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The relevance of self-compassion as an intervention target in mood and anxiety disorders: A narrative review based on an emotion regulation framework

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Key words
anxiety disorders, emotion regulation, mindfulness, mood disorders, self-compassion.

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Abstract

Background: There is growing interest in self-compassion as a possible treatment target for individuals with depression and anxiety disorders. Understanding self-compassion within an emotion regulation (ER) framework of mood and anxiety disorders has the potential to generate insights into the clinical relevance of self-compassion in the treatment of depression and anxiety. The aim of the current review was to integrate evidence and theory from the self-compassion, ER, and mood and anxiety disorders literatures to highlight directions for research and inform clinical applications.
Methods: A review of the cross-sectional and experimental quantitative literature pertaining to self-compassion, ER, and mood and anxiety disorders was undertaken, guided by established models of ER in mood and anxiety disorders. Evidence from clinical and non-clinical studies was included.
Results: There is preliminary support for an ER framework of self-compassion and mood and anxiety disorders: in particular, there is evidence that self-compassion is linked to factors that represent key mechanisms in ER models of depression and anxiety, including affective experiences, ER capacities, and propensity to deploy specific ER strategies. However, research with clinical populations is limited.
Conclusions: An ER perspective may provide a useful framework for guiding research and clinical work on self-compassion and mood and anxiety disorders. Further research is required to comprehensively test the relationship between self-compassion and various aspects of the ER model, and to examine mediators and moderators of compassion-based interventions with clinical samples.

Key points

1. There is growing support for an emotion regulation model of self-compassion which highlights emotion regulation processes as key mechanisms in the relationship between self-compassion and depression and anxiety.
2. While there are robust inverse links between self-compassion and symptoms of depression and anxiety in community samples, research with clinical populations is limited.
3. Further research with clinical samples is needed to explore the impact of self-compassion on mood and anxiety disorders, and to test ER models of self-compassion.

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Introduction

Compassion-based interventions (CBIs) are receiving increasing attention for their potential to treat a range of psychological disorders (Hofmann, Grossman, & Hinton,

2011; Leaviss & Uttley, 2015). A key goal of such interventions is to target *self-compassion*, a form of adaptive self-relation characterised in part by the capacity to be warm, understanding, and kind with oneself during times of difficulty. Neff's (2003a, 2003b) model proposes that self-compassion is comprised of three key components: mindfulness, awareness of common humanity, and self-kindness. Within this model, mindfulness refers to the capacity to hold difficult experiences in mindful awareness, rather than over-identifying with them. Awareness of common humanity refers to the capacity to acknowledge that one's difficult experiences are part of the common human experience, rather than feeling isolated or alone in one's suffering. Finally, self-kindness refers to the capacity to treat oneself with warmth and understanding during times of difficulty, rather than being judgmental or critical of oneself for suffering in this way. An alternative model of self-compassion is proposed by Gilbert (2005c), who conceptualises compassion as an interactive flow (self-to-self, self-to-other, other-to-self) and highlights its evolutionary basis, as well as numerous attributes thought to give rise to compassion, including non-judgement, care for well-being, sympathy, sensitivity, distress tolerance, and empathy (Gilbert, 2009).

The relevance of self-compassion as a treatment target for mood and anxiety disorders has been highlighted by a number of authors (e.g., Gilbert & Procter, 2006; Hoge et al., 2013; Krieger, Berger, & Holtforth, 2016), and large effect sizes have been found for the relationship between self-compassion and symptoms of depression and anxiety (MacBeth & Gumley, 2012). Despite the robust evidence of an inverse relationship between self-compassion and these outcomes, there have been no previous attempts to integrate findings from the self-compassion research within an established, unifying framework which might account for the role of self-compassion in buffering against the development and maintenance of emotional disorders. Unifying frameworks of mood and anxiety disorders recognise that such disorders—in particular, generalised anxiety disorder (GAD), social anxiety disorder (SAD), and major depressive disorder (MDD)—appear to be highly comorbid (Mennin, Holaway, Fresco, Moore, & Heimberg, 2007), and attempt to account for underlying transdiagnostic mechanisms. Emotion regulation (ER) frameworks—which posit that fundamental difficulties with the way individuals experience and respond to emotions are at the heart of mood and anxiety disorders—represent a unifying approach that has received significant empirical support (Campbell-Sills & Barlow, 2006; Mennin, Heimberg, Turk, & Fresco, 2005).

