

Dispositional Mindfulness and Emotion Regulation as Mediators of the Attachment and
Psychological Distress Relationship.

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Declarations

Statement of Originality

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Signed:

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Date

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Abstract

Scope: Previous research has shown that significant relationships exist between the constructs of attachment, psychological health, mindfulness, and emotion regulation. It is well established that attachment security influences an individual's dispositional mindfulness, which in turn mediates the relationship between attachment and psychological health (Ryan, Brown & Creswell, 2007) and that emotion regulation mediates the relationship between attachment and psychological well-being. Further more, emotion regulation can account for the differences in mindfulness and attachment security (Pepping, Davis & O'Donovan, 2013). However, so far no model has been evaluated that predicts the relationship between all four constructs.

Purpose: The present study was designed to evaluate a model in which it was expected that mindfulness and emotion regulation would partially mediate the relationship between attachment insecurity and psychological distress. There were three main aims of the study: (1) to examine the particular relationship between attachment, psychological distress and mindfulness, (2) to examine the relationship between attachment, psychological distress and emotion regulation, and (3) to examine the mediation effects of mindfulness and emotion regulation on the relationship between attachment and psychological distress.

Methodology: 211 individuals were recruited from the general public and the Hunter Medical Research Institute (HMRI) volunteer database. The mean age of participants was 38.8 years ($SD = 15.2$), with 165 females and 46 males. An on-line questionnaire, which was part of a larger study, was administered using Lime Survey software. The questionnaire took approximately 40-60 minutes to complete and included a number of different measures, some of which were not relevant for the current study. Within this study, the following questionnaires were analyzed; The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006); The Attachment Styles Questionnaire (ASQ; Feeney, Noller & Hanrahan, 1994); The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) and the Depression Anxiety and Stress Scale – 21 (DASS-21; Lovibond & Lovibond, 1995a, 1995b) as a measure of psychological distress.

Results: To examine the mediation hypotheses the indirect effects in the model were examined. The standardised indirect effects of attachment anxiety on psychological distress and emotion

regulation were .360 [95% CI: .240, .490] and .311 [95% CI: .236, .400] respectively. The former path supports a fully mediated link between attachment anxiety and psychological distress. The standardised indirect effect of mindfulness on psychological distress was -.304 [95% CI: -.398, -.226] indicating that emotion regulation fully mediates the path between these two variables. There was also an indirect effect of attachment avoidance on psychological distress of .064 [95% CI: .006, .126], which, while significant, was so weak as to be considered a non-effect. This indicates that emotion regulation does not mediate the path from attachment avoidance to psychological distress.

Conclusions: Correlations indicated that there were significant relationships between all constructs and the overall results of the SEM supported a modified version of the proposed partial mediation model. The main difference between the proposed and final model is the absence of direct effects between attachment anxiety and psychological distress and between mindfulness and psychological distress. The correlations showed a strong, positive relationship between attachment anxiety and psychological distress. However contrary to expectations, in the final model there is no direct effect between these two constructs. The relationship between attachment anxiety and psychological distress appears to be fully mediated by two indirect effects; one through emotion regulation, and the other through emotion regulation and mindfulness. Consistent with theory, both mindfulness and attachment anxiety are implicated in emotion regulation abilities (Pepping, Davis & O'Donovan, 2013) indicating that the relationship between attachment anxiety and psychological distress can be accounted for by emotion regulation and mindfulness abilities.

Implications of the larger work: The findings from the present study extend on prior research and add to the understanding of mindfulness and emotion regulation by revealing that the associations between attachment anxiety and psychological distress may be fully mediated by mindfulness and emotion regulation. The current study provides a platform for future research to explore the impact of interventions aimed at improving emotion regulation and mindfulness abilities in a general, non-clinical population, specifically in the context of attachment insecurity. As we know, insecure attachment can have a profound effect on levels of

psychological distress and well-being with the greater implications of this being a higher risk of psychopathology and lowered health outcomes (Karreman & Vingerhoets, 2012; La Guardia, Ryan, Couchman & Deci, 2000; Lavy & Littman-Ovadia, 2011). This study provides promising insights into the importance of emotion regulation and mindfulness abilities. In addition, focus and direction for the development of interventions aimed at strengthening these skills, and thus potential influences on the psychological well-being of the general population are inferred.

Literature Review

Mindfulness has begun to receive increasing attention in the field of clinical psychology. Its popularity has grown with evidence that it is associated with numerous benefits, such as, greater psychological well-being, self esteem (Brown & Ryan, 2003) and reduced emotional and cognitive disturbances (Bowlin & Baer, 2012). Mindfulness, typically defined as paying attention to the present moment in a non-judgmental, accepting manner (Kabat-Zinn, 1990), has been conceptualised as including two main components: the self-regulation of attention, and orientation and awareness of experiences (Bishop et al., 2004).

Attention and awareness are fundamental features of consciousness that allow for effective functioning. Awareness is often referred to as the background of consciousness, given one may be aware of internal or external stimuli without this stimuli being the focus of one's attention (Brown & Ryan, 2003). By contrast, attention is focused concentration, with a limited scope, to an experience or entity (Brown & Ryan, 2003). Awareness and attention are not mutually exclusive constructs rather they are interlinked. Attention is constantly bringing forth elements from the background of awareness and holding them in focus for a period of time.

The ability to self-regulate attention involves conscious awareness of the present moment, including thoughts, sensations, and feelings. Moreover, it requires skills such as sustaining focused attention, and 'switching' attention back to the focal point after distraction (Bishop et al., 2004). Self-regulation of attention also requires prevention of elaborative processing. Elaborative processing describes a natural tendency to become absorbed in one's thoughts, sensations and feelings, to ruminate, and to become enmeshed with associations and implications of experiences (Bishop et al., 2004). Conversely, orientation to experience describes an active practice of accepting any thoughts, feelings, and sensations that appear. Consciously resisting attempts to alter the experience through the adoption of a curious and non-judgmental stance towards that which is encountered (Kabat-Zinn, 1990). By being mindful, emotions and thoughts are interpreted and responded to as transient events occurring within the mind. This neutral observance allows one to *respond*, as opposed to habitually *react* (Bishop et al., 2004).

In terms of metacognitive ability, mindfulness allows individuals to experience thoughts and emotions as impermanent fleeting experiences, as opposed to stable states (Bishop et al., 2004). An increased metacognitive ability enhances an individual's ability to select their response to an event rather than being resigned to an automatic or habitual 'reaction'. This can result in an increased ability to tolerate painful or aversive feelings, thoughts, and experiences (Hargus, Crane, Barnhopper & Williams, 2010; Snyder, Shapiro & Treleaven, 2012).

As humans, our natural tendency is to avoid pain or unpleasant experiences, both internal and external. Mindfulness encourages the acceptance of, and the deliberate step towards each experience rather than their avoidance. A mindful approach often results in a decrease in suffering (Snyder, Shapiro & Treleaven, 2012). It is suggested that our judgement and resistance of negative feelings and emotions actually intensifies our experience of them (Hayes et al., 2004). Thus, by mindfully approaching and accepting, rather than judging the experience, one is able to have a less intense experience of the aversive stimuli, and a greater ability to draw on alternate responses to the situation. When less mindful, emotions may occur without awareness or prompt behaviours before one is even aware. When awareness and attention are divided, restricted or blunted in various ways (e.g., through multitasking, rumination, fantasies about the future, or preoccupied, or impulsive behaviours) mindfulness is diminished (Brown & Ryan, 2003).

Dispositional versus State Mindfulness

Contemporary literature conceptualises mindfulness as a skill that can be developed through practice but also as a trait or disposition that occurs naturally within the general population without intentional focus or active development. State mindfulness is argued to be achieved only through practiced mindfulness meditation training (Cahn & Polich, 2006). On the other hand, dispositional mindfulness refers to the differences in people's natural ability to maintain awareness and focused attention, as well as their willingness to engage in this behaviour (Brown & Ryan, 2003).

Dispositional mindfulness is demonstrated in everyday activities in varying levels across the population. Individuals who rate high in dispositional mindfulness tend to be less

reactive to their thoughts and emotions (Hayes, Strosahl & Wilson, 1999) and are argued to be able to respond more constructively, even in the presence of unpleasant thoughts and feelings, than those low in dispositional mindfulness. Brown and Ryan (2003) showed that higher scores of dispositional mindfulness were indicative of greater insight into emotional experiences, less anxiety, decreased rumination, and were negatively related to psychological distress indicated by depression, anxiety, and neuroticism. Dispositional mindfulness has also been positively correlated with autonomy and competence, increased pleasant affect, life satisfaction, and wellbeing (Branstrom et al., 2011; Keng, Smoski & Robins, 2011).

State mindfulness, on the other hand, focuses on actively cultivating conscious attention and awareness in the present moment (Brown & Ryan, 2003). Recent developments in psychological interventions have seen an increased use and inclusion of mindfulness meditation through strategies such as Mindfulness Based Cognitive Therapy (MBCT; Segal, Williams & Teasdale, 2002), which combines mindfulness training with cognitive therapy and has been found to be effective in treating relapse in depression. Dialectical Behaviour Therapy (DBT; Linehan, 1993) devotes significant attention to the development of state mindfulness and has been shown to significantly reduce behaviours of self-harm and suicidal ideation in chronically parasuicidal clients with borderline personality disorder (Linehan, Armstrong, Saurez, Allmon & Heard, 1991; Feliu-Soler et al., 2014). Mindfulness training also features heavily in Acceptance and Commitment Therapy (ACT; Hayes et al., 1999) where mindfulness meditation is used as a tool to decrease reactivity to present feelings of discomfort in order to facilitate a valued life despite the presence of discomfort and pain. In this review the focus is on dispositional mindfulness and the burgeoning literature on state mindfulness will not be addressed further.

