several proximal factors similar to those of our hypotheses. Exact \(p\)-values are not reported but correlations significant at \(p < .01\) were found for social-connectedness \((r = .41)\), self-criticism \((r = -.65)\), anxiety \((r = -.65)\) and depression \((r = -.51)\). A power calculation based on these values, specifying \(\alpha = 5\%\) and desired power = 80% indicates that the required sample size is estimated at 13 to 35 individuals, depending on the factor of interest.

A limitation of these power calculations is that the former calculation uses a t-statistic from a between-groups comparison, whilst the latter uses a different outcome measure to the present findings; however no study was identified that avoided these differences. For these reasons, the present study aimed for a larger sample to reduce risk of an underpowered study.

**Ethics**

Ethical approval for this study was given by the Research Ethics Committee London on 22 May 2015 (see Appendix Three for letter of ethical approval). The ethical considerations in this study were: (i) the use of several questionnaires about difficult childhood experiences and
distressing thoughts or feelings; (ii) the use of a negative mood manipulation. These procedures may have increased distress in participants, but their costs were deemed to be minimal (experienced clinicians perceived the questions and mood manipulation to be highly unlikely to trigger thoughts or feelings that participants were not already experiencing regularly). Furthermore, any small negative factor was deemed to be outweighed by the potential benefits of the study in directly informing a therapy that is widely offered to this client group. During the study, participants did report some distress as a consequence of the mood manipulation; therefore investigators emphasised that participants could disengage with the mood manipulation at any time if it felt too distressing.

Procedure

This study was conducted jointly with another UCL DClinPsy trainee, who wrote up a different set of results in another thesis (Mwale, 2016).

Procedure for testing session:

Clients currently attending, or on the waitlist of, a specialist PD service were invited to attend group testing sessions. Participants were recruited by asking therapists to inform their clients about the study, and posting letters of invitation to clients on the waitlist (a sample letter is given in Appendix Three). Group testing sessions were facilitated by two researchers. The group format increased clinical validity, since CFT interventions are often delivered in this format. In total, 17 groups were run from July 2015 to March 2016. Attendance ranged from one to 12 participants (one group had 12 participants; four groups had four to five; seven groups had two to three; and five groups were individual sessions).

All participants read the participant information sheet and signed a consent form (these are included in Appendix Three). Participants were then asked to complete the following measures, in the order described here: a demographic questionnaire, FSCRS, Fear of
Compassion to self, ECR-S, the Early Memories of Warmth and Safeness Scale (EMWSS), the Childhood Trauma Questionnaire (CTQ), the Invalidating Childhood Environments Scale (ICES), ESS, and the Self-Compassion Scale. Three of these measures are not detailed elsewhere in this report as they were used in analyses for another trainee’s joint project (Mwale, 2016) but not in the present report; namely, the EMWSS (Richter, Gilbert, & McEwan, 2009), the CTQ (Bernstein & Fink, 1998), and the ICES (Mountford, Corstorphine, Tomlinson, & Waller, 2007).

On average, participants took 30 minutes to complete the set of measures.

Participants were then guided through a two-minute breathing relaxation exercise to emulate normal group procedures and to relax those who might have been anxious about the unfamiliar setting and facilitators. Subsequently, participants were guided through a three-minute Relaxing Imagery Exercise about being on a beach (see Appendix Two for the script). This introduced them to imagery work (in the same way a CFT group would) and enabled us to subsequently measure general imagery ability. Participants then completed the General Imagery Vividness Scale (see Measures).

A script was then read out to participants that described the key ideas of CFT and CFI, and the potential benefits for mental wellbeing. In brief, participants were informed that, just as compassionate care from others can make us feel safe and soothe negative feelings, generating mental imagery of such an experience can induce the same effect. Compassion was defined as consisting of four aspects: Wisdom, Strength, Warmth and Responsibility (Gilbert, 2010a). A written summary was handed out to aid comprehension and recall during the session.

Participants were then guided through a CFI exercise, based on exercises from Gilbert (2010b): ‘Compassion flowing into oneself’ using a memory (recalling an incident where someone had been compassionate to them), and ‘Creating a Compassionate Ideal’ (creating an
ideal compassionate figure from imagination). Scripts are not provided due to copyright. The type of exercise was alternated on a group-by-group basis, which resulted in 25 participants doing the Compassionate Memory exercise and 28 trialling Compassionate Ideal.

Participants were guided through the CFI exercise once and invited to ask questions to ensure the task was understood. A brief guided relaxation exercise was offered (10 slow abdominal breaths) and then participants completed the PANAS to measure current affect. They were then guided through CFI again, and asked to complete a measure of effort, the three outcome scales: Compassionate Affect, Vividness of CFI, and Qualities of Compassion (see Measures), and note anything else they wanted to share about the task (in case poor recall or social pressures inhibited them from sharing these ideas during group discussions).

At this point an experimental manipulation of distress was carried out, to enable us to assess whether positive and negative affect are obstacles to compassionate imagery generation. Participants were asked to recall for one minute an experience of being abandoned or rejected by someone close to them (but told to stop if the task felt overwhelming). In order to withhold the aims of the experiment from participants, this was framed as another task to measure imagery abilities; to assist in this, participants were asked to complete the General Imagery Vividness Scale for their image. The PANAS was then re-administered to evaluate the manipulation’s success. Participants were then guided through the same CFI task that they had tried before the manipulation, and were again asked to complete a measure of effort and the three outcome variables, along with any further comments.

Following this, participants were invited to participate in a discussion with other group members about their experiences of CFI. A semi-structured interview schedule was used (see Appendix Two). The data was reviewed after six sessions and several questions (3, 5 and 6)
were added to enable additional data collection. Questions were directed to the whole group to avoid increasing anxiety, but interviewers encouraged all participants to respond by asking “does anyone else have similar or different views?”. In order to reduce client’s distress or arousal following the session, they were invited to engage in a relaxed discussion about a light-hearted topic. Participants were reimbursed for their time and effort with a £10 high-street voucher.

Procedure for follow-up:
All participants were invited to participate in the follow-up part of the study if they were able to correspond by email. (Post and telephone contact were considered but excluded due to limited researcher time.) This involved practising CFI twice daily for one week (the same exercise that participants trialled in the testing session). Participants were supplied a written script of the exercise at the testing session and via email. Text reminders were sent twice daily to encourage practice.

After seven days, participants were emailed and asked to electronically complete the Self-Compassion Scale again. Additionally, they were asked to rate on a 7-point scale their practice frequency (More than twice daily; twice daily; once daily; 5-6 times in the week; 3-4 times in the week; 1-2 times in the week; none). The following questions were also asked to collect data on barriers to CFI during practice:
1. When you practised the imagery...
   a. Did any thoughts get in the way of the image?
   b. Did any feelings get in the way?
   c. Did any memories get in the way?
2. If you did not get to practise as much as you would have wanted, what got in the way of you practising?
3. What would have encouraged you to practise more?

Participants who did not respond were prompted to complete the questions daily via email for one week. Those who completed the follow-up study were reimbursed with an additional £5 high-street voucher.

Data Analysis

Quantitative data

Data analysis was conducted using SPSS. A statistical plan was developed as follows:

1. To verify whether the mood manipulation was successful by running a paired-sample t-test comparing PANAS scores pre- and post-mood manipulation.

2. To run correlations to explore whether any hypothesized predictor variables (baseline self-compassion, self-reassurance, self-hatred, self-inadequacy), shame, fear of self-compassion, positive and negative affect, experiences of close relationships) were correlated with the three outcome variables at (i) pre- manipulation and (ii) post-manipulation. To run paired-sample t-tests to explore whether type of CFI exercise (from memory vs. imagination) predicts CFI outcomes under either mood condition.

3. Assuming the mood-manipulation to be successful: To run three repeated-measure multiple analysis of covariance (RM-ANCOVA) using each of the outcome variables in turn as the dependent variable, with mood-condition as a repeated-measure factor. Covariates would include both self-hatred and self-inadequacy forms of self-criticism (based on the empirical evidence that self-criticism is related to CFI outcomes) and baseline self-compassion (given that this is the intended outcome of the intervention) and any other variables that emerged as being significantly correlated to CFI outcomes.
Several measures were found to not fit a normal distribution: data from the the Experiences of Shame Scale (ESS) and the self-hatred and self-inadequacy scales of the FSCSR were negatively skewed (indicating high levels of shame, self-hatred and self-inadequacy in this population). The data from the Self-Compassion Scale Short Form (SCS-SF) and the self-reassurance scale of the FSCSR and the outcome measures of Vividness of CFI and Compassionate Affect were positively skewed (indicating a prevalence of low self-compassion and low self-reassurance in this population, and difficulties generating vivid CFI or experiencing compassionate affect in the present study).

Transformation of variables was attempted as a solution rather than use of non-parametric methods, because there are no straightforward non-parametric equivalents for the RM-ANCOVA. (Spearman’s Rho was attempted as a non-parametric alternative for the initial correlational analyses, but this produced the same results as Pearson’s correlations so are not reported here). Square root transformations converted the SCS-SF and self-reassurance data to normal distributions. Data on self-hatred and self-inadequacy were reverse-scored before undergoing square-root transformations, rendering the self-inadequacy data normal and the self-hatred data closer to normal. Similarly, ESS data was reverse-scored before undergoing a Log10 transformation (as this was more effective than a square root transformation), which reduced the skew although did not produce a normal distribution. Neither a square root nor a Log10 transformation improved the distribution of either Vividness of CFI or Compassionate Affect. Thus, only the transformed SCS-SF, FSCRS (self-reassurance, self-hatred, and self-inadequacy) and ESS variables were used in subsequent analyses.

Following the transformation, non-parametric correlations revealed that self-hatred and self-inadequacy were highly correlated ($r = .620$, $p < .0005$), yet did not reach theorized limits
for risk of multicollinearity which are around 0.8 to 0.9 (Field, 2009). Therefore, they were considered as separate factors in all analyses.

**Analysis of follow-up data:**

The plan for analysing follow-up data was as follows:

1. To conduct a logistic regression to identify predictors of drop-out from follow-up. Predictor variables would include baseline self-compassion and both forms of self-criticism (based on a-priori hypotheses that participants low in self-compassion and high in forms of self-criticism could be more engaged in CFI because they might perceive it to be useful, or indeed less engaged since they might experience more difficulties). Any other variables that were significant predictors of CFI outcomes in the initial study would also be included.

2. To identify participants who reported practising at least five times throughout the week and compare scores on the Self-Compassion Scale Short-Form (SCS-SF) from baseline (pre-mood-manipulation) to follow-up, using paired sample t-tests.

