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Self-compassion and gratitude as mediators of the attachment – psychological health relationship  

Submitted in partial fulfillment of the requirement for the Master of Clinical Psychology program  

School of Psychology  
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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 at the University Library**, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

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Nastassja Maher
04.03.2015
Declarations

Acknowledgement of Collaboration

I hereby certify that the work embodied in this thesis has been done in collaboration with other researchers. I have included as part of the thesis a statement clearly outlining the extent of collaboration, with whom and under what auspices.

The data collection was a shared process. I worked collaboratively with fellow students Vanessa Bailey and Callie Buller on: the Ethics application, the creation of the joint survey, monitoring online data collection, reimbursement of participants, and data screening. The survey included measures of relevance to their research and to mine.

Nastassja Maher
04.03.2015
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“As we express our gratitude, we must never forget that the highest appreciation is not to utter words, but to live by them” ~ John F. Kennedy

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Abstract

Scope

The current study examined the relationship between self-compassion, attachment insecurity, gratitude and psychological health. Over the past ten years, the concept of human behaviour has broadened to include positive psychology constructs such as empathy, generosity and other prosocial virtues. Of these constructs, self-compassion and gratitude have both been explored independently. However to date, no known research examines the relationship between the two constructs. Attachment styles have been suggested to provide an explanation for individual differences in both self-compassion and gratitude. Thus, the impact of attachment insecurity on these variables was examined in this study, specifically in relation to psychological health.

Purpose

The aim of the study was to test a hypothesised partial mediation model. The model proposed that attachment insecurity would have a direct relationship with psychological health and that both gratitude and self-compassion would partially mediate this relationship. This study aimed to explore the relationship between the two constructs. It was predicted that self-compassion would be significantly and positively correlated with gratitude and that self-compassion would predict gratitude in the hypothesised model.

Methodology

Participants consisted of 206 members of the general public (162 women and 44 men). Ages ranged from 18 to 82 years (M = 39, SD = 15.3). At the time of the study, 75.2% of participants reported being in a committed romantic relationship and 24.8% participants reported that they were not. Participants completed an online survey. Measures in the study consisted of the Self-Compassion Scale, The Gratitude
Questionnaire Six-Item Form, The Depression Anxiety and Stress Scales, and Attachment Styles Questionnaire. The survey was part of a larger study that included other measures.

**Results**

Zero-order correlations between all variables investigated were significant ($p \leq .01$). The hypothesized model was supported with some modifications based on whether psychological health was indicated by either anxiety or depression. Direct and indirect paths were found for the outcome variable of depression. Overall, the results supported an indirect effects model for self-compassion and the relationship between anxious attachment and depression. Self-compassion was found to mediate the relationship between anxious attachment and anxiety as well as the relationship between avoidant attachment and anxiety. There was a significant positive correlation between self-compassion and gratitude and self-compassion was found to predict gratitude in both models.

**General Conclusions and Implications**

The results demonstrate that an insecure attachment style is predictive of lower levels of both self-compassion and gratitude. Overall, the results indicate that a self-compassionate attitude is more important for psychological health than dispositional gratitude both directly and as a mediator of attachment insecurity. The study found that higher self-compassion scores were predictive of lower depression and anxiety scores. Similarly, higher scores on the gratitude scale were predictive of lower depression scores, however gratitude was not significantly related to anxiety. In terms of the relationship between self-compassion and gratitude, highly self-compassionate individuals are likely be more grateful those who have lower levels of self-compassion. Implications for clinical practice are discussed. In the treatment of
depression, psychologists may wish to employ interventions that focus on increasing self-compassion and to a lesser extent, gratitude. In the treatment of anxiety, psychologists may find interventions that increase self-compassion beneficial to reduce anxiety. Future research should focus on further exploration of the relationship between self-compassion and gratitude and attempt to replicate the results of this preliminary study.
Critical Literature Review

Self-compassion and gratitude as mediators of the attachment – psychological health relationship

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Self-compassion and gratitude as mediators of the attachment – psychological health relationship

Western society’s pursuit for high self-esteem is both competitive and relentless. In recent years, self-compassion has been presented as an alternative to self-esteem (Neff, 2003). Self-compassion refers to an awareness of one’s own distress, recognising that distress is universal, and giving oneself the same kindness and support as one would usually show to others (Neff, 2004). Self-compassion research is in its infancy and while it has been linked to individual psychological health (MacBeth & Gumley, 2012) there is little research relating self-compassion to functioning in interpersonal relationships (Neff & Beretvas, 2012).

Gratitude is another relatively new positive psychology construct that has been explored more in recent times (Emmons & Crumpler, 2000; McCullough, Kirkpatrick, Emmons & Larson, 2001; McCullough, Emmons, & Tsang, 2002). However, there is no known research to date exploring the link between self-compassion and gratitude. According to Emmons and McCullough (2003), gratitude is a feeling or attitude in acknowledgement of a benefit received from others and has been described as a way to achieve peace of mind, physical health, improved social relationships, and happiness.

The current study will explore the relationships between self-compassion, gratitude, insecure attachment styles (avoidant and anxious), and psychological health. It is expected that all variables will be significantly correlated with each other, including self-compassion and gratitude. The main thesis is that there will be a direct effect between attachment and psychological health but that this relationship will also be partially mediated by both gratitude and self-compassion. Specifically, participants with an avoidant or anxious attachment style will have lower levels of self-compassion and gratitude and will experience higher levels of depression and anxiety.
Self-compassion

Most psychologists would agree that compassion is an important pro social attribute. In Western society, there is a focus on having compassion for others, but from traditional Eastern perspectives, for example Buddhism, self and other are seen as interdependent so having compassion for the self is just as important as having compassion for others (Bennett-Goleman, 2001; Brach, 2003). Having compassion involves being aware of another’s distress and having a desire to help alleviate suffering. Self-compassion, on the other hand, refers to ‘compassion directed inward’ (Germer & Neff, 2013).

Neff (2003, p. 224) is perhaps the most well-known proponent of the self-compassion perspective and she defines self-compassion as being “open to and moved by one’s own suffering, experiencing feelings of caring and kindness toward oneself, taking an understanding, nonjudgmental attitude toward one’s inadequacies and failures, and recognizing that one’s own experience is part of the common human experience”. Neff (2003) asserts that the three main components of self-compassion are self-kindness, common humanity, and mindfulness.

Neff (2004) describes *self-kindness* as being warm, understanding, open-minded and non-judgmental towards oneself during difficult or painful times, as opposed to adopting an attitude of harsh criticism and severe judgment of oneself. When considering mistakes, failures, personal inadequacies and painful situations, people tend to use harsh language towards themselves such as ‘you are stupid, you are a loser’ when they would be very unlikely to say these things to a friend or even a stranger (Germer & Neff, 2013).

*Common humanity* involves recognising that human suffering is universal and that no one is alone in his or her imperfection, as opposed to feelings of isolation and
self-blame (Neff, 2003). Having a sense of common humanity is argued to reduce the
trend for ‘over-identification’, where one’s sense of self becomes so immersed in
subjective emotional reactions that emotions are exaggerated (Bennett-Goleman,
2001). Alternatively, recognising that everyone makes mistakes is argued to foster a
united attitude that is inclusive of others and connects people together (Germer &
Neff, 2013).

Neff (2003) defines mindfulness as having an awareness of painful thoughts
and emotions and experiencing them without suppression or avoidance, as opposed to
rumination and over-identification with painful thoughts and emotions. In response to
suffering, people often attempt to ignore the painful thoughts and emotions or engage
in rumination and over-identification. Within self-compassion, the mindfulness
component encourages people to turn towards the painful thoughts and emotions,
acknowledging the moment of suffering, and accepting that one is worthy of a
compassionate response from oneself (Germer & Neff, 2013). It should be noted that
Neff’s definition offers a narrow view of mindfulness that is more limited in scope
than more widely accepted definitions. John Kabat-Zinn, a leading pioneer in the
therapeutic application of mindfulness defines mindfulness as “the awareness that
emerges through paying attention on purpose, in the present moment, and
nonjudgmentally to the unfolding of experience moment to moment” (Kabat-Zinn,
2003, p.145).

Importantly, self-compassion differs from self-esteem. McMullin and Cairney
(2004) define self-esteem as a socio-psychological construct used to assess an
individual’s attitudes and perceptions of self-worth. On the one hand, it is argued that
self-esteem is a protective factor that contributes to better physical and mental health
(White, Kendrick, & Yardley, 2009). Alternatively, several researchers suggest that an
overemphasis on self-esteem may lead to narcissism, self-absorption, self-centeredness, and a lack of concern for others (Damon, 1995; Seligman, 1995; Tesser, 1999). Neff (2003, p. 255) promotes self-compassion as an alternative to self-esteem arguing that self-compassion provides “an experience of positive emotions without having to protect or bolster one’s self-concept”.

**Benefits of self-compassion.** Gilbert (2005) suggests that self-compassion promotes psychological health as it helps people to feel calm, cared for, and supported. It is positively correlated with life satisfaction (Neff, 2003), psychological well-being (Neff, 2004), social connectedness (Neff & McGehee, 2010), as well as happiness and positive affect (Neff, Rude, & Kirkpatrick, 2007). A recent meta-analysis by MacBeth and Gumley (2012) examined 20 studies and found large effect sizes linking increased self-compassion to lower levels of psychopathology.

Hollis-Walker and Colossimo (2011) found that compared to people who were self-critical, highly self-compassionate individuals experienced more creativity, optimism, happiness, enthusiasm, inspiration, and excitement. Terry, Leary, and Mehta (2012) found that students living away from home who scored higher in self-compassion, reported less depression and tackled difficulties more successfully. Self-compassion has consistently been linked to less psychopathology (Barnard & Curry, 2011).

Long term effects of increasing self-compassion have also been explored. In a study by Shapira and Mongrain (2010), individuals were asked to write a self-compassionate letter to themselves each day for one week. This brief intervention not only increased levels of happiness compared to the control group, but these effects were maintained at one, three, and six month follow-ups. Sbarra, Smith and Mehl (2012) studied the impact of self-compassion following marital separation and found
that people with higher levels of self-compassion experienced less emotional intrusion related to the divorce, and this effect lasted up to nine months later.