The Assessment of Dispositional Mindfulness

There are a number of different ways in which dispositional mindfulness has been conceptualised and subsequently measured by self-report. The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) assesses one of the core components of mindfulness, an individual's level of attention to, and awareness of the present moment. The MAAS

incorporates an assessment of both mindfulness and mindlessness (inattention) across 15 statements. The Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith & Allen, 2004) is a self-report measure developed in line with DBT's (Linehan, 1993) conceptualisation of mindfulness and includes four main scales: Observing, Describing, Acting with Awareness and Accepting Without Judgement. It has shown good internal consistency and test-retest reliability. However, it has limited content coverage and was designed to assess state mindfulness. Baer et al. (2006) extended on the KIMS in the Five Facet Mindfulness Questionnaire (FFMQ) which includes a fifth dimension of Non-Reactivity to Inner Experiences, along with Observing, Describing, Non-Judging of Inner Experiences, and Acting with Awareness. The FFMQ includes a multi-faceted view of mindfulness and has been shown to have good psychometric properties. The FFMQ describes Observing as being aware and attentive to thoughts, sensations, and one's internal and external experiences. Describing refers to the process of using words to express or illustrate one's experiences. Non-judging of inner experiences involves taking a neutral stance towards all thoughts and feelings whilst stepping back from any judgements that the mind may produce such as 'good' or 'bad' etc. Awareness involves the focused attention on the present moment. Finally, non-reactivity to inner experiences involves the ability to experience thoughts and feelings as transient, letting them pass by, without becoming consumed, or absorbed in them. Baer and colleagues (2006) have demonstrated that these five factors or facets measure an individual's dispositional mindfulness and their strengths and weaknesses in the different aspects of the construct.

Mindfulness and Attachment

Although there is generally wide acceptance of individual differences in dispositional mindfulness there have been few attempts to explain the origins of these differences.

Attachment theory has been proposed as a possible framework for explaining the origins of differing mindfulness characteristics (Shaver, Lavy, Saron & Mikulincer, 2007). Attachment is conceptualised as the level of security an infant feels when in the presence of their care-giver. Through repeated experiences the infant develops an internal 'working model'. This model is based on a set of beliefs about whether the care-giver is likely to be responsive to their needs,

and whether they themselves are worthy of their needs being met (Bowlby, 1988). Attachment behaviours refer to the set of behaviours that the infant/child displays when attempting to gain support or comfort from their care-giver. The quantity of attachment behaviours displayed differs between children, and reflects the degree of danger the child perceives at any given time. This was first shown through the well-known Strange Situation experiment (Ainsworth et al., 1978). When separated and subsequently reunited with care-givers, infants tend to display one of three main attachment styles: secure, insecure-anxious, or insecure-avoidant. Infants showing secure attachment tend to be distressed upon their care-givers departure, and then on return seek proximity to the care-giver and are easily settled. Infants displaying an insecure-anxious attachment show ambivalence towards the care-giver upon return and a difficulty to be settled. While insecure-avoidant infants avoid the care-giver upon return and instead occupy themselves in an attempt to suppress their attachment needs (Ainsworth et al., 1978).

Bowlby (1973) proposed that individuals operate from these same working models in new, adult relationships. Continuity in attachment style is enacted across an individual's life, which demonstrates the importance of early life experiences (Collins & Read, 1990). Feeny and Noller (1990) support the theory of continuity in attachment style. They found that an adult's romantic relationships are directly influenced by their attachment style as developed in infancy. Secure attachment has been found to be associated with stable and fulfilling romantic relationships (Simpson, Collins, Tran & Haydon, 2007) while insecure attachment is associated with more emotionally volatile relationships, shorter relationships and a greater degree of relationship breakdown (Collins & Read, 1990; Hazan & Shaver, 1987; Monteolivia, Garcia-Martinez, Calvo-Salguero & Aguilar-Luzon, 2012). Therefore, developing a secure attachment is one of the most fundamental milestones for an infant.

Studies have shown relationships between attachment security and mindfulness. For example, lower levels of attachment insecurity are associated with higher dispositional mindfulness (Pepping, Davis & O'Donovan, 2013; Shaver, Lavy et al., 2007; Walsh, Balint, Smolira, Fredericksen & Madsen, 2009). A number of attachment-based theories explaining this relationship have been proposed. Of note is that of Ryan et al. (2007) who suggested that

sensitive and attentive care-giving in infancy leads to a secure attachment. This attachment allows for strong affectional bonds, a sense of security and trust, and an effective template of how to manage distress. This secure attachment allows for greater mindfulness to develop (Ryan et al., 2007). Rather than being preoccupied with attempting to have their attachment needs met, securely attached individuals can explore their environment with the knowledge that their care-giver is close by as a secure base. They have the opportunity to engage in a wide array of experiences with the knowledge that their distress will be attended to and validated. This creates the expectation that distress and aversive events are something that can be tolerated, thus creating a more accepting view of the moment and a greater ability to regulate one's emotional experience. Greater dispositional mindfulness abilities reduce an individual's likelihood of being overwhelmed with negative emotions, resulting in the individual being less reactive and able to respond more constructively.

On the other hand, individuals displaying high levels of attachment anxiety or attachment avoidance may become preoccupied by their attempts to satisfy their attachment needs, or hold the belief that such needs will never be met (Walsh et al., 2009). Subsequently, those with poor attachment security tend to be preoccupied with their internal state, which interrupts their ability to be mindful and present in the moment and their ability to tolerate and regulate their emotional experience (Schoore, 2008).

Mindfulness and Emotion Regulation

High dispositional mindfulness facilitates greater awareness and acceptance of emotions, less rumination and avoidance of unpleasant emotions and experiences, and is positively related to high emotion regulation abilities (Pepping et al., 2013). On the other hand, individuals who are lower in dispositional mindfulness tend to show difficulties in emotion regulation (Hayes & Feldman, 2004; Modinos, Ormel & Aleman, 2010). The link between mindfulness and emotion regulation is well established in the literature with numerous studies finding associations between the two constructs (Arch & Craske, 2006; Frewen et al., 2010; Pepping, et al., 2013). Low emotion regulation, or emotional dysregulation is associated with a number of mental health issues including mood disorders and anxiety (Barlow, 1986; Beck,

Rush, Shaw & Emery, 1979; Brenning & Braet, 2012; Campos, Campos & Barrett, 1989; Chiesa, Serretti & Jakobsen, 2013), lowered functioning in social situations and greater peer difficulties (Eisenberg & Fabers, 1992).

Emotion regulation is the process by which an individual can observe, recognise and consciously alter their emotional experience and/or maintain goal-directed behaviour in the presence of an emotion/s (Goodall, Trejnowska & Darling, 2012). It is an important tool for everyday life in order to maintain equilibrium within interpersonal relationships, personal well-being, and daily functioning (Karreman & Vingerhoets, 2012). Emotion regulation allows for the altering of behavioural impulses, including the experience and expression of emotions. It includes two main elements: reappraisal and suppression. The first involves re-evaluating the emotion as less intense, whilst suppression involves restricting the expression of the emotion. Previous research has found that suppression is negatively related to wellbeing whilst reappraisal is positively related to wellbeing (Gross & John, 2003).

Gross (1998) provides a comprehensive review of the several different ways that an individual regulates their emotions including situational selection, situation modification, attentional deployment, cognitive change and response modulation. Situation selection describes the process in which an individual will select certain situations depending on their goal (Goodall et al., 2012; Gross, 1998). For example, one might avoid a situation which they anticipate will be distressing, or one might seek out a family member or friend who they know is supportive and comforting in a time of need. Conversely, situation modification involves effort to alter the situation in a bid to modify the resulting emotions (Gross, 1998). For example, taking a friend along to a doctor's appointment for support.

Attentional deployment is a broad category of emotion regulation strategies including rumination, distraction and concentration, each with their own specific short and long-term trade-offs (Gross, 1998). Rumination involves focused attention on a particular experience/s and the associated feelings and consequences. Conversely, distraction involves deliberately diverting one's attention from certain emotional triggers, whether to less emotive elements of

the current situation or to a completely different set of stimuli. Concentration is the process of focusing attention in an attempt to utilise one's cognitive resources (Gross, 1998).

Cognitive change involves altering the perception of emotional encounters in order to regulate the emotional experience that follows. Examples include reframing or reappraisal, positive thinking, denial, and intellectualisation. The goal of each strategy is to alter the experience of the emotion by cognitively changing the interpretation of the causal event (Gross & John, 2003). Response modulation is the final strategy of emotion regulation, and occurs later in the emotional trajectory than other strategies. Response modulation involves attempts to alter the physical and experiential components of an emotion through strategies such as suppression, exercise, drugs, or alcohol. The primary goal of each emotion regulation strategy is to reduce negative or unpleasant emotional experiences and increase the experience of positive emotions (Goodall et al., 2012).