From a conceptual perspective, self-compassion has the potential to promote adaptive ER through a number of different pathways. According to Neff's (2003a, 2003b) conceptualisation, a self-compassionate mindset is characterised by non-judgmental awareness of one's experiences (mindfulness) and the tendency to respond to difficult events in a way that is self-soothing and supportive (self-kindness). Self-compassion theoretically lends itself to an enhanced sense of connection with others in the face of difficulty (common humanity), protecting against feelings of isolation and shame that are characteristic of maladaptive emotional responding. The increased acceptance, greater positive affect and lower negative affect brought about by relating to oneself with compassion hypothetically mobilises greater resources for regulating difficult emotions in an adaptive way. Conversely, individuals low in self-compassion are hypothetically more likely to respond to stressors in a self-critical, self-isolating, and overidentified way, triggering a cascade of negative affect. Gilbert's conceptualisation of compassion—which describes the differential impact of threat, drive, and contentment-focused affect regulation systems on compassionate responding—also appears compatible with an ER framework of mood and anxiety disorders.

The aim of the current review is to contextualise findings from the self-compassion literature within an ER framework of emotional disorders, in an attempt to further current understanding of the relevance of self-compassion as a treatment target for mood and anxiety disorders. This review integrates research from the literature that has examined various aspects of the nexus among self-compassion, ER, and symptoms of depression and anxiety. Given that clinical research on self-compassion is limited, studies examining ER and symptoms of depression and anxiety in non-clinical populations are also included. In addition to reviewing evidence for the relationship between self-compassion, ER, and emotional disorders, ER models of mood and anxiety disorders are briefly reviewed, and the developmental origins of self-compassion and ER are discussed. Directions for future research are identified in the context of the ER framework, and the clinical implications of the literature are discussed.

Self-Compassion and Symptoms of Depression and Anxiety

Self-compassion is a significant predictor of self-reported depression and anxiety symptoms (for a review, see MacBeth & Gumley, 2012), and has been found to be a stronger predictor of symptom severity in depression and anxiety than mindfulness in a help-seeking community

sample (Van Dam, Sheppard, Forsyth, & Earleywine, 2011). It should be noted that the majority of research linking these outcomes is correlational, thereby limiting conclusions as to whether self-compassion simply co-occurs with depression and anxiety symptoms, or plays a causal or maintaining role. However, there is some evidence to suggest that self-compassion protects against the development or exacerbation of depressive symptoms over time. Raes (2011) found that in a student sample, individuals reporting higher self-compassion also reported greater decreases or less increases in depressive symptoms over a five-month period. Similarly, in a sample of at-risk youth, Zeller, Yuval, Nitzan-Assayag, and Bernstein (2014) found that self-compassion prospectively predicted symptoms of depression over six months. Moreover, Krieger, Altenstein, Baettig, Doerig, and Holforth (2013) found that after controlling for depressive symptoms, self-compassion was significantly lower in a depressed outpatient sample than in a sample of never-depressed individuals. Krieger et al. (2016) used cross-lagged panel analyses to investigate the possibility of a reciprocal relationship between self-compassion and depression (i.e., that changes in depressive symptoms brings about a change in self-compassion) in a sample of 125 depressed outpatients. In support of self-compassion as a buffer against depressive symptomatology, their results demonstrated that self-compassion significantly predicted later depressive symptoms and the presence of a major depressive episode over time; in contrast, symptoms of depression did not predict self-compassion over time. In addition, research on anxiety symptomatology has found that self-compassion is inversely associated with symptom severity in GAD (Roemer et al., 2008) and obsessive–compulsive disorder (Wetterneck, Lee, Smith, & Hart, 2013), while individuals with GAD and SAD report significantly lower self-compassion than healthy controls (Hoge et al., 2013; Werner et al., 2012).

Evidence regarding the role of self-compassion as a possible protective factor in mood and anxiety disorders can also be gleaned from intervention research. Practices that directly and indirectly target self-compassion include loving-kindness meditation (LKM), self-compassion meditation, and compassion meditation (Galante, Galante, Bekkers, & Gallacher, 2014; Hofmann et al., 2011; Shahar et al., 2015; Shonin, Van Gordon, Compare, Zangeneh, & Griffiths, 2015). There are also a number of structured interventions which include some or all of these practices, in combination with psychoeducation, experiential activities, dyadic and small group exercises, and applied self-compassion practices. Examples of such protocols include Compassion Cultivation Training (CCT; Jazieri et al., 2013), the Mindful Self-Compassion (MSC) program (Neff & Germer, 2013), the Mindfulness-Based Compassionate Living (MBCL) program (Bartels-Velthuis et al., 2016), and Cognitively-Based Compassion Training (CBCT; e.g., Desbordes et al., 2012). In addition, Compassion-Focused Therapy (CFT) is a therapeutic approach that directly focuses on increasing the capacity for three aspects of the flow of compassion proposed by Gilbert (2009, 2010), while Compassionate Mind Training (CMT), is a group program based on the principles of CFT (e.g., Gilbert, 2009; Gilbert & Procter, 2006).

