How Do the Five Facets of Mindfulness and Dispositional Gratitude Relate to Depression, Anxiety, and Stress?

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BSc, BA, BPsysc Sc (Hons)

This thesis is submitted in partial fulfilment of the requirements for the degree of

Master of Clinical Psychology,

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Declarations

Statement of Originality

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

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

Signed:

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Madeline Sarah Collings Begg               Date
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Structured Abstract

Scope

Anxiety disorders and depressive disorders are the two most common kinds of emotional disorders, with 12-month prevalence in Australia of 14.4% for any anxiety disorder and 6.2% for any depressive disorder (Australian Bureau of Statistics, 2008). As part of the ‘third wave’ of psychological therapies (Hayes, 2004), interventions based on positive psychology constructs, such as mindfulness and gratitude, have garnered an increasing research base supporting their utility in alleviating psychological distress (e.g., depression, anxiety, and stress) and enhancing psychological health (Kahl, Winter, & Schweiger, 2012; Keng, Smoski, & Robins, 2011). Little research, however, has investigated how different aspects of mindfulness may relate to gratitude, or how the combined effects of both mindfulness and gratitude may protect against psychological distress.

Purpose

The current study aimed to investigate the relationships between the five facets of mindfulness, dispositional gratitude, and psychological distress. Psychological distress was defined by the presence of symptoms of depression, anxiety, or stress. The study also sought to assess whether dispositional gratitude predicted psychological distress, beyond the variance accounted for by the five facets of mindfulness.

Methodology

Six hundred and fifty-four participants were recruited for the study. Participation was restricted to Australian residents aged 18 years or older who had access to a computer and the internet. After multivariate outliers were deleted, 649 participants remained (510 females, 79%) with a mean age of 30.6 years (range = 17-82 years). Participants comprised undergraduate psychology students at the University of Newcastle (n = 226) and members of the general population (n = 423). Participants completed an online questionnaire, with 12 empirically supported scales, as part of a wider study. Completion time was approximately 45 minutes. For the present study, data from the following scales were analysed: the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006), the Gratitude Questionnaire–Six Item Form (GQ–6; McCullough et al., 2002), and the Depression Anxiety Stress Scale–21 Item Form (DASS–21; Lovibond & Lovibond, 1995).
Results

The hypotheses were tested using correlational analysis and hierarchical multiple regression analysis (MRA). Correlational analyses indicated that: (1) dispositional mindfulness and dispositional gratitude were both related to psychological distress outcomes; and (2) there was a varied pattern of relationships between the five facets of mindfulness and dispositional gratitude. MRA revealed that, even when controlling for the five facets of mindfulness, dispositional gratitude was predictive of depression, anxiety, and stress, accounting for 7.1%, 0.7% and 1.6%, respectively, of the unique variance in each variable. MRA also showed that, when controlling for dispositional gratitude, the five facets of mindfulness differentially predicted psychological distress.

Conclusions and Implications

The weak to moderate correlations between the five facets of mindfulness and dispositional gratitude indicate that dispositional gratitude—whilst linked to mindfulness—is a separate construct that is not wholly represented by measures of mindfulness. This suggests that dispositional gratitude should be examined independently in future research, and that gratitude practice has a place in clinical interventions in its own right.

Moreover, dispositional gratitude was found to be a significant predictor of depression, anxiety, and stress in its own right. In fact, dispositional gratitude predicted more variance in levels of depression than any of the five facets of mindfulness. This suggests that gratitude-enhancing exercises, which are sometimes included in mindfulness interventions, may be especially beneficial for individuals with depression.

Lastly, the five facets of mindfulness were not all equally predictive of psychological distress outcomes: describing did not predict psychological distress, and observing predicted an increase in symptoms of psychological distress. The latter finding suggests that observing might actually represent rumination, or possibly hypervigilance. The status of observing and describing as facets of mindfulness was, therefore, questioned. Future research was recommended to delineate the role of observing and describing, and to further examine how best to measure mindfulness and its components.

