The Role of Dispositional Mindfulness and Self-Compassion as Buffers in the Relationship between Negative Life Events and Symptoms of Depression.

Alexandra Arentz
BBSc, PGDip (Psych), Assoc MAPS

This thesis is submitted in partial fulfillment of the requirement for the degree of Master of Clinical Psychology.

School of Psychology, University of Newcastle, Australia

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Declarations

Statement of Originality

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library**, being made available for loan and photocopying subject to the conditions of the Copyright Act 1968.

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I hereby certify that the work embodied in this thesis contains a scholarly work of which I am a joint author. I have included as part of the thesis a written statement, endorsed by my supervisor, attesting to my contribution to the joint scholarly work.

Signed:

____________________________________  __________________
Alexandra Arentz                         Date
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Abstract

Scope

Previous research has shown that significant relationships exist between the constructs of mindfulness, self-compassion, negative life events and psychological distress, specifically depression. It is well established that both mindfulness and self-compassion are positively associated with psychological health (Baer, 2003; Keng, Smoski & Robins, 2011; MacBeth & Gumley, 2012), and that each helps individuals to cope with negative life events, resulting in lower levels of depression (e.g. Bergomi, Ströhle, Michalak, Funke & Berking, 2013; Bohlmeijer, Prenger, Taal & Cuijpers, 2010; Hall et al., 2013; Johnson & O’Brien, 2013). Mindfulness and self-compassion have also been shown to be related constructs, but their respective roles in the relationship between negative life events and depression remain unclear (e.g. Bluth & Blanton, 2014; Hollis-Walker & Colosimo, 2011).

Purpose

The present study sought to examine the individual and combined contributions of trait mindfulness and self-compassion in the prediction of depressive symptoms in the presence of negative life events. Specifically, the study aimed to consider the following; (1) the relationship between mindfulness and self-compassion; (2) the independent relationships that mindfulness, self-compassion and negative life events each have with symptoms of depression, and; (3) the independent and combined moderation effects of mindfulness and self-compassion in the relationship between negative life events and symptoms of depression.

Methodology

A total of 654 participants were recruited from the general public and psychology undergraduates at the University of Newcastle. After deleting multivariate outliers, this left 649 participants, mean age 30.6 years (range=17-82 years), with 510 females (79%) and 139 males (21%). An online questionnaire, which was part of a larger study, was administered using Lime Survey software. The questionnaire took approximately 40-50 minutes to complete and included a number of different measures, some of which were not relevant for the current study. Within this study, the following questionnaires were analysed; The Five Facet Mindfulness
Questionnaire (FFMQ: Baer et al., 2006); the Self-Compassion Scale (SCS; Neff, 2003b); the Unpleasant Event Schedule (UES)-Mood Related Short Form (MacPhillamy & Lewinsohn, 1976); and the Depression Anxiety and Stress Scale – 21 (DASS-21; Lovibond, & Lovibond, 1993, 1995) as a measure of depressive symptomatology.

**Results**

The hypotheses were tested using correlations and hierarchical linear regression. Mindfulness and self-compassion were found to be strongly and positively correlated with each other. Both were also significantly and negatively correlated with depressive symptomatology, to a moderate extent. Similarly, negative life events were also significantly and positively correlated with depressive symptomatology. When considered independently, mindfulness and self-compassion were each shown to act as protective factors in the relationship between negative life events and depressive symptomatology, although the effect was relatively small for both \( R^2 \Delta = .027 \) & \( R^2 \Delta = .024 \), respectively. In each case, the buffering effect was stronger at higher levels of the dispositional construct (i.e. mindfulness or self-compassion), and for more frequent negative life events. However, when simultaneously considering the moderating effects of self-compassion and mindfulness, only self-compassion was effective as a moderator in the relationship between negative life events and depressive symptoms (again this effect was relatively small, \( R^2 \Delta = .084 \)), although a significant main effect was still evident for mindfulness. Removing the mindfulness component of the SCS did not significantly alter the results.

**Conclusions**

These results suggest that individuals with higher levels of either mindfulness or self-compassion are less likely to report depressive symptoms in general, and that both groups are less likely report such symptoms as a result of negative life events. However, the current findings also suggest that the moderating effects of mindfulness occur via self-compassion. It appears that having high levels of both self-compassion and mindfulness is no more effective as a buffer against negative life events than being high in self-compassion alone. Furthermore, it seems that the more frequent the incidence of negative life events and the more aversive the events experienced, the more important it is to be self-compassionate, in order to avoid
becoming depressed. These findings suggest that self-compassion may be particularly useful as a resilience-building strategy because it creates a buffer against negative life events.

Limitations and Recommendations

Several limitations were identified within the current study which have implications for future research. Specifically, the present study did not distinguish between individuals who have previously been depressed and those who never get depressed, and only asked about relatively minor negative life events. In addition, the measures utilized only assessed dispositional mindfulness and self-compassion, and the study relied entirely on self-report for all constructs assessed. Furthermore, the cross-sectional nature of the study meant that it was impossible to infer causal relationships between variables. Future studies should aim to address these gaps, in order to allow for results which can be better applied to inform the direction and focus of therapeutic intervention and prevention programs.
Mindfulness

Mindfulness is an ancient practice that originated in Buddhist tradition, 2,500 years ago (Gunaratana, 1991; Williams, Teasdale, Segal, & Kabat-Zinn, 2007). Revered Buddhist Monk Thich Nhat Hanh described mindfulness as being “completely myself, following my breath, conscious of my presence, and conscious of my thought at actions” (Nhat Hanh, 1991, p.4). According to this definition, to be mindful is to be fully present in the current moment, focused on what you are doing. Essentially Buddhism teaches that the most important moment is now and the practice of mindfulness focuses on increasing one’s ability to live in ‘the now’ (Nhat Hanh, 1991).

Buddhism encourages the practice of mindfulness in daily life, not just during meditation. The Buddhist ‘Sutra of Mindfulness’ urges the individual to be conscious of everyday actions such as walking, sitting and lying down, and to be mindful of the breath (Nhat Hanh, 1991). Buddhism states that to contemplate the body, the breath and objects around us is to contemplate the mind; it is not possible to separate the mind from these elements of our existence. Put succinctly; “every object of the mind is itself mind” (Nhat Hanh, 1991; p.46). The ‘objects of the mind’ are usually grouped into five ‘aggregates’; bodily and physical functions, feelings, perceptions, mental functionings, and consciousness. Consciousness is said to contain all the others, allowing them to exist. In this sense, the five aggregates are understood to be interdependent. Following on from this, Buddhism proposes that we are interconnected with the world around us (Nhat Hanh, 1991).

Buddhism refers to the ‘attachment to a false view of the self’ (Nhat Hanh, 1991). Liberation from suffering is said to arise from ridding oneself of this view of the self. Recognising the interdependence of everything in the universe is believed to decrease attachment to this false view. According to Buddhism, we are connected to what is occurring
Mindfulness and the suffering of others is also our suffering (Nhat Hanh, 1991). Mindfulness practice, including meditation focuses on increasing the ability to ‘see’ this interconnectedness.

Meditation is one way in which to develop and increase mindfulness. There are two main types of Buddhist meditation; Vipassana and Samatha. The latter aims to increase concentration and tranquillity, in a similar way to the meditative practices used in other cultures and religions, such as Judeo-Christian and Hindu traditions. Vipassana takes this further, focusing on improving concentration to increase awareness (Gunaratana, 1991). It can be described as “…a direct and gradual cultivation of mindfulness or awareness” (Gunaratana, 1991, p. 35). Vipassana is sometimes referred to as ‘insight meditation’ (Gunaratana, 1991), as it aims to increase understanding of life and reality (Gunaratana, 1991; Nhat Hanh, 1991). To this end, the Mindfulness Sutra encourages meditation ‘on the corpse’, to decrease discomfort with death and to increase acceptance, to increase the value we place on our life and the lives of others (Nhat Hanh, 1991). Life and death are seen as two sides of the coin; we cannot have one without the other. Vipassana teaches that increasing wisdom, or how well you understand reality, automatically leads to a compassionate attitude which results in avoidance of thoughts, words or action which may harm yourself or others. Ultimately, learning to be compassionate towards oneself is believed to increase the ability to be compassionate to others (Gunaratana, 1991).

In the past few decades, mindfulness has been adopted by the West and utilized in a wide array of secular contexts. It has become increasingly popular in recent years and has received significant attention from researchers and the media. Nowadays, myriad definitions of mindfulness exist, varying according to ideology and therapeutic orientation. Despite this variation, most contain two common factors; awareness and acceptance or a non-judgmental stance. Three definitions that eloquently encapsulate these concepts are as follows:

“paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p. 4);
"awareness of present experience with acceptance" (Germer, Siegel & Fulton, 2005, p.7); and;

“the capacity to be aware of and attend to what is occurring in the present moment” (Seear & Vella-Brodrick, 2012, p.1127).

The literature also distinguishes between ‘trait-based mindfulness’ and the ‘state’ of mindfulness. The mindfulness trait, also known as dispositional mindfulness, refers to the naturally occurring tendency to think and behave in a mindful way; that is with heightened awareness and attention (Brown, & Ryan, 2003; Seear & Vella-Brodrick, 2012). On other hand, mindfulness can also refer to the heightened state that mindfulness-based practices (i.e., meditation) and therapeutic interventions aim to induce (Brown & Ryan, 2003).

Numerous therapeutic interventions have been developed which are based on or incorporate aspects of mindfulness both as an attitude and a skill. These include, Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002), Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982, 1990), Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999), Dialectical Behaviour Therapy (DBT; Linehan, 1993a, 1993b), Relapse Prevention (RP; Marlatt & Gordon, 1985) or Mindfulness-Based Relapse Prevention (MBRP; Chawla et al., 2010), and exposure-based cognitive therapy for depression (Hayes, Beever, Feldman, Laurenceau, & Perlman, 2005).

**Effects of mindfulness.** Mindfulness has been associated with improvements in psychological health, including decreased levels of depression, anxiety and stress (Baer, 2003; Baer, Lykins & Peters, 2012; Brown & Ryan, 2003; Keng et al., 2011; Lee & Bang, 2010). These effects have been found in connection with both dispositional mindfulness and mindfulness-based therapeutic interventions (Brown & Ryan, 2003).

Keng et al., (2011) reviewed existing correlational research regarding the relationships that dispositional mindfulness and mindfulness meditation each have with psychological health. They reported that trait mindfulness has been linked to higher levels of many desirable personal
characteristics and states, including optimism, pleasant affect and self-esteem; and negatively correlated with factors such as depression, emotional regulation difficulties, social anxiety, cognitive reactivity, rumination, neuroticism and experiential avoidance. These authors also reported that the sum of existing correlational research suggests that mindfulness meditation is negatively associated with psychopathology and negative affect, and positively associated with psychological health (e.g. life satisfaction, emotional regulation skills, positive affect and vitality). Keng et al., (2011) concluded that both trait mindfulness and mindfulness meditation appear to reduce reactivity to emotional stimuli and increase psychological wellbeing. They indicated however, that such research should be interpreted with caution given its correlational nature, as the direction of causation between mindfulness and psychological health could not be determined from such studies.

Positive effects have also been demonstrated based on the results of empirical literature regarding the effectiveness of mindfulness-based interventions. Baer (2003) conducted a meta-analysis of existing research regarding several such interventions, including MBCT, MBSR, ACT, DBT and RP. She reviewed 21 studies that either compared participants pre and post mindfulness training, or groups trained in mindfulness to those who had not been trained. Only studies which utilized MBCT or MBSR were included, due to unavailability of empirical research which differentiated between the effectiveness of the mindfulness-based components of ACT, DBT and RP, and the behaviour change approaches utilized in these techniques. The author did acknowledge however, that considerable evidence exists which supports the efficacy of the latter techniques.

Baer (2003) reported that mindfulness-based interventions were associated with improved psychological health in relation to both psychological and medical conditions. Specific effects included decreased depression and anxiety among patients with generalised anxiety and panic disorders; improved mood and eating patterns among those with binge-eating disorders; and lower relapse rates for individuals with major-depressive disorder who had experienced three or more depressive episodes. Symptom reduction was also seen in individuals
with fibromyalgia and psoriasis; decreased subjective ratings of pain and improved psychological wellbeing identified among individuals with chronic pain; and decreased mood disturbance and stress levels demonstrated in cancer patients (Baer, 2003). Further, improvements in psychological health were also demonstrated among individuals with multiple psychiatric diagnoses or concurrent psychological and medical conditions, as well as non-clinical populations. Baer (2003) concluded that the empirical literature indicates that mindfulness-based interventions may improve psychological functioning and assist in the treatment of several mental health conditions.