   For step 1, the initial logistic regression model (using both forms of self-criticism, self-compassion, general imagery vividness, fear of self-compassion, and negative and positive affect) was non-significant ($p = .515$), with only self-compassion contributing significant predictive power. Therefore, a new logistic regression was run with only self-compassion as a predictor.

   For step 2, both baseline and follow-up self-compassion scores underwent square-root transformation due to the non-normality of the former. All findings are reported in the Results section.

**Qualitative data**

Qualitative data from the group discussions and the free-response questions on CFI were analysed using thematic content analysis. This method was chosen because our aim was to
identify and describe patterns (themes) within the data. Given that the present study only interviewed participants briefly and in a group setting, it was not anticipated that the data would identify a comprehensive set of all barriers to compassionate imagery, or a detailed understanding of how these impacted on generating CFI. As a result, other forms of qualitative analysis were deemed less appropriate (such as grounded theory, which aims to produce a fully comprehensive theory of the data; or interpretative phenomenological analysis, which aims to understand people’s experiences in great detail).

The research questions chosen for our qualitative analysis were: (i) How did participants describe the overall experience of CFI? (ii) For those who could generate an image, what was imagined? (iii) What thoughts, feelings or experiences did participants identify as barriers to generating CFI? (iv) What did participants believe might help them overcome barriers to CFI?

The two primary researchers (IN and AM) each took responsibility for analysing half of the data. An orthographic (verbatim) transcript was written for each group discussion. These were uploaded to the program NVivo for analysis, along with data from the CFI free-response questions.

Thematic analysis was guided by the approach outlined by Braun and Clarke (2006). This involved: familiarisation with the data; coding to identify important features of the data; searching for broader ‘themes’ from these codes; reviewing and refining the themes to ensure that they represented the data and were answering the research questions; defining the themes and providing them with meaningful names; and writing up a narrative of the findings (selecting examples of themes and relating these back to the research questions). A credibility check was carried out during theme refinement by both researchers reading through the other’s themes and comparing them to the data.
Researchers play an active role in thematic analysis and their perspectives therefore inevitably shape which themes are ultimately identified (Braun & Clarke, 2006). For this study, both researchers were familiar with writings by Paul Gilbert on hypothesised barriers to compassionate imagery (Gilbert, 2010b). Both held a belief that CFI is likely to be helpful yet challenging for clients with PD, given that the project idea was suggested by clinicians in a specialist PD service that offers CFT. IN had previously co-facilitated CFT for one client with a diagnosis of BPD which produced good clinical outcomes; AM had not previously worked with a CFT approach. Both researchers attempted to bracket their assumptions and record both negative and positive comments regarding CFI.

**Results**

**Descriptive findings**

Table 2 presents the means and standard deviations for all measures of the hypothesised predictors: self-compassion (SCS-SF); shame (ESS); self-reassurance, self-hatred and self-inadequacy (all from the FSCSR); fear of self-compassion; experiences in close relationships (ECR); positive and negative affect on the PANAS (measured both pre- and post-manipulation); and general imagery vividness.

Means and standard deviations are also presented for the three outcome variables, Vividness of CFI, Qualities of Compassion, and Compassionate Affect (for CFI pre- and post-manipulation).

**Table 2: Descriptive statistics for hypothesised predictors and outcome measures**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean (SD)</th>
<th>Pre mood-manipulation</th>
<th>Post mood-manipulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCS-SF</strong></td>
<td>19.76 (6.76)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td><strong>ESS</strong></td>
<td>86.83 (16.05)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td><strong>FSCSR (Self-Reassurance)</strong></td>
<td>1.37 (0.86)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>Mean (SD)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>FSCSR (Self-Inadequacy)</td>
<td>3.43 (0.59)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>FSCSR (Self-Hatred)</td>
<td>3.09 (0.81)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Fear of Self-Compassion</td>
<td>38.45 (13.43)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>ECR</td>
<td>59.42 (9.67)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>PANAS (negative mood)</td>
<td>25.00 (10.22)</td>
<td>32.88 (11.20)</td>
<td></td>
</tr>
<tr>
<td>PANAS (positive mood)</td>
<td>21.46 (7.23)</td>
<td>18.66 (7.31)</td>
<td></td>
</tr>
<tr>
<td>General imagery vividness</td>
<td>9.15 (3.52)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Vividness of CFI</td>
<td>11.58 (5.57)</td>
<td>11.78 (4.55)</td>
<td></td>
</tr>
<tr>
<td>Qualities of Compassion</td>
<td>22.75 (11.66)</td>
<td>23.67 (10.66)</td>
<td></td>
</tr>
<tr>
<td>Compassionate Affect</td>
<td>4.37 (2.57)</td>
<td>4.34 (2.52)</td>
<td></td>
</tr>
</tbody>
</table>

Participants’ self-rated effort scores for the CFI exercises (rated from 0 to 10) were observed to be relatively high. For the first trial of CFI, the mean score was 7.3, with only two participants scoring <4. For the second trial, the mean score was 7.5, with only four participants scoring <4.

Mood manipulation

Following the experimental mood manipulation, negative mood demonstrated a significant increase ($t(51) = -6.34, p < .0005, d = -0.925$); and positive mood a significant decrease ($t(51) = 3.544, p = .001, d = 0.491$), (see Table 2 for means). This suggests that the mood manipulation was successful.

Correlations between CFI outcomes

Correlations were run between the three CFI outcomes to identify whether affective, cognitive and imagery-based characteristics of CFI were associated. Significant correlations emerged between Vividness of CFI and Compassionate Affect both at pre-mood-manipulation ($r(51) = .545, p < .0005$) and post-mood-manipulation ($r(51) = .633, p < .0005$). Similarly, Qualities of Compassion was significantly correlated to Compassionate Affect pre-manipulation ($r(50) = .611, p < .0005$) and post-manipulation ($r(50)= .580, p < .0005$). Qualities of Compassion and
Vividness of CFI were correlated pre-manipulation \(r (50) = .502, p < .0005\) and post-manipulation \(r (50) = .657, p < .0005\). These correlations are presented in Table 3.
Table 3: Correlation coefficients and corresponding p-values for CFI outcomes, pre- and post-manipulation.

<table>
<thead>
<tr>
<th></th>
<th>Pre-manipulation figures in bold</th>
<th>Compassionate Affect</th>
<th>Vividness of CFI</th>
<th>Qualities of Compassion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-manipulation</td>
<td>r</td>
<td>.545</td>
<td>.611</td>
<td></td>
</tr>
<tr>
<td>figures in italics</td>
<td>p</td>
<td>&lt; .0005</td>
<td>&lt; .0005</td>
<td></td>
</tr>
</tbody>
</table>

Compassionate Affect

Vividness of CFI

Qualities of Compassion

Correlations between predictor variables

Non-parametric correlation (Spearman’s rho) revealed that self-hatred and self-inadequacy were highly correlated ($r = .620$, $p < .0005$), but were sufficiently distinct to be considered as different factors for subsequent analyses.

Correlations between predictor variables and CFI outcomes

A series of correlations were run between hypothesised predictor variables and the six outcome scores (representing the three outcome scales measured pre- and then post-manipulation). All correlations and corresponding $p$-values are presented in Table 4. Negative mood and general imagery vividness demonstrated significant correlations with five of the six outcome scores (at $p < .05$). Fear of self-compassion was significantly correlated with Qualities of Compassion pre-manipulation, and with Compassionate Affect post-manipulation. Positive mood was significantly correlated with one outcome score (Compassionate Affect, pre-manipulation). No significant correlations were found between outcome variables and other hypothesized predictors (baseline self-compassion, self-reassurance, self-hatred, self-inadequacy, shame, and experiences of close relationships).
Table 4: Correlation coefficients and corresponding p-values for hypothesised predictors and CFI outcomes, Pre-manipulation and Post-manipulation.

<table>
<thead>
<tr>
<th></th>
<th>Compassionate Affect</th>
<th>Vividness of CFI</th>
<th>Qualities of Compassion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>Negative mood</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>-.330*</td>
<td>-.356**</td>
<td>-.142</td>
</tr>
<tr>
<td></td>
<td>.017</td>
<td>.010</td>
<td>.310</td>
</tr>
<tr>
<td>Positive mood</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.278*</td>
<td>.255</td>
<td>.232</td>
</tr>
<tr>
<td></td>
<td>.046</td>
<td>.071</td>
<td>.094</td>
</tr>
<tr>
<td>General imagery vividness</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.333*</td>
<td>.250</td>
<td>.488**</td>
</tr>
<tr>
<td></td>
<td>.016</td>
<td>.077</td>
<td>.488**</td>
</tr>
<tr>
<td>Self-compassion</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.122</td>
<td>.138</td>
<td>.029</td>
</tr>
<tr>
<td></td>
<td>.390</td>
<td>.334</td>
<td>.029</td>
</tr>
<tr>
<td>Fear of self-compassion</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>-.219</td>
<td>-.340*</td>
<td>.033</td>
</tr>
<tr>
<td></td>
<td>.118</td>
<td>.015</td>
<td>.033</td>
</tr>
<tr>
<td>Self-reassurance</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.250</td>
<td>.146</td>
<td>.105</td>
</tr>
<tr>
<td></td>
<td>.073</td>
<td>.305</td>
<td>.105</td>
</tr>
<tr>
<td>Self-hatred</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.125</td>
<td>.218</td>
<td>-.060</td>
</tr>
<tr>
<td></td>
<td>.379</td>
<td>.125</td>
<td>-.060</td>
</tr>
<tr>
<td>Self-inadequacy</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.180</td>
<td>.157</td>
<td>.128</td>
</tr>
<tr>
<td></td>
<td>.203</td>
<td>.271</td>
<td>.128</td>
</tr>
<tr>
<td>Shame</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.019</td>
<td>.138</td>
<td>-.242</td>
</tr>
<tr>
<td></td>
<td>.891</td>
<td>.334</td>
<td>-.242</td>
</tr>
<tr>
<td>Experiences of close relationships</td>
<td>r</td>
<td></td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>-.134</td>
<td>.177</td>
</tr>
<tr>
<td></td>
<td>.999</td>
<td>.355</td>
<td>.177</td>
</tr>
</tbody>
</table>

*Significant at α=.05, **Significant at α=.01

Note that scores for self-inadequacy, self-hatred, and shame underwent reverse scoring to enable transformation prior to correlational analysis, so correlations should be interpreted on the basis that low self-inadequacy, self-hatred, and shame would produce high transformed scores.
The large number of correlations that were run between predictor variables and CFI outcomes (60 in total) increases risk of Type I error. A Bonferroni correction would adjust the significance level from $\alpha = .05$ to $<.001$. This was not applied due to risk of inflating Type II error; however, Table 4 presents $p$-values marked with the conventional significance level of $\alpha = .05$ and a more conservative $\alpha = .01$.