Several studies have found the benefits of increasing self-compassion through self-compassion treatment programs (Neff, & Germer, 2012; Adams & Leary, 2007; Beaumont, Galpin, & Jenkins, 2012; Breines & Chen, 2013; Gilbert, & Proctor, 2006). These studies conceptualise self-compassion as a state construct, inferring that self-compassion can be taught. On the other hand, Neff (2003) also views self-compassion as a trait measure, conceptualizing self-compassion as an individual difference. This then raises the question, why are some people persistently more self-compassionate than others? It is posited that attachment theory offers an explanation that may account for some of the differences in self-compassion seen between individuals.

**Self-compassion as an individual difference.** Neff (2004) suggests that individual differences in self-compassion can arise from one’s upbringing, social circumstances or attachment relationships. Neff and McGehee (2010) propose that the ability to be self-compassionate relates to one’s childhood experience. Self-compassion is argued to activate the caregiving system and deactivate the threat system that is associated with feelings of insecure attachment and defensiveness (Gilbert & Proctor, 2006). There has been some research to show people with low self-compassion are more likely to come from dysfunctional families and have insecure attachment patterns (Neff & McGehee, 2010; Wei, Liao, Ku, & Shaffer, 2011). This suggests that people with higher self-compassion may have more secure attachment patterns.

In terms of adult attachment relationships, recent research by Neff and Beretvas (2012) found self-compassionate individuals were described by their partners as more accepting and emotionally connected. On the other hand, individuals with low
self-compassion scores were described by their partners as being more controlling and detached, as well as more physically and verbally abusive. In another study by Crocker and Canavello (2008) students who scored higher in self-compassion were found to encourage interpersonal trust and provide more social support with their roommates.

The concept of self-compassion is inwardly focused on the self. For this reason it is useful to consider to what extent self-compassion is related to prosocial behaviour that is focused on others. Instead of focusing on prosocial behaviour in general, one particular form of prosocial behaviour was chosen to compare to self-compassion, gratitude. One of the primary reasons gratitude was chosen was the lack of research exploring the relationship between self-compassion and gratitude. There is also a lack of research exploring self-compassion and gratitude as mediators of the relationship between attachment and psychological health. The exploration of the relationship between self-compassion and gratitude aims to examine to what extent self-compassion is related to prosocial behaviour such as gratitude.

**Dispositional Gratitude**

Gratitude is a feeling or attitude in acknowledgement of a benefit received from others and has been described as a way to achieve peace of mind, physical health, improve social relationships, and happiness (Emmons & McCullough, 2003). Gratitude has been explored by many disciplines including philosophy and theology (Emmons & Crumpler, 2000). Although the concept of gratitude has been around for thousands of years, there has been limited psychological research on gratitude (Emmons & Shelton, 2002). Wood and Tarrier (2010) suggest that gratitude has been an understudied trait in the recent positive psychology movement (Aspinwall & Staudinger 2003; Seligman, 2002).
According to McCullough, et al. (2002) gratitude is a positive affect that can be experienced as a trait or a state. Most research to date has focused on gratitude as an emotional state elicited when an individual receives a benefit from a well-intentioned external source at a particular point in time (Weiner, 1986). State gratitude is an attribution-dependent emotion as it relies on individual attribution of an outcome in a particular context (Weiner, 1986).

Contextual determinants of gratitude involve the interaction between a benefactor, a beneficiary, and a gift (Emmons & McCullough, 2006). A seminal study by Tesser, Gatewood and Driver (1968) found that feelings of gratitude increased when the benefactor had good intentions, the cost to the benefactor was high, and the gift was of great value. These findings indicate that state gratitude is attribution-dependent, context-dependent and is an interpersonal experience.

Recent research, however, challenges these findings, claiming that state gratitude fails to capture the full experience of gratitude (Wood, Froh, & Geraghty, 2010). Wood and his colleagues (2010, p. 2) claim that gratitude does not necessarily require an interpersonal experience because gratitude is part of a “wider life orientation towards noticing and appreciating the positive in the world”. Gratitude is argued to be more than an attribution-dependent and context-dependent state. Rather, it can also be a stable personality trait that is consistent over time (Watkins, Woodward, Stone, & Kolts, 2003).

The current research will focus on trait gratitude, which can be simply defined as the predisposition to experience gratitude (Watkins, et al., 2003). Rosenberg (1998, p. 249) defined psychological traits as “stable predispositions toward certain types of emotional responding” that “set the threshold for the occurrence of particular emotional states”. Dispositional gratitude involves individual differences in how
frequently and intensely people experience gratitude and the range of events that illicit gratitude (McCullough, et al., 2002). Dispositional gratitude involves positive interpretations of a range of social situations and a general appreciative outlook on life (Wood, Maltby, Stewart, & Joseph, 2008).

In the literature to date, there are three main approaches to trait gratitude. The first two researchers both refer to trait gratitude as *dispositional gratitude* (McCullough, et al., 2002; Watkins, et al., 2003). The third team of researchers, represented by Adler and Fagley (2005) refer to trait gratitude as *trait appreciation*. The current study will use the term dispositional gratitude throughout to avoid confusion.

**Benefits of gratitude.** Dispositional gratitude has been found to predict psychological well-being (Wood, Joseph, & Maltby, 2009). Dispositional gratitude has also been strongly linked with good quality sleep (Wood, Joseph, Lloyd, & Atkins, 2009) and active coping, planning, seeking both emotional and social support, and growth (Wood, Joseph, & Linley, 2007).

Dispositional gratitude has been shown to strongly predict well-being (Wood, et al., 2010; Wood, Maltby, Gillett, Linley, & Joseph, 2008) which has led to gratitude emerging as a key, clinically relevant psychology trait. Specifically, dispositional gratitude has been linked to lower levels of depression (Wood, Maltby, Gillett, et al., 2008) and an increase in life satisfaction in romantic relationships (Emmons & McCullough, 2003). Higher levels of gratitude during a major life transition have been found to result in less depression, less stress, and more social support (Wood, Maltby, Gillett, et al., 2008).

**Gratitude as an individual difference.** Most research to date has focused on gratitude interventions (Emmons & McCullough, 2003) and little research has focused
on the origins of gratitude and individual differences. Recent research by Dinh (2008) explored the link between attachment and gratitude and found that attachment functioning potentially underlies individual differences in gratitude. Clearly, there is a need for further investigation into the origins of gratitude to form a clearer picture of the individual differences associated with gratitude. As with the case for self-compassion, it is argued here that individual differences in attachment expectancies may contribute to the formation of dispositional gratitude.

**Attachment**

**Normative attachment theory.** Bowlby (1969) first explored the normative component of attachment, asserting that from infancy all individuals seek protection and safety to survive. According to Bowlby’s theory, infants who maintain proximity to their caregivers are more likely to survive and eventually reproduce, passing on genes that foster proximity seeking to the next generation (Mikulincer & Shaver, 2007b, p.11). Bowlby (1973) extended his theory by proposing that the attachment system is not only activated by danger itself but also by stimuli that increases the likelihood of danger such as darkness, isolation, and loud noises as well as threats such as separation from a caregiver.

**Attachment as an individual difference.** Ainsworth (1989) and Main (1990) extended Bowlby’s normative account and proposed that humans also have a biological ability to adapt to different caregiving environments and do so via differing attachment styles. According to Fraley and Shaver (2000, p.25), attachment styles are “patterns of expectations, needs, emotions, and social behaviour that result from a particular history of attachment experiences, usually beginning in relationships with parents”. Attachment styles represent individual differences in expectancies of how
others will react to our bids for proximity, attention, and care (Mikulincer & Shaver, 2007b).

**Attachment styles in infants.** Attachment styles were first explored by Ainsworth (1967) who studied the patterns of individual differences in infant attachment behaviour. She developed the Strange Situation procedure (Ainsworth, Bell, & Stayton, 1973), involving observations of separations and reunions of young children (aged one to three years) and their primary caregivers to determine variations in attachment styles. Results yielded three different kinds of responses, one secure and two insecure types: anxious-avoidant and anxious-ambivalent (Ainsworth, et al., 1973). Secure attachment occurs when a child has a mental representation that the caregiver is available and responsive. Insecure attachment occurs when a child lacks this representation (Cassidy, 2008, p.7). Ainsworth concluded that infant attachment patterns are influenced by caregiver responsiveness (Ainsworth, 1973). Furthermore, Bowlby (1988) argued that childhood interactions with caregivers in infancy provide a foundation for expectations of other relationships in adulthood.

**Adult attachment.**

**Romantic relationships and attachment styles.** Individual differences in attachment functioning have been found to extend beyond infancy into adulthood (Hazan & Shaver, 1987) and are based on our expectancies of interpersonal relationships that originate from our experiences of care in childhood (Mikulincer & Shaver, 2007b). There are two main ‘schools’ of research into adult attachment that emerged in the 1980s, one dominated by developmental psychologists and the other by social psychologists.

The developmental psychologists, led by Mary Main, formulated the Adult Attachment Interview (AAI) (Main, Kaplan, & Cassidy, 1985) as a means to assess
differences in adult ‘representations’ of attachment. The AAI involves asking adults to describe their attachment-related childhood experiences and classifying them into three categories: ‘secure-autonomous’, ‘dismissing’, and ‘preoccupied’ (Hesse, 1999). Parents who had undergone the Strange Situation experiment with their child were interviewed using the AAI. Results indicated that the infant’s identified attachment style was predictive of their caregiver’s style (Hesse, 1999), indicating a developmental approach.

The social psychological approach, on the other hand, has primarily focused on using self-report methodologies, as represented by Hazan and Shaver’s (1987) seminal study of adult romantic relationships. They found support for the extension of attachment styles into adult relationships, specifically the three styles originally reported by Ainsworth, Blehar, Waters, and Wall (1978).