Keng et al., (2011) also reviewed existing literature regarding the effectiveness of mindfulness interventions for improving psychological health. Like Baer (2003), they evaluated the findings of controlled studies of several interventions (MBSR, MBCT, DBT and ACT), but, the effects of each intervention were considered separately and the review was limited to published, peer-reviewed studies of randomized controlled trials (RCTs) of psychological health outcomes among adults. RP and exposure-based cognitive therapy were not studied, due to the absence of RCTs on these topics, but the authors did acknowledge that these techniques show promise.

Keng et al., (2011) reported that all four interventions improved psychological health. They stated that, based on self-report measures, MBSR has been linked to reductions in anxiety, depression, stress, overall distress and post-traumatic avoidance, and to increases in positive affect. These effects have been observed in both clinical settings and non-clinical populations. MCBT has also been linked to reduction in current depressive symptomatology, improved quality of life and reduced residual depressive symptomatology among previously depressed individuals, and reduced risk of relapse among individuals who had experienced three or more depressive episodes. Similarly, DBT has been associated with reduced self-harm and parasuicidal behaviour for individuals with Borderline Personality Disorder (BPD), with some lasting effects. Likewise, ACT has been found to have some effectiveness for the treatment of depression and anxiety (Keng et al., 2011).
Mindfulness and negative life events. There is also evidence that mindfulness can help individuals to cope with negative or stressful life events, decreasing the likelihood that psychopathology will develop (Ando et al., 2009; Brown-Iannuzzi, et al., 2014; Brown & Ryan, 2003; Bergomi et al., 2013; Bohlmeijer et al., 2010; Cole et al., 2015; Grossman, Niemann, Schmidt & Walach, 2004; Moskowitz et al., 2015; Nyklíček et al., 2015; Pagnini et al., 2015; van Son et al., 2015; Westphal et al., 2015). As with the evidence regarding the direct effects of mindfulness on depression, the moderating effects of mindfulness have been found in connection with both mindfulness-based therapeutic interventions and dispositional mindfulness.

Grossman et al., (2004) reviewed existing research regarding the effectiveness of MBSR for individuals with a range of physical and psychological conditions; the presence of which may constitute significant negative life events for most individuals. Their meta-analysis consisted of 20 studies, incorporating both controlled and observational investigations of MBSR’s effects in various clinical and non-clinical populations, including patients with heart disease, cancer and chronic pain. They reported that MBSR appears to be an effective intervention for individuals with serious health conditions and that mindfulness training more broadly may improve coping among such individuals, as well as enhancing the ability to manage distress arising from events in everyday life in non-clinical populations. Grossman et al., (2004) reported that the evidence consistently suggests that mindfulness-based interventions result in improvements in psychological health, including results on standardized measures of depression, anxiety, coping style and quality of life, as well as positive effects on similarly robust measures of physical health.

Similarly, a more recent meta-analysis by Bohlmeijer et al., (2010) considered the effectiveness of MBSR for improving psychological health among chronic disease populations. Eight RCTs were reviewed, all of which examined the effects of MBSR for treatment of chronic somatic disorders; incorporating conditions that cause irreversible disability, as well as those with more temporary effects. Bohlmeijer et al., (2010) reported that MBSR appears to lead to
reductions in depression, anxiety and psychological distress. They reported smaller effect sizes for depression by Baer (2003), and distress by Grossman et al., (2004), but concluded that this was likely due to the inclusion of studies utilizing less rigorous statistical methodologies by those authors.

As Grossman et al (2004) indicated, mindfulness-based interventions have also been shown to increase the ability to cope with less serious negative events and situations, such as distressing occurrences in everyday life (Bergomi et al., 2013; Marks, Sobanski & Hine, 2010). Similar results have been found for dispositional mindfulness. For example, Bergomi et al., (2013) studied individuals aged 14+ years and examined the relationship between self-reported levels of dispositional mindfulness; unavoidable distressing experiences (UDE), such as incidents involving humiliation, vulnerability or failure; and poor mental health outcomes, including psychopathological symptoms and negative affect. Mindfulness was found to moderate the association between UDE and poor mental health. Bergomi et al., (2013) concluded that mindfulness appears to increase coping with negative events of this kind, thereby decreasing the likelihood that they will have a negative impact on mental health.

Similarly, Marks et al., (2010) examined the role of mindfulness in coping with recent life hassles among students, aged 14-19 years ($N=317$). They considered the relationship between the incidence of recent events of a stressful nature (e.g. friendship difficulties, poor grades); and mental health symptomatology, specifically depression, anxiety and stress. They also considered the moderating effects of dispositional mindfulness and rumination in this relationship. Dispositional mindfulness was found to be positively associated with lower levels of all three symptoms following life hassles, whereas rumination had the opposite effect for depression and anxiety. The authors concluded that differing levels of dispositional mindfulness and rumination might partially explain discrepancies in the psychological effects of life hassles in adolescent populations. However, such interpretations should be viewed cautiously, as this study used correlational data. Additional, experimentally based research is required to better understand the nature of causation.

Several, more recent studies have found similar evidence for dispositional mindfulness
as a buffer (Brown-Iannuzzi, et al., 2014; Cole et al., 2015; Moskowitz et al., 2015; Nyklíček et al., 2015; Pagnini et al., 2015; Westphal et al., 2015). The protective benefits of mindfulness have been demonstrated in the context of a wide range of adverse life events, including discrimination (Brown-Iannuzzi, et al., 2014), academic stress (Cole et al., 2015) and stress experienced by emergency room personnel (Westphal et al., 2015). Comparable effects have been demonstrated for more serious life events, including among individuals with physical health conditions such as HIV (Moskowitz et al., 2015), rheumatoid arthritis (Nyklíček et al., 2015), diabetes (van Son et al., 2015) and neurodegenerative disease (Pagnini et al., 2015).

**Mechanisms for change.** Given the demonstrated benefits of mindfulness for psychological health, what then is the mechanism of its effectiveness? Several underlying mechanisms have been proposed. It has been suggested that mindfulness can help people to respond to events as they exist in ‘the present moment’, rather than reacting emotionally based on past experiences (Williams, 2010). It appears that mindfulness may work by helping people to shift their focus from attempting to control negative emotions via cognition, to awareness that negative experiences will not last (Farb, Anderson & Segal, 2012). There is evidence that this occurs via neurological changes resulting from mindfulness practice (Farb et al., 2012).

Baer (2003) labelled these underlying mechanisms as exposure, cognitive change, relaxation and acceptance. She identified both similarities and key differences between the effects of mindfulness and those of cognitive-behavioural approaches. She stated that mindfulness-based interventions focus on non-judgmental acceptance leading to symptom reduction, as opposed to evaluation and symptom reduction in CBT. Keng et al., (2011) proposed a very similar list, adding increased awareness, attentional control, memory, clarification of values and ability to regulate behaviour, to the mechanisms identified by Baer (2003).

More recent research has identified emotion regulation as the process underlying the mindfulness-psychological health relationship (Desrosiers, Vine, Klemanski & Nolen-
Hoeksema, 2013; Pepping, Duvenage, Cronin & Lyons, 2016; Pepping, O’Donovan, Zimmer-Gembeck & Hanisch, 2014). For example, Pepping et al., (2014) found that low dispositional mindfulness was indirectly associated with psychosocial distress, including depression, and that these effects occurred via (were mediated by) emotion regulation difficulties, specifically non-acceptance of emotion and limited access to emotion regulation strategies. These authors utilized a definition developed by Gratz and Tull (2010), whereby emotion regulation is a “multi-faceted construction” which includes “(1) awareness and acceptance of emotion; (2) capacity to pursue goal-directed behaviours when distressed; (3) flexible use of emotion-regulation strategies to respond to difficult emotions, as opposed to avoiding difficult emotions; and (4) willingness to experience difficult emotions” (Pepping et al., 2014, p.130). When viewed according to this definition, emotion regulation appears to encompass many of the mechanisms discussed above, which may in fact refer to emotion regulation strategies. Thus, emotional regulation may provide a useful overall framework for understanding the pathways by which mindfulness can allow individuals to respond to negative life events with less chance of becoming depressed.

**Self-Compassion**

A concept that is often discussed in connection with mindfulness is self-compassion. As discussed above, according to Buddhist philosophy self-compassion is understood to be an outcome or by-product of mindfulness (Gunaratana, 1991). However, in recent times, self-compassion has become increasingly popular in the West as a construct in its own right. It has received considerable research attention over the past few decades as an independent construct that incorporates mindfulness, rather than the reverse.

Neff (2003a), a leading proponent of self-compassion as an intervention defines it as: “…being touched by and open to one’s own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one’s suffering and to heal oneself with kindness.”; and;

“…offering nonjudgmental understanding to one’s pain, inadequacies and failures, so
that one’s experience is seen as part of the larger human experience” (Neff, 2003a, p.87).

More specifically, Neff conceptualizes self-compassion in terms of a three-component model, incorporating self-kindness, common humanity and mindfulness. Self-kindness is defined as responding to one’s own pain or failure with kindness and understanding, as opposed to harsh self-criticism (Neff, 2003a). Common humanity refers to viewing personal experiences as being connected to the overall human experience, as opposed to something separate and isolating (Neff, 2003a). Mindfulness is defined as “holding painful thoughts and feelings in balanced awareness rather than over-identifying with them” (Neff, 2003a, p.85).

Similarly to mindfulness, self-compassion can be conceived of as a trait, as well as a state induced by therapeutic intervention or other processes (Breines & Chen, 2013; Leary, Tate, Adams, Allen, & Hancock, 2007; Lindsay & Creswell, 2014). For example, Breines and Chen (2013) studied factors influencing levels of self-compassion, conducting four experiments in which participants either thought about giving support to others, or actually provided such support. They found self-compassion to increase in all cases, concluding that it is both a “stable individual difference” (p. 63), and a state that can be influenced by environmental factors, such as the “activation of support-giving schemas” (p.63).

Self-compassion is also a key component in several recently developed therapeutic interventions (Beaumont & Hollins Martin, 2015; Germer & Neff, 2013; Lambert D'raven & Pasha-Zaidi, 2014; Lee & Bang, 2010; Neff & Germer, 2013; Shapira & Mongrain, 2010). Self-compassion is broadly utilized in a range of Positive Psychology Interventions (PPIs; (Lambert D'raven & Pasha-Zaidi, 2014), and in several specifically self-compassion focused interventions, including Compassion-Focused Therapy (CFT; Gilbert, 2010) and Mindful Self-Compassion (MSC; Neff & Germer, 2013).

**Effects of self-compassion.** Like mindfulness, self-compassion has also been positively associated with psychological wellbeing. High levels of self-compassion, including increased
self-compassion arising from therapeutic intervention, have been linked to improved psychological health (Hall, Row, Wuensch & Godley, 2013; Johnson & O’Brien, 2013; Lee & Bang, 2010; MacBeth & Gumley, 2012; Shapira & Mongrain, 2010).

MacBeth and Gumley (2012) conducted a meta-analysis of research regarding the relationship between self-compassion and psychopathology. Fourteen of 728 studies met inclusion criteria and were closely examined. All utilized the Self-Compassion Scale (SCS; Neff, 2003a) and validated measures of psychopathology. The authors reported that high levels of self-compassion were found to be strongly associated with lower levels of psychopathology, with regards to depression, anxiety and stress (MacBeth & Gumley, 2012).

Several studies have also demonstrated the effectiveness of self-compassion based interventions. Shapira and Mongrain (2010) examined the effects of a 7-day intervention designed to either develop self-compassion or to increase optimistic thinking. The intervention was delivered online to adults, aged 18+ (N=100+). Participants were allocated to either a self-compassion or an optimism exercise condition, or to a control condition where they were asked to write about an early memory. Both the self-compassion and optimism conditions were associated with decreased depressive symptoms, immediately following the intervention and at 3-month follow-up, and higher levels of happiness at 6-months.

Similarly, Neff and Germer (2013) examined the effectiveness of MSC, their own 8-week program, which is designed to increase self-compassion. Their research included both a pilot study (N=21) and an RCT (N=27). MCS was found to be associated with a range of positive outcomes, including decreased anxiety, depression and stress (Neff & Germer, 2013).

CFT has also been found to be an effective intervention (Beaumont & Hollins Martin, 2015). A review of existing research incorporating 12 studies, considered the use of CFT in the treatment of individuals with a range of psychological difficulties and disorders, including eating disorders, personality disorders, schizophrenia-spectrum disorders, psychosis, brain injury, trauma symptomatology and chronic mental health problems. CFT was found to be effective in reducing symptomatology associated with these conditions, including decreasing
levels of depression and anxiety. However, in each study, CFT was used in conjunction with CBT or psychotherapy, so it was not possible for the authors to comment definitively regarding CFT’s individual contributions to these outcomes (Beaumont & Hollins Martin, 2015).