Gross and John (2003) proposed that the generation of an emotion starts with a specific evaluation or interpretation of what is referred to as emotion cues (i.e., internal or external stimuli). These evaluations lead to a unique set of behavioural and physiological responses, which become a coordinated response tendency. These response tendencies can be reinforced or extinguished over time. Lang (2010), in line with Gross (1998), suggested that the emotion regulation response tendencies can, at times, be either conscious or unconscious. Understanding emotion regulation strategies within this model allows for an easy distinction between different emotion regulation strategies as either being antecedent-focused, i.e., strategies employed prior to the emotion response tendencies being fully activated (e.g. distraction from triggering stimuli in order to avoid unpleasant emotions), or response-focused, strategies employed after the response tendency has been activated (e.g. use of alcohol to alter the experiential components of the emotional experience; Gross & John, 2003).

More recently, Gratz and Roemer (2004) conceptualised emotion regulation as a set of abilities, with an absence of any of these specific abilities reflecting a difficulty in emotion regulation. They proposed that emotion regulation includes six different, yet related facets; (1) Awareness of Emotions and Their Subsequent Responses, (2) Insight and Understanding of

Emotional Responses, (3) Acceptance of Emotions, (4) Diverse Range of Emotion Regulation Strategies, (5) Ability to Control Reflexive Behaviours in the Presence of Negative or Unpleasant Emotions, and (6) Ability to Engage in Goal-Directed Behaviour in Spite of Unpleasant or Negative Emotions.

There is some overlap between dispositional mindfulness and emotion regulation, namely the metacognitive abilities of insight and acceptance of emotional states (Goodall et al., 2012). Mindfulness can be conceptualised as an element of emotion regulation, by reducing avoidance and over engagement with emotions. This allows the person to act in a way which does not further exacerbate their emotional experience, as can occur from becoming overwhelmed and ‘stuck’ in an emotion (Hayes & Feldman, 2004).

The primary difference between mindfulness and emotion regulation relates to the concept of acceptance. Mindfulness encourages one to accept the presence of the emotion, simply experiencing without judgment, or attempting to alter or change the experience in any way (Hayes & Feldman, 2004). Conversely, one of the fundamental aims of emotion regulation is to reduce or inhibit unhelpful responses that result from the present emotion. At its very core, emotion regulation involves a judgment of the current emotion as either helpful or unhelpful and results in a decision as to whether to inhibit the emotional reaction or not (Hayes & Feldman, 2004). Furthermore emotion regulation processes can be automatic and/or unconscious at times (Gross, 1998), whilst mindfulness involves a distinct and deliberate focusing of attention.

Attachment and Emotion Regulation

Similar to mindfulness, the influence of early relationships is implicated in the development of emotion regulation abilities through the shared management of emotions within the child and care-giver relationship (Schorre, 2008). Care-givers help their young determine which emotional response will be most effective in attaining their goals, thus shaping the child’s ‘working models’ or expectations of the care-giver’s behaviour. Repeated experiences with the care-giver reinforce these working models (Mikulincer & Shaver, 2012). The child develops an understanding and ability to organise their emotional experience through communication with

their care-giver in which a context for emotions is developed. A responsive parent, through their sensitivity to their child's affect, sets up the expectation that emotions are effective in signalling the parent in times of distress. In turn, this enhances the child's ability to modulate their emotional state in order to meet their goals. The child comes to associate negative emotions, such as fear, with reparative efforts from their parent or care-giver. Through repeated experiences, the child learns to temporarily tolerate negative emotions, as mastery over the threatening or unpleasant situation is possible. Thus the child tends to experience negative events as less threatening (Cassidy, 1994).

One of the primary functions of the attachment relationship is the regulation of the infant's emotion arousal levels as initially infants are unable to do this for themselves. They rely completely on their significant care-giver/s to provide support, comfort and assistance to cope with distress. By caregivers responding sensitively to the child's emotional needs and distress, by accepting and showing a willingness to discuss emotional experiences, even the distressing ones, the beginnings of emotional awareness and emotion regulation skills are able to develop (Cassidy, 1994). Continuing to do so even as the child matures and develops their own ability to self-regulate is a feature of secure relationships.

Securely attached children experience a greater frequency of situations where their distress was responded to by their care-giver. Through learning by observation, they form a template of various ways to regulate their emotions and to self-soothe, thus developing greater emotion regulation abilities (Panfile & Laible, 2012). Siegel (2001) suggests mothers, or primary care-givers who are more aware of their own emotions are better able to tune into their child's attachment needs, and thus a more secure attachment is developed. In other words, a mother who is more mindful is better able to regulate her own emotions and able to model this for the child (Siegel, 2001).

Taking a more distal view, attachment can be conceptualised as an emotion regulation strategy (Cassidy, 1994). That is, attachment behaviours can be one of many strategies used to regulate one's emotions in a time of need. For example, seeking proximity to a care-giver in a distressing situation. There are three primary functions of attachment: 1) Secure Base; the child

uses the adult as a secure base from which to explore non-attachment behaviours, 2) Proximity Maintenance; staying close to care-giver and resisting separation from them, and 3) Safe Haven; the use of the care-giver for support and comfort in times of need (Cassidy, 1994). Research has shown that securely attached infants show greater problem solving ability, less distress when faced with difficulties, greater empathy, and overall higher social functioning (Karreman & Vingerhoets, 2012; La Guardia et al., 2000). Infants who are insecurely attached show marked differences to their counterparts including increased anger and hostility, increased dependency, and a tendency to internalise and externalise problems (Goldsmith & Harman, 1994). Children in secure relationships tend to show greater emotion regulation abilities, as compared to children from insecure relationships. Children with insecure attachment relationships tended to experience dismissive and punitive responses, if at all, to their emotional expressions (Thompson & Meyers, 2007). When attachment figures are not responsive or supportive, secure attachment and a sense of security is not acquired (Snyder et al., 2012).

Adult attachment styles tend to be conceptualised along two dimensions, attachment anxiety and attachment avoidance (Bowlby, 1969; Hazan & Shaver, 2007; Mikulincer & Shaver, 2012). Attachment anxiety is defined as the degree of worry regarding the availability of attachment-figures in times of distress or when under perceived threat. On the other hand, attachment avoidance produces distrust in attachment-figure's availability, a desire for emotional distance, and avoidance of closeness in relationships (Mikulincer & Shaver, 2007a). Bowlby (1988) suggested that an individual's autonomy as an adult stems from their internalising of positive interactions with attachment figures in childhood. These positive interactions produce a secure attachment and subsequent self-attunement through which self-regulation abilities are developed (Snyder et al., 2012). Bowlby proposed two main elements of the internal representations of attachments, or in other words, the working models. First he suggested that "(a) whether or not the attachment figure is judged to be the sort of person who in general responds to calls for support and protection; (b) whether or not the self is judged to be the sort of person towards whom anyone, and the attachment figure in particular, is likely to respond in a helpful way" (Bowlby, 1988, p.204).

Bartholomew and Horowitz (1991) extended on Bowlby's (1988) attachment theory and included a fourth attachment style, *dismissive-avoidant*. Their theory included both the model of self and model of others as described by Bowlby (1973), which was then conceptualised as either positive or negative (in other words, secure or insecure). The combination of the two models (model of self and model of other), and the two different dimensions (positive and negative) resulted in four possible attachment styles. *Secure attachment* represents a feeling of worthiness of self, and a belief that overall others are usually responsive and accepting. The second style termed *preoccupied* is characterised by a tendency to strive for acceptance from others, in order to improve self-acceptance. This style has a sense of unworthiness and un-lovability. The third style, *fearful-avoidant* involves the anticipation of rejection, and thus a preoccupation with avoiding close relationships. Lastly, *dismissive-avoidant* which reflects a sense of worthiness, but an expectation of rejection from others. As such, close relationships are avoided in order to protect one's self and maintain independence.

An extensive body of research shows support for the relationship between attachment and emotion regulation. Securely attached individuals are better able to regulate their emotions and remain in control despite being in negative emotional states (Creasey, Kershaw & Boston, 1999; Shaver & Mikulincer, 2009). Whereas individuals low in attachment security are more likely to become overwhelmed with negative emotions and be far less effective in these situations (Mikulincer & Shaver, 2007b). Shaver et al. (2007) suggested that individuals with higher attachment security are more likely to have higher dispositional mindfulness, and that individuals with higher dispositional mindfulness are able to better self-regulate. Further to this, Pepping, Davis and O'Donovan (2013) found that low mindfulness and insecure attachment could be accounted for by difficulties in emotion regulation. They suggested that emotion regulation was the core construct that mediates the relationship between attachment security and mindfulness.

In an adult population, recent studies have suggested individuals scoring high on attachment avoidance tend to avoid feelings in general, especially the anxiety arising from the closeness of an attachment (Lang, 2010). While attachment anxiety is often displayed as

difficulties identifying and filtering emotions, a tendency to become overwhelmed with feelings from past interactions and an inability to respond to present emotions alone (Lang, 2010).

Conversely, positive attachment can be influential in the maintenance of mental health, psychological growth and effective functioning within close relationships (Mikulincer & Shaver, 2007a). Mikulincer and Shaver (2007a) have also shown that mental health, interpersonal functioning, and psychological growth are positively influenced by secure attachment, which in turn has positive effects on one's emotion regulation abilities.