Intervention research has demonstrated that relative to waitlist controls, participation in MSC training is associated with increases in self-compassion and reductions in symptoms of depression and anxiety in community adults (Neff & Germer, 2013), as well as clinically significant reductions in depressive symptoms among patients with diabetes (Friis, Johnson, Cutfield, & Consedine, 2016). In Neff and Germer's (2013) study, increases in self-compassion over the course of the program were found to predict pre-post improvements in depression and anxiety. In an uncontrolled study with a community sample, participation in CMT was associated with reduced symptoms of anxiety and depression in people who reported high levels of shame and self-criticism at baseline (Gilbert & Proctor, 2006), while an uncontrolled study of 12–14 week group CFT for heterogeneous mental health difficulties demonstrated significant pre-post reductions in depression and anxiety and significant increases in self-soothing thoughts (Judge, Cleghorn, McEwan, & Gilbert, 2012). Participation in MBCL was found to be associated with increased self-compassion and decreased symptoms of depression, but not anxiety, in an uncontrolled feasibility study with a heterogeneous outpatient sample (Bartels-Velthuis et al., 2016). Furthermore, incorporating compassion training into an eight-week mindfulness-based therapy protocol yielded significant reductions in symptoms of depression and anxiety with a large effect size relative to waitlist-control, for individuals with recurrent depression and anxiety randomized to receive the treatment (Lo, Ng, & Chan, 2015). Additionally, among depressed individuals in remission, Kuyken et al. (2010) found that improvements in self-compassion during MBCT inversely predicted the severity of depressive symptoms 15 months post-remission.

An Emotion Regulation Approach to Mood and Anxiety Disorders

In the present review, ER is conceptualised as a broad set of cognitive, behavioural, and physiological processes that influence the ways that individuals experience and respond to emotions (see, e.g., Sheppes, Suri, & Gross,

2015). In this broad conceptualisation, ER encompasses the generation of particular emotions, as well as the modulation of their intensity and duration. In terms of emotion *generation*, it is established that emotions can emerge via 'bottom up' processes (i.e., in response to the perceptual properties of a stimulus, such as experiencing fear upon seeing a snake) or via "top down" processes (i.e., in response to cognitive appraisals of an event, such as feeling shame when appraising one's performance on a test as substandard). Similarly, ER modulation processes can range from automatic and effortless—such as an increase in parasympathetic nervous system activity to recover from a stressful event–to deliberate and effortful, such as consciously reframing difficult emotional experiences to reduce their psychological impact (Campbell-Sills & Barlow, 2006; Gross & Thompson, 2006). Within this broad conceptualisation, there have been various taxonomies of ER put forward in the literature, which have attempted to characterise affective styles, general difficulties with understanding, accepting, and regulating emotion, as well as specific adaptive and maladaptive strategies that might be deployed in the service of regulating difficult emotional experiences (e.g., Berking & Whitley, 2014; Gratz & Roemer, 2004; Hofmann, Heering, Sawyer, & Asnaani, 2009; Tull & Aldao, 2015). In this context, adaptive responses serve to reduce the overall impact of stressful experiences so that an individual can pursue short- and long-term goals (Aldao, Sheppes, & Gross, 2015; Gross, 2014), while maladaptive responses act to prolong or increase the overall impact of distress (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Campbell-Sills & Barlow, 2006).

Substantial research documents the key role that ER plays in the onset and maintenance of psychopathology (Aldao et al., 2010), and especially mood and anxiety disorders (Amstadter, 2008; Berking, Ebert, Buijpers, & Hofmann, 2013; Berking, Wirtz, Svaldi, & Hofmann, 2014; Cisler, Olatunji, Feldner, & Forsyth, 2010; Mennin et al., 2005; Wirtz, Hofmann, Riper, & Berking, 2014). While specific regulatory strategies vary across disorders (Aldao et al., 2010), there appear to be common emotional processes that explain much of the overlap between mood and anxiety disorders (Shankman & Klein, 2003; Zinbarg & Barlow, 1996). ER models of mood and anxiety disorders highlight the interplay between affective experiences (i.e., the content, intensity, and duration of emotions and moods), and adaptive and maladaptive ER capacities, including the tendency to deploy particular ER strategies (Campbell-Sills & Barlow, 2006; Hofmann et al., 2009; Mennin et al., 2007). For example, Hofmann, Sawyer, Fang, and Asnaani (2012) propose that increased negative affect, problematic ER, and deficiency in positive affect are mutually reinforcing factors contributing to the development of chronic emotional disorders, while Mennin et al. (2007) highlight the key role of heightened emotional intensity, poor understanding of emotions, negative reactivity to emotions, and maladaptive emotional responses in promoting vulnerability to depression and anxiety.