CFI from memory did not produce significantly different outcomes to CFI from imagination on any of the outcome measures, either pre- or post-manipulation ($p \geq .140$).

**Repeated-measure ANCOVAs**

Repeated-Measures Analyses of Co-variance (RM-ANCOVAs) were run in order to investigate the effect of the mood-manipulation on CFI outcomes, and any interactions between mood condition and other hypothesised predictors. Experimental condition (pre vs. post mood-manipulation) was used as the within-subjects variable. Baseline self-compassion, shame, self-hatred and self-inadequacy were inputted as covariates based on a-priori hypothesis that these may predict CFI outcomes differently depending on mood condition. General imagery ability and fear of self-compassion were also inputted as covariates since they had produced significant correlations with some outcome scores.

Mood condition significantly predicted Qualities of Compassion ($F (1, 46) = 10.394, p = .002, \eta^2 = .191$), since participants scored their images more highly on Qualities of Compassion pre-manipulation (M = 23.46) than post-manipulation (M = 22.75).

Mood condition interacted with general imagery ability to predict Qualities of Compassion ($F (1, 46) =5.570, p = .023, \eta^2 = .112$), with a stronger predictive effect post-manipulation than pre-manipulation (see Table 4 for correlation coefficients and $p$-values). Figure 1 displays the stronger relationship between general imagery ability and Qualities of Compassion at post-manipulation, compared to pre-manipulation.
No significant main effects were found for mood condition on Vividness of CFI ($F(1, 46) = .893, p = .350, \eta^2_p = .020$) nor Compassion Affect ($F(1, 44) = 0.234, p = .631, \eta^2_p = .006$), and no interaction effects were found for these outcomes.

**Follow-up**

Seventeen participants (32.1% of the original sample) completed the follow-up measures. Ten reported practicing at least twice a day, five reported 5 - 6 practice attempts, and the remaining two reported 1 - 4 practice attempts. For the 15 participants who reported at least 5-6 practice attempts, self-compassion significantly increased from baseline ($M = 19.76, SD = 6.76$) to follow-up ($M = 24.00, SD = 6.56$), as shown by a paired samples t-test ($t(14) = -3.322, p = .005, d = -0.862$).
Baseline self-compassion significantly predicted drop-out from follow-up ($\chi^2(1) = 6.254, p = .002$), explaining 14.7% (Nagelkerke $R^2$) of the variance and correctly classifying 69.9% of cases who remained in follow-up. Those who dropped out of follow-up had higher self-compassion ($M = 24.69$) than those who remained ($M = 19.30$). Drop-out was not predicted by general imagery vividness, self-hatred, self-inadequacy or fear of self-compassion.

Qualitative reports of engaging in CFI

Thematic analysis of the qualitative data was used to answer the following four questions.

1. What was it like to engage in CFI?

Participants differed widely in their experiences of CFI. Four participants described compassionate feelings (“warmth”, “loved” “or “comforted”), three described feeling relaxed, and two described feelings of happiness. Ten described the task as "difficult", which often generated “absolute frustration and irritability”.

2. For those who could generate an image, what was imagined?

For Compassion from memory, recalled figures included a partner, a previous therapist, and pets. For Compassion from imagination, imagined figures included inanimate objects (a beach, a ship), religious figures, characters from fiction, or a future self. Three people found it helpful to focus on a voice or even imaginal interaction via telephone.

3. What barriers to generating CFI could participants identify?

Imagery ability. Some participants related their difficulties to a general problem of “maintaining the image” or creating any image: “I can’t hear anything, or reproduce things in any way”. Several described this leading to frustration which became a further barrier: “I struggle to imagine and that really does frustrate me, and then my mind just wanders off”.

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One person observed that they could not generate mental imagery, despite suffering from traumatic flashbacks.

*Distressing affect, images and thoughts following mood-manipulation.* Twelve participants found CFI harder after the mood manipulation. One attributed this to distress triggering a desire for isolation: “I trusted them, but...when I’m down I can’t stand people around me trying to comfort me or touch me”. Several attributed it to intrusive images or memories (“the critical image in between, I kept going back to it”) or to attempting to avoid such intrusions (“I didn’t want to go back into my head where the unpleasant experiences had taken place”). When asked whether this felt similar to everyday negative affect, one said that it created falsely vivid images (“it is a different drift. Maybe because I pictured it so clearly”) and another noted that in everyday experiences they would have engaged coping strategies, rather than tolerating the negative images as the mood-manipulation task required: “Normally I would make an effort to distract myself from this”.

*Lack of distress.* Conversely, four participants found that CFI was easier following the mood-manipulation because the compassionate figure “had something to soothe me about”. One elaborated that pre-manipulation they were thinking “What do I want them for?” and that this may also apply outside the clinical setting: “If I was in a down period or something, I would probably be more accepting of it than when I am fine”.

*Mistrust.* The most commonly identified obstacle was a doubt that others can be compassionate: “People are horrible, nasty people...everyone is in it for themselves”. As described previously, one felt that everyday kindnesses were rarely genuine: “Within this society ... there is a level of expectation for kindness...They don’t care enough to really hear [about my problems]...It feels like they accidentally got themselves into something”. One person found CFI somewhat cruel, due to believing that compassion is unattainable: “It’s sort
of like torture as well, like holding candy to a little kid”. Several related their beliefs to past experiences: stating that “People left me...compassion doesn’t last forever” or remembering “The negativity that you have had in your life, and you think, is there really anyone out there that is like that”.

A related theme was experiencing “manipulative, evil, untrustworthy” figures - “The first thing I think to myself is, ‘What do you want?’”. Consequently, participants found themselves “looking for that evidence....to clarify what you believe”. Again, this was attributed to “things that happened to me in the past which mean I don’t trust people”.

Several described a fear that “compassion causes pain” and believing that it might “hurt me, scare me...I just wanted to run out that door”. Two struggled to mentalise about the figure: “I don't know what the person behind the eyes is thinking. Are they doing it because they want to shut me up [or] because they genuinely love me?”.

**Lack of compassionate experiences.** Five participants related their struggles to a lack of past or current experiences of compassion: “dependability, kindness, things that we never had”. Participants reported that this created a barrier for CFI from imagination as well as CFI from memory, since “unless you have experienced it you can’t really imagine it...you are drawing from memories somewhere along the line”. Some could generate an image but no accompanying affect (“I wasn't able to relate to the person as I haven't received a lot of compassion in the past”). One person commented that “day-to-day moments” of experienced kindness are not sufficient because they do not feel genuine (see the theme ‘Mistrust’).

**Loss, anger and shame from lack of compassion.** Two participants experienced “a sense of rejection, loss, sadness” or “grief” because “we’ve never had that”. Others described “shame” and self-doubt (“Is there something even worse wrong with me because I was supposed to have some sort of compassion somewhere along the line?”). Other participants
described “anger” and “resentment” towards those who had not been compassionate, alongside “guilt” about these feelings.

*Feeling a burden on others or undeserving.* Six participants described beliefs related to this theme. One felt that they were “dragging everybody down” with their distress. One began to ruminate over “all the things I’ve done wrong. So…why do I deserve someone to be compassionate and loving towards me?”. Another stated, “I can’t take validation from anybody else…I feel ashamed”.

*Fear or reliance on the technique.* Two participants feared “setting a very high expectation of people because it would be difficult for anyone to match with that”.

*Self-criticism.* Four people mentioned experiencing “so many judgements about myself”, such as “Am I so far abnormal that I can’t even get a flicker of a picture?” or “What kind of a useless person am I that I can’t even imagine someone being kind to me?”.

*Social anxiety:* Two people described being “scared that others are looking at you”, although acknowledged that this would reduce in a setting with familiar people (as would occur when CFT is delivered clinically).

*Concentration difficulties.* Many participants described distraction from the ticking clocks present in all therapy rooms. Others described internal distractions (e.g. their “overactive imagination”).

*Discomfort with relaxation.* One participant described a fear of relaxation: “When I try to relax, panic sets in... I’m used to feeling intense”. They believed that relaxing means you are “out-of-control”.

4. **What might help participants generate CFI?**

*Emotion-regulation.* Several participants believed that after the mood-manipulation, CFI should have been preceded by other emotion-regulation strategies such as “time out”,
grounding techniques, or funny images to “add a bit of humour”. Two reflected that if they only used CFI when distressed, there is a “danger of associating it with feeling down”, as they might start resenting the figure for only being there in difficult periods. However, they noted that it is harder to practice in the absence of negative affect “because you think well, I don’t need it”.

Sensory cues. One participant suggested that it could be helpful for the CFI script to prompt other senses in addition to the visual and auditory: “We have more than one sense, and you are only asking us to use two”. Others suggested we put cues in the room to aid imagery generation: “a smell we could all relate to”, or “a packet of pampers with a picture of a baby … or an image of a dog…It makes you soft”. Other participants agreed that such images “would break the rigidity of things” and enable you to “compassionately relate to that specific thing”.

Giving compassion to others. Several participants described how caring for others was easier than being cared for: “I’ve always found it a lot easier when you can actually be there for someone, even though I have no idea how to”.

Trust. One participant recognised a need to build trust in people before engaging in CFI. However, one person managed her mistrust by adapting the CFI to avoid triggers: “I wanted to hit the face and push it away from me… Instead I imagined being held and the person’s voice in French”.

Practice. Nine participants observed in the experimental session that generating CFI “gets easier with time”. This enabled some to generate clear imagery (“The image is ok, but it is the voice I react to so, so I need to cultivate the voice the next time”) whilst others needed to build trust, noting that the first exercise was “almost asking you to trust someone you don’t
know, but the third time ...it felt like coming back to someone... a bit safer”. However, at the end many people still found it “impossible, cannot visualise anything”.

**Group versus 1:1 format.** Five participants stated preference for group-based CFT to normalise the difficulties: “Hearing you say ‘I struggled as well’ was quite nice, and reassuring”. However, several noted that “To do these exercises you have to feel relaxed in the group...people that you do trust”, and suggested that this could be built through sharing experiences. Two stated a preference for a 1:1 setting because of “the shame and nerves around people”, or because “I would need a lot of support to practise this and I don’t like being upset in front of other people”.