Attachment and Psychological Health

Attachment security (low attachment avoidance and low attachment anxiety) has been associated with high levels of positive psychosocial outcomes (Karreman & Vingerhoets 2012; La Guardia et al., 2000; Torquati & Raffaelli, 2004). Conversely poorer psychosocial adjustment is associated with high insecure attachment, either anxiety or avoidance (Mikulincer & Shaver, 2007b), and psychopathology (Baer et al., 2006; Brown & Ryan, 2003; Mikulincer & Shaver, 2012). Hazan and Shaver (1990) found correlations between individual's attachment styles and their approach to work and relationships. Anxious attachment styles were more likely to report that their work abilities were often hampered by their interpersonal relationships while avoidant attachment styles reported using work as a means to avoid relationships and social interactions. A secure attachment style reflected a more confident approach to work, a greater value placed on relationships, and the ability to separate personal and work relationships. Secure attachment styles were also found to experience on average fewer colds and flu symptoms, and less negative feelings such as loneliness, anxiety, and irritability. Having close personal relationships with others has been found to increase one's experienced level of happiness (Diener & Seligman, 2002). However, the ability to develop and maintain close relationships is dependant on one's attachment.

A secure attachment has been linked to a high level of positive affect (Torquati & Raffaelli, 2004), and has been found to be a predictor of well-being (Karreman & Vingerhoets, 2012; La Guardia et al., 2000). Securely attached individuals tend to have a greater degree of close interpersonal relationships, a better ability to reframe situations as less emotionally

distressing, and greater resilience. Securely attached individuals are also less likely to suppress their emotional experience and more likely to seek proximity to significant others in times of distress. Thus leading to a greater sense of well-being. Karreman and Vingerhoets (2012) found that fearful-avoidant and preoccupied attachment styles were not positively associated with well-being. These individuals, particularly those with a preoccupied attachment style were found to have lowered well-being levels as a result of poorer coping and stress management strategies (Karreman & Vingerhoets, 2012).

As mentioned earlier, Gross (1998) proposes two main strategies of emotion regulation; reappraisal and suppression, with suppression being negatively correlated with psychological well-being. In 2012, Karreman and Vingerhoets extended on Gross's model of emotion regulation and as expected found that the different attachment styles each had a unique way of regulating emotions. More securely attached individuals tended to rely less on suppression of emotional experiences, and more on reappraisal of the experience, in addition to seeking proximity to others in time of need. It is the combination of these two strategies that is the hallmark of securely attached individuals, and the cause of their greater psychological well-being (Karreman & Vingerhoets, 2012; Mikulincer & Shaver, 2007; Myers & Diener, 1995).

Pepping, Davis, and O'Donovan (2013) explored emotion regulation and dispositional mindfulness in relation to attachment anxiety and attachment avoidance. They found a consistent overlap in the benefits of high dispositional mindfulness and secure attachment, such as greater well-being, self-esteem, and relationship satisfaction. They were aware of the relationship between attachment and dispositional mindfulness, that is, a secure attachment increases the ability to maintain mindful attention and awareness. They extended on this knowledge base by exploring how attachment influences dispositional mindfulness. In doing so, they hypothesised that emotion regulation capacities would potentially mediate the relationship between attachment and dispositional mindfulness.

A Proposed Model

Previous research has shown that significant relationships exist between the constructs of attachment, psychological distress, mindfulness, and emotion regulation. There is evidence

that attachment security influences an individual's dispositional mindfulness, which also mediates the relationship between attachment and psychological health (Ryan et al., 2007). Emotion regulation has also been shown to mediate the relationship between attachment and psychological well-being (Pepping, Davis & O'Donovan, 2013). Furthermore, emotion regulation may account for the differences in mindfulness and attachment security (Pepping, Davis & O'Donovan, 2013). However, as yet no model has been developed which predicts the relationship between all four constructs. The present study attempts to address this gap in the literature in terms of examining the relationships between attachment, psychological distress, mindfulness, and emotion regulation.

The current study presents a unique perspective on the relationship between attachment and psychological distress by focusing on the possible mediating roles of mindfulness and emotion regulation. We propose a partial mediation model (Figure 1) in which the relationship between attachment (anxiety and avoidance) and psychological distress is mediated by mindfulness and emotion regulation abilities. Verification of this model could hold significance in understanding the roles of emotion regulation and mindfulness in modulating the relationship between attachment insecurity and psychological distress. This may have important clinical implications for focussing on the development of emotion regulation and mindfulness skills within both the clinical and general populations. As we know, insecure attachment can have a profound effect on levels of psychological distress and well-being with the greater implications of this being a higher risk of psychopathology and lowered health outcomes (Karreman & Vingerhoets, 2012; La Guardia et al., 2000; Lavy & Littman-Ovadia, 2011). Empirical examination of this model will provide insights into the influence of emotion regulation and mindfulness abilities and lay further groundwork for establishing how this could ameliorate psychological distress and promote psychological well-being.

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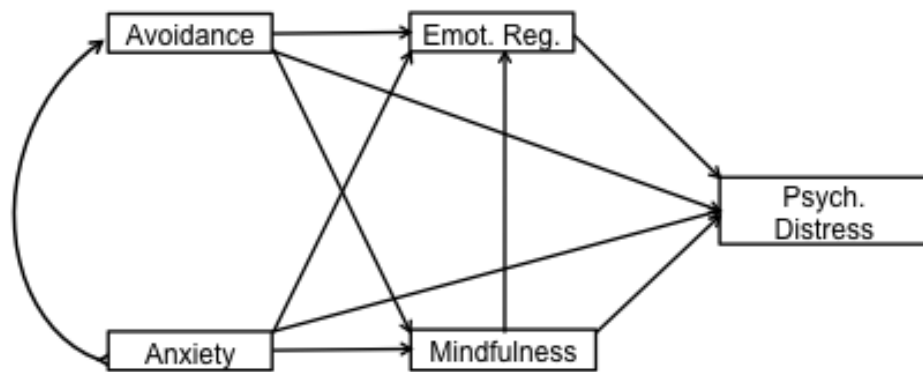


Figure 1. Proposed partial mediation model

Dispositional Mindfulness and Emotion Regulation as Mediators of the Attachment and
Psychological Distress Relationship.

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Abstract

Recent studies have examined the associations between mindfulness, emotion regulation, attachment, and psychological distress. However, to date, no study has explored the relationships between all four constructs. The aim of the present study was to examine possible mediating relationships of mindfulness and emotion regulation on the relationship between attachment (avoidance and anxiety) and psychological distress. Using a sample of 211 adults, structural equation modelling revealed support for a modified version of the proposed partial-mediation model. Mindfulness and emotion regulation were found to fully mediate the relationship between attachment anxiety and psychological distress, while emotion regulation alone was found to mediate the relationship between attachment avoidance and psychological distress. The results of this study support previous research in that the effects of attachment expectancies on psychological health may be primarily due to their negative impact on emotion regulation strategies. Implications for clinical practice are discussed.

Keywords: attachment, mindfulness, emotion regulation

Dispositional Mindfulness and Emotion Regulation as Mediators of the Attachment and Psychological Distress Relationship.

In the past 10 years or so mindfulness has received increasing attention in the field of clinical psychology. Its popularity has grown with evidence that it is associated with numerous benefits, such as greater psychological well-being, self esteem (Brown & Ryan, 2003) and less emotional and cognitive disturbances (Bowlin & Baer, 2012). Mindfulness, a concept originally based in Buddhist meditation practice, is defined as paying attention to the present moment in a non-judgmental, accepting manner (Kabat-Zinn, 1990) and is often conceptualised as having two main components: the self-regulation of attention and orientation or awareness of experiences (Bishop et al., 2004).

In the contemporary literature mindfulness, conceptualised either as a form of meditational practice or as a personality trait (i.e., dispositional mindfulness), has been argued to be an adaptive set of skills that helps an individual to cope with and overcome the challenges of life (e.g. Bowlin & Baer, 2012; Brown & Ryan, 2003; Cahn & Polich, 2006; Goodall, Trejnowska & Darling, 2012; Karreman & Vingerhoets, 2012; Pepping, Davis & O'Donovan, 2013). It is argued that state mindfulness is achieved through the practice of mindfulness meditation. Dispositional or trait mindfulness, on the other hand, refers to the differences in people's natural ability to maintain awareness and focused attention, as well as their willingness to engage in this behaviour (Brown & Ryan, 2003). This may be influenced, however, by training and experience (Pepping, O'Donovan & Davis, 2014).

In everyday life, people employ elements of mindfulness through their use of attention and awareness. Individuals have varying degrees of self-awareness, often reflected by a tendency to ruminate or be preoccupied with internal states (Baer, 2007). In terms of metacognitive ability, mindfulness allows individuals to experience thoughts and emotions as impermanent, fleeting experiences as opposed to stable states (Bishop et al., 2004). An increased metacognitive ability allows an individual to choose to respond to an event rather than being resigned to an automatic 'reaction'. Hence, individuals are able to access a greater variety of responses to their internal states as they are free to respond more effectively than if they were

bound to their initial reaction. This can result in an increased ability to tolerate painful or aversive feelings, thoughts, and experiences (Hargus, Crane, Barnhopper & Williams, 2010; Snyder, Shapiro & Treleaven, 2012). Most theories conceptualise mindfulness as a multi-faceted construct in which an individual can have varying skill levels across the different facets. Baer, Smith, Hopkins, Krietemeyer and Toney (2006) propose five dimensions in which dispositional mindfulness can be conceptualised and subsequently measured using their Five Facet Mindfulness Questionnaire (FFMQ), non-reactivity to inner experiences, observing, describing, non-judging of inner experiences, and acting with awareness.