Correspondingly, low levels of self-compassion have been associated with increased psychopathology (Krieger, Altenstein, Baettig, Doerig & Holtforth, 2013; MacBeth & Gumley, 2012). Krieger et al., (2013) compared levels of self-compassion among clinically depressed individuals ($N=140$) with those of people that had never been depressed ($N=120$). They found lower levels of self-compassion among those that were depressed than those that had never been, even after controlling for depressive symptoms. Furthermore, self-compassion was negatively correlated with rumination regarding symptoms and avoidance among the depressed group. Krieger et al., (2013) concluded that their findings highlight the importance of self-compassion focused interventions for this population.

However, the direction of causality between self-compassion and psychopathology is unclear. While the above findings could be interpreted as an indication that people with lower levels of self-compassion are more likely to become depressed, the reverse is also feasible. For example, it has been suggested that experiencing depression or anxiety may impact on the ability to be self-compassionate (Pauley & McPherson, 2010). These authors used interpretative phenomenological analysis (IPA) to examine the meaning of compassion and self-compassion among individuals who met criteria for either anxiety or depression ($N=10$). Both groups of participants reported self-compassion was a helpful coping tool, but also stated that they found it difficult to be self-compassionate, partly as a result of their condition (Pauley & McPherson, 2010).

**Self-Compassion and Negative Life Events**

Like mindfulness, self-compassion has also been argued to act as a buffer or protective factor for individuals experiencing adverse life events (Hall et al., 2013; Johnson & O’Brien, 2013; Leary et al., 2007; Pinto-Gouveia, Duarte, Matos & Fráguas, 2013). These effects have been found in relation to negative everyday experiences, as well as more serious events or circumstances. Hall et al., (2013) examined the association between self-compassion and
measures of physical and psychological wellbeing, in a sample of college students (N=182). They reported several significant effects, including lower levels of depressive symptoms and better ability to manage life stressors in correspondence with higher levels of some components of self-compassion (Hall et al., 2013).

Johnson and O’Brien (2013) conducted two studies in which they examined self-compassion, beginning with a university sample (N=335). They found a strong negative relationship between self-compassion and symptoms of depression, and established that shame played a strong mediating role in this. Following this, they identified a group of students who had a tendency to feel shame and asked them to recall a shameful experience. The students had to either write about their emotional response to the experience, describe it self-compassionately, or do neither. Johnson and O’Brien (2013) found that the self-compassion exercise was associated with decreased depressive symptoms and a reduced likelihood of ‘shame-proneness’.

Leary et al., (2007) also assessed the relationship between self-compassion and the ability to cope with everyday negative life events. Five studies were conducted in which participants were asked to respond either to real or hypothetical negative events, or to unpleasant feedback. The effects of both trait and state self-compassion were considered. Overall, it was found that self-compassion moderated the impact of negative life events, including those involving failure, rejection and embarrassment, with higher levels of self-compassion associated with lower levels of negative emotion.

Pinto-Gouveia et al., (2013) found similar effects regarding the role of self-compassion in coping with more serious negative life experiences. Their sample included cancer patients, patients with chronic illnesses and a group of healthy individuals. Lower levels of self-compassion and high levels of self-critical judgment were each found to be associated with decreased quality of life, and increased stress and depression in both ill groups. Furthermore, for cancer patients, self-compassion was identified a significant predictor of depression and stress levels, and quality of life ratings (Pinto-Gouveia et al., 2013).

Not all available evidence supports self-compassion as a protective factor in the
presence of negative life events. For example, a study of paramedics found that low levels of self-compassion were associated with increased psychological wellbeing following exposure to multiple traumatic events (Mitmansgruber, Beck & Schüßler, 2008). These authors compared experienced paramedics who had been exposed to multiple highly stressful situations, to a group of novice paramedics. Self-compassion was measured by asking about the propensity to do something positive to help oneself at times of sadness or anxiety, and the tendency to take a long time to forgive oneself following a mistake. Contrary to expectations, low levels of self-compassion and taking a “stern and contemptuous” stance towards one’s emotions were associated with increased psychological wellbeing (Mitmansgruber et al., 2008, p.1358). It appears that in this population, low self-compassion may be part of functional coping strategy that allows these professionals to continue to work in a stressful role over an extended period.

Mechanisms of effects. As with mindfulness, the effects of self-compassion appear to occur via a shift in emotional and cognitive reactions to negative events (Leary et al., 2007). Increased self-compassion seems to allow individuals to take responsibility for their actions without becoming caught up in shame and other unpleasant emotions (Johnson & O’Brien, 2013). It has been suggested that self-compassion may reduce the tendency for negative events to be interpreted in a self-critical way, thereby reducing both feelings of shame and physiological responses such as activation of the hypothalamic-pituitary axis (HPA); both of which are associated with depression (Johnson & O’Brien, 2013).

Leary et al., (2007) proposed several mechanisms by which these effects may occur. Their research (discussed above), found higher levels of self-compassion to be associated with a tendency to judge oneself less harshly and with greater accuracy. They suggested that both catastrophic and defensive tendencies in self-judgment might be decreased among those high in self-compassion. Secondly, these authors indicated that individuals high in self-compassion might rely less heavily on positive outcomes or achievement in their self-evaluations, tending towards a kind, self-accepting stance regardless of whether an outcome is good or bad. Finally, they suggested that high self-compassion appears to be associated with more positive cognitions in response to negative events. Their findings suggested a greater propensity among the highly
self-compassionate to engage in thoughts about the self that feature self-kindness, common humanity and mindful acceptance (Leary et al., 2007).

As with mindfulness, emotion regulation has been identified as a possible underlying mechanism or mediator in the relationship between self-compassion and psychological health (Finlay-Jones, Rees & Kane, 2015; Scoglio, et al., 2015). Specifically, recent studies have found emotion regulation to mediate the relationship that self-compassion has with trauma (Scoglio, et al., 2015), and with stress (Finlay-Jones et al., 2015). As yet there does not appear to be specific evidence available regarding emotional regulation’s mediating role with regards to depression, but there seems to be a strong argument for a similar effect, given existing research which demonstrates a positive association between self-compassion and effective emotion regulation (e.g., Neff, 2003a) and vice-versa (e.g. Vettese, Dyer, Li & Wekerle, 2011). Correspondingly, most of the individual mechanisms identified above appear to be emotion regulation strategies. Therefore, as is the case with mindfulness, emotion regulation may be viewed as a multi-faceted construct encompassing a range of mechanisms which act as mediators in the relationship between self-compassion and depression.

**Mindfulness and Self-Compassion**

Research and theory have demonstrated that there is a relationship between mindfulness and self-compassion (Baer et al., 2012; Barnard & Curry, 2011; Bluth & Blanton, 2014). For example, it has been reported that improvements to psychological health resulting from mindfulness-based interventions appear to occur as a result of both mindfulness and self-compassion (Kuyken et al., 2010). These authors conducted an RCT comparing the effects of MBCT with discontinuation of antidepressant use to maintenance of antidepressant use alone, with individuals aged 18+ with recurrent depression (N=123). Mindfulness, self-compassion and dysfunctional thinking were assessed, along with depressive symptom scores at 15-months post-intervention. The authors reported that mindfulness and self-compassion both mediated the positive effects of MCBT, suggesting that MCBT may decrease depressive symptoms via increases in both mindfulness and self-compassion (Kuyken et al 2010). These authors,
however, did not examine the individual contributions of each of these variables, or their specific components to these effects, or definitely establish them as mechanisms of change for MCBT.

It appears that there is considerable variation in how the relationship between mindfulness and self-compassion is conceptualized and understood. Some researchers have proposed that these factors are equally predictive of psychological wellbeing, whereas others have indicated that one is superior to the other. Various models have also been proposed with regards to the mediation effects of each variable in the relationship the other has with psychological wellbeing outcomes.

For example, it has been suggested that self-compassion may partially mediate the relationship between mindfulness and psychological health (Hollis-Walker & Colosimo, 2011). These authors studied undergraduates aged 18+ (N=123), using a range of self-report measures to examine the relationship between mindfulness, self-compassion, personality and psychological wellbeing. Consistent with previous research, mindfulness was shown to be associated with increased psychological wellbeing, but this relationship was partially mediated by self-compassion. The authors proposed that mindfulness leads to increased compassion towards oneself, which consequently decreases the likelihood of self-criticism, leading to increased wellbeing. They stated however, that other factors, such as insight, may also act as mediators (Hollis-Walker & Colosimo, 2011).

By contrast, however, it has been suggested that self-compassion is a much better predictor of psychological health than mindfulness (Van Dam, Sheppard, Forsyth, & Earleywine, 2011). These authors studied adults aged 18-73 years, who were experiencing depression and/or anxiety (N=504). They examined the relationships between self-compassion and dispositional mindfulness, with several measures of psychological wellbeing including anxiety, depression, worry and quality of life. They reported that compared to mindfulness, self-compassion accounted for a much greater proportion of the variance in psychological wellbeing, including the severity of depression and anxiety symptoms (Van Dam et al., 2011).

Some similarities were reported in a more recent study by Baer et al., (2012). These
authors compared adults who regularly engaged in mindfulness-based meditation practices (N=77), to a group who had never meditated (N=75), on measures of dispositional mindfulness, self-compassion and psychological wellbeing. They reported that mindfulness and self-compassion shared significant variance, but were both important predictors of psychological wellbeing (Baer et al., 2012). As in the Van Dam et al., (2011) study, self-compassion was shown to be a stronger predictor at the total scores level of psychological wellbeing. However, at the subset level the two variables were equally predictive. Furthermore, the effects of the amount of previous meditation experience were completely accounted for by the combination of mindfulness and self-compassion, leading these authors to conclude that these variables may mediate the effects of meditation practice on psychological wellbeing. However, as the authors pointed out, these findings were cross-sectional, and should be interpreted with caution (Baer et al., 2012).

As an alternative to the debate about the relative contributions of mindfulness and self-compassion as predictors of psychological wellbeing, it has been suggested that these factors may have a reciprocal relationship (Bluth & Blanton, 2014). These authors studied students aged 14-18 years (N=67), using an online survey. The study included measures of self-compassion and mindfulness, and wellbeing measures, namely positive and negative affect, life satisfaction and perceived stress. The authors reported that mindfulness significantly predicted psychological wellbeing, in a positive direction. Self-compassion was also positively related to all wellbeing measures, except for positive affect. Furthermore, mindfulness and self-compassion were significantly correlated, and self-compassion was found to partially mediate the relationships between mindfulness and both negative effect and perceived stress. It was also found, however, that mindfulness partially mediated the relationships between self-compassion and these wellbeing variables, and fully explained the relationship between self-compassion and life satisfaction. The authors suggested that these findings were suggestive of reciprocity in the mindfulness-compassion relationship. They proposed a model whereby increased mindfulness leads to increased awareness of cognitions; and subsequently to increased recognition of self-judgment, rumination or over-identification with negative thoughts; leading to greater
propensity towards self-kindness, then to increased acceptance of self; then recognition of self as part of common humanity; and subsequently to further increases in mindfulness (Bluth & Blanton, 2014).

**Limitations of the Existing Research**

Overall, the current literature review suggests that there is considerable debate regarding the relationships between mindfulness, self-compassion, negative life events, and psychological wellbeing. In many cases, it appears that these discrepancies may be due to inconsistencies in the way in which mindfulness and self-compassion have been operationalized and measured to-date.

Several studies have identified a range of methodological concerns in the existing mindfulness literature. Baer (2003) reported concerns with regards to sample size, control groups, integrity of treatment approaches and clinical significance; and emphasized the importance of utilising methodologically sound approaches to address these limitations in future research. Similarly, Keng et al., (2011) indicated that there is a need to improve and standardize the way in which mindfulness is operationalized and assessed in empirical research. These authors also identified several research questions that warrant future attention. They emphasized the importance of understanding the role that individual personal characteristics play in determining the effectiveness of mindfulness-based interventions, in order to adapt treatment to the individual or client group. They also identified the need to further explore the potential for mindfulness to be utilized in a wider range of settings and for varying populations.

Furthermore, it is noteworthy that in the majority of the studies discussed above, self-compassion was assessed using the SCS (Neff, 2003a). This measure is based on Neff’s ‘three-component’ model of self-compassion, which includes mindfulness as a component of self-compassion (Neff, 2003a), contradicting traditional Buddhist philosophy. If this widely utilized conceptualisation of self-compassion is an accurate conceptualisation of this construct, it should
follow that measures of self-compassion capture what is commonly understood to be mindfulness, as well as accounting for additional variance. Accordingly, there should be evidence that measures of mindfulness are redundant once the effects of self-compassion are taken into account.

However, this proposal is only partially supported by the results reported above. For example, while self-compassion has been shown to mediate the relationship between mindfulness and psychological health, there is disagreement regarding the extent of this effect (e.g. Hollis-Walker & Colosimo, 2011; versus Van Dam et al., 2011). Furthermore, while mindfulness and self-compassion have been shown to share significant variance, it has also been argued that both are, in of themselves important predictors of psychological health (Baer et al., 2012).