Several limitations were identified. The cross-sectional design of the study meant that causal relationships between variables could not be inferred, and future research was recommended that would employ an experimental or longitudinal design. The considerable length of the questionnaire was noted to potentially over- or under-represent the prevalence of psychological distress. The measures solely
assessed dispositional mindfulness and dispositional gratitude, and relied exclusively on self-report—however, all measures utilised were noted to have good reliability and validity. The study also covered a broad cross-section of the community, with a wide age range, thus increasing confidence that its findings may be generalised to the wider population.

Following the current exploratory analysis of the relationships between the five facets of mindfulness, dispositional gratitude, and psychological distress, future studies should seek to further investigate and confirm these findings. Improved understanding of the different components that specifically constitute mindfulness will ultimately lead to the progressive refinement of existing mindfulness and gratitude-based interventions. This, in turn, will allow psychologists to provide efficacious, evidence-based treatments for individuals who present with anxiety and depression.
The Relationships between the Five Facets of Mindfulness, Dispositional Gratitude, and Psychological Distress: A Literature Review

Mental health disorders affect a majority of the community. By age 21, half of all individuals will have met diagnostic criteria for at least one mental health disorder (Copeland, Shanahan, Costello, & Angold, 2011). Mental health problems affect one’s ability to engage in employment (e.g., Kessler & Frank, 1997; Wittchen & Jacboi, 2005) and markedly compromise quality of life for individuals and their families (e.g., Harpin, 2005; Mendelowicz & Stein, 2014; Northouse et al., 2002; Sawyer et al., 2002). One significant area of mental health that has been well researched is emotional disorders. Emotional disorders occur when an individual’s emotions— and resulting behaviours— are inappropriate or unhelpful, resulting in clinically significant distress or impairment (Gross, 1999; American Psychiatric Association, 2013). Anxiety disorders and depressive disorders are the two most common kinds of emotional disorders, with 12-month prevalence in Australia of 14.4% for any anxiety disorder, and 6.2% for any depressive disorder (Australian Bureau of Statistics, 2008).

As part of the ‘third wave’ of psychological therapies (Hayes, 2004), interventions based on positive psychology constructs, such as mindfulness and gratitude, have garnered an increasing research base supporting their utility in alleviating distress and enhancing psychological health (Kahl, Winter, & Schweiger, 2012; Keng, Smoski, & Robins, 2011). Practising mindfulness allows for the development of self-awareness and for an individual to learn to self-regulate their emotional responses (Chlebak, 2013). Gratitude is a separate positive psychological construct which, when practised, allows an individual to think specifically about the valuable and meaningful aspects of life, leading to more positive emotions (Wood, Froh, & Geraghty, 2010).

The present review aims to organise and evaluate the important relevant research in the fields of mindfulness and gratitude and their relationship to psychological distress, and to demonstrate that there is a gap in the literature pointing to an avenue for further research. This review will bring together the findings from a range of studies, published principally in the last two decades, on the relationship of both mindfulness and gratitude to psychological distress.

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1 Twelve-month prevalence refers to, “persons with a lifetime mental disorder who experienced symptoms in the 12 months prior to the survey interview” (Australian Bureau of Statistics, 2008, p. 4).
Mindfulness

Mindfulness is a positive psychology construct, that has increasingly been the focus of psychological research. Mindfulness refers to the practice of purposefully focusing one’s attention on the present moment in an open, receptive, curious and non-judgmental way (Kabat-Zinn, 1994). The origins of mindfulness lie in ancient Buddhist principles, practices and perspectives (Kabat-Zinn, 2003). Four noble truths underlie the religion of Buddhism; one of these truths is that life is full of suffering and is, thus, fundamentally unsatisfactory (Hanh, 1999). Buddhists view the practice of mindfulness as being one way that an individual can come to accept this truth and ultimately reach acceptance and enlightenment (Hanh, 1999). Despite its religious origins, mindfulness can also be viewed as a non-religious, evidence-based set of beliefs and practices that has been integrated into mainstream modern medicine and psychology (Keng et al., 2011).