Emotion Regulation

A key psychological mechanism by which mindfulness is thought to enhance psychological adjustment or well-being is through emotion regulation. High dispositional mindfulness is argued to lead to greater awareness and acceptance of emotions and less rumination and avoidance of unpleasant emotions and experiences (Hayes & Feldman, 2004). Those high in dispositional mindfulness tend to show greater emotion regulation abilities, whilst individuals who are lower in dispositional mindfulness tend to show difficulties in emotion regulation (Hayes & Feldman, 2004; Modinos, Ormel & Aleman, 2010). The link between mindfulness and emotion regulation is well established in the literature with numerous studies finding associations between the two constructs (e.g., Arch & Craske, 2006; Frewen et al., 2010). Others, however, have suggested that this relationship is more complex and that other constructs are involved. Pepping et al. (2013), for example, found that emotion regulation difficulties mediated the relationship between mindfulness and individual differences in adult attachment style.

Emotion regulation is the process by which an individual can alter emotional experiences and is an important tool for everyday life in order to maintain equilibrium within interpersonal relationships, personal well-being, and daily functioning (Gross, 1998). It is the ability to observe and recognise emotions, whilst maintaining goal-directed behaviour in the presence of an emotion (Goodall et al., 2012). Emotion regulation allows for the altering of behavioural impulses, including the experience and expression of emotions. It includes two

main elements: reappraisal and suppression (Gross & John, 2003). The first involves re-evaluating the emotion as less intense, whilst suppression involves restricting the expression of the emotion. Previous research has found that suppression is negatively related to wellbeing whilst reappraisal is positively related to wellbeing (Gross & John, 2003).

Both mindfulness and emotion regulation are traits that individuals develop to a greater or lesser extent (Brown & Ryan, 2003; Gratz & Roemer, 2004). There appears some overlap between dispositional mindfulness and emotion regulation, namely the metacognitive abilities of insight and acceptance of emotional states (Goodall et al., 2012). Mindfulness can be conceptualised as an element of emotion regulation that reduces avoidance and over engagement with emotions. This allows the person to respond to situations in a manner which reduces the chances of compounding the issue, as can occur from becoming overwhelmed and ‘stuck’ in an emotion (Hayes & Feldman, 2004). Theoretically, the main difference between mindfulness and emotion regulation is that through mindfulness one accepts the presence of the emotion but does not attempt to alter or change it in anyway, simply experiencing the emotion without judgment (Hayes & Feldman, 2004). However in emotion regulation, the aim is often to reduce or inhibit unhelpful responses that result from the present emotion. At its very core, emotion regulation involves a judgment of the current emotion as either helpful or unhelpful and a decision as to whether to inhibit the emotional reaction or not (Hayes & Feldman, 2004). Another important distinction is that emotion regulation processes can be automatic and/or unconscious at times (Gratz & Romer, 2004). While mindfulness, on the other hand, involves a distinct and deliberate focusing of attention.

Attachment

It is thought that our early attachment experiences set the template for how to respond to negative or aversive events later in life and that this provides a foundation for emotion regulation (Mikulincer & Shaver, 2007). Attachment can be conceptualised as the level of security an infant feels when in the presence of their care-giver. The infant develops expectancies or ‘working models’ that reflect beliefs about whether the care-giver is likely to be responsive to their needs, and whether they themselves are worthy of their needs being met

(Bowlby, 1988). These nascent interpersonal experiences are argued to influence our expectations of close relationships across the life-span (Mikulincer & Shaver, 2007).

Differences in the attachment relationship reflect the level and history of care received and is broadly differentiated into two categories: secure and insecure. These refer to the child's perception of the caregiver's availability in times of need, and the manifestation of attachment behaviours by the child (Karreman & Vingerhouts, 2012). Bowlby (1988) proposed that individuals operate from these same working models in new, adult relationships. Adult attachment styles (Bowlby, 1969; Hazan & Shaver, 2007) tend to be conceptualised along two dimensions, attachment anxiety and attachment avoidance. Attachment anxiety is defined as the degree of worry regarding the availability of care-givers in times of distress or when under perceived threat. Attachment avoidance is characterised by distrust in care-givers availability, a desire for emotional distance and avoidance of closeness in relationships (Mikulincer & Shaver, 2007).

It has been argued that our attachment relationships may be an important contributing factor in the development of both emotion regulation capacities and individual differences in dispositional mindfulness (Mikulincer & Shaver, 2007; Pepping, Davis & O'Donovan, 2013; Shaver, Lavy, Saron & Mikulincer, 2007; Walsh, Balint, Smolira, Fredericksen & Madsen, 2009). Research into these relationships have found that greater attachment security is positively correlated with greater dispositional mindfulness (Shaver et al., 2007) and positively correlated with emotion regulation abilities (Shaver & Mikulincer, 2009). Many theories of this relationship have been proposed. Ryan et al. (2007), for example, suggested that sensitive and attentive care giving in infancy leads to a secure adult attachment, which allows for strong affectional bonds, a sense of security and trust, and an effective template of how to manage distress. This secure attachment, Ryan et al. (2007) proposed, allows for greater mindfulness to develop. Rather than being preoccupied with attempts to have their attachment needs met, securely attached individuals can explore their environment with the knowledge that their caregiver is close by as a secure base. They have the opportunity to engage in a wide array of experiences and if needed, their distress be attended to and validated. This sets up the

expectation that distress and aversive events are something that can be tolerated, thus creating a more accepting view of the moment and a greater ability to regulate one's emotions. On the other hand, individuals that are high in attachment anxiety are often preoccupied with having their attachment needs met, or have a belief that their attachment needs will never be met, as is the case with high attachment avoidance (Walsh et al., 2009). Thus, those with poor attachment security tend to be preoccupied with their internal state, which interrupts their ability to be mindful and present in the moment.

Similar to mindfulness, the influence of early relationships is implicated in the development of early emotion regulation abilities through the shared management of emotions within the child and care-giver relationship (Schore, 2008). Care-givers help their young determine which emotional response will be most effective in attaining their goals, thus shaping the child's 'working models' or expectations of the care-giver's behaviour. Repeated experiences with the care-giver reinforce these working models (Mikulincer & Shaver, 2012). The child develops an understanding and ability to organise their emotional experience through communication with their care-giver in which a context for emotions is developed. A responsive parent, through their sensitivity to their child's affect, sets up the expectation that emotions are effective in signalling the parent in times of distress. In turn, this enhances the child's ability to modulate their emotional state in order to meet their goals. The child comes to associate negative emotions, such as fear, with reparative efforts from their parent or care-giver. Through repeated experiences, the child learns to temporarily tolerate negative emotions, as mastery over the threatening or unpleasant situation is possible, and consequently experiences negative events as less threatening (Cassidy, 1994).

A secure attachment has been linked to well-being (La Guardia, Ruan, Couchman & Deci, 2000) as well as a high level of positive affect (Torquati & Raffaelli, 2004). Karreman and Vingerhoets (2012) found that securely attached individuals tend to have a greater degree of close interpersonal relationships, a better ability to reframe situations as less emotionally distressing, and greater resilience. Securely attached individuals were also less likely to suppress their emotional experience and more likely to seek proximity to significant others in

times of distress. Karreman and Vingerhoets (2012) also found that well-being was positively associated with a secure attachment style and argued that individuals with an insecure attachment style tend to have lowered well-being levels as a result of poorer coping and stress management strategies (Karreman & Vingerhoets, 2012).

One of the primary functions of the attachment relationship is the regulation of the infant's emotion arousal levels, as initially the infant cannot do this for itself. By caregivers responding sensitively to the child's emotional needs and distress, by accepting and showing a willingness to discuss emotional experiences, even the distressing ones, the beginnings of emotional awareness and emotion regulation skills are able to develop (Cassidy, 1994). Continuing to do so even as the child matures and develops their own ability to self-regulate is a feature of secure relationships. Those in secure relationships tend to show greater emotion regulation abilities than those from insecure relationships. Insecure relationships are related to a history of care-givers responding in a punitive, dismissive manner, if at all, to emotional expressions (Thompson & Meyers, 2007). Attachment security (low attachment avoidance and low attachment anxiety) has been associated with high levels of positive psychosocial outcomes. Conversely poorer psychosocial adjustment is associated with high insecure attachment, either anxiety or avoidance (Mikulincer & Shaver, 2007), and psychopathology (Baer et al., 2006; Brown & Ryan, 2003; Mikulincer & Shaver, 2012).

The Current Study

Previous research has shown that significant relationships exist between the constructs of attachment, psychological health, mindfulness, and emotion regulation as discussed above. It has been argued that attachment security influences an individual's dispositional mindfulness, which in turn mediates the relationship between attachment and psychological health (Ryan et al., 2007). Furthermore, it is thought that emotion regulation mediates the relationship between attachment and psychological well-being (Pepping, Davis & O'Donovan, 2013). However, so far no model has been formulated and evaluated that considers the relationship between all four constructs. The present study attempts to address this gap in the literature by presenting a perspective on the relationship between attachment and psychological distress that focuses on

the possible mediating roles of both mindfulness and emotion regulation. We propose a partial mediation model in which the relationship between attachment security and psychological distress is mediated by dispositional mindfulness and emotion regulation abilities.

The current study has three main aims: (a) to examine the particular relationships between attachment, psychological distress and mindfulness, (b) to examine the relationships between attachment, psychological distress, and emotion regulation, and (c) to examine the mediation effects of mindfulness and emotion regulation on the relationship between attachment and psychological distress. Based on theory and existing research (e.g., Bowlby & Ainsworth, 1969; Goodall et al., 2012; Karreman & Vingerhoets, 2012; Keng, Smoski & Robins, 2011; Shaver et al., 2007; Walsh et al., 2009) the following predictions are made. Firstly, the quality of adult attachment security, assessed by measures of attachment anxiety and avoidance, will be related to psychological distress. Secondly, a mediation model is proposed in which the relationship between attachment anxiety, avoidance and psychological distress, will be mediated by mindfulness. Thirdly, that the relationship between attachment and psychological distress will be mediated by emotion regulation. Lastly, that dispositional mindfulness will predict emotion regulation ability in the model (see figure 1).