In support of an ER model of mood and anxiety disorders, evidence suggests that the experience of positive and negative affectivity plays a key role in the onset, maintenance, and comorbidity of these disorders. For example, Brown and Barlow (2009) found that the majority of covariance between constructs corresponding to unipolar depression and different anxiety disorders was explained by negative and positive affect. Heightened emotional intensity and lack of control over emotions also appears to play a key role in the development and maintenance of emotional disorders (Mennin et al., 2005; Mennin, McLaughlin, & Flanagan, 2009), and evidence from neuroscience research suggests that amygdala function—implicated in attending to, appraising, and responding to emotional stimuli—is impaired in mood and anxiety disorders (Desbordes et al., 2012; Ressler & Mayberg, 2007). Furthermore, there is evidence of relatively stable individual differences in the capacity and propensity to implement different ER strategies, which in turn predicts affective experiences and mental health (Hu et al., 2014; John & Gross, 2004). This research highlights the role of adaptive ER in promoting positive mental health, as well as the role of maladaptive ER in precipitating and maintaining mental health difficulties.

Developmental Perspectives of Self-Compassion and Emotion Regulation

Understanding the developmental origins of self-compassion and ER provide some insight into their possible role in emotional disorders in later life. Developmental perspectives highlight the role of secure attachment relationships in the development of self-compassion (Gilbert & Procter, 2006; Neff & McGehee, 2010). From this perspective, individuals internalise experiences of warm, accepting, and validating attachment relationships over time, which facilitates the capacity to be kind, nurturing, and understanding towards the self. In contrast, individuals who are raised in neglectful, abusive, or invalidating environments or who have unpredictable relationships with early attachment figures are predisposed to developing a harsh, self-critical way of relating to themselves (Bowlby, 1969/1982; Gilbert & Procter, 2006; Neff & McGehee, 2010). They may also develop schemas of self as unworthy or unacceptable, or of others as hostile and unreliable (Baldwin, 1992;

Mikulincer & Shaver, 2007). Such schemas may give rise to a fear of compassion which undermines the capacity to extend compassion towards the self or receive compassion from others (Gilbert, McEwan, Matos, & Rivis, 2011).

In support of this developmental perspective, correlational research demonstrates that self-compassion is significantly linked to attachment, and that self-compassion is a potential pathway by which attachment influences mental health (Neff & McGehee, 2010; Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011). Adult recollections of parental rejection have been found to predict low self-compassion (Pepping, Davis, O'Donovan, & Pal, 2015), while high self-compassion is associated with recollections of parental warmth in adults (Pepping et al., 2015), and maternal support and healthy family functioning among adolescents (Neff & McGehee, 2010). In line with this, childhood maltreatment also predicts low self-compassion, which in turn has been found to predict psychological difficulties among adolescents and young adults (Tanaka, Wekerle, Schmuck, Paglia-Boak, & The MAP Research Team, 2011). Further support of the hypothesis that self-compassion is a key mechanism underlying the relationship between childhood experiences and psychological health in later life, is provided by findings that self-compassion mediates the relationship between insecure attachment and general mental health difficulties (Raque-Bogdan et al., 2011), as well as the relationships between both maternal support and family functioning and psychological well-being among adolescents (Neff & McGehee, 2010). Limited experimental research also attests to a link between self-compassion and attachment: Pepping et al. (2015) found that individuals who participated in an experiment designed to enhance attachment security reported significant increases in self-compassion relative to a control group who underwent training in interpersonal skills.