**Attachment as dimensions.** Soon after Hazan and Shaver (1987) proposed their model of adult attachment styles, Bartholomew and Horowitz (1991) proposed a four-category approach to attachment in adulthood, based on Bowlby’s ‘internal working models’ rather than Ainsworth et al.’s (1978) mother – infant interaction research. The ‘model of self’ represents an attachment anxiety dimension and the ‘model of other’ an attachment avoidance dimension (see Figure 1). The four categories in the model consist of one ‘secure’ attachment style and three ‘insecure’ styles: preoccupied, dismissing, and fearful (Bartholomew & Horowitz, 1991).
Model of Self (Anxiety)

<table>
<thead>
<tr>
<th>Model of Other (Avoidance)</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Secure</td>
<td>Preoccupied</td>
</tr>
<tr>
<td></td>
<td>Comfortable with intimacy and autonomy.</td>
<td>Preoccupied with relationships.</td>
</tr>
<tr>
<td>Negative</td>
<td>Dismissing</td>
<td>Fearful</td>
</tr>
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Figure 1: Bartholomew and Horowitz (1991) model of adult attachment based on model of self and others.

A model of attachment-system functioning and dynamics in adulthood.

Mikulincer and Shaver (2003) posited an alternative view of adult attachment dimensions to Bartholomew and Horowitz’s (1991) approach and proposed a control systems model that focused on the activation and operation of the attachment system in adulthood. The control systems model consists of three modules (see Figure 2).

The first module represents the monitoring and appraisal of threatening events (Mikulincer & Shaver, 2007a, p.30) which can include both physical and psychological threats. In response to a threat, the attachment system is activated and the individual attempts to seek proximity to an attachment figure. Mikulincer and Shaver (2007a) explain that in childhood, the individual would most likely seek physical proximity however in adulthood this may also include emotional proximity or the creation of a mental representation of an attachment figure.

The second module represents the evaluation of attachment figure availability (Mikulincer & Shaver, 2007a) and focuses on whether or not the attachment figure is available, attentive and responsive. If so, the individual feels security and relief and this builds the cycle of attachment security. If not, the individual experiences attachment insecurity (Mikulincer & Shaver, 2007a).
The third module represents the two different ways of dealing with attachment insecurity. If proximity seeking is a viable option, the individual may engage in hyperactivating strategies, associated with an anxious attachment. If proximity seeking is not a viable option, the individual may engage in deactivating strategies, associated with avoidant attachment (Mikulincer & Shaver, 2007a).

The aim of using hyperactivating strategies is to get the unresponsive and unreliable attachment figure to provide extra support and pay more attention to them (Mikulincer & Shaver, 2007a). Examples of hyperactivating strategies include excessive demands for attention, clinging or controlling behavior, overdependence on the relationship partner for comfort, and exaggeration of threats and problems. Overuse of hyperactivating strategies in a relationship is likely to result in dysfunction and eventually rejection (Mikulincer & Shaver, 2007a, p.40).

The aim of using deactivating strategies is to avoid negative emotional states that may activate the attachment system and to maintain “distance, control and self-reliance” (Mikulincer & Shaver, 2007a, p.41). Examples of deactivating strategies include deterring proximity seeking, avoiding emotional involvement, intimacy, self-disclosure or interdependence, and suppression of thoughts and fears related to separation, rejection and abandonment (Mikulincer & Shaver, 2007a, p.41).

Mikulincer and Shaver (2007a) posit that individuals may use both deactivating and hyperactivating strategies. This ‘mixed’ attachment strategy resembles the disorganized attachment pattern identified in Ainsworth’s work (Main & Hesse, 1990) and is titled ‘fearful avoidance’. Individuals who are fearfully avoidant cope by distancing themselves from relationship partners while continuing to experience anxiety and a desire for their partners love and support (Mikulincer & Shaver, 2007a).
Figure 2. A model of attachment-system activation and functioning in adulthood (Mikulincer & Shaver, 2007a, p. 31)
Attachment and psychological health. Bowlby (1980) formulated theoretical links between attachment insecurities and the development of depression and anxiety disorders and suggested that the loss of attachment security during childhood could be a risk factor for the development of depression later in life. Furthermore, in relation to the development of anxiety disorders, it was suggested that attachment figure unavailability and resulting attachment insecurities could be risk factors because they lead to the child feeling unsupported, unsafe and unprotected which heightens their anxiety and makes them more hypervigilant (Bowlby, 1973).

Mikulincer and Shaver (2007a, p. 369) assert that “attachment insecurities, negative models of self and others, and both intra and interpersonal regulatory deficits rooted in discouraging experiences with unavailable, rejecting or neglectful attachment figures put a person at risk for psychological disorders”. Mikulincer and Shaver (2007b, p. 375) examined more than 30 studies that measured the correlations between attachment and neuroticism scales and found that both anxiety and avoidance were associated with neuroticism. The link between anxiety and neuroticism (.40) was higher than the link between avoidance and neuroticism (.20).

Torquati and Raffaelli (2004) conducted a study where undergraduate students had to complete the Adult Attachment Scale (AAS) and report their emotions six or seven times a day for one week. Results found that insecure people experienced more frequent and intense negative emotions, and when alone felt more irritable, anxious and lonely. Sroufe (2005) identified that patterns of anxious attachment were likely to be risk factors and patterns of secure attachment were viewed as protective factors for later disturbance and that avoidant attachment history is more related to conduct problems. Early secure attachment promotes strength and resilience in the face of challenges whereas, disorganized attachment in infancy is a strong predictor of later
disturbance and self-injurious behaviour is related to disorganized attachment, maltreatment and dissociation (Sroufe, 2005).

There are a limited number of longitudinal studies linking attachment to psychological health (Carlson, 1998; Dutra, & Lyons-Ruth, 2005; Grossmann, Grossman, & Waters, 2005; Sroufe, 2005). Duggal, Carlson, Sroufe and Egeland (2001) found that avoidant and resistant attachment was moderately related to depression. Attachment has also been linked to trauma and post traumatic stress disorder, suicidal tendencies, eating disorders, conduct disorders, substance abuse and criminal behaviours, dissociative disorders, schizophrenia and personality disorders (Mikulincer & Shaver, 2007a).

**Secure attachment as a foundation of self-compassion and gratitude.**

Secure attachment is argued to be an important foundation for healthy emotion regulation, the capacity to foster healthy interpersonal relationships, and the ability to manage stress (Fonagy, 2003; Schore, 2001; Siegel, 2001). Studies have shown that attachment security is highly correlated with beneficial outcomes including pro-social behaviours (Gillath, Selcuk, & Shaver, 2008; Mikulincer & Shaver, 2007b).

From a theoretical perspective, an individual with a secure attachment has a secure base from which they can go out to explore the world (Ainsworth, 1963). Without this secure base, individuals may feel unsafe exploring the world or returning to their caregiver and may develop a negative view of themselves and others, making it difficult for them to be self-compassionate or grateful. Mikulincer and Shaver’s (2007a) control systems model posits that insecurely attached individuals are often expending energy on hyperactivating and deactivating strategies following the trigger of a non-responsive attachment figure. In turn, strengthening their negative beliefs of both themselves and others and making it harder to be self-compassionate or grateful.
Recent research has suggested that secure attachment underlies a number of prosocial behaviours including dispositional gratitude (Gordon, Impett, Kogan, Oveis, & Keltner, 2012; Mikulincer & Shaver, 2007b). Specifically, Dwiwardani, et al. (2014) found that attachment was a significant predictor of gratitude. Mikulincer, Shaver, and Slav (2006) found that securely attached individuals who scored higher in gratitude were more likely to engage in pro-social behaviour. Recent research by Gordon et al. (2012) studied couples and found that participants who reported higher levels of gratitude and were more appreciative of their partner were, more committed, more responsive, and more likely to remain in the relationship. Individuals with secure attachment styles have been found to score higher on appreciation and gratitude measures (Gordon, et al., 2012; Mikulincer & Shaver, 2007b).

Similarly, MacBeth and Gumley (2012) found that participants with a secure attachment style scored higher on self-compassion measures. Secure attachment involves having a positive view of oneself and others (Hazan & Shaver, 1987), which leads to greater self-acceptance, higher interconnectedness, and it is hypothesised that this would in turn lead to higher self-compassion. Alternatively, other studies have explored the impact of insecure attachment and found that people with low self-compassion are more likely to come from dysfunctional families and have insecure attachment patterns (Neff & McGehee, 2010; Wei, et al., 2011).

The Proposed Study

The proposed study examines the relationships between self-compassion, attachment, gratitude and psychological health. Based on previous literature and research, gratitude and self-compassion are expected to partially mediate the relationship between attachment and psychological health (see Figure 3).
Attachment and psychological health. Extensive research has demonstrated a strong relationship between attachment and psychological health, in particular linking insecure attachment styles to psychopathology such as depression and anxiety (Duggal, et al., 2001; Mikulincer & Shaver, 2007b; Sroufe, 2005; Torquati & Raffaelli, 2004). It is expected that this study will confirm this finding and show that anxious attachment and avoidant attachment predict higher levels of depression and anxiety.

Gratitude and psychological health. Gratitude has been linked to lower levels of depression (Wood, Maltby, & Gillett, et al., 2008) and an increase in life satisfaction in romantic relationships (Emmons & McCullough, 2003). This study aims to replicate these results and find a negative relationship between gratitude and both depression and anxiety. It is also expected that higher levels of gratitude will predict lower levels of depression and anxiety.

Self-compassion and psychological health. Studies have found that self-compassion is positively correlated with life satisfaction (Neff, 2003), psychological well-being (Neff, 2004), social connectedness (Neff & McGehee, 2010), as well as happiness and positive affect (Neff, et al., 2007). Independent researchers have conducted meta-analyses and have discovered large effect sizes linking increased self-compassion to lower levels of mental health symptoms (MacBeth & Gumley, 2012). This study predicts that higher levels of self-compassion will indicate lower levels of depression and anxiety.

Insecure attachment to predict gratitude and self-compassion. It is also expected that insecure attachment will be predict lower levels of both gratitude and self-compassion. This study aims to replicate the findings of Murray and Hazelwood (2011) that found a significant, negative, moderate relationship between anxious
attachment and gratitude as well as avoidant attachment and gratitude. Recent research has focused on the relationship between attachment and self-compassion. In particular, Neff and Beretvas (2012) found that insecure attachment styles are negatively associated with self-compassion. It is hypothesized that both anxious and avoidant attachment attributes will predict lower levels of self-compassion in participants.