Based on the hypothesised partial mediation model, the following specific hypotheses are proposed; There will be a strong, direct relationship between attachment anxiety and mindfulness (Hypothesis 1) and a strong, direct relationship between attachment avoidance and mindfulness (Hypothesis 2); There will be a strong, direct relationship between mindfulness and psychological distress (Hypothesis 3); There will be a strong, direct relationship between attachment anxiety and psychological distress as well as smaller, indirect relationships mediated by emotion regulation and mindfulness (Hypothesis 4); There will be a strong, direct relationship between attachment avoidance and psychological distress as well as smaller, indirect relationships mediated by emotion regulation and mindfulness (Hypothesis 5); There will be a small to moderate relationship between attachment anxiety and emotion regulation (Hypothesis 6); There will be a small to moderate relationship between attachment avoidance and emotion regulation (Hypothesis 7); There will be a small to moderate relationship between

emotion regulation and psychological distress (Hypothesis 8) and finally that mindfulness will have a small to moderate, direct relationship to emotion regulation (Hypothesis 9).

Methodology

Participants

The participants included 213 individuals recruited from the general public and the Hunter Medical Research Institute (HMRI) volunteer database. The mean age of participants was 38.8 years ($SD = 15.2$), with 166 females and 47 males. The general public participants were recruited via online flyers and social media and were given a \$10 voucher as compensation for their participation. HMRI participants were registered volunteers who were randomly invited from the HMRI volunteer pool to complete the survey.

Procedure

Online consent forms and information statements were developed in adherence to the standards outlined by the National Statement on Ethical Conduct in Human Research. Information statements offered contact details for the University Counselling Service or Lifeline in the event that participation in the study caused distress. Participants who agreed to the study and completed the online consent form were then directed to the on-line survey. Those that did not give consent were unable to access the survey.

Measures

An on-line questionnaire, which was part of a larger study, was administered using Lime Survey software. The questionnaire took approximately 40-60 minutes to complete and included a number of different measures, some of which were not relevant for the current study. Demographics collected included age, gender, nationality, relationship status, and occupation.

Dispositional Mindfulness. The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006) is a 39 item multifaceted Likert scale that assesses dispositional mindfulness with five subscales; i) Non-Reactivity to Inner Experiences, ii) Observing/Noticing/Attending, iii) Describing/Labelling Experience with Words, iv) Acting with Awareness and v) Non-judging of Experience. Baer et al. (2008) showed support for the construct validity of the FFMQ and the facet scales have shown satisfactory to good internal consistency with alpha coefficient values

from .75 to .91 (Baer et al., 2006). Scale scores were the sum of items and higher scores indicate greater trait mindfulness than lower scores. Internal consistency of the scales were high (Observe - 8 items, $\alpha = .838$; Describe - 8 items, $\alpha = .917$; Act with Awareness - 8 items, $\alpha = .906$; Non-Judge - 8 items, $\alpha = .918$; Non-react - 7 items, $\alpha = .836$) with an overall consistency of $\alpha = .927$.

Emotion Regulation. The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a self-report measure consisting of 36 items, with six sub-scales; Non-Acceptance of Emotional Responses, Difficulties Engaging in Goal Directed Behaviour, Impulse Control Difficulties, Lack of Emotional Awareness, Limited Access to Emotion Regulation Strategies, Lack of Emotional Clarity. Items are rated on a 5 point Likert Scale with higher scores indicating more difficulties with emotion regulation. The DERS has been found to have adequate test-retest reliability and internal consistency (Gratz & Roemer, 2004). The six scales were found to have a high internal consistency (Non-Acceptance of Emotion Regulation – 6 items, $\alpha = .913$; Difficulty Engaging in Goal Directives – 5 items, $\alpha = .888$; Impulse Control – 6 items, $\alpha = .878$; Lack of Emotion Awareness – 6 items, $\alpha = .821$; Limited Access to Emotion Regulation Strategies – 8 items, $\alpha = .902$; Lack of Emotional Clarity – 5 items, $\alpha = .841$), with an overall internal consistency of the 36 items, $\alpha = .944$.

Attachment Avoidance and Anxiety. The Attachment Styles Questionnaire (ASQ; Feeney, Noller & Hanrahan, 1994) is a 40 item self-report questionnaire, divided into 5 subscales; i) Discomfort with Closeness, ii) Need for Approval, iii) Preoccupation with Relations, iv) Viewing Relationships as Secondary (to achievement), v) Lack of Confidence. Items are rated on a 6 point Likert scale. The ASQ has established construct validity and reliability (Karantzas, Feeney & Wilkinson, 2010). Scale scores were the sum of items with reverse coding as appropriate. The internal consistency was found to be high (Confidence – 8 items, $\alpha = .824$; Discomfort – 10 items, $\alpha = .876$; Relationship as Secondary – 7 items, $\alpha = .736$; Need for Approval – 7 items, $\alpha = .736$; Preoccupation – 8 items, $\alpha = .713$). For the current study, the alternate scoring scheme developed by Karantzas, Feeney and Wilkinson (2010) to

generate measures of attachment avoidance and anxiety was employed. Internal consistencies for the two scales are high (Avoidance – 16 items, $\alpha = .878$; Anxiety – 13 items, $\alpha = .880$).

Psychological Distress. Psychological distress was measured using the Depression Anxiety and Stress Scale – 21 (DASS-21; Lovibond & Lovibond, 1995a, 1995b). This is a 21 item, 4 point Likert scale measuring bodily and cognitive symptoms and negative affect associated with depression, stress and anxiety. Given our focus is on psychological distress, we are focusing on the total scale score rather than the 3 subscales, which were found to have high internal consistency (Depression – 7 items, $\alpha = .898$; Anxiety – 7 items, $\alpha = .814$; Stress – 7 items, $\alpha = .838$). Internal consistency of the total scale was high (Cronbach's $\alpha = .921$).

Results

The data was screened for univariate and multivariate outliers, after which correlations, means, and standard deviations were examined (Table 1) and structural equation modelling conducted. Using the SPSS software package, the distribution of the data was examined, most of which was found to be normally distributed. The DERS and DASS were not normally distributed, however given this is consistent with the majority of community samples the data was left unadjusted. The procedure outlined by Tabachnick and Fidell (2013) was employed to examine multivariate outliers using Mahalanobis's distance criteria. Two multivariate outliers were detected and deleted from the data. This left a total of 211 participants.

The hypothesised partial-mediation models between attachment, mindfulness, emotion regulation, and psychological distress were constructed and tested using structural equation modelling (SEM) facilitated by the AMOS 16.0 computer program. Maximum likelihood estimations were used with bootstrapping procedures employed to evaluate confidence intervals for direct, indirect and total effects. A bootstrap analysis with 2000 samples was performed with 95% bias-corrected confidence intervals for parameters. Standardised estimates were used for interpretations of the models.

Bootstrapping and confidence intervals were employed to assess direct and indirect paths. A stepwise procedure was employed in which non-significant direct paths were deleted from the models to maximise parsimony. Based on the recommendations of Byrne (2001) three

fit indices were used to assess the goodness of fit for the model: the comparative fit index (CFI; .95 or greater), the root-mean-square error approximation (RMSEA; .06 or less) and the adjusted goodness of fit index (AGFI; .9 or greater). Note that the proposed model is 'just-identified' (Byrne, 2001) thus model fit statistics are not producible.

Descriptive Statistics and Correlations

Means, standard deviations and correlations for the two attachment dimensions (avoidance and anxiety), psychological distress, emotion regulation, and mindfulness along with correlations between variables are displayed in Table 1. In general the observed correlations between variables were as expected. Overall mindfulness was negatively correlated with psychological distress (-.479), with emotion regulation (-.746), and with attachment anxiety (-.598) and attachment avoidance (-.425). Emotion regulation was positively correlated with attachment anxiety (.680) and attachment avoidance (.514) and with psychological distress (.676). As expected, both attachment anxiety and attachment avoidance were positively correlated with psychological distress (.478 and .541 respectively).

The hypothesised model (model 1) is presented in Figure 1 where the measured (manifest) variables are represented by rectangles. Absence of a line connecting two variables implies no direct effect. The non-significant parameter ($p = .239$) revealed that the direct path from mindfulness to psychological distress did not contribute significantly to the model and was thus deleted (model 2). Next the path between attachment anxiety and psychological distress was deleted due to its non-significant parameter ($p = .287$) (model 3). Finally the path from attachment avoidance to mindfulness was deleted due to its non-significant weight ($p = .163$) (model 4, see Figure 2). The final model, model 4, showed acceptable fit indices; CMIN = 4.450, $df = 3$, $p = .217$; ADFI = .957, CFI = .997 and RMSEA = .048 which supports a viable structural equation model.

In line with our hypotheses, our results suggest that there were strong paths between attachment avoidance and emotion regulation (.514) and psychological distress (.478). There was a strong relationship between attachment anxiety and emotion regulation (.680) and between attachment anxiety and mindfulness (-.598). Finally there was a strong relationship

between mindfulness and emotion regulation (-.746). As expected attachment avoidance had a large positive association with attachment anxiety (.609). In the final model 65% of the variance in the DERS, 47% of the variance in the DASS and 36% of the variance in the FFMQ was explained.