The studies reviewed above utilized a range of different mindfulness scales, including measures of both dispositional and state mindfulness. Overall, it is unclear whether these mindfulness scales measure a construct that differs in some way to the conceptualization of mindfulness assessed by the SCS and Neff’s three-factor model of self-compassion. It appears that mindfulness and self-compassion are related but separate constructs, but the unique characteristics of each remain poorly understood. At present, there is a lack of evidence regarding their separate and combined effects (Baer et al., 2012).

**Future Research.** Overall, it is unclear whether mindfulness should be viewed as a component of self-compassion as proposed by Neff, or through the traditional Buddhist lens, whereby self-compassion is a positive outcome of mindfulness. Further research is required to address this question. Considering the limitations identified above, future research should more closely examine the independent and combined effects of mindfulness and self-compassion as buffers in the relationship between negative life events and poor psychological health. Specifically, areas that warrant further examination are as follows:
(1) Explore the extent to which widely used measures of mindfulness and self-compassion overlap in their item content

(2) Seek to establish the relationships of each of these constructs with psychological health once any item overlap is controlled for

(3) Investigate the extent to which mindfulness and self-compassion independently contribute to the prediction of psychological health

(4) Investigate the extent to which both self-compassion and mindfulness independently moderate (or buffer) the relationship between negative life events and psychological health
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Dispositional Mindfulness and Self-Compassion as Buffers in the Relationship between Negative Life Events and Symptoms of Depression

Alexandra Arentz
Ross Wilkinson PhD

University of Newcastle

Correspondence:
Ross Wilkinson PhD
University of Newcastle
Callaghan NSW 2308, Australia
Email: Ross.Wilkinson@newcastle.edu.au
Ph: 02 4921 6947

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Abstract

Considerable empirical evidence suggests that mindfulness and self-compassion act as buffers in the relationship between negative life events and depression. A review of the existing literature indicates that mindfulness and self-compassion are related, however, the nature of this relationship remains unclear. The current study examined the comparative effects of mindfulness and self-compassion as moderators of the relationship between negative life events and depression. It aimed to further theoretical conceptualizations of the relationship between mindfulness and self-compassion, and the unique contribution of each to psychological adjustment. Based on an online survey of 649 adults (510 females), initial analyses indicate that dispositional mindfulness and self-compassion each moderate the relationship between negative life events and depressive symptomatology in the expected direction. However, after taking into account the impact of self-compassion, the buffering effect of mindfulness was not significant. These results indicate that both mindfulness and self-compassion are associated with lower levels of depressive symptomatology (even after controlling for either concept), but that self-compassion may have a particular role in protecting against high levels of negative life events while mindfulness has an overall beneficial impact on mental health. Limitations of the research and implications for therapeutic interventions are discussed.

Keywords: mindfulness, self-compassion, negative events, depression
Dispositional Mindfulness and Self-Compassion as Buffers in the Relationship between Negative Life Events and Depressive Symptomatology

In recent years, mindfulness and self-compassion have become increasingly popular concepts in secular Western society. Both are now widely utilized in an array of self-help and formal therapeutic contexts (e.g., Gilbert, 2010; Kabat-Zinn, 1990, 1994; Neff, 2011; Neff & Germer, 2013; Segal, Williams, & Teasdale, 2002). As a result, these concepts have also attracted the attention of health professionals and academics, with extensive research conducted in both clinical and non-clinical settings (Keng et al., 2011; MacBeth & Gumley, 2012). Considerable evidence exists which indicates that both mindfulness and self-compassion are positively associated with psychological health (e.g., Bränström, Duncan & Moskowitz 2011; Krieger, Altenstein, Baettig, Doerig & Holtforth, 2013). There is also evidence that each has a role to play in helping individuals to cope with negative life events, resulting in lower levels of depression and increased psychological wellbeing (e.g., Brown-Iannuzzi, Adair, Payne, Richman & Fredrickson, 2014; Cole et al., 2015; Moskowitz et al., 2015; Nyklíček, Hoogwegt & Westgeest, 2015; Pagnini, Phillips, Bosma, Reece & Langer, 2015; Westphal et al., 2015). However, it has also been shown that mindfulness and self-compassion are related constructs (Baer, Lykins, & Peters, 2012; Barnard & Curry, 2011; Bluth & Blanton, 2014), but their respective roles in the relationship between negative life events and depression remain unclear (Baer et al., 2012; Bluth & Blanton, 2014; Hollis-Walker & Colosimo, 2011; Van Dam et al. 2011).

The present study examines the individual and combined contributions of trait mindfulness and self-compassion in the prediction of depressive symptoms in the presence of negative life events. The findings have implications for prevention and treatment of depression, which is particularly significant given the high rates of depression in the general population (Australian Bureau of Statistics, ABS, 2009), and its significant impact on individuals and society (Australian Institute of Health and Welfare, 2007; World Health Organisation, WHO, 2008).
Mindfulness

Mindfulness can be understood as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p. 4). It is an ancient practice that originated in Buddhist tradition, 2,500 years ago (Gunaratana, 1991; Williams, Teasdale, Segal, & Kabat-Zinn, 2007). Mindfulness focuses on increasing one’s ability to live in ‘the now’ (Nhat Hanh, 1991), and understanding that we are interconnected, such that the suffering of others is also our suffering (Nhat Hanh, 1991). Buddhism teaches that increasing wisdom via mindfulness practice automatically leads to greater compassion towards others and oneself (Gunaratana, 1991). Modern psychological literature distinguishes between ‘trait-based’ and ‘state’ mindfulness. The mindfulness trait, also known as dispositional mindfulness, refers to the naturally occurring tendency to think and behave in a mindful way; that is, with heightened awareness and attention (Brown, & Ryan, 2003; Seear & Vella-Brodrick, 2012). On other hand, mindfulness can also refer to the heightened state that mindfulness-based practices, such as meditation and therapeutic interventions, aim to induce (Brown & Ryan, 2003).

Numerous psychological interventions have been developed which are based on or incorporate aspects of mindfulness both as an attitude and a skill. These include, Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002), Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982, 1990), Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999), Dialectical Behaviour Therapy (DBT; Linehan, 1993a, 1993b), Relapse Prevention (RP; Marlatt & Gordon, 1985) or Mindfulness-Based Relapse Prevention (MBRP; Chawla et al., 2010), and exposure-based cognitive therapy for depression (Hayes, Beevers, Feldman, Laurenceau, & Perlman, 2005). There is considerable evidence that MBSR is effective in reducing depressive symptoms in both clinical settings and non-clinical populations (see Keng et al., 2011 for a review). These effects have been found among individuals with psychological and medical conditions (Baer, 2003), including individuals with serious health conditions (Grossman et al., 2004), chronic disease populations (Bohlmeijer et al., 2010), and cancer patients (Baer, 2003). There is also evidence that indicates that MBCT is
effective at reducing relapse rates among individuals who have had three or more episodes of depression (Keng et al., 2011). Preliminary evidence also suggests that MBCT may be effective at reducing depressive symptoms among currently depressed patients (Keng et al., 2011). ACT has also been found to have some effectiveness for the treatment of depression and DBT has been associated with reduced self-harm and para-suicidal behaviour for individuals with Borderline Personality Disorder (Keng et al., 2011). Evidence regarding RP and exposure-based cognitive therapy has not been comprehensively reviewed, however it has been acknowledged that these techniques show promise (Baer, 2003; Keng et al., 2011).

Dispositional mindfulness has also been positively associated with improvements in psychological health, including decreased levels of depression (Bergomi et al., 2013; Brown-Iannuzzi, et al., 2014; Cole et al., 2015; Johnson & O’Brien, 2013; Keng et al., 2011; Moskowitz et al., 2015; Nyklíček et al., 2015; Pagnini et al., 2015; Westphal et al., 2015). An early review of existing correlational research indicated that numerous studies have found dispositional mindfulness to be negatively correlated with depression (Keng, et al., 2011). These authors suggested that dispositional mindfulness appears to reduce reactivity to emotional stimuli and increase psychological wellbeing. These results have been replicated in more recent studies. Specifically, it has been found that dispositional mindfulness acts a protective factor, decreasing depressive symptoms associated with a wide range of adverse life events such as discrimination (Brown-Iannuzzi, et al., 2014), academic stress (Cole et al., 2015), stress experienced by emergency room personnel (Westphal et al., 2015) and incidents involving humiliation, vulnerability, or failure (Bergomi et al., 2013). Similar effects have been demonstrated among individuals with physical health conditions such as HIV (Moskowitz et al., 2015), rheumatoid arthritis (Nyklíček et al., 2015) and neurodegenerative disease (Pagnini et al., 2015).

Several underlying mechanisms have been proposed which may explain the relationship between mindfulness and psychological health. It has been suggested that mindfulness can help people to respond to events as they exist in ‘the present moment’, rather than reacting
emotionally based on past experiences (Williams, 2010). It appears that mindfulness may work by helping people to shift their focus from attempting to control negative emotions via cognition, to awareness that negative experiences will not last (Farb, Anderson & Segal, 2012). There is evidence that this occurs via neurological changes resulting from mindfulness practice (Farb et al., 2012). Baer (2003) labeled these underlying mechanisms as exposure, cognitive change, relaxation and acceptance. Keng et al., (2011) proposed a very similar list, adding increased awareness, attentional control, memory, clarification of values, and ability to regulate behaviour. Furthermore, more recent research has proposed that emotion regulation may underlie the mindfulness- psychological health relationship (Desrosiers et al., 2013; Pepping et al., 2016; Pepping et al. 2014). Emotion regulation is a multi-faceted construct that refers to the strategies individuals can utilize when coping with difficult situations, including the individual mechanisms listed above. It may therefore provide a useful overarching framework for understanding the ways in which mindfulness benefits psychological health.

Self-Compassion

Self-compassion refers to “…offering nonjudgmental understanding to one’s pain, inadequacies and failures, so that one’s experience is seen as part of the larger human experience” (Neff, 2003a, p.87). Self-compassion is often discussed in connection with mindfulness. According to Buddhist philosophy self-compassion is understood to be an outcome or by-product of mindfulness (Gunaratana, 1991). However, over the past few decades, self-compassion has also received considerable research attention as an independent construct that incorporates mindfulness, rather than as an aspect of mindfulness. Neff (2003a), a leading proponent of self-compassion interventions, conceptualizes self-compassion in terms of a three-component model, incorporating self-kindness, common humanity and mindfulness. Self-kindness is defined as responding to one’s own pain or failure with kindness and understanding, as opposed to harsh self-criticism. Common humanity refers to viewing personal experiences as being connected to the overall human experience, as opposed to something separate and isolating (Neff, 2003a). Mindfulness is defined as “holding painful thoughts and feelings in
balanced awareness rather than over-identifying with them” (Neff, 2003a, p.85). This is in contrast to the traditional Buddhist definition of mindfulness (discussed above), which also incorporates the concepts of non-judgmental acceptance (Kabat-Zinn, 1994) and interconnectedness (Nhat Hanh, 1991). Similarly to mindfulness, self-compassion can be conceived of as a trait, as well as a state induced by therapeutic intervention or other processes (Breines & Chen, 2013; Leary, Tate, Adams, Allen, & Hancock, 2007; Lindsay & Creswell, 2014). It has been described as both a stable individual difference and a state that can be influenced by environmental factors, such as the “activation of support-giving schemas” (Breines & Chen, 2013, p.63).

Self-compassion is also a key component in several recently developed therapeutic interventions (Beaumont & Hollins Martin, 2015; Germer & Neff, 2013; Lambert D'raven & Pasha-Zaidi, 2014; Lee & Bang, 2010; Neff & Germer, 2013; Shapira & Mongrain, 2010). It is broadly utilized in a range of Positive Psychology Interventions (PPIs; (Lambert D'raven & Pasha-Zaidi, 2014), and in several focused interventions, including Compassion-Focused Therapy (CFT; Gilbert, 2010) and Mindful Self-Compassion (MSC; Neff & Germer, 2013). Several studies have demonstrated the effectiveness of self-compassion based interventions. For example, MSC has been associated with a range of positive outcomes, including decreased depression (Neff & Germer, 2013). Similarly, a review of existing research found that CFT was effective in reducing depressive symptomatology associated with a range of psychological disorders (Beaumont & Hollins Martin, 2015).

Dispositional self-compassion has also been positively associated with lower levels of depressive symptomatology (Krieger et al., 2013; MacBeth & Gumley, 2012; Pauley & McPherson, 2010). Like mindfulness, self-compassion has also been argued to act as a buffer or protective factor for individuals experiencing adverse life events (Hall et al., 2013; Johnson & O’Brien, 2013; Leary et al., 2007; Pinto-Gouveia et al., 2013). Numerous studies have found high levels of self-compassion to be strongly associated with lower levels of psychopathology, including depression (MacBeth & Gumley, 2012). Correspondingly, lower levels of self-compassion have been demonstrated among individuals with clinical depression than those that
have never been depressed, even after controlling for depressive symptoms (Krieger et al., 2013).