**Guided script.** Two participants appreciated the step-by-step instructions (“Guiding us through it, that really helped”) and continuous encouragement (“If it was just me I would have just given up, but I kept trying because you asked me to”).

**Steps.** Some participants suggested we “break it down into smaller steps” or give “a little bit more about the... physiological, psychological, emotional kind of reasons for it”.

**Setting aside a time in the day.** When asked how CFI could be generalised to home, several suggested scheduling it before bed (“I take ages to get to sleep”).

**Qualitative data from follow-up**

1. **Barriers to generating CFI at follow-up**

Many themes identified in the experimental session were again reported at follow-up, including: **Mistrust** (participants perceived figures as “manipulative and evil” or believed that “none of this is real anyway”); feeling **Undeserving** (“that I was not worth the compassion”); or feeling **Loss and Anger** about what was absent in their past (“got angry...I don't remember compassion or caring”; “really angry and then very sad”).

**Distraction** from noise and “day-to-day thoughts” was also mentioned by a number of people.
Two people referred to continued *Difficulties generating images*. One explained, “I just fixate on not being able to form an image or imagine anything, no memories, just blankness”. Another stated, “This has been a feature in DBT as well, just cannot accomplish it”. Again, “intense feelings of frustration” were mentioned as a result.

*Negative memories* were the most commonly cited barrier to generating CFI during follow-up. One participant specifically referred to the image that they had brought up in the mood manipulation (“We were asked to focus on a negative memory [in the experimental session]...this image continued to be a barrier as I tried to practise as the week progressed”). However, others described a series of memories from childhood and adulthood, including “emotional abuse”, incidents involving a “lack of compassion” from parents, or “relationships that have broken down and lost which were once such compassionate ones”.

2. **Outcomes of practising CFI**

The majority of participants who remained in follow-up described positive experiences from doing so. For example, one used CFI “spontaneously as a self-soothing exercise and found it effective”; another found that it worked “at certain times to provide some instant relief/diversion”, and one said the exercise “felt like I was in a safe place away from the harm of the world. That made me want to practise”. Another participant stated, “Compassion has proved to be what I am missing and I find that it’s helping”. However, one described a negative experience, stating that “It negatively affected my moods for several hours to even the whole day”.

3. **What helped or would have helped**

Several participants found it easier after “setting aside the time to practise”, and several “recorded the visualisation onto my computer”. One participant “altered the words of the text slightly” to remove prompts that triggered negative memories. One reflected that it was
difficult, and felt that they “would need to practise with my individual therapist and also to be coached in ways to tolerate or bypass the intrusive negative images and associated emotions”, however stated that “If I had actually been able to master the technique I think I would practise it regularly, as it seems very useful”.

**Discussion**

CFT is increasingly being integrated into treatment for PD, but little evidence exists on its therapeutic benefits or acceptability for this population. The key findings of this study were that negative affect and poor mental imagery ability were associated with greater difficulties in generating CFI and experiencing compassionate affect. Regular practice of CFI over one week led to a significant improvement in self-compassion. Participants high in self-compassion were more likely to drop out of follow-up.

**General mental imagery ability as a barrier to CFI**

In this study, vividness of CFI was significantly correlated with stronger representations of compassionate qualities and generation of compassion affect. This challenges the CFT manual (Gilbert, 2010b) which recommends that clients who struggle to experience clear pictures can be reassured that focusing on the task will be sufficient to generate affect (“The key focus of this imagery work is on the feelings that we try to generate, and that is linked to our intention”, p42). Instead, these findings indicate that compassionate affect may not be generated in the absence of a compassionate image.

This association indicates that poor general imagery abilities might be a barrier to generating CFI. Since Galton (1883), we have known that there are considerable individual differences in mental imagery ability. Theories about this variance have implicated both dynamic and static factors; with the neural basis hypothesised to be the voluntary control mechanisms that activate sensory areas, or the sensory areas themselves (Wassell, Rogers,
Theories citing differences in the storage of sensory-based representations in the visual and auditory slave systems of working memory are supported by fMRI studies showing that activation in sensory areas for visual, tactile and other modalities corresponds to imagery vividness for the corresponding modality (Belardinelli et al., 2009; Cui, Jeter, Yang, Montague, & Eagleman, 2007). Across both conditions of this study, poor ability to generate imagery (as measured by vividness for imagery of a beach) was associated with lower vividness of CFI, lower scores on Qualities of Compassion, and lower compassionate affect. Qualitative data suggested a vicious cycle whereby difficulties generating CFI led to frustration and loss of motivation to continue, which naturally prevented the possibility of improvement through practice.

An interaction effect was seen with mood manipulation, whereby general imagery ability predicted Qualities of Compassion post-mood manipulation, but not pre-manipulation. This could indicate that the presence of highly negative affect leads to a weaker cognitive conceptualisation of compassionate images for people with low imagery abilities, but may not be a barrier for people with stronger imagery abilities. However, this effect could also have been caused by another aspect of the manipulation (e.g., negative intrusive images being triggered) or a confounding factor (e.g., boredom during the second trial of CFI) having a greater impact on those with low imagery abilities.

An important clinical issue is whether imagery ability is a barrier to CFI in the long-term, or can be overcome with practice. If imagery ability cannot improve with practice, then continuing to direct clients towards imagery techniques may increase frustration or self-criticism about the task, which may result in disengagement or poor recovery rates. Vividness of CFI was not measured throughout the follow-up part of the study; however, two of the 17 participants who remained in follow-up reported continued inability to generate mental
imagery. However, this was not asked routinely at follow-up, and given the high attrition rates it might be that those who struggled with imagery were more likely to drop out, so we cannot draw conclusions about our sample as a whole.

The literature on effects of practice on imagery ability is conflicting. Rademaker and Pearson (2012) found that daily hour-long practice of imagining coloured Gabor patterns for five consecutive days did not improve mental imagery strength on either a subjective (self-report) ratings or an objective measure of imagery vividness. The objective measure was the extent to which imagery biased perception in binocular rivalry (a phenomenon whereby if a different pattern is presented to the left and the right eye, only one of the patterns is consciously perceived). Imagining one pattern in advance means that it is more likely to be perceived, yet in this study, practice did not increase this bias. However, several controlled studies have found that imagery vividness increases following training of more complex images or scenarios; for example, imagining carrying out good sleep hygiene practices (Loft & Cameron, 2013) or imagining ambiguous scenarios that end positively, which is a treatment for negative biases in depression (Torkan et al., 2014).

In sum, the effects of practice on imagery abilities are under-researched and warrant further investigation. This will help inform whether clients with weak imagery abilities could benefit from CFI with practice, or whether they should be directed to non-imagery-based compassion techniques such as compassionate thinking (replacing self-criticism with compassionate self-correction), compassionate behaviour (doing daily acts of kindness for yourself), compassionate facial expressions, and compassionate letter writing (Gilbert, 2010b).

One theme from group discussions was the potential for sensory cues (e.g. pictures, smells) to aid imagery generation. Generating mental imagery by looking at a picture and replicating a mental image of it predominantly uses short-term memory (STM), whilst long-
term memory (LTM) is used when generating images from previous memories, such as for the tasks in this study (Hitch, Brandimonte, & Walker, 1995). Sensory cues could therefore be used to enable STM imagery generation, but could also be used to support LTM imagery generation through improving recall. STM imagery generation might be easier for clients with few compassionate memories to draw on or who struggle to activate the LTM. Vividness of visual imagery is also more accurately retained for STM-generated images (Cornoldi, De Beni, Guisberti, & Massironi, 1998). However, since abstract descriptions of visual images are maintained in LTM, STM-generated imagery may not generate such strong affect. Thus, use of sensory cues and a comparison of the effects on STM and LTM imagery generation on affect warrants further research.

An interesting finding from the present study was that one person reported that they could not generate mental imagery, despite suffering from traumatic flashbacks. This may help us understand the neural mechanisms behind mental imagery and why some participants have difficulties in generating it. The difference may reflect that flashbacks in PTSD occur through automatic reactivation of representations, whilst mental imagery is a voluntary process. Alternatively, flashbacks and visual imagery may involve activation of different types of representation. Trauma memories, which are activated during flashbacks, are thought to consist of egocentric, inflexible representations which (unlike normal memories) do not have corresponding abstract, flexible, viewpoint-independent representations (Brewin et al., 2010). LTM imagery generation, as in this study, involves activating these abstract, flexible object representations, rather than inflexible representations of specific objects viewed on one occasion.

**Negative affect as a barrier to CFI**
Across the two conditions, higher negative affect (as measured by the PANAS) was significantly correlated with lower scores on all outcomes (Vividness of CFI, Qualities of Compassion, and Compassion Affect). In the group discussions, twelve people described finding the CFI exercises harder post-manipulation due to distress or intrusive images/thoughts. Conversely, four found it easier, since there was now a reason for them to accept compassion (however, visual inspection of the data showed that many other participants low in negative mood achieved good CFI outcomes, so this appears to be an individual difference).

Although negative affect scores were significantly correlated with all three CFI outcomes, experimentally-induced negative mood was associated with a reduction in only one outcome variable (Qualities of Compassion). One explanation for the findings regarding Vividness of CFI and Compassionate Affect is that negative affect does not influence these outcomes, but another factor predicts these outcomes and tendency for high negative affect: for example, both may be consequences of long-term depression. Since intrusive memories and avoidance are significantly higher in depressed clients than people who have recovered from or never had depression (Spenceley & Jerrom, 1997), depressed clients may avoid engaging in imagery for fear of triggering negative intrusions, and consequently score lower on Vividness of CFI and generated compassionate affect. This does not explain the positive association between mood condition and Qualities of Compassion, which could be due to another factor, such as that negative mood leads to low motivation to cognitively engage in tasks.

A more parsimonious explanation is that the Qualities of Compassion is more sensitive than the other two outcome scales: it includes four items with 10-point scales, whilst the Compassionate Affect scale is a single-item and the Vividness of CFI includes four items with only 5-point scales (which are less reliable than 10-point scales (Preston & Colman, 2000)). A
possible limitation of this study's design is that it confounds a negative mood induction with recall of negative memories (through mental imagery generation). The reduced scores in Qualities of Compassion following the manipulation could therefore be due to intrusive mental images from the critical imagery exercise rather than negative mood. However, this may in fact mirror naturally-generated negative mood: there is growing evidence that distressing experiences are so powerful because of their ability to generate negative memories with prominent visual components, which lead to intrusive thoughts and images. In many psychological disorders (such as PTSD, OCD, and anxiety disorders), recurrent and intrusive negative images are repeatedly present in awareness and shape self-appraisals (Brewin et al., 2010). Indeed, negative cognitions (e.g. about the self being unlovable) exist not solely in generalised semantic forms but also in the form of episodic memories of specific events.