To examine the mediation hypotheses the indirect effects in the model were examined. The standardised indirect effects of attachment anxiety on psychological distress and emotion regulation were .360 [95% CI: .240, .490] and .311 [95% CI: .236, .400] respectively. The former path supports a fully mediated link between attachment anxiety and psychological distress. The standardised indirect effect of mindfulness on psychological distress was -.304 [95% CI: -.398, -.226] indicating that emotion regulation fully mediates the path between these two variables. There was also an indirect effect of attachment avoidance on psychological distress of .064 [95% CI: .006, .126], which, while significant, was so small as to be considered a non-effect. This indicates that emotion regulation does not mediate the path from attachment avoidance to psychological distress.

Discussion

The present study was designed to address a significant gap in the research literature regarding the relationships and mediating factors between attachment and psychological distress. Based on theory and existing research, a partial-mediation model between attachment, mindfulness, emotion regulation, and psychological distress was proposed and evaluated. It was expected that mindfulness and emotion regulation would partially mediate the relationship between attachment insecurity and psychological distress. Correlations indicate that there are significant relationships between all constructs and the overall results of the SEM support a modified version of the proposed partial mediation model. The main difference between the proposed and final model is the absence of direct effects between attachment anxiety and psychological distress, and between mindfulness and psychological distress.

The correlation coefficients show a strong, positive relationship between attachment anxiety and psychological distress. However contrary to expectations, in the final SEM there is no direct effect between these two constructs. In support of hypothesis 4, the relationship

between attachment anxiety and psychological distress appears to be fully mediated by two indirect effects; one through emotion regulation, and the other through emotion regulation and mindfulness. Consistent with theory, both mindfulness and attachment anxiety are implicated in emotion regulation abilities (Pepping, Davis & O'Donovan, 2013) indicating that the relationship between attachment anxiety and psychological distress can be accounted for by emotion regulation and mindfulness abilities. Emotion regulation was found to have a strong association with psychological distress (Hypothesis 8) and with mindfulness (Hypothesis 9) while attachment anxiety was found to have a direct association with mindfulness (Hypothesis 1).

Attachment avoidance was found to have a weak relationship with emotion regulation. This result partially supported our hypothesis, however the strength of the relationship was smaller than anticipated (Hypothesis 7). Elements of Hypothesis 5 were supported in that a relationship was found between attachment avoidance and psychological distress, however contrary to expectations this relationship was found to be small. It was hypothesised that there would be a smaller, indirect relationship between attachment avoidance and psychological distress mediated by emotion regulation and mindfulness. A moderate indirect relationship between attachment avoidance and psychological distress as mediated by emotion regulation was found. However, mindfulness was not found to mediate this relationship. Contrary to expectations, there was no statistically significant direct path from attachment avoidance to mindfulness (Hypothesis 2). It is possible that other personality constructs may have more of a foundation laid in attachment avoidance than mindfulness. Future research may focus on extrapolating additional personality factors implicated in the relationship between these constructs.

The finding that attachment anxiety and avoidance were associated with psychological distress is, of course, consistent with the extant literature (e.g., Mikulincer & Shaver, 2007; Shaver et al., 2007). The present study's results extend on prior research and add to the understanding of mindfulness and emotion regulation by suggesting that the associations between attachment anxiety and psychological distress may be fully mediated by mindfulness

and emotion regulation. Theoretically, the absence of a direct relationship between attachment avoidance and mindfulness is understandable. The fundamental drive of attachment avoidance is to avoid emotions that are perceived as disturbing, thus, these individuals have a greater tendency to lack the ability to notice and therefore express emotions (Lang, 2010). Mindfulness on the other hand involves the awareness of, acceptance, and deliberate approaching of emotions (Walsh et al., 2009). Within this model these two constructs are conceptualised as being fundamentally different to the point of a non-significant association.

Interestingly there was no direct effect of mindfulness on psychological distress and, thus, hypothesis 3 was not supported. While not expected this is theoretically explainable as mindfulness does not directly influence the presence or absence of distress. Rather it adds to one's ability to utilise emotion regulation and tolerance strategies. In other words, greater mindfulness skills will assist an individual to utilise emotional regulation at times of heightened psychological distress, thus influencing the level of distress experienced. This is consistent with the findings in the literature, which suggests that mindfulness serves as a self-regulatory process, which in turn increases psychological well-being (Brown & Ryan, 2003). Our findings are in line with Brown and Ryan (2003) in that mindfulness was found to have an indirect effect on psychological distress, mediated by emotion regulation.

Mindfulness and emotion regulation were found to be strongly correlated and strongly associated. Certainly there is some conceptual overlap between the two constructs, such as the awareness and acceptance of emotional responses. Prior research has suggested that there may be a bi-directional relationship between mindfulness and emotion regulation (Goodall et al., 2012). Specifically relevant to the present study were the findings of Pepping, Davis, and O'Donovan (2013) who, concerned about the conceptual overlap of dispositional mindfulness (measured by the FFMQ) and emotion regulation (measured by the DERS), ran their analyses again without the DERS subscales which overlapped the most with mindfulness. With unchanged results they concluded that the two constructs were distinct enough to maintain the integrity of their findings. In regards to the present study, this suggests the strong association between mindfulness and emotion regulation and their mediating effect on the relationship

between attachment insecurity and psychological distress is not simply due to conceptual overlap.

As shown by Pepping, Davis and O'Donovan (2013), mindfulness and emotion regulation are two distinguishable constructs measuring conceptually different elements. However in the current model it is interesting that even though the FFMQ and DERS measure different constructs, in regards to psychological distress they appear to measure similar things. This is shown by the finding that emotion regulation fully mediates the effect of mindfulness. In this model, mindfulness does not appear to contribute significantly, suggesting that in this context, elements of emotion regulation measure what mindfulness intends to. An interesting question that arose from the present study is how the results of the model may change if psychological well-being was to be examined rather than psychological distress. Given that mindfulness and psychological well-being are positive psychology constructs, a stronger association may be found if a measure of psychological well-being was included in the model. This may potentially reveal a slight shift in focus from emotion regulation to mindfulness.

The lack of direct paths in the final model from mindfulness to psychological distress and anxious attachment to psychological distress reflect the finding that anxious attachment is largely associated with people's emotion regulation abilities. This finding is supported in the literature with strong associations between anxious attachment, psychological distress and lowered psychological well-being having already been well established (Karreman & Vingerhoets, 2012). The lack of this path in the final model shows that the link between anxious attachment and psychological distress can be accounted for by emotion regulation and mindfulness. This model shows the essential role of emotion regulation, in that attachment anxiety relates to mindfulness and both are profoundly related to emotion regulation abilities. Both mindfulness and attachment anxiety impact individual's abilities to regulate their emotions and therefore their levels of psychological distress. On the other hand, mindfulness may be difficult when one is engrossed with long-standing feelings of anxiety and attempts for comfort and care, as is the case with anxious attachment. In essence, the more preoccupied with anxious feelings, the harder it is to be mindful.

The present study included a measure of dispositional/trait mindfulness. In order to provide a broader understanding of the relationship between mindfulness, emotion regulation, attachment and psychological distress future studies may elect to research how state mindfulness influences the proposed model. Differences between mindfulness and emotion regulation may be influenced by state and trait versions of mindfulness. Bishop et al. (2004) proposed an operational definition of mindfulness that included two main components; the self-regulation of attention, and the adoption of a particular attitude towards one's experience. This conceptualisation of mindfulness has interesting implications for the differences between state and trait mindfulness. With variations in the attitude toward one's experience, the influence of mindfulness could be very different. Particularly when considering differences between measures of psychological distress and psychological well-being. The overlap between emotion regulation and mindfulness becomes clearer when considering Bishop et al.'s (2004) definition of mindfulness with the first component (the self-regulation of attention) fitting nicely with emotion regulation abilities, and the second component (the attitude towards the experience) being a more uniquely mindful quality. It is this element that makes a clear distinction between mindfulness and emotion regulation. This difference may be more apparent when a measure of psychological well-being is included in the model.

Limitations

There are several limitations evident in the current study which future research would be well placed to consider. Firstly, this study only examined the constructs of attachment insecurity and dispositional mindfulness. Whilst not exactly a limitation, future research may expand on this to include attachment security and state mindfulness. This would provide a broader understanding of the concepts at hand. Secondly, as the present study is cross-sectional, no causal relationships can be inferred. Examination of the relationships between these four constructs across a longitudinal study that examines the development and changes in attachment as related to the development of mindfulness and emotion regulation would also be beneficial if somewhat challenging to conduct. Thirdly, the present study's sample is limited in size and make-up. This is significant given there is emerging evidence for how attachment is manifested

in different cultural contexts. Future research may utilise the proposed partial model to explore cross-cultural differences with the potential of extrapolating additional mediating personality factors. Additionally, it was noted that the large majority of participants in the present study were female which may be addressed in future studies. However given a general sample was used this is assumed to be representative of the general population. The inclusion of other methodologies for assessing attachment, such as the Adult Attachment Interview (AAI; George, Kaplan & Main 1984, as cited by Cassidy & Shaver 2008), for future research into these relationships may be fruitful. However, the use of self-report measures, like those used in this study, is common throughout the literature.