**Self-compassion and gratitude as mediators.** The model proposes that both self-compassion and gratitude will partially mediate the relationship between attachment and psychological health. Recent research has found that dispositional gratitude is influenced by attachment. Specifically, Mikulincer, et al. (2006) found that securely attached individuals who scored higher in gratitude were more likely to engage in prosocial behaviour. In addition, Murray and Hazelwood (2011) found a significant, negative, moderate relationship between (a) anxiety and gratitude, and (b) avoidance and gratitude.

Self-compassion is also suggested to be a partial mediator of the attachment and psychological health relationship. Previous research has identified self-compassion as a mediator of the relationship between both anxious and avoidant attachment and psychological health (Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011; Wei, et al., 2011). Self-compassion has also been identified as a mediator in other studies (Vettese, Dyer, Li, & Wekerle, 2011; Bergen-Cico & Cheon, 2013; Jativa & Cerezo, 2014) providing a foundation for the exploration of self-compassion as a partial mediator in the current study.

**Self-compassion and gratitude.** It is also anticipated that self-compassion will be positively related to gratitude. No known research has linked self-compassion with gratitude, thus the need to explore this relationship in the current study. From a theoretical perspective, practicing self-compassion is argued to create a greater
capacity to feel compassion for others. It is suggested that self-compassion can also lead individuals to experience other prosocial attributes such as gratitude. Previous literature shows that gratitude is positively correlated with extraversion and agreeableness and is related to other trait-like measures of emotions such as hope, vitality, optimism, dispositional happiness, depression, anxiety and envy (Alder & Fagley, 2005; McCullough et al., 2002; Watkins et al., 2003). Based on these findings, it can be hypothesised that self-compassion will predict gratitude.

Figure 3. A proposed partial mediation model

Clinical Implications

This study will explore the relationship between self-compassion and gratitude. This is important because the relationship between these two constructs is a gap in the research that requires further exploration. It is predicted that self-compassion will predict gratitude. This may have implications for clinical practice in that if the hypothesis is proven, it may be that increased self-compassion leads to increased gratitude. This study will also focus on the relationship between insecure attachment...
and psychological health, including the effect of self-compassion and gratitude as mediators of this relationship.

**Conclusion**

There is a burgeoning interest in positive psychology constructs including self-compassion and gratitude and a growing industry focused on interventions to increase them. While research shows there are individual differences in the degree to which people have self-compassionate and grateful attitudes and behaviours, there is a lack of research examining how and why these differences arise. Here we have explored how attachment related expectancies might be related to self-compassion and gratitude and proposed that these two constructs may, at least partially, mediate the link between individual attachment styles and psychological health. Research using an appropriate sample needs to be conducted to evaluate the viability of this model and provide further evidence regarding how these important psychological constructs are linked.
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Self-compassion and gratitude as mediators of the attachment – psychological health relationship

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Abstract

The current study examined the extent to which self-reported self-compassion and gratitude mediated the relationship between insecure attachment and psychological health operationalized as depression and anxiety. Participants were 206 members of the general public (162 women and 44 men) who completed an online survey. Ages ranged from 18 to 82 years (M = 39, SD = 15.3). Zero-order correlations between all variables investigated were significant. The hypothesized model was supported with some modifications based on whether psychological health was indicated by either anxiety or depression. Overall, the results indicate that a self-compassionate attitude is more important for psychological health than dispositional gratitude both directly and as a mediator of attachment insecurity. Limitations of the design are discussed and implications for clinical practice explored.

Keywords: self-compassion, gratitude, attachment avoidance, attachment anxiety, depression, anxiety, psychological health,
Self-compassion and gratitude as mediators of the attachment – psychological health relationship

Most psychologists would agree that compassion is an important prosocial attribute. In Western society, there is a focus on having compassion for others, but from traditional Eastern perspectives, for example Buddhism, self and other are seen as interdependent so having compassion for the self is just as important as having compassion for others (Bennett-Goleman, 2001; Brach, 2003). Having compassion involves being aware of another’s distress and having a desire to help alleviate suffering, whereas self-compassion refers to ‘compassion directed inward’ (Germer & Neff, 2013). Neff (2003) is perhaps the most well-known proponent of the self-compassion perspective. She argues that the three main components of self-compassion are self-kindness, common humanity and mindfulness (Neff, 2003).

Self-kindness involves being warm, understanding, open-minded and non-judgmental towards oneself during difficult or painful times, as opposed to adopting an attitude of harsh criticism and severe judgment of oneself (Neff, 2004). When considering mistakes, failures, personal inadequacies and painful situations, people tend to use harsh language towards themselves such as ‘you are stupid, you are a loser’ when they would be very unlikely to say these things to a friend or even a stranger (Germer & Neff, 2013). Common humanity involves recognising that human suffering is universal and that no one is alone in his or her imperfection, as opposed to having feelings of isolation and self-blame (Neff, 2003). Having a sense of common humanity reduces the tendency for ‘over-identification’, where one’s sense of self becomes so immersed in subjective emotional reactions that emotions are exaggerated (Bennett-Goleman, 2001). Neff (2003) defines mindfulness as having an awareness of painful
thoughts and emotions and experiencing them without suppression or avoidance, as opposed to ruminating, over-identifying or trying to ignore the painful thoughts.

Several studies have found benefits of increasing self-compassion through self-compassion treatment programs (Neff & Germer, 2012; Adams & Leary, 2007; Beaumont, Galpin, & Jenkins, 2012; Breines & Chen, 2013; Gilbert, & Proctor, 2006). Alternatively, self-compassion can be viewed as a trait construct with the Self-Compassion Scale (Neff, 2003) conceptualizing self-compassion as an individual difference. This then raises the question, why are some people dispositionally more self-compassionate than others? It is posited that attachment theory may offer an explanation for individual differences within self-compassion.

Neff (2004) suggests that individual differences in self-compassion can arise from one’s upbringing, social circumstances or attachment relationships. Neff and McGehee (2010) propose that the ability to be self-compassionate relates to one’s childhood experience. Self-compassion activates the caregiving system and deactivates the threat system that is associated with feelings of insecure attachment and defensiveness (Gilbert & Proctor, 2006).

The concept of self-compassion is inwardly focused on the self. For this reason it is important to consider to what extent self-compassion is related to prosocial behaviour that directed externally. Comparisons with compassion in general may be problematic because it is a general and broad concept that overlaps significantly with self-compassion. Instead of focusing on prosocial behaviour in general, one particular form of prosocial behaviour was chosen to compare to self-compassion, gratitude. The aim of the current research is to explore self-compassion and gratitude as mediators of the relationship between attachment and psychological health. Gratitude was chosen because there is a lack of research exploring the relationship between self-compassion
and gratitude, especially as mediators in relation to psychological health. In the subsequent paragraphs, gratitude and attachment will be discussed in detail. Following this, the hypotheses for the current study will be proposed.

**Dispositional Gratitude**

Gratitude has been explored by many disciplines including philosophy and theology (Emmons & Crumpler, 2000) and it has recently been conceptualised as a prosocial trait in the positive psychology movement (Seligman, 2002). According to McCullough, Emmons, and Tsang (2002), gratitude is a positive affect that can be experienced as a trait or as a state. Most research to date has focused on gratitude as an emotional state elicited when an individual receives a benefit from a well-intentioned external source at a particular point in time (Weiner, 1986). Recent research challenges these findings, claiming that state gratitude fails to capture the full experience of gratitude (Wood, Froh, & Geraghty, 2010). It has been argued that gratitude does not necessarily require an interpersonal experience because gratitude is part of a “wider life orientation towards noticing and appreciating the positive in the world” (Wood, et al., 2010, p. 2) and can also be classified as a stable personality trait that is consistent over time.

The current research will focus on trait gratitude, which can be simply defined as the predisposition to experience gratitude (Watkins, Woodward, Stone, & Kolts, 2003). Dispositional gratitude involves individual differences in how frequently and intensely people experience gratitude and the range of events that illicit gratitude (McCullough, et al., 2002). In the literature to date, there are three main approaches to trait gratitude. The first two researchers both refer to trait gratitude as *dispositional gratitude* (McCullough, et al., 2002; Watkins, et al., 2003). The third team of
researchers, Adler and Fagley (2005) refer to trait gratitude as *trait appreciation*. The current study will use the term dispositional gratitude throughout to avoid confusion.

Most research to date has focused on gratitude interventions (Emmons & McCullough, 2003) and little research has focused on the origins of gratitude and individual differences. Recent research by Dinh (2008) explored the link between attachment and gratitude and found that attachment functioning potentially underlies individual differences in gratitude. Clearly, there is a need for further investigation into the origins of gratitude to form a clearer picture of the individual differences associated with gratitude that may be founded in attachment theory.

**Attachment**

Bowlby (1969, 1973) first explored the normative component of attachment, asserting that from infancy all individuals seek protection and safety to survive. Main (1990) extended Bowlby’s theory and proposed that humans also have a biological ability to adapt to different caregiving environments, inferring that individuals have different attachment styles. Attachment styles were first identified by Ainsworth (1967) who devised the Strange Situation procedure (Ainsworth, Bell, & Stayton, 1973) revealing three categories of attachment ‘styles’ in mother-infant interactions: one secure response and two insecure responses (anxious-avoidant and anxious-ambivalent).

Individual differences in attachment functioning have been found to extend beyond infancy into adulthood (Hazan & Shaver, 1987) and are based on our expectancies of interpersonal relationships that originate from our experiences of care in childhood (Mikulincer & Shaver, 2007a). Hazan and Shaver (1987) developed a categorical model of three adult attachment styles based on Ainsworth’s (Ainsworth, et al., 1973) original work: secure, anxious and avoidant. A few years later,
Bartholomew and Horowitz (1991) proposed a four-category approach to attachment in adulthood consisting of one secure attachment style and three insecure styles (preoccupied, dismissing, and fearful) based on Bowlby’s ‘internal working models’, model of self and model of other.

More recently Shaver and Mikulincer (2002) proposed a control systems model of adult attachment (Mikulincer & Shaver, 2003) that conceptualizes individual differences in attachment expectancies along two dimensions: hyperactivation (or anxious attachment) and deactivation (or avoidant attachment). These dimensions represent different ‘insecure’ strategies that the individual has learned over-time to cope with controlling emotions in interpersonal contexts (Mikulincer & Shaver, 2007b).