Early attachment experiences are also intrinsically linked to emotion regulatory capacities, with secure attachment bonds providing a foundation for children to regulate their emotions and feel safe in the world (Bowlby, 1969/1982, 1973). Feeling safe and secure is thought to predict increased behavioural and physiological flexibility across situations (Thayer & Lane, 2000): in the context of early childhood, this supports the development of an array of flexible and self-sustaining adaptive ER capacities (Shaver & Mikulincer, 2007). Conversely, individuals who are anxiously or insecurely attached appear predisposed to developing maladaptive ER capacities characterised by avoidance or hyperactivation of negative emotions (Shaver & Mikulincer, 2007). In support of the central and overlapping roles of attachment, self-compassion, and emotion dysregulation in mental health, Vettese, Dyer, Li, and Wekerle (2011) found that among youth experiencing substance abuse difficulties, childhood maltreatment was negatively associated with self-compassion, and positively linked to ER difficulties and psychological symptoms. Moreover, self-compassion was found to mediate the relationship between childhood maltreatment and later ER difficulties. In addition, in a relatively large sample of adult psychiatric outpatients (N = 326), Westphal, Leahy, Pala, and Wupperman (2016) found that self-compassion was significantly negatively correlated with experiences of parental indifference in childhood and perceived emotional invalidation (i.e., the expectation that others will not validate one's difficult emotions). In this study self-compassion and perceived emotion invalidation partially mediated the link between experiences of parental indifference and later psychopathology, including MDD.

The Affective Profile of Self-Compassion

There is some evidence that higher self-compassion is associated with an affective profile characterised by more frequent experience of positive affect, while those low in self-compassion are more likely to experience chronic levels of negative affect. Correlational studies consistently document an inverse link between self-compassion and measures of neuroticism and trait negative affect, as well as robust associations between self-compassion and positive affect, as well as constructs such as optimism, subjective well-being, and happiness (Barnard & Curry, 2011; Zessin, Dickhäuser, & Garbade, 2015). Self-compassion is also linked to a lower level of negative affect in response to everyday difficult situations, and has been found to attenuate negative emotional responses to experiences of failure and embarrassment (Leary, Tate, Adams, Batts Allen, & Hancock, 2007). Moreover, experimental research has found that self-compassion training leads to reduced negative affect in response to psychosocial stress (Arch et al., 2014). According to Gilbert, individuals who report low self-compassion and/or high self-criticism are predisposed to experiencing higher levels of threat-based negative affect such as fear and shame, due to hyper-activation of threat-based affective systems, and relative inactivity of affective systems linked to affiliation and soothing (Gilbert, 2005b). Conversely, individuals who are higher in self-compassion are thought to have greater capacity to activate and maintain positive affective experiences linked to the affiliation/soothing system, such as feelings of safety and warmth (Gilbert, 2005a).

This hypothesis is supported by studies utilising measures of vagally-mediated heart rate variability

(vmHRV), thought to be a marker of the capacity for adaptive ER (e.g., Beevers, Ellis, & Reid, 2011; Porges, 2007). While high vmHRV is closely linked to the tendency to experience positive affect (Kok et al., 2013), low vmHRV is associated with anxiety disorders (Chalmers, Quintana, Abbott, & Kemp, 2014), depression vulnerability (Beevers et al., 2011; Yeh et al., 2016), and rumination and worry (Williams et al., 2015). Among healthy adults, Svendsen et al. (2016) found that after controlling for trait anxiety and rumination, trait self-compassion was significantly linked to higher vmHRV. In addition, Kok et al. (2013) found that participants undergoing LKM training demonstrated increased vmHRV, which moderated an increase in positive emotions, which in turn moderated additional gains in vmHRV. There is some evidence that self-compassion contributes to stability of vmHRV in the face of stress, with Arch et al. (2014) demonstrating that brief self-compassion training leads to smaller reductions in vmHRV following exposure to a psychosocial stressor than either attention-training or no-training controls. In line with the broaden-and-build theory of positive emotions (e.g., Fredrickson, 1998; Garland et al., 2010), enhanced capacity to generate positive affect may be one of the mechanisms by which self-compassion promotes low physiological reactivity to stress and fast recovery from negative affective experiences.

Self-Compassion and Cognitive Emotion Regulation

One of the key ER mechanisms by which self-compassion is thought to impact psychological health relates to the way that stimuli are appraised. Appraisal theories of emotion propose that it is the meaning and significance of a particular experience for an individual (i.e., the way the event is appraised)—rather than the nature of the event itself—which is the primary determinant of the ensuing emotional response (Lazarus & Folkman, 1984). Within this context, an ER strategy known as cognitive reappraisal involves reframing an event in order to alter one's emotional response to it (Gross, 1998). Longitudinal studies provide evidence of a robust inverse link between the deployment of cognitive reappraisal and symptoms of depression (Garnefski & Kraaij, 2006; Garnefski, Kraaij, & Spinhoven, 2001), while findings from the experimental literature suggest that the use of cognitive reappraisal helps to buffer against the experience of negative affect following a negative mood induction among individuals with mood and anxiety disorders (Cambell-Sills, Barlow, Brown, & Hofmann, 2006).