Self-compassion has also been associated with a better ability to manage life stressors (Hall et al., 2013). For example, Johnson and O’Brien (2013) conducted a study where students were asked to recall a shameful experience and to either write about their emotional response, describe it self-compassionately, or do neither. They found that the self-compassion exercise was associated with decreased depressive symptoms and a reduced likelihood of ‘shame-proneness’ (Johnson and O’Brien, 2013). Similarly Leary et al., (2007) conducted five studies in which participants were asked to respond either to real or hypothetical negative events, or to unpleasant feedback. Overall, it was found that self-compassion moderated the impact of negative life events, including those involving failure, rejection and embarrassment, with higher levels of self-compassion associated with lower levels of negative emotion (Leary et al., 2007). Pinto-Gouveia et al., (2013) found similar effects regarding the role of self-compassion in coping with more serious negative life experiences. Lower levels of self-compassion and high levels of self-critical judgment were each found to be associated with increased depression in patients with cancer and chronic illness. Furthermore, for cancer patients, self-compassion was identified a significant predictor of depression (Pinto-Gouveia et al., 2013). Despite these findings, the relationship between self-compassion and psychopathology is unclear. Possibly, individuals with lower levels of self-compassion are more likely to become depressed, but the reverse is also feasible. For example, it has been suggested that while self-compassion can be a helpful coping tool for depressed individuals, experiencing depression may impact on the ability to be self-compassionate (Pauley & McPherson, 2010).

As with mindfulness, the effects of self-compassion appear to occur via a shift in emotional and cognitive reactions to negative events (Leary et al., 2007). Increased self-compassion seems to allow individuals to take responsibility for their actions without becoming caught up in shame and other unpleasant emotions (Johnson & O’Brien, 2013). It has also been suggested that self-compassion may reduce the tendency for negative events to be interpreted in a self-critical way, thereby reducing both feelings of shame and physiological responses such as activation of the
hypothalamic-pituitary axis (HPA); both of which are associated with depression (Johnson & O’Brien, 2013). Leary et al., (2007) found higher levels of self-compassion to be associated with a tendency to judge oneself less harshly and with greater accuracy. They suggested that both catastrophic and defensive tendencies in self-judgment might be decreased among those high in self-compassion. Secondly, these authors indicated that individuals high in self-compassion might rely less heavily on positive outcomes or achievement in their self-evaluations, tending towards a kind, self-accepting stance regardless of whether an outcome is good or bad. Finally, they suggested that high self-compassion appears to be associated with more positive cognitions in response to negative events. Their findings suggested a greater propensity among the highly self-compassionate to engage in thoughts about the self that feature self-kindness, common humanity and mindful acceptance (Leary et al., 2007).

As demonstrated regarding mindfulness, emotion regulation has been identified as a possible underlying mechanism or mediator in the relationship between self-compassion and psychological health (Finlay-Jones et al., 2015; Scoglio, et al., 2015). Again, it appears that emotion regulation refers to a range of strategies which include the individual mechanisms outlined above and may thus provide a helpful framework for understanding the means by which self-compassion has a positive impact on psychological health.

The Mindfulness and Self-Compassion Relationship

Research and theory have demonstrated that there is a relationship between mindfulness and self-compassion (Baer et al., 2012; Barnard & Curry, 2011; Bluth & Blanton, 2014), but there is considerable variation in how this relationship is conceptualized and understood. It has been suggested that mindfulness and self-compassion may have a reciprocal relationship. Bluth and Blanton (2014) propose a model whereby increased mindfulness leads to increased awareness of cognitions; and subsequently to increased recognition of self-judgment, rumination or over-identification with negative thoughts; leading to greater propensity towards self-kindness, then to increased acceptance of self; then recognition of self as part of common humanity; and subsequently to further increases in mindfulness.
Alternatively, it has been proposed that the two factors are equally predictive of psychological wellbeing, including depression (Kuyken et al., 2010), whereas other studies have indicated that one is superior to the other (e.g., Baer et al., 2012; Bluth & Blanton, 2014; Hollis-Walker & Colosimo, 2011; Van Dam et al., 2011). Various models have also been proposed with regards to the mediation effects of each variable in the relationship the other has with psychological wellbeing outcomes. For example, Hollis-Walker and Colosimo (2011) suggest that self-compassion may partially mediate the relationship between mindfulness and psychological health. They propose that mindfulness leads to increased compassion towards oneself, which consequently decreases the likelihood of self-criticism, leading to increased wellbeing (Hollis-Walker & Colosimo, 2011). By contrast, it has been suggested that self-compassion is a much better predictor of psychological health than mindfulness (Van Dam et al., 2011). These authors question the mediation model and report that compared to mindfulness, self-compassion accounts for a much greater proportion of the variance in psychological wellbeing among depressed individuals (Van Dam et al., 2011). Similarly, following on from earlier research that found the five facets of mindfulness to all be significantly and positively correlated with self-compassion (Baer et al., 2006), Baer et al., (2012) found mindfulness and self-compassion to share significant variance. These authors also found self-compassion to be a stronger predictor of psychological wellbeing at the total scores level. However, at the subset level the two variables were equally predictive (Baer et al., 2012).

The Current Study

Overall, it appears that mindfulness and self-compassion are related constructs and that both act as protective factors in the relationship between adverse life events and depression, reducing the incidence and extent of depressive symptoms associated with such events. The relative contribution of each variable to this relationship, however, remains poorly understood. It is unclear whether mindfulness should be viewed as a component of self-compassion as proposed by Neff, or through the traditional Buddhist lens, whereby self-compassion is a positive outcome of mindfulness. Further research is required to more closely examine the independent and combined effects of these variables, by comparing their effects as moderators of the
relationship between negative life events and depression. With this in mind, it is hypothesized that:

1. Mindfulness and self-compassion will be positively correlated.

2. Mindfulness and self-compassion will both be negatively associated with symptoms of depression.

3. Negative life events will be positively associated with symptoms of depression.

4. The relationship between negative life events and symptoms of depression will be moderated by mindfulness, such that individuals with higher levels of mindfulness will be less likely to report depressive symptoms in the context of frequent negative life events.

5. The relationship between negative life events and symptoms of depression will be moderated by self-compassion, such that individuals with higher levels of self-compassion will be less likely to report depressive symptoms in the context of frequent negative life events.

6. Despite a degree of shared variance, both mindfulness and self-compassion will act as unique buffers against the impact of negative life events on symptoms of depression.

**Methodology**

**Participants.** A total of 654 participants were recruited. After deleting multivariate outliers, this left 649 participants, 510 females (79%) and 139 males (21%). The mean age of participants was 30.6 years (range=17-82 years). Participants included psychology undergraduates at the University of Newcastle (N=226) and members of the general population (N=423). Eligibility criteria included being aged 18 years and over, and having Internet access. Eligible psychology undergraduates were recruited through an online system and received credit points for participation. Participants from the general population were recruited via the Hunter Medical Research Institute (HMRI) volunteer register, the Relationships and Psychological Health Lab (RAPH Lab) website, Facebook, and posters placed around the university campus. Volunteers
from the general public had the option of being entered in a lottery with the chance to win one of 24 $50 gift vouchers for taking part in the study.

**Procedure.** Online consent forms and information statements were developed in adherence to the standards outlined by the *National Statement on Ethical Conduct in Human Research* (Anderson, 2011). Participants who agreed to the study and completed the online consent form were directed to the online survey. Those that did not give consent were unable to access the survey.

An online questionnaire, employed as part of a larger cross-sectional study conducted over a two-year period, was administered using Lime Survey software. The questionnaire took approximately 40-50 minutes to complete and included a number of different measures, some of which were not relevant for the current study. Demographics collected included age, gender, nationality, relationship status and occupation.

**Measures.** The measures utilized in the current study are described below, listed in the order in which they were administered.

**Mindfulness** was assessed using the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). The FFMQ is a 39 item questionnaire that assesses dispositional mindfulness across 5 subscales: i) Non-reactivity to Inner Experiences, ii) Observing/Noticing/Attending, iii) Describing/Labeling Experience with Words, iv) Acting with Awareness and v) Non-judging of Experience. Examples of items include "I’m good at finding words to describe my feelings” and "I don’t pay attention to what I’m doing because I’m daydreaming, worrying or otherwise distracted". Participants respond to each item using a rating scale of 1 (never or very rarely) to 5 (very often or always true). Baer at al. (2006) showed support for the construct validity of the FFMQ and the facet scales have shown satisfactory to good internal consistency, with alpha coefficient values from .75 to .91 (Baer et al., 2006).

**Self-Compassion** was assessed using the 26 item Self-Compassion Scale (SCS; Neff, 2003b). Participants rate each item on a scale of 1 (almost never) to 5 (almost always). There are six subscales: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness and Over-
Identification. Examples of items include “I’m disapproving and judgmental about my own flaws and inadequacies” and “I try to be loving towards myself when I’m feeling emotional pain”. The SCS has been demonstrated to have good construct validity and all subscales shown to have at least satisfactory internal consistency, with alpha coefficients from .75 to .81 (Neff, 2003b).

**Depression** was assessed using the Depression subscale of the Depression, Anxiety, and Stress Scale-21 (DASS-21). The DASS-21 is a 21-item scale measuring bodily symptoms and negative affect (Lovibond & Lovibond, 1993, 1995a). Participants respond by rating items from 0 (did not apply to me at all over the last week) to 3 (applied to me very much or most of the time over the past week). Both the DASS and DASS-21 have been shown to have good construct validity (Crawford et al., 2009; Lovibond & Lovibond, 1995b; Norton, 2007), and the Depression subscale has been demonstrated to have good internal consistency (α=.89; Lovibond & Lovibond, 1995a).

**Negative Life Events** were assessed using the Unpleasant Event Schedule (UES)- Mood Related Short Form. This is a 30 item abridged version of a scale originally developed by MacPhillamy and Lewinsohn (1976) that measures the occurrence and frequency of events which people have found to be aversive or unpleasant. Participants respond to each item by rating it from 0 (This has not happened in the past 30 days) to 2 (This has happened often [7 or more] in the past 30 days). The UES short form has been found to have good reliability and internal consistency (alpha coefficient of .82; Lewinsohn, Mermelstein, Alexander & MacPhillamy, 1985).

**Results**

Histograms were used to check for normality and non-normality. Mindfulness, self-compassion and negative life events were normally distributed. Depression was positively skewed, however this is normal for psychological health variables and the methods employed are robust to deviations from normality. The data was screened for univariate and multivariate outliers. The procedure outlined by Tabachnick and Fidell (2013) was employed to examine
multivariate outliers using Mahalanobis’s distance criteria. Five multivariate outliers were detected and deleted from the data, leaving a total of 649 participants (as noted above).

Gender differences were examined (Table 1). On average, females were slightly younger ($M=29.9, SD=12.170$) than males ($M=32.9, SD=15.993; t=-2.046, df=183.751, p<0.05$). Females also had lower depressive symptom scores ($M=7.728, SD=8.366$) than males ($M=10.073, SD=9.487; t=-2.343, df=157.090, p<0.05$). There were no significant gender differences for the remaining variables. After missing cases were removed (i.e. participants who did not complete all items), the remaining analyses were performed on 506 participants.

The first analysis considered correlations between each of the variables (Table 2), using Cohen’s (1988) criteria. Mindfulness and self-compassion were found to be strongly and positively correlated with each other. Both were also significantly and negatively correlated with depression, to a moderate extent. Similarly, negative life events were also significantly and positively correlated with depression. Consequently, the first three hypotheses were supported by the results.

Three hierarchical linear regressions were conducted using Hayes’ PROCESS Model (Hayes, 2013) to examine interaction (moderation) effects. For each analysis gender and age were entered as covariates to control for any potential effects. The moderating effect for mindfulness was first examined, then that for self-compassion, and finally the simultaneous moderating effect of mindfulness and self-compassion.

The first of these analyses considered the effect of mindfulness as a moderator in the relationship between negative events and depression, after controlling for age and gender (Table 3). The overall equation accounted for 39% of the variance. Significant main effects were found for mindfulness ($B=-6.238, t=-9.514, p<0.01$), negative life events ($B=3.67, t=8.313, p<0.01$) and gender ($B=1.467, t=1.973, p<0.05$), but not for age. The interaction between mindfulness and negative events was also found to be significant as a moderator of depression ($B=-.320, t=-4.694, p<0.01$), but this effect was relatively small ($R^2\Delta=.027, F=22.023, p<0.001$). The moderating effects of mindfulness can be seen at different levels of this construct; specifically, at the mean, one standard-deviation below the mean and one above (Figure 1). As expected, the
relationship between negative life events and depression was weaker for people with higher levels of dispositional mindfulness, than when low levels of this construct were present. Therefore, the fourth hypothesis was supported.