Although it is possible that negative affect does lead to poorer CFI outcomes but is negated by practice effects (practice is a possible confound in this study), this hypothesis is unlikely since participants engaged in a practice CFI exercise prior to doing both exercises in order to militate against this.

**Other barriers to generating CFI**

Shame, current relationship experiences, baseline self-compassion, self-reassurance, self-hatred, self-inadequacy, fear of self-compassion and type of CFI exercise were not associated with most or all of the six CFI outcome scores. This is compatible with the fact that none of these were identified through thematic analysis of the qualitative data, except for several participants who referred to self-criticism. The finding that current relationship experience and forms of self-criticism were not significant predictors contrasts with research findings with non-PD populations (Duarte et al., 2015; Rockliff et al., 2008), and may reflect characteristics of the population.
The finding that baseline self-compassion, self-reassurance and fear of self-compassion were not significant predictors was also unexpected; however, it may reflect that the exercises involved experiencing compassion from others, rather than oneself. Key themes identified through qualitative analysis (such as mistrusting others, feeling a burden, or anger around a lack of past compassion) reflect interpersonal experiences that are likely to be more significant barriers to experiencing compassion from others than from oneself. In hindsight, it would have been interesting to include the Fear of Compassion From Others Scale (Gilbert et al., 2011) as another possible predictor. This was excluded due to time limitations and the lack of a-priori hypotheses for this being a barrier. Although fear of self-compassion and fear of compassion from others are highly correlated in non-clinical populations (Gilbert et al., 2011), the relationship in PD populations is not known. It is plausible that fear of compassion from others is especially heightened, given that clients with BPD interpret others malevolently more frequently than controls (Arntz et al., 2011).

**Efficacy and acceptability of CFI and CFT in PD populations**

In support of the idea that CFT is of clinical use in this population, baseline self-compassion in the current sample was lower (M = 19.76, SD = 6.76) than has been found in samples of the general population: for example, the original paper validating the English-version of the SCS-SF with a sample of undergraduates reported M = 36.00 and SD =7.33 (Raes et al., 2011).

This study found a significant increase in self-compassion in the 15 participants who practised CFI regularly (≥ 5 times) during follow-up. This suggests that CFI is an effective intervention for self-compassion in this population. A limitation of this study is the high attrition rate for follow-up (68%), thus it may be that those who remained in follow up and practiced regularly were not representative of the original sample. Drop-out from follow-up was associated with higher baseline self-compassion. This may indicate that low self-
compassionate people felt that the therapy would be helpful and thus were motivated to continue practicing. However, it may be that since people low in self-compassion are often high self-critics, they were more motivated to do the follow-up to avoid guilt-driven self-criticism related to dropping-out. All other predictor variables were not predictive of drop-out.

Qualitative data identified that the initial session was “difficult” for a considerable proportion of the sample, and for some it brought up negative feelings such as loss and anger about the compassion they lacked in childhood. However, this does not necessarily contraindicate CFI for such individuals: experiential avoidance is often unhelpful in the long-term; and indeed is a predictor of depression in BPD (Berking, Neacsiu, Comtois, & Linehan, 2009). Thus, CFI may generate initial distress but reduce long-term depression through mindful acceptance of past experiences and compassionate responding to the emotions generated.

**Strengths and weaknesses of the present study**

Achieving the sample size recommended by power calculations was a key strength that enabled us to develop an understanding of several relationships that had not previously been investigated in the literature. The sample predominantly had BPD as a primary diagnosis, which limits the generalisability to other diagnoses but does give weight to applying these findings to the treatment of BPD.

The mixed-method design is a key strength of this study. Collecting qualitative data enables identification of themes and ideas that are not within the researcher’s a-priori hypotheses. For example, although no measure of ‘Fear of compassion from others’ was used, qualitative analysis identified mistrust of others as a common barrier to generating CFI, both in the initial session and at follow-up.

The experimental manipulation of mood was a methodological strength, as any observed changes in outcomes following the mood-manipulation are thus more likely to be a
result of state negative affect than other confounding variables which could cause naturally occurring low mood, such as long-term depression. Since participants trialled CFI pre- and then post-mood manipulation, effects of mood-manipulation were confounded with practice effects. However, this was anticipated and an initial practice session was included to try to minimize this.

Despite the challenge of a lack of pre-validated outcome measures suitable for this study, we have developed measures that offer high inter-item reliability, high face validity, and divergent validity with one another. The Vividness of CFI scale demonstrated high inter-item reliability between all four items; yet one item in the General Imagery Vividness scale (measuring interaction with the image) did not. This reflects the presence of interaction components in the CFI tasks but not the beach imagery task, and thus supports the validity of the Vividness of CFI measure. Reliability of the Vividness of CFI scale might be increased by using 10-point Likert scales (which are more reliable than 5-point scales (Preston & Colman, 2000)). The Compassion Affect scale would benefit from additional items, since single-item measures “tend to be less valid, less accurate, and less reliable than their multi-item equivalents” (McIver & Carmines, 1981).

Inclusion of a follow-up was a key strength, although interpretation of these findings is limited by high attrition. If time and resources had allowed, a control condition involving no CFI practice would have strengthened our findings. Vividness of CFI was not measured at follow-up, which might have informed us whether training can improve imagery vividness (a question that remains unanswered in the literature). However, this would not have been appropriate with the current design: to achieve a higher response rate, participants were invited to complete the follow-up questionnaire up to 7 days after terminating CFI practice, and ratings of vividness are unlikely to be reliable several days after engaging in CFI.

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**Clinical implications**

Qualitative and quantitative findings from this study converge to suggest that participants will benefit more from these exercises when not highly distressed, at least in initial trials of CFI. Studies of BPD clients have found that overwhelming emotions are the main barrier to using any coping skills, and that this is overcome by personalisation of the skills and regular practice to integrate them into a behavioural repertoire (Barnicot et al., 2015). Therefore, in time participants might benefit from CFI when distressed, but certainly should initially practice when not distressed.

Clients with weak general imagery ability struggled to generate CFI and consequently experienced less compassion affect and considerable frustration. Until there is evidence that training improves mental imagery, CFI is contraindicated in such clients and they should therefore be directed towards other techniques.

Self-compassion, compassion for others, and compassion from others may all be experienced differently by clients with PD. Mistrust was a very common barrier identified by qualitative data, yet neither self-compassion, self-reassurance nor fear of self-compassion predicted CFI outcomes. Several comments from focus-groups described compassion for others as considerably easier, thus imagining offering compassion to others could be a helpful step towards receiving compassion, through activating concepts of compassionate relating.

This study introduced participants to CFI with only a brief description of CFT and its purpose, due to time constraints. Several participants felt it would have been helpful to be given “a little bit more about the... physiological, psychological, emotional kind of reasons for it”. This confirms the value of psycheducation as a key component of CFT, reflecting previous research which indicates that CFI in the absence of compassion-focused therapy can be unhelpful for a proportion of clients (Duarte et al., 2015)
Future research

The significant increase in self-compassion during the follow-up of this study indicates promising potential for CFT (and CFI specifically) as a treatment of PD, although interpretation of these findings is limited by the high attrition rate and lack of a control condition. Further controlled studies examining the efficacy of CFT and the technique of CFI in PD would be beneficial. This study predominantly involved participants with BPD; therefore future research could examine the effectiveness of CFI in other PD diagnoses in which elevated self-criticism is also observed, such as avoidant and dependent PD (Arntz et al., 2011).

This study found that weak mental imagery ability is associated with poorer CFI outcomes, yet there are many unanswered questions about individual differences in mental imagery abilities. Research into this field would assist clients who struggle with mental imagery generation, by identifying whether these abilities can be improved with practice, sensory cues such as pictures, or other adaptations. This would help develop not only CFT, but also other imagery-based therapies.

Conclusions

BPD and other personality disorders are characterised by heightened self-criticism, shame, and interpersonal difficulties. Regular CFI practice as part of a CFT intervention may offer an effective treatment for these difficulties, but may be less effective for clients in states of high negative affect, or with weak mental imagery ability. Further research is needed to understand the potential of CFI practice to overcome this obstacle. Qualitative data indicated that mistrust may be a key obstacle to engaging in CFI, although quantitative research is needed to confirm this. Compassion towards or from others appear to be experienced differently to self-compassion, and each might offer different opportunities to developing the soothing system.
References


Part 3: Critical Appraisal
Introduction

This paper offers a critical reflection of the literature review and empirical study outlined in Parts One and Two of this thesis. The literature review summarizes current evidence for reducing anger and aggression through the development of self-compassion. Reflections on this paper focus on the process of defining the research question and search terms, and on the clinical implications of the final results. The empirical study explores barriers to generating compassionate imagery (a key component of Compassion-Focused Therapy) amongst clients with a diagnosis of personality disorder (PD). Reflections on the empirical study relate to the strengths and weaknesses of the research design and execution, the development of outcome measures, consideration of ethical issues, and personal learning points from this project.

Literature Review: Identifying the Research Question and Search Terms

The literature review evaluates the use of self-compassion and self-forgiveness (interventions developed for high shame and self-criticism) to treat anger and aggression, based on evidence that shame underlies many incidents of anger and aggression (Gilligan, 2003).

Self-forgiveness and self-compassion were both incorporated in this review based on the author’s view that the two concepts are very similar. It was observed that separation of these two branches of the literature limits the sharing of empirical findings and insights from clinical practice between the two fields, which hampers progression. Initially these two concepts were assumed to be equivalent, with minimal reviewing of the literature. Preparing this paper made me aware of the importance of carefully defining key concepts early in the review. Ultimately, the definitions of self-compassion and self-forgiveness were found to be very similar, but if this had not been so it would have required considerable reworking of the review. Upon concluding that the concepts of self-forgiveness and self-compassion were similar, I then assumed that the two interventions could be reviewed simultaneously.
However, in time I realised that these interventions might use very different techniques and methods to generate change in the same domain (in the same way CBT and psychodynamic therapy for depression target the same outcome but through different techniques), in which case they should be reviewed separately. Thus, I recognised the importance of comparing different approaches on the basis of their techniques as well as their conceptualisations of the problem, prior to assuming that they are interchangeable.