On the other hand, secure attachment is an important foundation for healthy emotion regulation, the capacity to foster healthy interpersonal relationships, and the ability to manage stress (Fonagy, 2003; Schore, 2001; Siegel, 2001). Studies have shown that attachment security is highly correlated with beneficial outcomes including pro-social behaviours (Gillath, Selcuk, & Shaver, 2008; Mikulincer & Shaver, 2007b).

From a theoretical perspective, an individual with a secure attachment has a secure base from which they can go out to explore the world (Ainsworth, 1963). Without this secure base, adult individuals may feel unsafe exploring and engaging in social interactions and may develop a negative view of themselves and others, making it difficult for them to be self-compassionate or grateful. Mikulincer and Shaver’s (2007a) control systems model posits that insecurely attached individuals are often expending energy on hyperactivating and deactivating strategies following the trigger of a non-responsive attachment figure. In turn, strengthening their negative beliefs of both themselves and others and making it harder to be self-compassionate or grateful.
The Current Study

The current study seeks to examine the relationships between self-compassion, attachment, gratitude and psychological health. Based on previous literature and research, gratitude and self-compassion are expected to mediate the relationship between insecure attachment expectancies and psychological health. Specifically, a partial mediation model is proposed (see Figure 1).

Extensive research demonstrates that insecure attachment is a risk factor for psychopathology (Duggal, Carlson, Sroufe & Egeland, 2001; Mikulincer & Shaver, 2007b; Sroufe, 2005; Torquati & Raffaelli, 2004) and a number of longitudinal studies have identified a significant direct relationship between attachment and psychological health indicators (Carlson, 1998; Dutra & Lyons-Ruth, 2005; Grossmann, Grossman, & Waters, 2005). According to Mikulincer & Shaver (2007a), insecure attachment can involve the use of either hyperactivating or deactivating strategies. Hyperactivating strategies can include clinging or controlling behavior, overdependence on the relationship partner for comfort, and exaggeration of threats and problems. Deactivating strategies can include avoiding emotional involvement and suppression of thoughts and fears related to separation, rejection and abandonment (Mikulincer & Shaver, 2007a, p.41). Thus, it is expected that this study will confirm this by finding that insecure attachment styles will predict higher levels of depression and anxiety.

Dispositional gratitude has been linked with increased psychological health, well-being and life satisfaction (Emmons & McCullough, 2003; Tsang, 2006; Wood, Maltby, Gillett, Linley, & Joseph, 2008; Wood, Joseph, & Maltby, 2009) and lower levels of depression (Wood, et al., 2010). Dispositional gratitude involves observing and valuing the positive aspects of the world (Wood, et al., 2010), it is likely that people who practice gratitude will feel happier or more content and as a result may
score lower on measures of psychopathology. In this study, we expect that higher levels of gratitude will be predictive of lower levels of depression and anxiety.

Self-compassion has consistently been linked to lower levels of psychopathology (Barnard, & Curry, 2011; MacBeth & Gumley, 2012; Terry, Leary, & Mehta; 2012; Sbarra, Smith & Mehl, 2012). Self-compassion involves showing kindness to the self and understanding that human suffering is universal (Neff, 2003) which may be protective against some symptoms of depression and anxiety such as having negative or judgmental thoughts about the self. Thus, it is expected that those people who are kind to themselves may experience less psychopathology. In addition, studies have also found that self-compassion is positively correlated with life satisfaction (Neff, 2003), social connectedness (Neff & McGehee, 2010), happiness and positive affect (Neff, Rude, & Kirkpatrick, 2007; Hollis-Walker & Colosimo, 2011). Thus, we predict that higher levels of self-compassion will predict lower levels of depression and anxiety.

Recent research has suggested that attachment related beliefs underlie a number of pro-social behaviours including dispositional gratitude (Dwiwardani, et al., 2014; Gordon, Impett, Kogan, Oveis, & Keltner, 2012; Mikulincer & Shaver, 2007b). Individuals with secure attachment styles have been found to score higher on appreciation and gratitude measures (Gordon, et al., 2012; Mikulincer & Shaver, 2007b; Mikulincer, Shaver, & Slav, 2006). This study aims to replicate the findings of the study by Murray and Hazelwood (2011) who found a significant, negative, but moderate relationship between anxious attachment and gratitude as well as avoidant attachment and gratitude.

MacBeth and Gumley (2012) found that participants with a secure attachment style scored higher on self-compassion measures. Secure attachment involves having a
positive view of oneself and others (Hazan & Shaver, 1987), which leads to greater self-acceptance, higher interconnectedness, and it is hypothesised that this would in turn lead to higher self-compassion. On the other hand, Neff and Beretvas (2012) found that insecure attachment styles are negatively associated with self-compassion. Other studies have explored the impact of insecure attachment and found that people with low self-compassion are more likely to come from dysfunctional families and have insecure attachment patterns (Neff & McGehee, 2010; Wei, Liao, Ku, & Shaffer, 2011). Thus, we expect that anxious and avoidant attachment expectancies will predict lower levels of self-compassion in participants.

It is anticipated that self-compassion will be positively related to gratitude. While no known research has linked self-compassion with gratitude, from a theoretical perspective, practicing self-compassion creates a greater capacity to feel compassion for others. It is suggested that self-compassion can also lead individuals to experience other prosocial attributes such as gratitude. Previous literature shows that gratitude is positively correlated with extraversion and agreeableness and is related to other trait-like measures of emotions such as hope, vitality, optimism, dispositional happiness, depression, anxiety and envy (Alder & Fagley, 2005; McCullough et al., 2002; Watkins et al., 2003). Based on these findings, it is hypothesised that self-compassion will predict gratitude.

The model proposes that gratitude will partially mediate the relationship between attachment and psychological health. Recent research has found that dispositional gratitude is influenced by attachment. Specifically, Mikulincer, et al. (2006) found that securely attached individuals who scored higher in gratitude were more likely to engage in prosocial behaviour. In addition, Murray and Hazelwood (2011) found a significant, negative, moderate relationship between (a) anxiety and
gratitude, and (b) avoidance and gratitude. This research provides a foundation for the exploration of gratitude as a partial mediator of the link between attachment insecurity and depression and anxiety.

Self-compassion is also suggested to be a partial mediator of the attachment and psychological health relationship. Wei et al. (2011) explored the association between attachment anxiety and subjective well-being and found that self-compassion mediated this relationship. Vettese, Dyer, Li, and Wekerle (2011) found that self-compassion mediates the relationship between childhood mistreatment and later emotional dysregulation, suggesting that those with higher levels of self-compassion were better able to cope with upsetting events. Based on this, we expect that self-compassion will partially mediate the link between attachment insecurity and depression and anxiety.

[Insert Figure 1 here]

Method

Participants

The participants consisted of 206 members of the general public (162 women and 44 men). Recruitment involved advertising the study through appropriate social media and research volunteer registers. Ages ranged from 18 to 82 years (M = 39, SD = 15.3). At the time of the study, 75.2% of participants reported being in a committed romantic relationship and 24.8% participants reported that they were not. Of those who were in a relationship, 87.7% had been in this relationship for two or more years. When asked about ethnicity, most participants reported that they were Australian (51%) or European Australian (41.3%). The most common occupations reported by
participants were, office worker (10.6%), retired (9.3%), student (8.7%), teacher (8.2%), and psychologist (7.8%).

Measures

Demographic data. This included questions about the participant’s age, gender, ethnicity, main occupation, and their romantic relationships status.

Self-compassion. Self-compassion was assessed with the Self-Compassion Scale (SCS) which consists of 26 items, each rated on a five point Likert scale. There are six subscales, all of which have been found to have high test-retest reliability: Self-kindness ($r = .88$), Self-judgment ($r = .88$), Common Humanity ($r = .80$), Isolation ($r = .85$), Mindfulness ($r = .85$), Over-identification ($r = .88$), and the SCS overall score of .93 (Neff, 2003). In addition to this study, previous research indicates a high internal reliability and strong validity (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, 2003; Neff, Kirkpatrick, & Rude, 2007; Neff, Rude, & Kirkpatrick 2007). In the current study, the overall SCS was employed (alpha coefficient = .95).

Attachment. Attachment expectancies were assessed with the Attachment Style Questionnaire (ASQ) (Feeney, Noller, & Hanrahan, 1994) which has 40 items rated on a six-point scale. The ASQ measures five dimensions: lack of confidence, discomfort with closeness, need for approval and confirmation by others, preoccupation with relationships, and viewing relationships as secondary (Mikulincer & Shaver, 2007b). Feeney et al. (1994) reported alpha coefficients for the ASQ ranging from .76 to .84. For this study, the two factor model of the ASQ was employed: ASQ Avoidance and ASQ Anxiety (Karantzas, Feeney, & Wilkinson, 2010). In the current study, the alpha coefficient for ASQ Avoidance (16 items) was .878 and the alpha coefficient for ASQ Anxiety (13 items) was .880.
Dispositional gratitude. Gratitude was measured with the Gratitude Questionnaire-Six Item Form (GQ-6), a self-report 6 item questionnaire designed to assess individual differences regarding experience of gratitude in everyday life (McCullough et al., 2002). Items are rated on a 7-point Likert scale. Cronbach’s alpha estimates for the scale have ranged from .76 to .84 (McCullough et al., 2002; Murray, & Hazelwood, 2011). In the current study, the alpha coefficient was .81.

Depression and anxiety. Depression and anxiety were evaluated with the appropriate scales from the Depression, Anxiety, and Stress Scales (DASS-21: Lovibond & Lovibond, 1995), which has 21 items rated on a 4-point Likert scale. The higher the participants score, the higher the level of distress. Lovibond and Lovibond (1995) report high Cronbach’s alpha values: Depression (r = .81) and Anxiety (r = .73). In the current study, the alpha coefficients were: Depression (r = .90), and Anxiety (r = .81).

Procedure

Participants completed the self-report online survey, which included the above measures. Participants from the general public who completed the online survey were offered a $10 voucher for an online store. Participants were also recruited via the Hunter Medical Research Institute (HMRI). A letter including the survey web link was sent to members of the HMRI volunteer register inviting them to participate. HMRI participants were not offered any monetary reimbursement for completing the online survey.