Because self-compassion is thought to promote a sense of self-worth that is not contingent on achievement or approval (Neff & Vonk, 2009), it might be argued that individuals who are high in self-compassion are less likely to appraise neutral or negative events as having negative implications for one's sense of self. In addition, it is viable that individuals with higher self-compassion are more able to reappraise events in an adaptive way even after an initial negative emotional response has been generated. While there is some indication in the literature that self-compassion is associated with an increased tendency to engage in cognitive reframing of difficult situations (Batts Allen & Leary, 2010), this has not been studied in the context of depression and anxiety, and the implications of the extant research for these disorders is unclear. Importantly however, research has found that self-compassion enhances the effectiveness of cognitive reappraisal for reducing symptoms of depressed mood in MDD. Diedrich, Hofmann, Cuijpers, and Berking (2016) compared depressed mood among individuals with MDD who had been instructed to employ cognitive reappraisal, following the use of self-compassion, acceptance or no strategy following a depressed mood induction. They found that individuals who employed self-compassion reported a significantly greater reduction of depressed mood during reappraisal than those who had been instructed to wait prior to reappraisal.

Another adaptive ER capacity by which self-compassion may support resilience to mood and anxiety disorders is emotional acceptance. The capacity to accept and tolerate negative emotions is one of the most important predictors of psychological health (Berking & Lukas, 2015; Gratz & Roemer, 2004); conversely, the belief that it is unacceptable to experience or express certain emotions is implicated in a range of clinical disorders, including anxiety and depression (Cambell-Sills et al., 2006; Gratz & Roemer, 2004). One of the reasons for this appears to be that individuals who have low emotional acceptance may be more likely to try and regulate difficult emotions through maladaptive ER strategies such as rumination, worry, emotional suppression, and experiential avoidance (Aldao et al., 2010; Cambell-Sills et al., 2006). A large body of research attests to the maladaptive nature of rumination, worry, experiential avoidance, and emotional suppression (Borkovec, Alcaine, & Behar, 2004; Kashdan, Barrios, Forsyth, & Steger, 2006; Nolen, Wisco, & Lyubomirsky, 2008; Roemer, Salters, Raffa, & Orsillo, 2005). While these strategies may reduce negative affect in the short term, they are thought to exacerbate distress in the long term, and are positively linked to symptoms of depression and anxiety, with moderate to large effect sizes (Aldao et al., 2010).

While different conceptualisations of self-compassion influence the way that self-compassion might be practiced, across different approaches self-compassion appears to involve non-judgmental awareness of one's difficult experiences coupled with the motivation to respond to oneself with kindness and warmth. This mindful attention towards suffering hypothetically serves to increase awareness of emotional experiences, which is thought to serve as a foundation for the deployment of adaptive ER strategies such as cognitive reappraisal (Subic-Wrana et al., 2014). Additionally, it might be argued that repeated exposure to difficult emotional experiences—in the context of self-compassion practice that actively engages the capacity to self-soothe—leads to increased self-efficacy to respond adaptively. In turn, this may lead to reduced reactivity and increased emotional acceptance, thereby reducing the likelihood that an individual may be compelled to engaged in maladaptive cognitive ER strategies. This may also have behavioural implications: for example, a higher degree of emotional acceptance may increase the likelihood that difficult emotional experiences will be shared with others (see Kahn & Garrison, 2009, for an exploration of the relationship between self-disclosure and symptoms of depression and anxiety), thereby affording opportunities to receive support and compassion from others, as well as reinforcing a sense of common humanity through shared experience. Greater emotional acceptance may also reduce any feelings of anxiety around future experiences of negative emotion (see, e.g., Barlow, Allen, & Choate, 2004).

Preliminary research indicates that self-compassion is linked to emotional awareness, acceptance, and clarity (Finlay-Jones, Rees, & Kane, 2015; Sydenham, Beardwood, & Rimes, 2016; Vettese et al., 2011). There is also evidence in the literature that self-compassion is inversely associated with specific maladaptive ER strategies, and that the use of such strategies may play a key explanatory role in the relationship between self-compassion and depression and anxiety. For example, initial evidence suggests that rumination mediates the relationship between self-compassion and symptoms of depression in undergraduate student samples (Johnson & O'Brien, 2013; Raes, 2010) and depressed outpatients (Krieger et al., 2013). Raes (2010) also found that rumination and worry were partial mediators in the self-compassion—anxiety relationship. In a similar vein, Hoge et al. (2013) found that self-compassion was a significant negative predictor of worry among individuals with GAD. In addition, self-compassion has been found to inversely predict emotional avoidance in community samples (Sydenham et al., 2016) and behavioural avoidance in outpatient clinical samples (Krieger et al., 2013). Moreover, behavioural avoidance has been found to mediate the relationship between self-compassion and depressive symptoms among outpatients with depression (Krieger et al., 2013).