The second regression analysis considered the effect of self-compassion as a moderator in the relationship between negative events and depression, after controlling for age and gender (Table 4). The overall equation accounted for 46% of the variance in depression. Significant main effects were found for self-compassion ($B=-6.561$, $t=-10.136$, $p<0.01$), negative life events ($B=.348$, $t=8.916$, $p<0.01$) and gender ($B=1.869$, $t=2.392$, $p<0.05$), but not for age. The interaction between self-compassion and negative events was also found to be significant as a moderator of depression ($B=-.280$, $t=-4.823$, $p<0.01$), but this effect was relatively small ($R^2_{\Delta}=0.024$, $F=22.646$, $p<0.01$). As expected, the relationship between negative life events and depression was weaker for people with higher levels of dispositional self-compassion, than when low levels of this construct were present (Figure 2). Therefore, the fifth hypothesis was supported.

The final regression analysis simultaneously considered the effects of both mindfulness and self-compassion as moderators in the relationship between negative events and depression, after controlling for age and gender. The overall equation accounted for 47% of the variance in depression. Also, significant main effects were found for mindfulness ($B=-2.662$, $t=-3.540$, $p<0.01$) and self-compassion ($B=-5.253$, $t=-7.615$, $p<0.01$). However, when simultaneously considering the moderating effects of self-compassion and mindfulness, only self-compassion was effective as a moderator in the relationship between negative life events and depression ($B=-.253$, $t=-3.209$, $p<0.01$), although this effect was relatively small ($R^2_{\Delta}=0.084$, $F=79.983$, $p<0.01$). An additional analysis was conducted at the components level by removing the mindfulness component of the SCS, but this did not significantly alter the results. Overall, these results did not support the sixth hypothesis.
Discussion

The purpose of the current study was to examine the independent and combined effects of dispositional mindfulness and self-compassion as buffers in the relationship between negative life events and symptoms of depression. For the most part, the findings were consistent with the initial hypotheses and the results of previous research. Specifically, it was found that higher levels of mindfulness and self-compassion were associated with lower lower levels of depressive symptoms (and vice-versa). It was also found that a higher frequency of negative life events was associated with higher levels of depressive symptoms.

The findings regarding the buffering effects of mindfulness and self-compassion, however, were more complex. When considered independently, mindfulness and self-compassion were each shown to act as protective factors in the relationship between negative life events and depression. In each case, the buffering effect was stronger at higher levels of the dispositional construct (i.e. mindfulness or self-compassion), and for more frequent negative life events. Similar results were found when the two factors were considered simultaneously. All of these findings were consistent with expectations. Interestingly however, once self-compassion was taken into account, the buffering effects of mindfulness were no longer significant although a main effect was still evident.

These results suggest that individuals with higher levels of either mindfulness or self-compassion are less likely to report depressive symptoms in general, and that both groups are less likely to experience such symptoms as a result of negative life events. This is consistent with a previous proposal that mindfulness and self-compassion are equally predictive of psychological health (Kukyen et al., 2010), while contradicting the suggestion of other authors that self-compassion is the stronger predictor (e.g., Van Dam et al., 2011; Baer et al., 2006). However, the current findings also suggest that the moderating effects of mindfulness occur via self-compassion. Essentially, it seems that having high levels of both self-compassion and mindfulness is no more effective as a buffer against negative life events than being high in self-compassion alone. Furthermore, it seems that the more frequent the incidence of negative life
events and the more aversive the events experienced, the more important it is to be self-compassionate, in order to avoid becoming depressed. These findings suggest that self-compassion may be particularly useful as a resilience-building strategy because it creates a buffer against negative life events.

However, it is important to note that the present study only asked about current depressive symptomatology and did not distinguish between individuals who have previously been depressed and those who never get depressed. Future research might benefit from examining whether self-compassion is especially useful for individuals who are prone to depression. The results should be compared to previous evidence which supports the effectiveness of mindfulness based programs such as MBCT in reducing relapse rates in individuals who are not currently depressed but have a history of depression (e.g., Keng et al., 2011). Further exploration of this issue will help inform whether therapeutic interventions and prevention programs for depressed individuals should focus on increasing self-compassion or mindfulness.

The current findings regarding lower levels of depressive symptoms among individuals with high levels of either mindfulness or self-compassion could also be due to a reduced tendency for individuals high in these traits to perceive events as negative and to be adversely affected as a result. With mindfulness, this may occur via the ‘acceptance’ mechanism proposed by Baer (2003) and alluded to by other authors (e.g., Farb, Anderson & Segal, 2012; Keng et al., 2011; Williams, 2010). Similar pathways have been proposed for self-compassion (Johnson & O’Brien, 2013; Leary et al., 2007). With both mindfulness and self-compassion, emotion regulation has been proposed as a multi-faceted construct which may act as an underlying mechanism in the relationship with psychological health (Finlay-Jones et al., 2015; Desrosiers et al., 2013; Pepping et al., 2016; Pepping et al. 2014; Scoglio, et al., 2015), and which may also encompass the individual mechanisms that have been identified, all of which constitute emotion regulation strategies. However, as the current study utilized a self-report measure of life events, it is not possible to be certain whether individuals higher in either mindfulness or self-compassion reported less frequent negative events because they actually
Mindfulness and self-compassion were found to be significantly and strongly correlated in the present study. This is consistent with previous findings that mindfulness and self-compassion share significant variance (Baer et al., 2012), and that the five-facets of mindfulness are significantly correlated with self-compassion (Baer et al., 2016). However, the strength of correlation between the two variables was not sufficient to suggest that they are synonymous. Furthermore, removing the mindfulness component from the SCS did not change the results (with regards to the buffering effects of each factor), which implies that the mindfulness component of the SCS does not measure all the aspects of mindfulness assessed by the FFMQ. Correspondingly, it appears that mindfulness is not completely encapsulated by self-compassion, but instead captures something unique to the attitude and experiences of each individual. These results are consistent with Hollis-Walker and Collismo’s (2011) finding that the relationship between mindfulness and psychological health is partially mediated by self-compassion. Furthermore, the finding that mindfulness still has a main effect on depression after controlling for self-compassion, does not necessarily preclude the possibility that self-compassion may arise as a result of mindfulness, as per the Buddhist conceptualisation.

Interestingly however, if viewed in this way, the current results may not be entirely inconsistent with Kristin Neff ‘s proposal that mindfulness’ is a ‘component’ of self-compassion (Neff, 2003a). In Neff’s more recent work she states that “In order to give oneself compassion, one must be able to turn toward, acknowledge, and accept that one is suffering, meaning that mindfulness is a core component of self-compassion” (Neff & Dahm, 2015, p.121). Viewed in this way, mindfulness may be both a component of self-compassion, in the sense that it is a
necessary practice for self-compassion to arise, and simultaneously refer to a broader psychological process. Future studies could seek to further clarify these relationships by correlating the mindfulness facet of the SCS with its other components.

The finding that females reported less depressive symptoms than males was surprising, as it is well established that the opposite is usually true. In the general population, rates of depression are slightly higher in women, with one in six women experiencing depression in their lifetime (17%) as compared to one in 10 men (10%); ABS, 2009). It is important to note however, that males were underrepresented in the current study, comprising only 21% of all participants. Consequently, it is possible that the results may not be truly representative of the general population.

**Strengths & Limitations.** The measures used to assess the key constructs in the current study all relied on self-report. This could be criticized on the grounds that self-report is inherently subjective and can be viewed as less reliable or valid than ‘other-based’ assessment. However, the use of self-report measures in this study was somewhat unavoidable, given the nature of the variables examined. Psychological constructs cannot be readily rated by an independent, external observer; essentially, it is very difficult to assess an individual’s internal state without asking him or her about it. Of the constructs measured in the current research, depression is a possible exception. Previous research has identified physiological measures of depression, such as inflammatory stress markers (e.g. Alesci et al., 2005; Maes et al., 2009; Miller, Maletic, & Raison, 2009; Nunes et al. 2012; Raison, Capuron, & Miller, 2006), which allow for more objective measurement. Future research may benefit from including such physiological measures when considering the self-compassion-mindfulness-depression relationship. In the interim, a strength of the current study is that all the self-report measures used are well-validated, with good reliability and validity. Further, a large proportion of the sample was drawn from the general community and included participants from a wide age range, in contrast to many studies that are based on university populations alone. As a result, the
results of this research should be able to be generalized to the wider population (with the caveats above), and it should be possible to replicate the current findings in future research.

It is important to note that the present study measured dispositional mindfulness and self-compassion, in contrast to therapeutic interventions, which are designed to increase state levels of such positive psychology variables. This suggests that caution should be exercised when considering the applicability of the current findings to therapeutic contexts. However, it has recently been found that increasing state mindfulness also increases trait (dispositional) mindfulness (Kiken et al., 2015). Given the similarities in how mindfulness and self-compassion operate, it is possible that a similar relationship may exist between dispositional and state self-compassion. Consequently, it may not be unreasonable to make assumptions about states based on trait-based research. Accordingly, it seems reasonable to use the current results, together with further research findings, to inform future therapeutic intervention (in the manner outlined above).

Similarly, it is entirely possible that the FFMQ does not fully capture the construct of state mindfulness referred to in mindfulness-based interventions, many of which also include a self-compassion component. This may explain the finding that the mindfulness did not play a significant role as a moderator when considered simultaneously with the buffering effects of self-compassion. Further research should carefully consider how to measure mindfulness and its components, and attempt to replicate the current findings with alternate measures to the FFMQ.

In addition, the use of the SCS could also be criticized on the grounds that its mindfulness component only focuses on negative processes and experiences, in contrast to the FFMQ which considers both positive and negative experiences. It could be argued that this means that the current results do not allow for comparison of the separate effects of self-compassion and mindfulness, specifically with regards to the proposal that measures of mindfulness are redundant once the effects of self-compassion are taken into account. However, it is important to consider that the focus on negative experiences is integral to the nature of self-compassion; it does not follow from positive events but, as noted above, arises in response to suffering. By contrast, it is possible to be mindful of positive as well as negative experiences.
Therefore, the differences in what the SCS and the FFMQ each measure are simply reflective of how dissimilar the constructs of mindfulness and self-compassion are, and are consistent with the conclusion that mindfulness is a broader construct than the mindfulness component of the SCS.

Another potential criticism of the present study is that it only considered relatively minor negative life events. The UES only asks about stressful events of a minor nature, such as being insulted, experiencing a minor illness or being unable to afford leisure activities. It is possible different results would have been found if more significant life events, such as job-loss or divorce, had been considered. This seems unlikely, given previous findings regarding the buffering effects of mindfulness and self-compassion with regards to serious health conditions (Baer, 2003; Bohlmeijer et al., 2010; Grossman et al., 2004; Pinto-Gouveia et al., 2013), but there is a dearth of evidence regarding serious adverse events that do not involve health problems. Given the well-established link between major life events and depression (e.g., Kendler, Karkowski & Prescott, 1999; Monroe & Hadjiyannakis, 2002), it would be worthwhile for this gap in the literature to be examined in future research.

The cross-sectional nature of the current study must also be considered when interpreting the findings. The fact that this study focuses on a single time-point makes it impossible to infer causation. For example, while may appear that an individual’s level of mindfulness and self-compassion influenced their level of depression, the opposite is also possible. It is possible that those individuals who reported low levels of mindfulness and self-compassion did so because of previous or current depression. This proposal is supported by the previous finding that being depressed may reduce one’s ability to be self-compassionate (Pauley & McPherson, 2010). Considering that depression is often an episodic, recurrent condition (American Psychiatric Association, 2013), the nature of causation is particularly difficult to determine. Ideally, prospective longitudinal studies are needed to address this question, but they are time-consuming and difficult to conduct. As a means of better understanding causation, an alternative would be for future research to include questions about previous depressive episodes,
or to include experiments designed to manipulate mindfulness and self-compassion to examine the effect on mood.

It is also important to consider the length of the survey, which took 40-50 minutes to complete. It could be suggested that more severely depressed individuals would be less likely to complete such a lengthy questionnaire, due to factors such as low motivation, attention difficulties and fatigue commonly associated with depression. If this were the case, the results found for this sample might not be representative of wider population groups. However, although participants’ mean depression scores were in the mild range, 24% of participants scored in the moderate to severe range for depression, suggesting that was not a problem for the present study.

Finally, it is possible that the current findings regarding the relative effects of self-compassion and mindfulness would not be replicated if a different outcome variable was chosen. For example, if the focus was on anxiety, not depression, it may be the case the mindfulness would be a more effective buffer than self-compassion. Unlike depression, which is largely focused on the self, anxiety tends to be more outwardly focus and may therefore not be as positively influenced by a self-compassionate approach. Although the larger study asked about participants’ anxiety via the DASS-21, this data was not analysed in the current study as depression receives more attention in the extant research and has such a well-documented impact on individuals and society. However, given that anxiety also has a high prevalence and significant detrimental impact for sufferers, it may be worthwhile for further research to replicate the current study with anxiety as the outcome variable in order to assess whether the buffering effects of mindfulness and self-compassion still stand.