A second learning point from this review occurred after discovering the striking lack of evidence for both self-forgiveness and self-compassion interventions for anger and aggression. These approaches have generated a plethora of clinical guidelines (e.g. Cornish & Wade, 2015), self-help books (Kolts, 2012), programmes (Kolts, 2013; Stosny, 1995), and theoretical articles (Gold, Sullivan, & Lewis, 2011). There is evidence for the efficacy of some of these programmes as a whole, such as the Compassion Workshop (Stosny, 1995), and for the efficacy of specific techniques in these programmes (such as building compassion for others). However, self-compassion/forgiveness techniques are not evidence-based, despite being a core aspect of all these programmes. This finding emphasises the value of literature reviews which conclude that there is insufficient evidence to inform their research questions. Such results are sometimes considered as a failure, yet they can be valuable in identifying when resources and client time could be being wasted through ineffective therapies or techniques. It is hoped that this paper will encourage researchers to evaluate the effectiveness of self-compassion/forgiveness interventions for anger or aggression, in order that these techniques can be improved or no longer offered if they are ineffective.

**Empirical Study: Methodological Strengths and Weaknesses**

High standards of research are vital in the generation of reliable and valid conclusions that can develop the field of psychology, and ensure that researchers use funding and participants’
time appropriately. Several of the strengths and weaknesses of the study outlined in the empirical paper will therefore be discussed in more depth here.

The sample size of this study was relatively large for a Clinical Psychology Doctorate thesis using a clinical population, which minimised the chances of analyses being underpowered. This was achieved by running research sessions immediately after DBT skills training groups, when participants were already at the site. Additionally, having supervisors who worked as service leads meant that clinicians were regularly reminded to recruit to the study by service managers (rather than by researchers to whom they were not accountable or familiar). Part-way through the study a strategic effort was made to increase number of male participants, when this sub-group was observed to be under-represented. This was facilitated by contacting all males on the treatment waitlist when posting out recruitment letters. Whilst this means that our sample is more representative of the service, a disadvantage of this approach is that it may not accurately reflect the demographics of clients that would choose to attend CFT groups.

Researchers transcribed the qualitative data shortly after collection, which is considered good practice in qualitative research as it enables the interview schedule to be edited for subsequent sessions in order to capture more relevant data. Additional questions were included as a consequence: for example, after one participant suggested that sensory cues (e.g. pictures) could help them generate CFI, a question on this was added to help us to gauge whether others agreed. A disadvantage of researchers immersing themselves in the data, however, is that they may begin to develop expectations about the themes that will be generated from the data. This may bias their questioning during subsequent data collection (for example, researchers may change their voice tone or ask different follow-up questions)
and could reduce the likelihood of identifying information that conflicts with the themes they have generated.

One important limitation was the high attrition rate at follow-up. Initially, researchers planned to prompt participants to complete the follow-up questionnaire daily, up to seven days after the initial request. The initial prompting rate was lower, but was increased once the high attrition rate was observed, yet this did not greatly increase response rate. This may indicate that participants who did not practice felt uncomfortable about responding, although they were encouraged to nonetheless. This could produce a biased response rate where those who had positive experiences of CFI are overrepresented; however, this is unlikely since variables identified as blocks to compassion (e.g. imagery vividness) did not predict drop-out. One exception to this is mistrust of others: qualitative data indicated that this was associated with difficulties generating CFI (and in some cases led to generation of distressing imagery), but since no measure of mistrust was used, it could not be determined whether this was associated with drop-out. If mistrust of others does lead to more negative CFI experiences and therefore to disengagement, it will be important for CFT for PD to be adapted to help clients build trust before engaging in CFI.

Another limitation is that the study may lack some clinical validity, since in clinical settings, CFT is usually delivered in a closed-group format where participants are familiarised with one another over time. In the focus groups, one participant stated, “To do these exercises you have to feel relaxed in the group...people that you do trust”. Although some participants knew one another (since DBT skills training group members were invited to attend research sessions immediately after groups), those recruited from the wait-list were not familiar with other participants, and all were unfamiliar with the researchers. Thus, the research context may have induced levels of anxiety higher than those in typical clinical settings.
Development of Outcome Measures

The three main outcome measures used were all developed specifically for this study, although were based upon previous research into Compassionate Imagery (Duarte, McEwan, Barnes, Gilbert, & Maratos, 2015; Kelly, Zuroff, Foa, & Gilbert, 2010; Rockliff et al., 2011). The outcome measures consisted of a single-item measure of Compassionate Affect (using a 10-point Likert Scale); a 4-item measure of Qualities of CFI (with 10-point Likert scales); and a 4-item measure of CFI Vividness (with 5-point Likert scales). These are provided in Appendix Two. The multi-item scales had high internal consistency, whilst correlations between items from different scales indicated that the three scales’ concepts were related but distinct.

A limitation of the study is that the Compassion Affect measure consisted of only one item. Single-item measures “tend to be less valid, less accurate, and less reliable than their multi-item equivalents. [Furthermore] the social scientist rarely has sufficient information to estimate their measurement properties. Thus their degree of validity is also often unknowable” (McIver & Carmines, 1981, p. 15). Only one item was used because upon reviewing previous literature that measured CFI experiences, no other items appeared to tap degree of compassionate affect (Duarte et al., 2015; Kelly et al., 2010; Rockliff et al., 2011). On reflection, reliability and validity of this measure could have been increased through creation of additional items. For example, clients could have been asked to rate on Likert scales the extent to which they felt (i) soothed (ii) cared for, or (iii) unconditionally accepted.

A second possible limitation of the study was the use of only 5-point Likert scales for the CFI Vividness measure, in line with the initial study that developed these items (Kelly et al., 2010). Whilst psychological research tends to use 5 and 7-point scales, Preston and Colman (2000) found that that 7, 9 or 10-point scales have higher validity and test/retest reliability than shorter scales (no significant increases in reliability and validity were seen above 10-point
scales). Respondent preferences in this study also supported the use of scales with 7, 9 or 10 points, since they were deemed long enough for respondents to express their feelings adequately, yet short enough to enable ease and speed of use. However, the authors acknowledge that different circumstances may lead to certain criteria being prioritised (for example, respondents rate 5-point scales as quicker and easier to use, so may reduce respondent demotivation).

For this study, using 5-point rather than 7- or 10-point Likert scales for these four items would have minimal impact on respondent motivation (given the numerous other measures being used), while the reliability and validity of the CFI Vividness measure should have been prioritised given that it is a study outcome measure. Finally, there is a possibility that using a different-length Likert scale for the CFI Vividness scale to the Compassion Affect and Qualities of CFI scales may have falsely inflated divergent validity between these scales: if 10-point scales had been used for all measures, a finding of higher correlations between same-scale items than between different-scale items would lend stronger support to the conceptual division between the three outcome measures.

**Empirical Study: Ethical Considerations**

The Code of Human Research Ethics (British Psychological Society, 2009) states that psychological research should aim to “maximize benefit and minimise harm”, including risks to psychological well-being, personal values, or invasion of privacy. The code further states that research is generally only acceptable if: (i) the costs to the individual participant are outweighed by potential societal benefits; (ii) risk of harm is (normally) “no greater than that encountered in ordinary life”; and (iii) researchers have “put in place measures to obviate, minimise and manage such risks”.
The empirical study in this thesis includes two elements that should be carefully considered due to their potential to cause harm to participants: (i) induction of negative mood through prompting recall of a time that participants had “been rejected or criticised”; and (ii) use of a series of questionnaires about thoughts, feelings and life experiences that might be distressing to recall or to rate (such as measures of shame or self-criticism).

The study was passed by a Research Ethics Committee following discussion of whether the study met the ethical criteria described above. Both of these aspects of the study were not expected to generate levels of distress beyond those encountered in ordinary life by these participants. Firstly, the questionnaires used for this study are all regularly used in mental health settings. Secondly, expert clinicians who were consulted reflected that clients with personality disorder most likely would experience intrusive memories of being rejected or criticised on a day-to-day basis, as these are common core schemas for these individuals. Furthermore, plans had been put in place to manage distress and risk, such as offering pleasurable activities and snacks at the end of sessions, warning participants in advance to stop the task should it become too distressing, and running sessions in clinical settings so that clinicians (who knew the clients) were on-hand to support the researchers. All participants were either attending the service for personality disorder or on a waitlist, with access to community support; thus long-term support was also available. Finally, the low potential for harm was deemed to be outweighed by the considerable potential that the study had to benefit mental health patients in future, given that it aimed to identify specific ways to address problems in personality disorder (high self-criticism and shame) that are prevalent and often lead to high distress.

Despite these precautions, qualitative data indicated that many participants were distressed by the mood manipulation. Several reported that the exercise caused them to feel
“weighed down by all the feelings that it has brought up”, that they experienced “a sense of sadness and despair through doing this”, or that it “caused emotions of loss and rejection”. Two participants described anger that they were asked to recall such memories: “I’m angry at you two...I’m thinking about things that happened to me that I don’t want to think about, for a reason”; and “I understand it is for research but asking people who suffer from mental health problems to think of difficult times, it is very distressing...Sorry I got quite angry because you asked us to think of distressing things and then expecting us to go back to this nice exercise”.

Although these emotions were only described by a small minority of participants, they indicate a level of distress beyond that of everyday levels, which should be of concern to researchers. The problem appears to have arisen either because these participants selected the worst memory they could recall (“I went too extreme...it was too powerful”), or because they did not feel able to stop the exercise and use coping strategies (“I struggle with these things every day and I manage to, not push them down but ...and then you are trying to bring up things that we are trying to get rid of”).

Other participants who felt the research design was appropriate reported that they selected memories that were tolerable, and used coping strategies: “you didn’t go in forcefully to ‘tell us the worst thing that ever happened to you’, it was down to the individual to pick what they thought was appropriate. And I held onto a lot of my coping mechanisms, I thought of things that have worked for me to manage the memories of certain things, so I found that quite comforting”.

One explanation for these differences is that participants who had begun DBT therapy at the service had learnt a range of coping strategies, whilst those recruited from the waiting list could have had fewer coping strategies to draw upon. Alternatively, the fact that several participants did not engage typical mood regulation strategies despite being invited to stop
may reflect that they felt obligated to engage in the task in their roles as participants. This highlights the caution given in the Code of Human Research Ethics (British Psychological Society, 2009) that “A difference in power inevitably exists between researchers and participants, even if researchers seek to minimise it.”