Studies of ER and symptoms of depression and anxiety in the context of CBIs are scant, and while there is some evidence that training which targets self-compassion is also effective in targeting maladaptive ER responses, it is unclear whether this is directly linked to changes in self-compassion. In a randomized controlled trial (RCT) of CCT, participants reported significant reductions in worry and emotional suppression at post-test, compared with waitlist controls (Jazieri et al., 2013), while in Neff and Germer's (2013) RCT of MSC participants in the intervention group reported significant reductions in avoidance. Interestingly, this change was predicted by pre-post changes in mindfulness, but not self-compassion—however, after controlling for mindfulness, self-compassion was the only significant predictor of depression and anxiety. In addition, in a small pilot study, Graser, Höfling, Weßlau, Mendes, and Stangier (2016) evaluated a 12-week mindfulness, compassion, and LKM group intervention for patients suffering from chronic depression and found no change in self-compassion. However, the authors found significant reductions in depression severity relative to 3-month baseline measures, as well as a significant effect for improvements in acceptance, suppression, and self-focused rumination between pre-therapy and 3-month follow-up. The small sample sizes and heterogeneity of interventions and populations make it difficult to draw any firm conclusions about the specificity of CBIs for supporting ER via increasing self-compassion.

Discussion and Clinical Implications

The current review integrates evidence from the self-compassion, ER, and emotional disorders literature in an attempt to explore the relevance of self-compassion for the treatment mood and anxiety disorders within an established theoretical framework. While there are a number of limitations in the research presented, it appears viable that self-compassion impacts affective experiences, broad ER capacities, and the use of specific ER strategies which have been highlighted as integral to an ER conceptualisation of emotional disorders. Overall, the evidence suggests that individuals who are higher in trait self-compassion are more likely to have experienced secure attachment relationships, characterised by warmth and emotional validation. In addition to supporting a kinder, more accepting attitude towards the self, these experiences are thought to give rise to greater emotional awareness, clarity, and acceptance. In later

life, self-compassion is associated with a capacity to respond to stress in a flexible and self-soothing way, stimulating parasympathetic activity, reducing negative affect, and increasing positive affect in the wake of stressful situations. As a result, individuals with greater self-compassion appear less reactive to, and avoidant of difficult experiences.

Svendsen et al. (2016) have argued that the hypothesised soothing effect of self-compassion on the limbic system may function to mobilise executive resources required for explicit adaptive ER. It may be hypothesised, therefore, that individuals who are high in self-compassion may demonstrate more flexible ER responses, characterised by situationally-appropriate use of adaptive ER strategies. Furthermore, self-compassionate individuals are less likely to engage in maladaptive ER strategies such as avoidance, rumination, and worry which potentially acts as a buffer against the onset and maintenance of emotional disorders. It should be highlighted that while ER is conceptualised as a transdiagnostic mechanism, emotional disorders are highly heterogenous. Moreover, caution is warranted regarding the extrapolation of results from studies with subclinical samples to clinical populations (Gilbert, 2004). Further experimental research with clinical samples is required to test specific hypotheses—for example, that self-compassion training reduces risk of depressive relapse via a reduction in cognitive reactivity and ruminative thinking.

While self-compassion can be experienced as an innate capacity, with roots in early childhood, the evidence suggests that it can also be cultivated, with positive implications for ER, and symptoms of depression and anxiety. Although CBI research with clinical samples is limited, preliminary evidence indicates that CBIs may be relevant for individuals with mood and anxiety disorders. Theoretically, improvements in ER may be a key mechanism underlying treatment effects, although this is yet to be tested in the literature. From a clinical perspective, self-compassion strategies such as caring and reassuring self-talk are thought to represent a form of top-down self-soothing that operates on cognitive, emotional, and physiological levels, similar to the experience of being soothed by a significant other in the context of a secure attachment relationship. Some caution is warranted however: for individuals who experienced insecure attachment and a lack of parental warmth, a resultant fear of compassion may activate feelings of anxiety, hostility or mistrust in the context of CBIs. Evidence of this is documented in Rockliff, Gilbert, McEwan, Lightman, and Glover (2008) who found that individuals with high levels of self-criticism demonstrated physiological threat responses, such as reduced cortisol in response to a compassionate imagery exercise. In addition, Arch, Landy, and Brown (2016) found that individuals who were higher in social anxiety benefited less from brief self-compassion training than individuals with lower anxiety scores. While more research is needed to identify factors that predict, moderate, and mediate CBI treatment effects, it appears likely that individuals who experience high levels of fear of compassion or social anxiety may require more gradual or tailored self-compassion training in order to maximise benefits (Arch et al., 2016).