**Conclusions.** Consistent with the results of previous research, the findings of the present study indicate that individuals who are high either in mindfulness or self-compassion are less likely to report depressive symptomology. The most novel finding is that self-compassion, and perhaps the self-compassion component of mindfulness, is more effective than mindfulness alone as a protective factor in preventing depression following negative life events. This suggests that mindfulness and self-compassion may both be effective components to include in
therapeutic interventions for depression, but that self-compassion can also be the focus of programs designed to prevent depression among individuals known to be at risk due to stressful life events. However, as the current study was cross-sectional and only considered current levels of depression, the direction of causality is unknown and it is unclear if these findings would be replicated among individuals with a history of depression. Future research is required to consider the effects of self-compassion and mindfulness for this population group and the results should be compared to existing findings regarding established interventions. The role of emotion regulation as a mediator in the effects of mindfulness and self-compassion on depression should also be closely examined. These steps will allow for better understanding of what should be included in prevention programs and therapeutic interventions. Considering the high incidence and significant cost of depression in our society, this is an important area for future study.
Author Contributions. Alexandra Arentz contributed to the collection, analysis, and interpretation of data, drafting of the thesis and article, and final approval of the version to be published. Dr Ross Wilkinson contributed to the conception and design of the research, analysis, and interpretation of data, critical revision of the thesis and article, and final approval of the version to be published.

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Ethical Standards. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation. Ethical approval of the study granted by the University of Newcastle’s Human Research Ethics Committee (HREC ref no: H-2014-0210).
References


Table 1

*Means and Standard Deviations by Gender*

<table>
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<th>Gender</th>
<th>N</th>
<th>Mean</th>
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<tbody>
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<td>29.92</td>
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<td>Male</td>
<td>139</td>
<td>32.91</td>
<td>15.99</td>
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<td>Female</td>
<td>397</td>
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<td>Male</td>
<td>109</td>
<td>10.07</td>
<td>9.49</td>
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<td>419</td>
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<tr>
<td></td>
<td>Male</td>
<td>116</td>
<td>2.93</td>
<td>.51</td>
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<tr>
<td><strong>Mindfulness</strong></td>
<td>Female</td>
<td>400</td>
<td>3.26</td>
<td>.50</td>
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<td></td>
<td>Male</td>
<td>111</td>
<td>3.23</td>
<td>.51</td>
</tr>
<tr>
<td><strong>Negative Events</strong></td>
<td>Female</td>
<td>400</td>
<td>47.49</td>
<td>7.75</td>
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<td></td>
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<td>111</td>
<td>48.78</td>
<td>8.03</td>
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Table 2

*Pearson’s Correlation Coefficients and Cronbach’s Alpha Values for the Variables*

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<tbody>
<tr>
<td>1. Age</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gender</td>
<td>0.093*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Negative Events</td>
<td>-0.308**</td>
<td>0.068</td>
<td>α=0.851</td>
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<td></td>
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<tr>
<td>4. Mindfulness</td>
<td>0.240**</td>
<td>-0.024</td>
<td>-0.388**</td>
<td>α=0.927</td>
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<td></td>
</tr>
<tr>
<td>5. Self-compassion</td>
<td>0.159**</td>
<td>0.022</td>
<td>-0.347**</td>
<td>0.616**</td>
<td>α=0.950</td>
<td></td>
</tr>
<tr>
<td>6. Depression</td>
<td>-0.140**</td>
<td>0.111*</td>
<td>0.502**</td>
<td>-0.498**</td>
<td>-0.572**</td>
<td>α=0.911</td>
</tr>
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</table>

*Note.* *p* < 0.05, **p** < 0.01
Table 3

*Mindfulness as a Moderator in the Relationship between Negative Life Events and Depression*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>t</th>
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</thead>
<tbody>
<tr>
<td>Mindfulness Total</td>
<td>-6.238</td>
<td>.656</td>
<td>-9.514**</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>.367</td>
<td>.044</td>
<td>8.313**</td>
</tr>
<tr>
<td>Mindfulness x Life Events</td>
<td>-.320</td>
<td>.068</td>
<td>-4.694 **</td>
</tr>
<tr>
<td>Gender</td>
<td>1.467</td>
<td>.744</td>
<td>1.973*</td>
</tr>
<tr>
<td>Age</td>
<td>.018</td>
<td>.023</td>
<td>.797</td>
</tr>
</tbody>
</table>

*Note.* *p < 0.05.* **p < 0.01
Table 4

*Self-Compassion as a Moderator in the Relationship between Negative Life Events and Depression*

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Self-Compassion Total</td>
<td>-6.561</td>
<td>.647</td>
<td>-10.136**</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>.348</td>
<td>.039</td>
<td>8.916**</td>
</tr>
<tr>
<td>Self-Compassion x Life Events</td>
<td>-.280</td>
<td>.058</td>
<td>-4.823**</td>
</tr>
<tr>
<td>Gender</td>
<td>1.869</td>
<td>.781</td>
<td>2.392*</td>
</tr>
<tr>
<td>Age</td>
<td>.008</td>
<td>.020</td>
<td>.413</td>
</tr>
</tbody>
</table>

*Note. * p < 0.05. ** p < 0.01*
Table 5

*Mindfulness and Self-Compassion as Moderators in the Relationship between Negative Life Events and Depression*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
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</thead>
<tbody>
<tr>
<td>Self-Compassion Total</td>
<td>-5.253</td>
<td>.690</td>
<td>-7.615**</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>.319</td>
<td>.041</td>
<td>7.823**</td>
</tr>
<tr>
<td>Self-Compassion x Life Events</td>
<td>-.253</td>
<td>.079</td>
<td>-3.209**</td>
</tr>
<tr>
<td>Mindfulness Total</td>
<td>-2.662</td>
<td>.752</td>
<td>-3.540**</td>
</tr>
<tr>
<td>Mindfulness x Life Events</td>
<td>-.045</td>
<td>.087</td>
<td>-.519</td>
</tr>
<tr>
<td>Gender</td>
<td>1.750</td>
<td>.775</td>
<td>2.260 *</td>
</tr>
<tr>
<td>Age</td>
<td>.017</td>
<td>.020</td>
<td>.855</td>
</tr>
</tbody>
</table>

*Note. * p < 0.05. ** p < 0.01*
Figure 1

*Moderating effects of mindfulness on the relationship between negative life events and depression at various levels of mindfulness*
Figure 2

Moderating effects of self-compassion on the relationship between negative life events and depression at various levels of self-compassion
Appendix A: Ethics Approval

HUMAN RESEARCH ETHICS COMMITTEE

Notification of Expedited Approval

To Chief Investigator or Project Supervisor: Doctor Ross Wilkinson
Cc Co-investigators / Research Students: Miss Callie Buller
Ms Marissa Black
Ms Alexandra Arentz
Miss Jessica Gordon
Re Protocol: Attachment working models and psychological health: The mediating roles of selected positive psychology constructs.
Date: 26-Jun-2015
Reference No: H-2014-0210
Date of Initial Approval: 30-Jul-2014

Thank you for your Variation submission to the Human Research Ethics Committee (HREC) seeking approval in relation to the above protocol.

Variation to revise the method of participant recruitment from a $10 voucher per participant, to entry of all new participants into a prize draw to win one of 12 $50 gift cards.

- Participant Information Statement, anonymous survey, version submitted 22.5.2015
- Recruitment poster, version submitted 22.5.2015

Your submission was considered under Expedited review by the Chair/Deputy Chair.

I am pleased to advise that the decision on your submission is Approved effective 26-Jun-2015.

For noting: To help clarify that a $50 gift card is not on offer to all participants (just to those who win the prize draw), please make the following amendments, and provide a copy of the finalised documents for our records:

i) Please amend the wording within the recruitment poster from ‘Participants from the general public can receive a $50 gift card’ to ‘Participants from the general public will be eligible to enter a prize draw to win a $50 gift card’ (or similar)

ii) Please amend the wording within the Participant Information Statement from ‘If you decide you don’t want the card…’ to ‘If you decide you don’t wish to enter the prize draw…’
In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National Statement on Ethical Conduct in Human Research, 2007, and the requirements within this University relating to human research.

Approval will remain valid subject to the submission, and satisfactory assessment, of annual progress reports. If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal Certificate of Approval will be available upon request. Your approval number is H-2014-0210.

If the research requires the use of an Information Statement, ensure this number is inserted at the relevant point in the Complaints paragraph prior to distribution to potential participants. You may then proceed with the research.

Conditions of Approval

This approval has been granted subject to you complying with the requirements for Monitoring of Progress, Reporting of Adverse Events, and Variations to the Approved Protocol as detailed below.

PLEASE NOTE:
In the case where the HREC has "noted" the approval of an External HREC, progress reports and reports of adverse events are to be submitted to the External HREC only. In the case of Variations to the approved protocol, or a Renewal of approval, you will apply to the External HREC for approval in the first instance and then Register that approval with the University's HREC.

- **Monitoring of Progress**

Other than above, the University is obliged to monitor the progress of research projects involving human participants to ensure that they are conducted according to the protocol as approved by the HREC. A progress report is required on an annual basis. Continuation of your HREC approval for this project is conditional upon receipt, and satisfactory assessment, of annual progress reports. You will be advised when a report is due.

- **Reporting of Adverse Events**

1. It is the responsibility of the person **first named on this Approval Advice** to report adverse events.
2. Adverse events, however minor, must be recorded by the investigator as observed by the investigator or as volunteered by a participant in the research. Full details are to be documented, whether or not the investigator, or his/her deputies, consider the event to be related to the research substance or procedure.
3. Serious or unforeseen adverse events that occur during the research or within six (6) months of completion of the research, must be reported by the person first named on the Approval Advice to the (HREC) by way of the Adverse Event Report form (via RIMS at https://rims.newcastle.edu.au/login.asp) within 72 hours of the occurrence of the event or the investigator receiving advice of the event.

4. Serious adverse events are defined as:
   o Causing death, life-threatening or serious disability.
   o Causing or prolonging hospitalisation.
   o Overdoses, cancers, congenital abnormalities, tissue damage, whether or not they are judged to be caused by the investigational agent or procedure.
   o Causing psycho-social and/or financial harm. This covers everything from perceived invasion of privacy, breach of confidentiality, or the diminution of social reputation, to the creation of psychological fears and trauma.
   o Any other event which might affect the continued ethical acceptability of the project.

5. Reports of adverse events must include:
   o Participant's study identification number;
   o date of birth;
   o date of entry into the study;
   o treatment arm (if applicable);
   o date of event;
   o details of event;
   o the investigator's opinion as to whether the event is related to the research procedures; and
   o action taken in response to the event.

6. Adverse events which do not fall within the definition of serious or unexpected, including those reported from other sites involved in the research, are to be reported in detail at the time of the annual progress report to the HREC.

- **Variations to approved protocol**

If you wish to change, or deviate from, the approved protocol, you will need to submit an Application for Variation to Approved Human Research (via RIMS at https://rims.newcastle.edu.au/login.asp). Variations may include, but are not limited to, changes or additions to investigators, study design, study population, number of participants, methods of recruitment, or participant information/consent documentation. **Variations must be approved by the (HREC) before they are implemented** except when Registering an approval of a variation from an external HREC which has been designated the lead HREC, in which case you may proceed as soon as you receive an acknowledgement of your Registration.

**Linkage of ethics approval to a new Grant**
HREC approvals cannot be assigned to a new grant or award (ie those that were not identified on the application for ethics approval) without confirmation of the approval from the Human Research Ethics Officer on behalf of the HREC.

Best wishes for a successful project.

Professor Allyson Holbrook
Chair, Human Research Ethics Committee

For communications and enquiries:
Human Research Ethics Administration

Research Services
Research Integrity Unit
The Chancellery
The University of Newcastle
Callaghan NSW 2308
T +61 2 492 17894
F +61 2 492 17164
Human-Ethics@newcastle.edu.au


Linked University of Newcastle administered funding:
Appendix B: Participant Information Statement

INFORMATION STATEMENT

Thank you for checking out our survey. Before you start, there are some things you need to know.

Who is running this survey? This survey is part of research being conducted by Associate Professor Ross Wilkinson from the School of Psychology at the University of Newcastle with assistance from a number of postgraduate students.

Why is the research being done? The purpose of the research is to help us better understand how attitudes and beliefs about relationships, stress, and coping strategies are related to our psychological health and wellbeing.

Who can participate in the research? You need to be at least 18 years of age (or at university) and live in Australia in order to do the survey.

What would I have to do? If you agree to participate, you will be asked to complete an online survey which involves a number of different questionnaires. The questionnaires ask about, among other things, your attitudes to close relationships, how grateful or appreciative you may feel about different things, how you cope with stress in your life, and how stressed or depressed you might be feeling.

What do I get out of it? Besides learning more about yourself and how psychology research is done in this area, you will receive a $10 iTunes voucher for participating in the research. If you decide you do not want the voucher then that is okay too, you can still complete the survey.