Participant consultation regarding the experimental design prior to the study might have enabled us to anticipate the distress that some participants felt doing parts of this study. The small minority of participants who described distress following the manipulation did not approach us or their therapists for further support after the session, and no complaints were raised, so large-scale changes to the study design do not seem warranted. However, greater emphasis could have been placed on giving participants permission to end the exercise should they wish to, as well as explaining that the task should not generate greater levels of distress than those experienced day-to-day. The group discussions at the end of experimental sessions enabled us to acknowledge and validate participants’ distress or anger about these aspects of the study, which may have been therapeutic.

An important part of ethical research is how we give back to participants who have contributed their time and effort (and sometimes experienced distress) to further mental health research. Disseminating results effectively is an important part of this, and thus we are currently preparing our results for publication and a conference poster. However, direct feedback to participants also enables them to see the outcomes of their contributions and to gain knowledge about their diagnoses or treatment. Researchers also benefit from these efforts to recognize participants’ contributions, as it may encourage participants to continue contributing to future psychological research. To this end, our results are being summarized into an accessible poster format for dissemination to all participants who had provided email addresses, and also to the services from which we recruited.
Personal reflections

I experienced a lot of satisfaction whilst conducting these projects, particularly the empirical study. I found the academic challenges of research design, interpreting results, and considering opportunities for future research to be very rewarding, which has shaped my intentions to continue in clinical research following doctoral training. A key motivator during this project was that I believed the research to have clear implications for clinical practice.

I developed a greater appreciation for qualitative analysis through observing first-hand the benefit of using this approach alongside quantitative analysis, as it enabled us to identify themes that we had not considered a-priori.

Having the opportunity to take a lead role in designing, conducting and writing up original research has given me confidence in these skills and led me to be more driven and exacting than I would have been in a role with less responsibility. I hope to hold this in mind when I supervise others in the future.

Conclusions

The literature review and empirical paper from this thesis have led to useful findings, such as recognizing several barriers that could be addressed to enhance compassion-focused imagery in CFT; and identifying the lack of evidence for self-forgiveness and self-compassion interventions for anger and aggression, despite the prevalence of these ideas in scientific literature. Additionally, this process highlighted some important principles of conducting and reporting on research. Key learning points from the literature review include the value of careful use of terminology, and being wary of assuming that concepts widely discussed in the ‘grey literature’ or in review articles are always backed up by empirical data. Key learning points from the empirical paper include recognition of the benefits of collaborating with
clinicians to boost recruitment; methods to enhance development of psychometric scales; and the need to hold in mind the power imbalance between researchers and participants.

References


Appendix One

Contribution made by each trainee to the joint project
The study design was agreed through joint discussion, in collaboration with the project supervisor. Recruitment was shared equally between both trainees (for example, telephone calls to clients; email prompts to clinicians; reminder texts to clients prior to testing sessions). Testing sessions were co-facilitated by both trainees but each took a lead for alternate sessions (for example, reading the imagery scripts, guiding participants to complete questionnaires, sending text and email prompts for the study follow-up). All quantitative and qualitative analysis was planned and carried out by both trainees equally. Papers were written up independently.
Appendix Two

Questionnaires, Scripts and Interview Schedule for the Study Reported in

Part Two (Empirical Paper).
**Demographic Questionnaire**

**Age (years):**

**Education: What is the highest degree or level of school you have completed?** (Please tick one box)
- No formal qualifications
- GCSE level education or equivalent
- A-Level education or equivalent
- Vocational education (e.g. NVQ, HNC, HND)
- Degree or Graduate education (e.g. BSc, BA)
- Post-graduate education (e.g. PhD, MSc, MA)

**Employment status (please tick one box):**
- Employed
- Self-employed
- Unemployed
- A homemaker
- A student
- Retired
- On disability allowance

**Ethnicity (please tick one box):**
- White
- Mixed / multiple ethnic groups
- Asian / Asian British
- Black / African / Caribbean / Black British
- Other ethnic group

**Marital status (please tick one box):**
- Single
- Married or in civil partnership
- Separated
- Divorced
- Widowed

**Gender (please tick one box):**
- Male
- Female
- Trans
- Other

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**General Imagery Vividness Scale**

To what extent could you...
- a. Hear sounds of your image
- b. See the image clearly
- c. Visualize movement in the image
- d. Picture the image interacting with you

*(All rated from 1 – clear as if in person, to 5 – no image at all)*

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**CFI Questionnaire**

*Compassionate Affect Scale*
How easy did you find it to experience receiving the compassionate emotions?

1 2 3 4 5 6 7 8 9 10

Very Easy                   Difficult

**Vividness of CFI Scale**

To what extent could you...

1. Hear the voice of the image
2. See the facial expressions of the image
3. Visualize gestures of the image
4. Picture it interacting with you

*(All rated from 1 – clear as if in person, to 5 – no image at all).*

**Qualities of Compassion Scale**

To what extent did your compassionate image (or other mind) have the following...

Wisdom

1 2 3 4 5 6 7 8 9 10

No Wisdom                   Infinitely Wise

Warmth & Kindness

1 2 3 4 5 6 7 8 9 10

No Warmth and Kindness      Infinitely Warm and Kind

Strength

1 2 3 4 5 6 7 8 9 10

No Strength                 Infinite Strength

Dependability

1 2 3 4 5 6 7 8 9 10

Could Not Be Depended On    Infinitely Dependable

If there is anything you felt or thought during the imagery that we haven’t asked you about please write it below. You can also use this space to give us more general feedback on your experience if you wish to (e.g. things you found difficult, or tips that you discovered for helping you feel compassion).
Script for Relaxing Imagery Exercise

In this exercise we are going to create an image of us doing something relaxing.

Place both feet flat on the floor, shoulder’s width apart, and rest your hands on your legs.

Close your eyes or look at the floor if you prefer. Gently focus on your breathing. Take a few breaths from your abdomen. Notice the flow of air coming in and out of your nose. No need to change anything, just allow things to be as they are. It’s okay for your mind to wander – just notice this with curiosity and gently guide it back to the breathing. Feel your arms and legs becoming loose and relaxed...and your shoulders.

When you are ready, imagine you are walking toward the ocean. Around you is a beautiful, tropical forest. Imagine your body posture being relaxed. Spend a minute imagining what you can see around you. Maybe the trees are moving in the breeze. What colour is the sea? Spend a minute focussing on the sounds around you [pause]. Spend a minute focusing on how relaxed you feel...enjoy the environment around you. Take it all in [pause]. Spend a minute exploring the empty beach, feel the sand on your feet. If you like, walk down to the ocean and feel the cool water on your skin [pause]. Allow yourself to feel content and relaxed, allow these feelings to grow. Remember to keep your body posture as relaxed as you can.

Spend a few minutes with that experience [pause].

When you are ready, gently let the image fade, and come out of the exercise, into the room.

Semi-structured interview schedule for group discussions

1. How did you find the exercises?
2. At which point was the image easiest to conjure up— during the practice exercise, the second, or the third?
3. What (if any) image did you conjure up?
4. Can anyone identify emotions/thoughts/memories getting in the way of the imagery?

5. Would any physical/sensory cues help you to engage in the exercises?

6. Would you prefer a group format or 1:1 format?

7. Based on today’s session, would you be willing to practice this exercise every day for one week?

8. What blocks might get in the way of this?
Appendix Three

Participant Information Sheet, Participant Consent Form, Sample Recruitment Letter and Letter of Ethical Approval for the Study Reported in Part Two (Empirical Paper).
PARTICIPANT INFORMATION SHEET

EXPLORING BARRIERS TO COMPASSIONATE IMAGERY

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Talk to others about the study if you wish. Please ask us if there is anything that is not clear or if you would like more information. Take as much time as you need to decide whether or not you wish to take part.

Thank you for reading this information sheet.

1. Study Title

Exploring barriers to compassionate imagery

2. What is the purpose of the study?

The purpose of the study is to help to develop Compassion-Focused Therapy (CFT) for people with people with diagnoses of personality disorder. We aim to identify common obstacles that people face when doing imagery exercises (a key part of CFT), so that the therapy can be adapted to help clients overcome these obstacles.

3. Why have I been chosen?

Clients who are in the first half of their time in therapy with IMPART have been invited to participate in this research.

4. Do I have to take part?

It is up to you to decide whether or not you take part. If you decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. A decision to withdraw or not take part will not affect your NHS treatment in any way.

5. What will happen to me if I decide take part?

You will be invited to attend a 90 minute group session. In the session, you will be asked to complete some questionnaires about current symptoms and past experiences. You will then be asked to try out some imagery exercises (where you are asked to imagine different scenes), and after each exercise you will be asked a few questions about how you found these. At the end you will be invited to share your experiences of all the different exercises in a group or in writing. The group feedback will be audio-recorded, but this material will be destroyed at the end of the study, and you do not need to talk unless you wish to.
After the group session, you will be invited to practice one 10 minute exercise each day for a week, and then complete a few questions about how you found this. The results will be used to see whether imagery exercises can be helpful, and to identify common obstacles to using them on a daily basis.

6. What are the side effects of taking part?

Some of the questionnaires used in this study may trigger some distressing memories, although we do not expect them to be more distressing than other questionnaires routinely used in mental health settings. If you do feel distressed, clinicians will be on hand to talk to and, if necessary, help you make a plan to stay safe.

7. What are the possible disadvantages and risks of taking part?

Other than the side effects just mentioned, there are no known disadvantages or risks to taking part. However if you personally feel uncomfortable in answering any of the questions in this study you can immediately withdraw from the study without penalty. The researchers are happy to answer any questions or concerns you may have at any point during the study (contact details below).

8. What are the benefits of taking part?

You will be reimbursed £10 for taking part in the 90 minute group session. If you choose to do the follow-up part of the study (practicing the exercise and completing questions a week later), you will be paid another £5 for your time. We anticipate that this study will improve treatment for people with a personality disorder across the UK.

10. What happens with the results/data?

In April 2016 you will be invited to attend a meeting where the results of this study are presented and asked for any ideas about how to understand the results and how they could help therapy. You will be sent by email or post a copy of the results of the study once it has been approved by UCL in October 2016.

If you wish for your data to be withdrawn from the study at any time even after you have finished the experimental session, you may contact us and we will remove your data.

11. Will my taking part in this study be kept confidential?

All information which is collected about you during the course of this research will be kept strictly confidential. All data will be anonymous. You will be assigned a code at the beginning of the study, and the list linking the names and codes will be kept separate from the data, in a locked filing cabinet. Audio recordings made of the group discussions will be kept on an encrypted memory stick and destroyed after transcription.

12. What happens if something goes wrong?
If you have a concern about any aspect of this study, you should ask to speak to Iona Naismith or Amanda Mwale, who will do their best to answer your questions (see contact details below).