The survey took approximately 45 minutes to complete. Participation was voluntary and informed consent was obtained electronically after participants read the opening information statement of the survey. The University of Newcastle Human Ethics Committee approved the study.
Results

Data screening was conducted with univariate outliers located and deleted. To identify multivariate outliers, the procedure outlined by Tabachnik and Fidell (2007) was followed. The Mahalanobis’ distance ($\chi^2 = 26$) procedure resulted in deleting 7 cases. Histograms were used to check for normal and non-normal distribution. The self-compassion scale and avoidant attachment scales were normally distributed, however, the remaining four measured variables (gratitude, anxious attachment, anxiety and depression) were significantly univariately skewed, $p < .001$. This is to be expected for population samples of these variables. The standard errors were adjusted to the extent of the non-normality.

Descriptive Statistics

Means, standard deviations, and correlations based on 206 cases are presented in Table 1. All measured variables demonstrated a significant correlation ($p < 0.01$) with the other measured variables. The pattern of relationships between the attachment dimensions, depression, anxiety, self-compassion, and gratitude was reasonably consistent with a number of medium to large effect sizes present. The significant negative correlation between anxious attachment and self-compassion had the largest effect size ($r = -.643, p = 0.01$). Self-compassion and gratitude were significantly positively correlated with a medium effect size ($r = .391, p = 0.01$).

[Insert Table 1 here]

Mediation Effects

The hypothesised model (see Figure 1) was evaluated using the AMOS (Version 22) implementation of Structural Equation Modeling (SEM). Given the modest sample size, manifest variables were employed instead of measurement
models. The emphasis of the analysis was on the mediation effects in the model rather than model fit. A Bootstrapping approach with 2000 resamples was conducted to determine the 95% Confidence Intervals (CI) in order to conclude the significance of direct and indirect effects. The effect or path was considered to be significant at the .05 level when the CI did not include zero (Shrout & Bolger, 2002).

**Hypothesised model 1: predicting depression.** The hypothesised model predicting depression is a ‘just-identified’ model so model-fit could not be assessed (Byrne, 2013). The direct paths generated for the hypothesised model were evaluated and a stepwise procedure implemented that involved identifying non-significant paths with the lowest standardized $\beta$ and removing them one by one until all paths in the model were statistically significant. The resulting fit statistics for the depression model are presented in Table 2. In model 1, the path from avoidant attachment to depression was removed. In model 2, the path from anxious attachment to gratitude was removed.

[Insert Table 2 here]

In the final model (see Figure 2), 28% of the variance in gratitude was accounted for, 44% of the variance in self-compassion was accounted for, and 38% of the variance in depression was accounted for. Next, all of the direct, indirect and total effects were examined. The $\beta$ values and bootstrap confidence intervals for each path are reported in Table 3.

**Direct effects.** Attachment avoidance and attachment anxiety were highly correlated thus there was a large positive covariance between these variables in the model. Consistent with the hypothesised model, there was a moderate, negative direct effect between attachment avoidance and gratitude. In addition, there was a small yet
significant negative direct effect between attachment avoidance and self-compassion. As expected, there was a large negative direct effect between attachment anxiety and self-compassion. A small yet significant positive direct effect was present between attachment anxiety and depression. Contrary to the proposed model, there was no direct path from attachment anxiety to gratitude. Similarly, there was no direct path from attachment avoidance to depression. As predicted, there was a small yet significant negative direct effect from gratitude to depression. There was a moderate negative direct effect from self-compassion to depression. These results support the proposition that self-compassion would have a positive direct effect to gratitude. Although the direct effect was small it was still significant.

**Indirect effects.** The final model indicated a small and positive indirect effect from attachment avoidance to depression through both gratitude and self-compassion. There was no direct effect from attachment avoidance to depression in the final model. Therefore, the positive psychology constructs of self-compassion and gratitude fully mediated the relationship between attachment avoidance and depression.

The final model indicated a positive and small indirect effect from attachment anxiety to depression. This comprised of an indirect effect through self-compassion and an indirect effect through both self-compassion and gratitude. There was no direct effect from anxious attachment to gratitude. As there was a direct effect from anxious attachment to depression, self-compassion and gratitude are partial mediators of the relationship between attachment anxiety and depression.

A very weak indirect effect from attachment avoidance to gratitude through self-compassion was evident in the model. Though technically statistically significant, it was deemed to be too small to be interpretable. There was also a weak and negative indirect effect of attachment anxiety on gratitude through self-compassion. As there
was no direct path from anxious attachment to gratitude this indicates self-compassion fully mediates the relationship between anxious attachment and gratitude.

Hypothesised model 2: predicting anxiety. The hypothesised model predicting anxiety was also classified as ‘just-identified’ so the model-fit was not assessed. The same step-wise procedure as described above was employed in order to modify the model (see Table 4). In model 1, the path from anxious attachment to anxiety was removed. In model 2, the path from gratitude to anxiety was removed. In model 3, the path from anxious attachment to gratitude was removed. In model 4, the path from avoidant attachment to anxiety was removed. Deletion of these four paths resulted in the final model with the outcome variable of anxiety (see Figure 3).

In the final model, 28% of the variance in gratitude, 44% of the variance in self-compassion, and 20% of the variance in anxiety was accounted for. Next, all of the direct and indirect effects were examined. The $\beta$ values and confidence intervals for each path are reported in Table 5.

Direct effects. As expected, there was a large positive covariance between attachment avoidance and attachment anxiety. Similar to the model predicting depression, there was a moderate negative direct effect between attachment avoidance
and gratitude. In addition, there was a small yet significant negative direct effect between attachment avoidance and self-compassion. As expected, there was a large negative direct effect between attachment anxiety and self-compassion. As predicted, there was a moderate negative direct effect from self-compassion to anxiety.

This model differs from the proposed model as several paths were deleted. There was no direct path from anxious attachment and anxiety and there was no direct path from avoidant attachment to anxiety. There was no direct path from gratitude to anxiety and there was no direct path from anxious attachment to gratitude. Similar to the Depression model, results showed a small but significant positive direct effect from self-compassion to gratitude.

**Indirect effects.** The final model indicated a small and positive indirect effect from anxious attachment to anxiety through self-compassion. As there was no direct effect from anxious attachment to anxiety in the final model, this indicates that self-compassion is a full mediator of the relationship between anxious attachment and anxiety. Results also indicated a weak and negative indirect effect from anxious attachment to gratitude through self-compassion. As there was no direct effect from anxious attachment to gratitude, this indicated the link from attachment anxiety to gratitude is fully mediated by self-compassion.

There was a weak, positive indirect effect from avoidant attachment to anxiety through self-compassion. As there was no direct path from avoidant attachment to anxiety, this supports self-compassion as a full mediator of the path from avoidant attachment to anxiety. A very weak indirect effect from attachment avoidance to gratitude through self-compassion was evident in the model. Though technically statistically significant, it was deemed too small to be interpretable.

[Insert Table 5 here]
Discussion

The purpose of this study was to explore the relationships between attachment, self-compassion, gratitude and psychological health. The results generally support the proposed mediation model in relation to direct and indirect effects. Overall, the mediation models accounted for more variance in self-reported depression symptoms (38%) than anxiety symptoms (20%) and there were some clear structural differences in the final models of the two indicators of psychological health examined. One key difference was that in the depression model there was a significant direct path from gratitude to depression but in the anxiety model the equivalent path was not supported. Thus, in the model predicting anxiety, there was no indirect effect from avoidant attachment to anxiety through gratitude.

Unexpectedly, there was no direct path from anxious attachment to anxiety in the final model, even though there was a positive moderate correlation between anxious attachment and anxiety in the correlation matrix. This is a significant finding as it demonstrates that the path from anxious attachment to anxiety was fully mediated by self-compassion. Consistent with previous literature (e.g., Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011; Wei, et al., 2011; Neff, 2004) this finding supports the proposed role of self-compassion in reducing anxiety, especially for people with insecure attachment. Alternatively, in the model predicting depression, there was a direct relationship from anxious attachment to depression and self-compassion was found to be a weak partial mediator of this relationship. This finding is consistent with previous literature (Vettese, Dyer, Li, & Wekerle, 2011).
Another difference between the models was that gratitude mediated the relationship between avoidant attachment and depression but not avoidant attachment and anxiety. In the final model predicting anxiety, there was an indirect effect from avoidant attachment to anxiety through self-compassion. Self-compassion was found to fully mediate the avoidant attachment – anxiety relationship. This finding is consistent with previous literature (Raque-Bogdan, et al., 2011; Neff, 2004; Wei, et al., 2011). In the final model predicting depression, there was an indirect effect from avoidant attachment to depression through both self-compassion and gratitude. Here, self-compassion and gratitude were found to fully mediate this relationship. This finding is also consistent with previous literature (Duggal, et al., 2001; Murray & Hazelwood, 2011; Wood, et al., 2008).

Unsurprisingly, the models were also quite similar in some ways. For example, in both models, avoidant and anxious attachment styles were good predictors of gratitude. This finding is consistent with the results from Murray and Hazelwood’s (2011) study that found a negative but moderate relationship between anxious attachment and gratitude as well as avoidant attachment and gratitude. Similarly, in both models, avoidant and anxious attachment styles were good predictors of self-compassion. This finding is consistent with previous literature that found secure attachment increases levels of self-compassion (MacBeth & Gumley, 2012) and insecure attachment is negatively associated with self-compassion (Neff & Beretvas, 2012; Neff & McGehee, 2010; Wei, et al., 2011).

These results support the idea that individual differences in self-compassion and gratitude stem from early attachment experiences. Without a secure base to explore the world (Ainsworth, 1963), insecurely attached individuals may develop a negative sense of self and other (Bartholomew & Horowitz, 1991). In turn, making it
harder for them to show compassion towards the self and to feel grateful towards others. The results also support Mikulincer and Shaver’s (2007a) control systems model that posits that following the trigger of a non-responsive attachment figure, insecurely attached individuals expend energy on hyperactivating and deactivating strategies. In turn, strengthening their negative beliefs of both themselves and others and making it harder to be self-compassionate or grateful. This theory aligns with the results of the study in that insecure attachment predicts lower levels of both self-compassion and gratitude.