What choices do I have? Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage you. If you do decide to participate, you may withdraw from the project at any time prior to submitting your completed survey. Please note that due to the anonymous nature of the survey, you will not be able to withdraw your response after it has been submitted.
How much time will it take? The survey should take approximately 40-50 minutes to complete.

Are there any risks in participating? Although it is unlikely to cause you distress, some of the content of the survey is sensitive in nature. Some of the questions ask about interpersonal relationships, your thoughts and feelings about yourself and others, and whether you have feelings of depression or anxiety. Should you find any of the questions upsetting, you can withdraw from the survey at any time. You can also contact Lifeline on 13 11 14 or beyondblue on 1300 22 4636 (www.beyondblue.org.au) should you wish to seek support regarding any of the issues raised within the survey.

How will my privacy be protected? The answers you give to the survey questions will be stored securely on password protected computers and files that only the researchers will have access to. Due to the anonymous nature of the survey, the responses you provide will not be able to be linked back to you.

How will the information collected be used? The collected data will contribute towards postgraduate theses and may be presented in academic publications or conferences. Non-identifiable data may also be shared with other parties to encourage scientific scrutiny and to contribute to further research and public knowledge, or as required by law. A summary of the results will be made available on the RAPH Lab website (address to be determined). Individual participants will not be named or identified in any reports arising from the project. The data collected will be destroyed after 5 years and only summary data kept.

What do I need to do to participate? If you want to do the survey, please read the Consent information below and then click on the NEXT button. If there is anything you do not understand, or you have questions, please contact the researchers before starting the survey.

Further Information: After you finish the survey, you will be given some more information about the research including reminders about who to contact if you have any concerns or issues about the research. If you would like further information before doing the survey then please contact Dr Ross Wilkinson (ross.wilkinson@newcastle.edu.au).
Complaints about the research: This project has been approved by the University of Newcastle Human Research Ethics Committee, Approval Number H 2014 0210. Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 4921 6333, email: human-ethics@newcastle.edu.au
Appendix C: Consent Form

CONSENT

By completing this online survey, I agree to participate in this research project and give my consent freely. I understand that the project will be conducted as described above in the information Statement which I have read and understood. I understand I can withdraw from the survey at any time and do not have to give any reason for withdrawing, I understand that my personal information will remain confidential to the researchers. I have had the opportunity to have questions answered to my satisfaction before I begin the survey. I am at least 18 years of age and currently reside in Australia.

If you agree to participate, please click on the NEXT button below and the survey will begin.

If you do not agree, please click Exit and Clear Survey below.

Thank you.
Appendix D: Five Facet Mindfulness Questionnaire

**Five Facet Mindfulness Questionnaire**

**Description:**

This instrument is based on a factor analytic study of five independently developed mindfulness questionnaires. The analysis yielded five factors that appear to represent elements of mindfulness as it is currently conceptualized. The five facets are observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. More information is available in:

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>never or very rarely true</td>
<td>rarely true</td>
<td>sometimes true</td>
<td>often true</td>
<td>very often or always true</td>
</tr>
</tbody>
</table>

  1. When I’m walking, I deliberately notice the sensations of my body moving.
  2. I’m good at finding words to describe my feelings.
  3. I criticize myself for having irrational or inappropriate emotions.
  4. I perceive my feelings and emotions without having to react to them.
  5. When I do things, my mind wanders off and I’m easily distracted.
  6. When I take a shower or bath, I stay alert to the sensations of water on my body.
  7. I can easily put my beliefs, opinions, and expectations into words.
  8. I don’t pay attention to what I’m doing because I’m daydreaming, worrying, or otherwise distracted.
  9. I watch my feelings without getting lost in them.
  10. I tell myself I shouldn’t be feeling the way I’m feeling.
  11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
  12. It’s hard for me to find the words to describe what I’m thinking.
  13. I am easily distracted.
  14. I believe some of my thoughts are abnormal or bad and I shouldn’t think that way.
15. I pay attention to sensations, such as the wind in my hair or sun on my face.
16. I have trouble thinking of the right words to express how I feel about things.
17. I make judgments about whether my thoughts are good or bad.
18. I find it difficult to stay focused on what’s happening in the present.
19. When I have distressing thoughts or images, I “step back” and am aware of the thought or image without getting taken over by it.
20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
21. In difficult situations, I can pause without immediately reacting.
22. When I have a sensation in my body, it’s difficult for me to describe it because I can’t find the right words.
23. It seems I am “running on automatic” without much awareness of what I’m doing.
24. When I have distressing thoughts or images, I feel calm soon after.
25. I tell myself that I shouldn’t be thinking the way I’m thinking.
26. I notice the smells and aromas of things.
27. Even when I’m feeling terribly upset, I can find a way to put it into words.
28. I rush through activities without being really attentive to them.
29. When I have distressing thoughts or images I am able just to notice them without reacting.
30. I think some of my emotions are bad or inappropriate and I shouldn’t feel them.
31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
32. My natural tendency is to put my experiences into words.
33. When I have distressing thoughts or images, I just notice them and let them go.
34. I do jobs or tasks automatically without being aware of what I’m doing.
35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
36. I pay attention to how my emotions affect my thoughts and behavior.
37. I can usually describe how I feel at the moment in considerable detail.
38. I find myself doing things without paying attention.
39. I disapprove of myself when I have irrational ideas.
Appendix E: The Self-Compassion Scale

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

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

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

1. I’m disapproving and judgmental about my own flaws and inadequacies.
2. When I’m feeling down I tend to obsess and fixate on everything that’s wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I’m feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I’m down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I’m intolerant and impatient towards those aspects of my personality I don’t like.
12. When I’m going through a very hard time, I give myself the caring and tenderness I need.
13. When I’m feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don’t like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.
18. When I’m really struggling, I tend to feel like other people must be having an easier time of it.
19. I’m kind to myself when I’m experiencing suffering.
20. When something upsets me I get carried away with my feelings.
21. I can be a bit cold-hearted towards myself when I’m experiencing suffering.
22. When I’m feeling down I try to approach my feelings with curiosity and openness.
23. I’m tolerant of my own flaws and inadequacies.
24. When something painful happens I tend to blow the incident out of proportion.
25. When I fail at something that’s important to me, I tend to feel alone in my failure.
26. I try to be understanding and patient towards those aspects of my personality I don’t like.
Appendix F: The Depression Anxiety Stress Scale

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of the time
- 3 Applied to me very much, or most of the time

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I found it hard to wind down</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>2</td>
<td>I was aware of dryness of my mouth</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>3</td>
<td>I couldn't seem to experience any positive feeling at all</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>4</td>
<td>I experienced breathing difficulty (eg, excessively rapid breathing,</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>breathlessness in the absence of physical exertion)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I found it difficult to work up the initiative to do things</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>6</td>
<td>I tended to over-react to situations</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>7</td>
<td>I experienced trembling (eg, in the hands)</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>8</td>
<td>I felt that I was using a lot of nervous energy</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>9</td>
<td>I was worried about situations in which I might panic and make a fool of</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>myself</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I felt that I had nothing to look forward to</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>11</td>
<td>I found myself getting agitated</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>12</td>
<td>I found it difficult to relax</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>13</td>
<td>I felt down-hearted and blue</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>14</td>
<td>I was intolerant of anything that kept me from getting on with what I</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>was doing</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I felt I was close to panic</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>16</td>
<td>I was unable to become enthusiastic about anything</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>17</td>
<td>I felt I wasn't worth much as a person</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>18</td>
<td>I felt that I was rather touchy</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>19</td>
<td>I was aware of the action of my heart in the absence of physical exertion</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>(eg, sense of heart rate increase, heart missing a beat)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Score</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>20</td>
<td>I felt scared without any good reason</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>21</td>
<td>I felt that life was meaningless</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>
Appendix G: The Unpleasant Events Schedule, Short Form

0 - This has **not happened** in the past 30 days.
1 - This has happened **a few times** (1 - 6) in the past 30 days.
2 - This has happened **often** (7 or more) in the past 30 days.

<table>
<thead>
<tr>
<th>Event or Activity</th>
<th>Frequency (0, 1, or 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talking with an unpleasant person (stubborn, unreasonable, aggressive, conceited etc.)</td>
<td></td>
</tr>
<tr>
<td>Having someone disagree with me</td>
<td></td>
</tr>
<tr>
<td>Having to compete against others</td>
<td></td>
</tr>
<tr>
<td>Having a project or assignment overdue</td>
<td></td>
</tr>
<tr>
<td>Learning of local, national or international news (corruption, government decisions, crime etc.)</td>
<td></td>
</tr>
<tr>
<td>Performing poorly in sports</td>
<td></td>
</tr>
<tr>
<td>Having something break down or perform badly (car, appliances)</td>
<td></td>
</tr>
<tr>
<td>Having a minor illness or injury (toothache, allergy attack, cold, flu, hangover, acne breakout etc.)</td>
<td></td>
</tr>
<tr>
<td>Being dissatisfied with my boyfriend/girlfriend</td>
<td></td>
</tr>
<tr>
<td>Realising that someone I love and I are growing apart</td>
<td></td>
</tr>
<tr>
<td>Doing something that I don't want to in order to please someone else</td>
<td></td>
</tr>
<tr>
<td>Working on something when I am tired</td>
<td></td>
</tr>
<tr>
<td>Failing at something (a test, a class, etc.)</td>
<td></td>
</tr>
<tr>
<td>Looking for a job</td>
<td></td>
</tr>
<tr>
<td>Working under pressure</td>
<td></td>
</tr>
<tr>
<td>Being forced to do something</td>
<td></td>
</tr>
<tr>
<td>Being insulted</td>
<td></td>
</tr>
<tr>
<td>Being misunderstood and misquoted</td>
<td></td>
</tr>
<tr>
<td>Being near unpleasant people (drunk, bigoted, inconsiderate, etc.)</td>
<td></td>
</tr>
<tr>
<td>Leaving a task uncompleted</td>
<td></td>
</tr>
<tr>
<td>Working on something I don't care about</td>
<td></td>
</tr>
<tr>
<td>Being physically uncomfortable (dizzy, constipated, headachy, itchy, cold, having the hiccups)</td>
<td></td>
</tr>
<tr>
<td>Not having enough money for hobbies, recreation, entertainment</td>
<td></td>
</tr>
<tr>
<td>Living in a dirty or messy place</td>
<td></td>
</tr>
<tr>
<td>Forgetting something (a name, or an appointment, etc.)</td>
<td></td>
</tr>
<tr>
<td>Doing a job poorly</td>
<td></td>
</tr>
<tr>
<td>\textit{Being without my privacy}</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>\textit{Learning that a friend or relative has just become ill, injured, or hospitalised, or in need of an operation}</td>
<td></td>
</tr>
<tr>
<td>\textit{Having my boyfriend/girlfriend dissatisfied with me}</td>
<td></td>
</tr>
</tbody>
</table>
Appendix H: Scope of Mindfulness Journal

Mindfulness seeks to advance research, clinical practice, and theory on mindfulness. It is interested in manuscripts from diverse viewpoints, including psychology, psychiatry, medicine, neurobiology, psychoneuroendocrinology, cognitive, behavioral, cultural, philosophy, spirituality, and wisdom traditions. Mindfulness encourages research submissions on the reliability and validity of assessment of mindfulness; clinical uses of mindfulness in psychological distress, psychiatric disorders, and medical conditions; alleviation of personal and societal suffering; the nature and foundations of mindfulness; mechanisms of action; and the use of mindfulness across cultures. The Journal also seeks to promote the use of mindfulness by publishing scholarly papers on the training of clinicians, institutional staff, teachers, parents, and industry personnel in mindful provision of services.

Examples of topics include:

- Mindfulness-based psycho-educational interventions for children with learning, emotional, and behavioral disorders
- Treating depression and clinical symptoms in patients with chronic heart failure
- Yoga and mindfulness
- Cognitive-behavioral mindfulness group therapy interventions
- Mindfulness and emotional regulation difficulties in children
- Loving-kindness meditation to increase social connectedness
- Training for parents and children with ADHD
- Recovery from substance abuse
- Changing parents’ mindfulness
- Child management skills
- Treating childhood anxiety and depression
Appendix I: *Mindfulness* Journal – Notes for Contributors

Information from [http://www.springer.com/psychology/cognitive+psychology/journal/12671](http://www.springer.com/psychology/cognitive+psychology/journal/12671)

Instructions for Authors

**EDITORIAL PROCEDURE**

**Double-blind peer review**

This journal follows a double-blind reviewing procedure. Authors are therefore requested to submit:

- A blinded manuscript without any author names and affiliations in the text or on the title page. Self-identifying citations and references in the article text should be avoided.
- A separate title page, containing title, all author names, affiliations, and the contact information of the corresponding author. Any acknowledgements, disclosures, or funding information should also be included on this page.

**MANUSCRIPT SUBMISSION**

**Manuscript Submission**

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