Limitations and Directions for Future Research

The research reviewed here provides preliminary evidence that self-compassion may be an important intervention target for treatment of mood and anxiety disorders: in part, this may be due to its role in facilitating numerous aspects of adaptive ER. Nevertheless, there are many significant gaps in the literature that deserve to be explored in future research. In addition, there are a number of limitations of the current review that should be acknowledged. First, it should be acknowledged that while the practices of self-compassion and compassion for others are thought to be quite distinct (Shonin et al., 2015), some models of compassion highlight compassion as an interactive process that flows from self to self, from self to others, and from others to self (Gilbert, 2005c). While self-compassion is the focus of this review, there is evidence of the buffering effect that the capacity to feel compassion for others (Klimecki, Leiberg, Lamm, & Singer, 2012; Klimecki, Leiberg, Ricard, & Singer, 2014) and to receive compassion from others (Hermanto et al., 2016) has on distress and psychopathology. Given some evidence of the reciprocity between these constructs (Cosley, McCoy, Saslow, & Epel, 2010), these forms of compassion deserve to be taken into account in future work considering the implication of compassion for ER and mood and anxiety disorders.

In addition, the current review is limited in that the discussion of ER focuses largely on situation appraisal and response-focused ER capacities and strategies. While the emphasis on response-focused ER is characteristic of the ER literature in general, ER theorists consistently emphasise that adaptive ER is a process that begins with antecedent-focused strategies, such as situation selection, situation modification, and attention (Sheppes et al., 2015). Theoretically, self-compassion can impact each of these levels (Svendsen et al., 2016): these relationships, and their implications for mood and anxiety disorders are a key avenue for future research. For example, in line with theories linking low self-compassion with

threat-system activation, it has been proposed that individuals low in self-compassion may display attentional bias towards threat cues and pay less attention to cues of soothing or safety (Svendsen et al., 2016). Given substantial evidence of the role that threat-related attentional biases plays in and anxiety and depression (Dalgleish & Watts, 1990; Price et al., 2016; Shechner & Bar-Haim, 2016), a worthwhile avenue for future research is to examine whether the link between self-compassion and symptoms of emotional disorder is mediated by attentional biases, and whether such biases are responsive to modification via self-compassion training. Further, while it is also viable that self-compassion impacts situation selection and modification, there is a marked lack of research documenting the impact of self-compassion on behavioural responses to preceding or immediately following stressful events.

While the present review presents some evidence that self-compassion is linked to an ER style characterised by higher levels of positive affect, lower reactivity and faster recovery from stress, and more adaptive ER capacities and strategies, the current state of the evidence allows only for tentative conclusions about the relationships between these variables and their implications for risk of onset, maintenance, and relapse in emotional disorders. Further research with clinical samples is required to test specific hypotheses generated in the context of the ER framework. Key questions for CBI research include (1) whether self-compassion training can reliably enhance adaptive ER and/or reduce maladaptive ER; (2) whether this is linked to increases in self-compassion or some other variable (for example, mindfulness); and (3) whether this predicts reductions in the onset, duration, or recurrence of mood and anxiety disorders. In planning such research, it should be noted that recent conceptualisations of interpersonal ER add a new dimension to what has typically been assumed to be an intrapersonal process (Hofmann, 2014). Given that CBIs often also focus on cultivating a sense of connection with, and compassion for, others, other-focused compassion and interpersonal ER processes might also usefully be explored in relation to clinical outcomes. A sophisticated discussion of the role of self-other schemas, social contexts, and compassion in depression is provided by Gilbert (2004) and Hermanto et al. (2016) have recently explored the ability to receive compassion as a buffer of depressive symptoms in community samples. Finally, the difference between a general disposition to be compassionate with oneself and the use of self-compassion as an in-the-moment strategy to deal with difficult experiences has not been thoroughly explored in the literature, perhaps due in part to the absence of a state self-compassion scale. The development of a state measure of self-compassion would support investigation of the degree to which self-compassion is activated during times of stress, and the implications this has for mental health outcomes.

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