Further, a direct path from self-compassion to gratitude was evident in both models. There was not only a moderate positive correlation between self-compassion and gratitude, but self-compassion was found to be a significant predictor of gratitude, with direct effects present in both models. Although the direct effects were small, the positive significant path is a new finding that adds to the literature and should be replicated to ensure reliability of the results.

**Limitations**

There are some limitations to keep in mind when interpreting these results. The sample size was quite small with only 206 participants. The ethnic diversity of the sample was limited as 92.3% of participants identified as either Australian or European Australian, possibly limiting the generalizability of the results to other cultures. The cross-sectional correlational data in this study also presents limitations in establishing the casual relationships implied by the mediational model. The certainty of these relationships cannot be ensured in this cross-sectional design and future research employing longitudinal and/or experimental or intervention method is required in order to confirm these findings.
Another limitation is that secure attachment and a positive outcome measure of psychological health were not included in the modeling analysis. Therefore the results from the current study are specific to insecure attachment and its impact on depression and anxiety and further research is required focusing on secure attachment measures and psychological well-being indicators to confirm their role with regard to self-compassion, gratitude and psychological health. A further limitation is that the study is based solely on self-report measures and there is some debate over interpretations of such measures of attachment expectancies (e.g. Roisman, 2009). Other assessment methodologies, such as the Adult Attachment Interview (George, Kaplan, & Main, 1996) may produce different relationships with the constructs investigated here.

Despite these limitations, there were several strengths of the research. Participants were sourced from a community sample. The age range was also substantial which means that the results are more generalizable across the adult lifespan. All of the measures used were reliable, valid and well established in the literature. Furthermore, a multivariate approach was used to study multiple relationships between multiple independent and dependent variables. Using a multivariate approach was another strength of the research as it provided multiple levels of analysis, assisted with explanation, prediction and determining how well the model fits the data, which in turn provides a better and more realistic understanding of the relationships between the variables (Marcoulides & Hershberger, 2014).

**Future Research**

It may be beneficial for this study to be replicated with adults from more diverse ethnic backgrounds, other geographic locations and various socioeconomic statuses to determine whether similar relationships between attachment, gratitude, self-compassion and psychological health exist. The results in this study would likely be
strengthened by additional research in the form of an experimental design or an intervention study designed to assist participants to increase their levels of gratitude or self-compassion to determine the impact on psychological health. While this was not a treatment study, the results are consistent with the idea that boosting self-compassion is beneficial for reducing anxiety and to a lesser extent, depression.

One of the key findings of the study was the existence of a small yet significant positive direct effect from self-compassion to gratitude in both models. The relationship between self-compassion and gratitude should be further explored in future research to determine reliability of the results.

The mediating effects of self-compassion and gratitude provide one explanation for why people with insecure attachment styles have varying levels of self-compassion and gratitude and how this impacts on depression and anxiety. Future research could focus on other potential mediators of the attachment – psychological health relationship in order to gain a better understanding of these processes and how they can be applied to clinical practice.

**Implications for Clinical Practice**

The results suggest that self-compassion and gratitude are promising targets of therapeutic intervention. The current study found that self-compassion was strongly related to depression. Specifically, higher levels of self-compassion lead to lower levels of depression. Gratitude was also related to depression but to a lesser extent. This identifies self-compassion as a potentially important positive psychology skill with regard to the treatment of depression. This finding adds to the existing research exploring the impact of self-compassion interventions to reduce psychopathology, specifically showing significant reductions in depression (Adams & Leary, 2007; Beaumont, et al., 2012; Gilbert, & Proctor, 2006).
Clinical implications for the treatment of anxiety were also evident. One of the key findings in the study was that self-compassion fully mediated the relationship between attachment insecurity and anxiety. Thus, higher levels of self-compassion resulted in lower levels of anxiety. When treating anxiety, practitioners may benefit from exploring clients’ working models of self and others and how this may impact on attempts to develop a more compassionate approach both towards themselves and to others.

Conclusion

This study examined two positive psychology constructs, self-compassion and gratitude as possible mediators of the relationship between attachment insecurity and both depression and anxiety. The results supported the view that expectations of relationships based on attachment contribute to people’s experience of compassion towards the self and gratefulness of others. Self-compassion and gratitude were linked to psychological outcomes; self-compassion in particular was a strong predictor of depression and anxiety. This study forms a foundation for further exploration of how our early life experiences influence our ability to be self-compassionate and grateful and impact our psychological health.

References


Dwiwardani, C., Hill, P. C., Bollinger, R. A., Marks, L. E., Steele, J. R., Doolin, H.


Raque-Bogdan, T. L., Ericson, S. K., Jackson, J., Martin, H. M., & Bryan, N. A.


Empathy, and Subjective Well-Being Among College Students and Community Adults. *Journal of Personality, 79*, 191-221. doi:10.1111/j.1467-6494.2010.00677.x


Table 1

*Significant at the 0.05 level

Table 1

Descriptive statistics and Pearson’s correlation coefficients of the variables

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>1. Avoidant attachment</td>
<td>2.95 (0.62)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>2. Anxious attachment</td>
<td>3.07 (0.76)</td>
<td>.62*</td>
<td>1</td>
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<td></td>
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<td></td>
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<td>3. Self-compassion</td>
<td>3.37 (0.74)</td>
<td>-.52*</td>
<td>-.64*</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Gratitude</td>
<td>6.18 (0.68)</td>
<td>-.51*</td>
<td>-.41*</td>
<td>.39*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Depression</td>
<td>9.90 (3.19)</td>
<td>.44*</td>
<td>.52*</td>
<td>-.55*</td>
<td>-.40*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Anxiety</td>
<td>9.63 (3.22)</td>
<td>.34*</td>
<td>.33*</td>
<td>-.45*</td>
<td>-.24*</td>
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</table>
### Table 2

**Model fit statistics for the dependent variable: Depression**

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p</th>
<th>AGFI</th>
<th>CFI</th>
<th>RMSEA</th>
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<tbody>
<tr>
<td>Hypothesised model</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
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<td>.405</td>
<td>.980</td>
<td>1.00</td>
<td>.000</td>
</tr>
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<td>Model 2</td>
<td>1.54</td>
<td>2</td>
<td>.463</td>
<td>.977</td>
<td>1.00</td>
<td>.000</td>
</tr>
</tbody>
</table>

Model 1: removed path from avoidant attachment to depression  
Model 2: removed path from anxious attachment to gratitude
Table 3

Standardised path coefficients ($\beta$) and 95\% Bootstrap Confidence Intervals: Depression Model

<table>
<thead>
<tr>
<th></th>
<th>Anxious attachment</th>
<th>Avoidant attachment</th>
<th>Self-compassion</th>
<th>Gratitude</th>
</tr>
</thead>
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<tr>
<td><strong>Standardised</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Direct Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-compassion</td>
<td>$\beta = -.52 , [-.662, -.367]$</td>
<td>$\beta = -.20 , [-.341, -.057]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratitude</td>
<td>$\beta = -.42 , [-.545, -.284]$</td>
<td>$\beta = .17 , [.029, .306]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>$\beta = .24 , [.105, .358]$</td>
<td>$\beta = -.33 , [-.454, -.210]$</td>
<td>$\beta = -.18 , [-.307, -.053]$</td>
<td></td>
</tr>
<tr>
<td><strong>Indirect Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-compassion</td>
<td>$\beta = -.09 , [-.177, -.017]$</td>
<td>$\beta = -.03 , [-.087, -.006]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratitude</td>
<td>$\beta = .19 , [.111, .300]$</td>
<td>$\beta = .15 , [.072, .248]$</td>
<td>$\beta = -.03 , [-.075, -.066]$</td>
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<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Effects</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Self-compassion</td>
<td>$\beta = -.52 , [-.662, -.367]$</td>
<td>$\beta = -.20 , [-.341, -.057]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratitude</td>
<td>$\beta = -.09 , [-.177, -.017]$</td>
<td>$\beta = -.46 , [-.564, -.328]$</td>
<td>$\beta = .17 , [.029, .306]$</td>
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<tr>
<td>Depression</td>
<td>$\beta = .43 , [.305, .531]$</td>
<td>$\beta = .15 , [.072, .248]$</td>
<td>$\beta = -.36 , [-.490, -.240]$</td>
<td>$\beta = -.18 , [-.307, -.053]$</td>
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</table>
### Table 4

*Model fit statistics for the dependent variable: Anxiety*

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p</th>
<th>AGFI</th>
<th>CFI</th>
<th>RMSEA</th>
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<tr>
<td>Hypothesised model</td>
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<td></td>
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<td></td>
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<tr>
<td>Model 1</td>
<td>.00</td>
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<td>.995</td>
<td>1.00</td>
<td>1.00</td>
<td>.000</td>
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<td>Model 2</td>
<td>.12</td>
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<td>.941</td>
<td>.998</td>
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<td>.000</td>
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<tr>
<td>Model 3</td>
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<td>.808</td>
<td>.991</td>
<td>1.00</td>
<td>.000</td>
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<tr>
<td>Model 4</td>
<td>4.82</td>
<td>4</td>
<td>.307</td>
<td>.965</td>
<td>.997</td>
<td>.032</td>
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</table>

Model 1: removed path from anxious attachment to anxiety  
Model 2: removed path from gratitude to anxiety  
Model 3: removed path from anxious attachment to gratitude  
Model 4: removed path from avoidant attachment to anxiety
Table 5

Standardised path coefficients ($\beta$) and 95% Bootstrap Confidence Intervals: Anxiety Model