Conclusion

This study has provided important preliminary findings. The implications of the current results suggest the importance of emotion regulation and mindfulness in the relationship between attachment insecurity and psychological distress, particularly with respect to attachment anxiety. This may have important clinical implications for the development of emotion regulation and mindfulness skills within the general population. A number of therapeutic interventions such as Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams & Teasdale, 2002), Dialectical Behaviour Therapy (DBT; Linehan, 1993) and Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999) already employ mindfulness and/or emotion regulation strategies in their framework. However, there is little focus on how these skills could be implemented into a non-clinical population. The current study provides an essential platform for future research to explore the impact of interventions aimed at improving emotion regulation and mindfulness abilities in a general, non-clinical population, specifically in the context of attachment insecurity. As discussed, insecure attachment can have a profound effect on levels of psychological distress and well-being with the greater implications of this being a higher risk of psychopathology and lowered health outcomes (Karreman & Vingerhoets, 2012; La Guardia et al., 2000; Lavy & Littman-Ovadia, 2011). This study provides promising insights into the importance of developmentally acquired relationship expectancies and both emotion regulation and mindfulness abilities. In addition,

focus and direction for the development of interventions aimed at strengthening these skills, and thus potential influences on the psychological well-being of the general population are inferred.

Authors Contributions

Callie Buller contributed to the conception and design of the research, collection, analysis, and interpretation of data, drafting of the thesis and article, and final approval of the version to be published. Dr Ross Wilkinson contributed to the conception and design of the research, analysis, and interpretation of data, critical revision of the thesis and article, and final approval of the version to be published.

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Declaration of Conflicting Interests

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Ethical Standards

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

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Table 1

Correlations, means, and standard deviations for all variables

	Attachment Avoidance	Attachment Anxiety	Emotion Regulation	Mindfulness	Psychological Distress
Attachment Anxiety	.609**				
Emotion Regulation	.514**	.680**			
Mindfulness	-.425**	-.598**	-.746**		
Psychological Distress	.478**	.541**	.676**	-.479**	
Mean	2.97	3.09	71.87	131.19	32.18
SD	.63	.78	20.66	20.42	8.94

Table 2

Goodness of fit indices of the four tested models

	CMIN, DF, P	AGFI	CFI	RMSEA
Proposed/ Model 1 *	-, -, -	-	-	-
Model 2	1.384, 1, .239	.961	.999	.043
Model 3	2.515, 2, .284	.964	.999	.035
Model 4	4.450, 3, .217	.957	.997	.048

**Note that fit statistics are not available for this just-identified model*

Table 3

Bootstrap Confidence Intervals (95%) for indirect (mediated) effects.

	Anxious Attachment	Avoidant Attachment	Mindfulness
Mindfulness	-	-	-
Emotion Regulation	.311 [.236, .400]	-	-
Psychological Distress	.360 [.240, .490]	.064 [.006, .126]	-.304 [-.398, -.226]

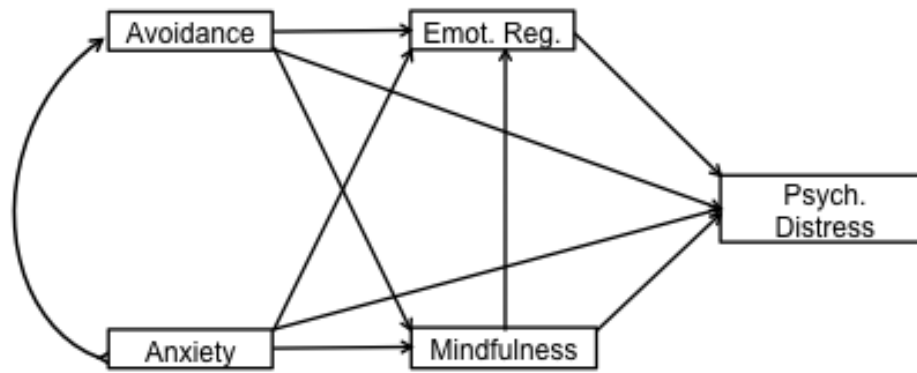


Figure 2. The proposed model

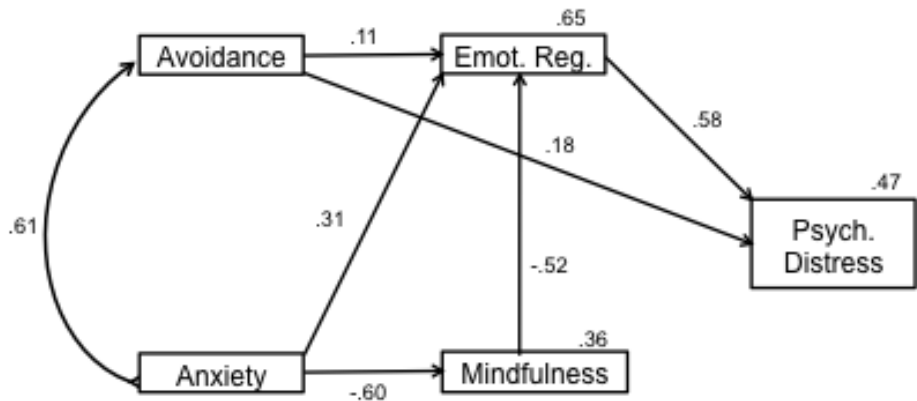


Figure 3. The final partial mediation model

Appendix A

INFORMATION STATEMENT

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

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

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

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

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

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

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

How much time will it take? The survey should take approximately 40-50 minutes to complete.

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

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

able to be linked back to you.

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

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

Further Information: After you finish the survey, you will be given some more information about the research including reminders about who to contact if you have any concerns or issues about the research. If you would like further information before doing the survey then please contact Dr Ross Wilkinson (ross.wilkinson@newcastle.edu.au).

Complaints about the research: This project has been approved by the University of Newcastle Human Research Ethics Committee, Approval Number H 2014 0210. Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 4921 6333, email: human-ethics@newcastle.edu.au

CONSENT

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

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

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

Thank you.

Appendix B

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.

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

Appendix C

ASSESSING MINDFULNESS AND ACCEPTANCE PROCESSES IN CLIENTS

APPENDIX A: FIVE FACET MINDFULNESS QUESTIONNAIRE (FFMQ)

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

1	2	3	4	5
Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true

- _____

1. When I’m walking, I deliberately notice the sensations of my body moving.
- _____

2. I’m good at finding words to describe my feelings.
- _____

3. I criticize myself for having irrational or inappropriate emotions.
- _____

4. I perceive my feelings and emotions without having to react to them.
- _____

5. When I do things, my mind wanders off and I’m easily distracted.
- _____

6. When I take a shower or bath, I stay alert to the sensations of water on my body.
- _____

7. I can easily put my beliefs, opinions, and expectations into words.
- _____

8. I don’t pay attention to what I’m doing because I’m daydreaming, worrying, or otherwise distracted.
- _____

9. I watch my feelings without getting lost in them.
- _____

10. I tell myself I shouldn’t be feeling the way I’m feeling.
- _____

11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
- _____

12. It’s hard for me to find the words to describe what I’m thinking.
- _____

13. I am easily distracted.

Appendix D

Difficulties in Emotion Regulation Scale (DERS)

Response categories:

- 1 Almost never (0-10%)
 - 2 Sometimes (11-35%)
 - 3 About half the time (36-65%)
 - 4 Most of the time (66 – 90%)
 - 5 Almost always (91-100%)
1. I am clear about my feelings.
 2. I pay attention to how I feel.
 3. I experience my emotions as overwhelming and out of control.
 4. I have no idea how I am feeling.
 5. I have difficulty making sense out of my feelings.
 6. I am attentive to my feelings.
 7. I know exactly how I am feeling.
 8. I care about what I am feeling.
 9. I am confused about how I feel.
 10. When I'm upset, I acknowledge my emotions.
 11. When I'm upset, I become angry with myself for feeling that way.
 12. When I'm upset, I become embarrassed for feeling that way.
 13. When I'm upset, I have difficulty getting work done.
 14. When I'm upset, I become out of control.
 15. When I'm upset, I believe that I will remain that way for a long time.
 16. When I'm upset, I believe that I'll end up feeling very depressed.
 17. When I'm upset, I believe that my feelings are valid and important.
 18. When I'm upset, I have difficulty focusing on other things.
 19. When I'm upset, I feel out of control..

20. When I'm upset, I can still get things done.
21. When I'm upset, I feel ashamed with myself for feeling that way.
22. When I'm upset, I know that I can find a way to eventually feel better.
23. When I'm upset, I feel like I am weak.
24. When I'm upset, I feel like I can remain in control of my behaviors.
25. When I'm upset, I feel guilty for feeling that way.
26. When I'm upset, I have difficulty concentrating.
27. When I'm upset, I have difficulty controlling my behaviors.
28. When I'm upset, I believe there is nothing I can do to make myself feel better.
29. When I'm upset, I become irritated with myself for feeling that way.
30. When I'm upset, I start to feel very bad about myself.
31. When I'm upset, I believe that wallowing in it is all I can do.
32. When I'm upset, I lose control over my behaviors.
33. When I'm upset, I have difficulty thinking about anything else.
34. When I'm upset, I take time to figure out what I'm really feeling.
35. When I'm upset, it takes me a long time to feel better.
36. When I'm upset, my emotions feel overwhelming.

Appendix E

DASS21		Name:			
		Date:			
<p>Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you <i>over the past week</i>. There are no right or wrong answers. Do not spend too much time on any statement.</p> <p><i>The rating scale is as follows:</i></p> <p>0 Did not apply to me at all 1 Applied to me to some degree, or some of the time 2 Applied to me to a considerable degree, or a good part of time 3 Applied to me very much, or most of the time</p>					
1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3