If you are not happy with the answers you get from Amanda and Iona, then you may contact Dr. Janet Feigenbaum (clinical and strategic lead for IMPART and chief investigator for this study), to raise your concerns. If you are not happy with her response you may approach the manager of the Research department at NELFT on 0300 555 1201. Finally, if you remain unhappy and wish to complain formally, you can do this through the NELFT complaints department.

13. How will people find out about the results of this study?

The results will be written up in the form of a report for review by University College London (UCL) as part of our Clinical Psychology Doctorate courses. This report will also be published in relevant journals outside UCL. We expect also to give some presentations at conferences for clinicians to learn about the findings. Please note that all information provided by you will be anonymised, so you will not be identified in any report.

5. Who is funding the research?

The research is being funded by University College London.

6. Who has reviewed the study?

The study has been reviewed by UCL and an NHS Research Ethics Committee.

Contact for further information

For further information, please do not hesitate to contact:

Iona Naismith or Amanda Mwale
Email: [email]
Post: Research Department of Clinical, Educational and Health Psychology, University College London, Gower Street, London, WC10 6BT

Or

Dr. Janet Feigenbaum, Clinical and Strategic lead for PD and IMPART
Email: [email]
Phone: [number]

You will be given a copy of the information sheet and a signed consent form to keep.

Thank you for considering to participate in this study
INFORMED CONSENT FORM

Title of Project: Exploring barriers to compassionate imagery
Investigators: Iona Naismith and Amanda Mwale

Please initial the box for all statements that apply:

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

2. I have been given contact details for the researchers in the information sheet.  

3. I understand that my participation is entirely voluntary, the data collected during the research will not be identifiable, and I have the right to withdraw from the project at any time without any obligation to explain my reasons for doing so.  

4. I understand that my GP and IMPART therapist will be aware of my involvement in the study, but not the specific information I give.  

5. I understand that if I participate in this study, my therapist will give details of my mental health diagnoses for research purposes.  

6. I understand that I will be asked if I wish to be audio-recorded whilst providing feedback about the session. If I do not wish to be recorded, the researchers can offer paper for written feedback instead. Any audio-recordings will be destroyed once the tapes have been transcribed.  

7. I understand that in accordance with current UCL Records Management Policy, research findings will need to be stored by UCL as sponsor for 20 years after the research has finished. The UCL Records Office provides a service to UCL staff and maintains archived records in a safe and secure off site location. All activities are conducted in accordance with the Data Protection Act and UCL Data Protection Policy. Access to the data is strongly regulated and permissions to access the data are treated case by case.  

8. I understand that the information that I provide will be included in the researcher’s doctoral thesis and will be published in a scientific journal. I understand that all information included will be anonymised to protect my identity.  

9. I give my consent to take part in this study.

____________________         _________________         _____________________
Print name                  Date                      Sign Name
(Participant)

____________________         _____________________
Print name                  Sign Name
(Date)                      (Investigator)
PRIVATE & CONFIDENTIAL

Dear

We are writing to invite you to take part in a study to help improve Compassion Focused Therapy for people with diagnoses of personality disorders.

This involves attending a 90-minute group session at an IMPART site, where you will be asked to try out some imagery exercises (picturing different scenarios in your mind) and fill in some questionnaires. There is an optional follow-up part where you can continue practicing the exercises for the following week, and let us know how you found this. We have enclosed the study Information Sheet and a poster with upcoming session dates which contains more details. If you are not able to attend the sessions on the flyer, you can still let us know you are interested and we will book additional sessions to accommodate the locations and dates of anyone who contacts us.

All participants will receive £10 high street vouchers as a token of our thanks, and a further £5 if they complete the follow-up. You will also be playing a valuable role in developing therapies offered in personality disorder services.

The research is being conducted by IMPART and University College London, and supervised by Dr Janet Feigenbaum (clinical lead at IMPART Personality Disorders service). Whether or not you choose to participate in the research will not affect your care and treatment at IMPART in any way.

If you want more information or are interested in participating, please text/call us on [redacted] or alternatively, e-mail us at: [redacted]

Yours sincerely

Amanda Mwale and Iona Naismith
Trainee Clinical Psychologists, UCL
22 May 2015

Dr Janet Feigenbaum
Research Department of Clinical, Educational and Health Psychology
University College London
Gower Street, London
WC1E 6BT

Dear Dr Feigenbaum

Study title: Descriptive study examining correlates of compassionate imagery ability in personality disorder
REC reference: 15/LO/0747
IRAS project ID: 171656

The Research Ethics Committee reviewed the above application at the meeting held on 15 May 2015. Thank you for attending to discuss the application with your students Ms Iona Naismith and Ms Amanda Mwale.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact the REC Manager Miss Tina Cavaliere.

Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Decision: Favourable Opinion (with conditions)
The Committee gave a favourable opinion of the application (with additional conditions)

1) Changes to the Participant Information Sheet (PIS):
a) Please amend the grammatical and typographical errors in the PIS; please amend the sentence ‘for people with people with diagnosis’, found under the sub-heading ‘What is the purpose of the study?’ (page 1).

2) Recommendations:
a) The Committee recommended that the applicants register their study onto a public database and to include an interpreter to allow non-English speakers to take part in the study. The Committee would like to make a clear distinction that this is a recommendation and not a condition of a favourable opinion. If the applicant wishes to include non-English participants in the study then a substantial amendment should be submitted to the Committee to approve.

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which can be made available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation’s role in the study is limited to identifying and referring potential participants to research sites (“participant identification centre”), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database. This should be before the first participant is recruited but no later than 6 weeks after recruitment of the first participant.

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.
If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact [redacted]. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from NRES. Guidance on where to register is provided on the HRA website.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

NHS Sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see “Conditions of the favourable opinion” below).

Summary of discussion at the meeting

Other ethical issues were raised and resolved in preliminary discussion before your attendance at the meeting.

Social or scientific value; scientific design and conduct of the study

This is a basic science study to explore the difficulties that people with personality disorders may have in compassionate imagery. The Compassion Focused Therapy (CFT) tool will be used in this study to alleviate distress through reducing shame and self-criticism. It was noted that the participants recruited to this study will be in a vulnerable state. The Committee stated that the aim of the study is not clear as there is conflicting information given in IRAS application form in questions A6-1 (the lay summary) and A13 (the study design and methodology).

Dr Feigenbaum explained that the purpose of the study is to see if participants can develop compassion for themselves. The aim of the study is not to assess the CFT tool itself but to assess the participant’s ability to soothe themselves and see aspects of compassion such as acknowledging and accepting when they have made a mistake.

Recruitment arrangements and access to health information, and fair participant selection

It is noted that non-English participants will be excluded from the study and the Committee debated the rationale for this and if the applicant would consider using an interpreter. The Committee discussed the ethical issues of excluding participants who do not speak English and the wealth of cultural differences that exist within each ethnic group. The Committee asked the applicants why they are excluding non-English speakers to take part in the study.

Dr Feigenbaum explained that there is no financial reason for not using an interpreter, however using them can become difficult in group discussions. The questionnaires used in this study are validated ones and so she would need to check that the questionnaires are available in different languages. The PIS would need to be translated into different languages which is not feasible given that this is a small student study.

The Committee commented on the cultural aspects and how therapies differ across ethnic groups. The applicants agreed that different cultural changes and therapies exist and did not
want to exclude patients who do not speak English, but that there would be issues with translating the data.

*Ms Mwale added that the clinical care team will approach the patients and refer only patients who speak English.*

The Committee commented on the statistical aspects of the study and the disparity between the power calculation and target population and asked the applicants to clarify the size of the target population.

*Ms Naismith explained that in order to get a strong power calculation the exact number of recruitment participants would be 100, but it has been difficult to determine this number as similar studies have not been done before. Dr Feigenbaum added that the power calculation is 49 but that the target population is 100.*

**Other general comments**

The Committee asked the applicants why they have chosen not to register their study onto a public database.

*Dr Feigenbaum explained that they would be willing to register their study onto an appropriate database if this was the Committee’s recommendation.*

The Committee replied that they would like the applicants to explore the possibilities available.

**Informed consent process and the adequacy and completeness of participant information**

The Committee noted a number of grammatical errors in the PIS that need correcting.

The wording in the questionnaire was thought to be ambiguous; ‘I try to avoid getting too close to my partner’. The Committee stated it is unclear if this is referring to being physically close or mentally close (see the ECR-S questionnaire) to the partner but did not request that this be amended.

**Approved documents**

The documents reviewed and approved at the meeting were:

<table>
<thead>
<tr>
<th>Document</th>
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<th>Date</th>
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<tr>
<td>Copies of advertisement materials for research participants [Advertising poster]</td>
<td>Version 1</td>
<td>06 April 2015</td>
</tr>
<tr>
<td>Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Sponsor insurance evidence]</td>
<td>Version 1</td>
<td>01 April 2015</td>
</tr>
<tr>
<td>GP/consultant information sheets or letters [Letter to GP]</td>
<td>Version 1</td>
<td>07 January 2015</td>
</tr>
<tr>
<td>IRAS Checklist XML [Checklist_29042015]</td>
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<td>29 April 2015</td>
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<tr>
<td>Non-validated questionnaire [Imagery scripts]</td>
<td>Version 3</td>
<td>06 April 2015</td>
</tr>
<tr>
<td>Non-validated questionnaire [Demographic questionnaire]</td>
<td>Version 1</td>
<td>06 April 2015</td>
</tr>
<tr>
<td>Non-validated questionnaire [Questions relating to Imagery Exercises]</td>
<td>Version 3</td>
<td>06 April 2015</td>
</tr>
<tr>
<td>Other [Summary CV for researcher 2 (AM)]</td>
<td>1</td>
<td>06 April 2015</td>
</tr>
</tbody>
</table>
Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

There were no declarations of interest.

After ethical review

Reporting requirements

The attached document “After ethical review – guidance for researchers” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Training
We are pleased to welcome researchers and R&D staff at our training days – see details at http://www.hra.nhs.uk/hra-training/

15/LO/0747 Please quote this number on all correspondence

With the Committee’s best wishes for the success of this project.

Yours sincerely

Pp Tina Cavaliere

Mr John Richardson
Chair

E-mail: [redacted]

Enclosures: List of names and professions of members who were present at the meeting and those who submitted written comments

“After ethical review – guidance for researchers”

Copy to: Mr Dave Wilson
Ms Karen Ignatian, North East London Foundation Trust (NHS) and University College London (UCL)