<table>
<thead>
<tr>
<th></th>
<th>Anxious attachment</th>
<th>Avoidant attachment</th>
<th>Self-compassion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standardised</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Direct Effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-compassion</td>
<td>$\beta = -0.52 \ [\ -0.662, -0.367]$</td>
<td>$\beta = -0.20 \ [\ -0.341, -0.057]$</td>
<td></td>
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<tr>
<td>Anxiety</td>
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<tr>
<td>Gratitude</td>
<td>$\beta = -0.42 \ [\ -0.545, -0.284]$</td>
<td>$\beta = 0.17 \ [\ 0.029, 0.306]$</td>
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<tr>
<td><strong>Indirect Effects</strong></td>
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</tr>
<tr>
<td>Self-compassion</td>
<td>$\beta = 0.23 \ [\ 0.104, 0.306]$</td>
<td>$\beta = 0.09 \ [\ 0.025, 0.140]$</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>$\beta = 0.09 \ [\ -0.177, -0.017]$</td>
<td>$\beta = 0.03 \ [\ -0.087, -0.006]$</td>
<td></td>
</tr>
<tr>
<td>Gratitude</td>
<td>$\beta = -0.09 \ [\ -0.177, -0.017]$</td>
<td>$\beta = -0.46 \ [\ -0.564, -0.328]$</td>
<td>$\beta = 0.17 \ [\ 0.029, 0.306]$</td>
</tr>
<tr>
<td><strong>Total Effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-compassion</td>
<td>$\beta = -0.52 \ [\ -0.662, -0.367]$</td>
<td>$\beta = -0.20 \ [\ -0.341, -0.057]$</td>
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</tr>
<tr>
<td>Anxiety</td>
<td>$\beta = 0.23 \ [\ 0.148, 0.324]$</td>
<td>$\beta = 0.09 \ [\ 0.027, 0.161]$</td>
<td>$\beta = -0.45 \ [\ -0.539, -0.342]$</td>
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<tr>
<td>Gratitude</td>
<td>$\beta = -0.09 \ [\ -0.177, -0.017]$</td>
<td>$\beta = -0.46 \ [\ -0.564, -0.328]$</td>
<td>$\beta = 0.17 \ [\ 0.029, 0.306]$</td>
</tr>
</tbody>
</table>
Figure 1

Figure 1. A proposed partial mediation model illustrating the hypothesised paths between avoidant attachment, anxious attachment, self-compassion, gratitude and psychological health.
Figure 2

Figure 2. Final mediation model predicting depression

*** p ≤ 0.001   ** p ≤ 0.01   * p ≤ 0.05
Figure 3

Avoidant Attachment

Anxious Attachment

Gratitude

Self-compassion

Anxiety

-.42***

.29***

-.52***

.17**

-.20**

-.45***

Figure 3. Final mediation model predicting anxiety

*** \( p \leq 0.001 \)  ** \( p \leq 0.01 \)  * \( p \leq 0.05 \)
Appendix A

Participant Information Statement and Consent Form

How do interpersonal relationships affect our attitudes, beliefs, and psychological health?

Thank you for checking out our survey. Before you start the survey 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 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 online voucher for participating in the research. If you decide you don’t 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 questionnaire/survey should take approximately 40-50 minutes 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 project at any time. You can also contact Lifeline on 131114 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 be 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 to confirm that you have read and understood the information we have given you.

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 this research

This project has been approved by the University’s Human Research Ethics Committee, Approval No. 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) 49216333, email Human-Ethics@newcastle.edu.au.

Consent Form

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 in the Information Statement which I have read and understood. I understand I can withdraw from the project 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 B

End of Survey Statement

Thank you for your participation in this survey. This survey is collecting data to explore the relationship between individual’s attachment within relationships and their psychological well-being, with particular interest as to how this is influenced by emotion regulation, mindfulness, resilience, hope, gratitude, and self compassion.

If participating in this survey has caused you any distress, please contact: Lifeline 13 11 14 or BeyondBlue 1300 22 4636 or (www.beyondblue.org.au).

If you have any further questions, you may contact the Chief Investigator, Associate Professor Ross Wilkinson or the University of Newcastle Human Ethics Committee: human-ethics@newcastle.edu.au

Thank you,
Dr Ross Wilkinson
Associate Professor of Clinical Psychology
School of Psychology, Behavioural Sciences Building
University of Newcastle
NSW 2308
Australia
Phone: (02) 4921 6947
Fax: (02) 4921 6980
Email: ross.wilkinson@newcastle.edu.au

Submit your survey. Thank you for completing this survey.
Appendix C

Survey Measures

Demographics

The next few questions ask about your basic information. None of this information will be identifiable.

1. Gender
   o Female
   o Male
   o Other: __________

2. Age (in years): ________

3. What ethnicity or cultural background do you identify with most? __________

4. What is your main occupation? _________________

5. Are you in a relationship?
   o No
   o Yes

6. Which best describes your relationship? [Only answer this question if the answer was ‘yes’ at Question 5]
   o Married
   o Defacto
   o Dating
   o Other: _______________

7. How long have you been in this relationship? [Only answer this question if the answer was ‘yes’ at Question 5]
   o Less than 6 months
   o 6-12 months
   o 1-2 years
   o Longer than 2 years

8. Do you regularly meditate?
   o Yes
   o No

9. What type of meditation do you usually engage in? [Only answer this question if the answer was ‘yes’ at Question 8] _________________

10. How often do you meditate? [Only answer this question if the answer was ‘yes’ at Question 8]
      o Everyday
11. Do you practice yoga?
   o Yes
   o No

12. How often do you practice yoga? [Only answer this question if the answer was ‘yes’ at Question 11]
   o Everyday
   o Most days
   o Once a week
   o Less than once a week

13. What type of yoga do you generally practice? [Only answer this question if the answer was ‘yes’ at Question 11] ____________________
ATTACHMENT STYLE QUESTIONNAIRE

Show how much you agree with each of the following items by rating them on this scale:
1 = totally disagree; 2 = strongly disagree; 3 = slightly disagree; 4 = slightly agree; 5 = strongly agree; or 6 = totally agree. Circle one number for each item.

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating 1</th>
<th>Rating 2</th>
<th>Rating 3</th>
<th>Rating 4</th>
<th>Rating 5</th>
<th>Rating 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Overall, I am a worthwhile person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2 I am easier to get to know than most people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3 I feel confident that other people will be there for me when I need them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4 I prefer to depend on myself rather than other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5 I prefer to keep to myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6 To ask for help is to admit that you are a failure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7 People's worth should be judged by what they achieve.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8 Achieving things is more important than building relationships.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9 Doing your best is more important that getting on with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10 If you've got a job to do, you should do it no matter who gets hurt.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11 Its important to me that others like me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12 It's important to me to avoid doing things that others won’t like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13 I find it hard to make a decision unless I know what other people think.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14 My relationships with others are generally superficial.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15 Sometimes I think I am no good at all.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16 I find it hard to trust other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17 I find it difficult to depend on others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18 I find that others are reluctant to get as close as I would like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19 I find it relatively easy to get close to other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20 I find it easy to trust others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21 I feel comfortable depending on other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>22 I worry that others won’t care about me as much as I care about them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>23 I worry about people getting to close.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>24 I worry that I won’t measure up to other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25 I have mixed feelings about being close to others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>26 While I want to get close to others, I feel uneasy about it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>27 I wonder why people would want to be involved with me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>28 Its very important to have a close relationship.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>29 I worry a lot about my relationships.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>30 I wonder how I would cope without someone to love me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>31 I feel confident about relating to others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>32 I often feel left out or alone.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>33 I often worry that I do not really fit in with other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>34 Other people have their own problems, so I don’t bother them with mine.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>35 When I talk over my problems with others, I generally feel ashamed or foolish.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>36 I am too busy with other activities to put much time into relationships.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>37 If something is bothering me, others are generally aware and concerned.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>38 I am confident that other people will like and respect me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>39 I get frustrated when others are not available when I need them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>40 Other people often disappoint me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
The Gratitude Questionnaire-Six Item Form (GQ-6)

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1 = strongly disagree
2 = disagree
3 = slightly disagree
4 = neutral
5 = slightly agree
6 = agree
7 = strongly agree

___1. I have so much in life to be thankful for.

___2. If I had to list everything that I felt grateful for, it would be a very long list.

___3. When I look at the world, I don’t see much to be grateful for.*

___4. I am grateful to a wide variety of people.

___5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.

___6. Long amounts of time can go by before I feel grateful to something or someone.*
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:

Almost never 1 2 3 4 5 Almost always

_____ 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.
**Depression Anxiety and Stress Scale**

Please rate each statement for how much it 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 – NEVER  
1  Applied to me to some degree, or some of the time – SOMETIMES  
2  Applied to be a considerable degree, or a good part of time – OFTEN  
3  Applied to me very much, or most of the time – ALMOST ALWAYS

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

Scope of the Chosen Journal

The *Journal of Social and Clinical Psychology* is devoted to the application of theory and research from social psychology toward the better understanding of human adaptation and adjustment, including both the alleviation of psychological problems and distress (e.g., psychopathology) and the enhancement of psychological well-being among the psychologically healthy. Topics of interest include (but are not limited to) traditionally defined psychopathology (e.g., depression), common emotional and behavioral problems in living (e.g., conflicts in close relationships), the enhancement of subjective well-being, and the processes of psychological change in everyday life (e.g., self-regulation) and professional settings (e.g., psychotherapy and counseling). Articles reporting the results of theory-driven empirical research are given priority, but theoretical articles, review articles, clinical case studies, and essays on professional issues are also welcome. Articles describing the development of new scales (personality or otherwise) or the revision of existing scales are not appropriate for this journal.

Appendix E

Manuscript Submission Guidelines

JOURNAL OF SOCIAL AND CLINICAL PSYCHOLOGY—INFORMATION FOR AUTHORS

All submissions must be made electronically (preferably in Microsoft Word format) to Thomas E. Joiner at joiner@psy.fsu.edu. Only original articles will be considered. Articles should not exceed 8,000 words (text and references). Exceptions may be made for reports of multiple studies. Abstracts should not exceed 200 words. Authors desiring an anonymous review should request this in the submission letter. In such cases identifying information about the authors and their affiliations should appear only on a cover page.

TABLES should be submitted in Excel. Tables formatted in Microsoft Word’s Table function are also acceptable. (Tables should not be submitted using tabs, returns, or spaces as formatting tools.)

FIGURES must be submitted separately as graphic files (in order of preference: tif, eps, jpg, bmp, gif; note that PowerPoint is not acceptable) in the highest possible resolution. Figure caption text should be included in the article’s Microsoft word file. All figures must be in black & white.

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REFERENCES: Authors should consult the publication manual of the American Psychological Association for rules on format and style. All research papers submitted to the Journal of Social and Clinical Psychology must conform to the ethical standards of the American Psychological Association. Articles should be written in nonsexist language. Any manuscripts with references that are incorrectly formatted will be returned by the publisher for revision.