Research into mindfulness, both as a positive psychological construct and as an effective intervention in clinical settings, has burgeoned since the 1980s (Gu, Strauss, Bond, & Cavanagh, 2015; Keng et al., 2011). Mindfulness now has a strong evidence base and plays a central role in a number of psychological interventions utilised in clinical practice (Cash & Whittingham, 2010). There are a number of interventions based on mindfulness training, including Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982, 1990) and Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002). There are also several interventions in which mindfulness training is a key component, such as Dialectical Behaviour Therapy (DBT; Linehan, 1993a, 1993b), Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999), and Relapse Prevention (RP; Marlatt & Gordon, 1985). Whilst mindfulness is a component in each of these five evidence-based interventions, each cultivates mindfulness in a different way (Cash & Whittingham, 2010).

Mindfulness can be conceptualised as both a skill, that can be developed through practice, and as a disposition, that occurs naturally without intentional focus or active development. State mindfulness refers to the state of being mindful, and is achieved only through practised mindfulness meditation training (Cahn & Polich, 2006). On the other hand, dispositional mindfulness, or trait mindfulness, refers to one’s ability and willingness to maintain awareness and focused attention, and the skill, characteristics, attitude and philosophy toward mindfulness that result (Brown & Ryan, 2003). Dispositional mindfulness is seen in everyday activities and in varying levels across the population; this ability to orient attention
and awareness to the present moment varies both within and between individuals, and it has been found that this ability can be quantified empirically (Black, 2011).

A number of questionnaires have been created to measure one’s predisposition to be mindful in day-to-day life. These include:

- The Cognitive Affective Mindfulness Scale Revised (CAMS-R; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007)
- The Freiburg Mindfulness Inventory (FMI; Buchheld, Grossman, & Walach, 2001)
- The Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004)
- The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003)
- The Philadelphia Mindfulness Scale (PMS; Cardacioto et al., 2008)
- The Southampton Mindfulness Questionnaire (SMQ; Chadwick et al., 2008), and
- The Toronto Mindfulness Scale Trait Version (TMS-Trait; Davis, Lau, & Cairns, 2009)

Keng et al. (2011) noted that these questionnaires measure mindfulness as either a one-dimensional construct (e.g., MAAS) or a multi-dimensional construct (e.g., KIMS).

Baer, Smith, Hopkins, Krietemeyer and Toney (2006) examined 475 participants’ responses to the MAAS, the FMI, the KIMS, the CAMS-R, and the SMQ in order to determine if there were key constructs underlying these measures. Upon conducting a factor analysis of participants’ responses to the five mindfulness questionnaires, Baer et al. suggested that mindfulness could be broken down into five main facets, or dimensions. The five facets of mindfulness were proposed to be: observing, describing, acting with awareness, non-judgment of inner experiences, and non-reactivity to inner experiences.

Observing involves being aware of and attentive to thoughts, emotions, sensations and experiences—both internal and external. Describing refers to the process of using words to express or illustrate one’s experiences. Acting with awareness entails focusing one’s attention on the present moment. Non-judgment of inner experiences encompasses taking a neutral stance towards all thoughts and feelings whilst stepping back from any judgments that the mind may produce. Lastly, non-reactivity to inner experiences describes an ability to experience thoughts and feelings as transient—letting them pass by, without becoming consumed by, or absorbed in, them. The five facets were found to be internally consistent yet also moderately inter-correlated, which suggested that they were separate—but related—constructs.
Baer et al. (2006) noted that conceptualising mindfulness as a multi-faceted construct helps psychologists to better understand what mindfulness is, how it relates to other variables, and which specific skills are implicated in its practice. Based on their identification of the five facets of mindfulness, Baer et al. developed the Five Facet Mindfulness Questionnaire (FFMQ) as a multi-faceted measure of dispositional mindfulness. The measure has been shown to have good construct validity as well as good internal consistency and appropriate stability (Baer et al., 2008).

Van Dam, Hobkirk, Danoff-Burg, and Earleywine (2012) examined the psychometric properties of the FFMQ, drawing on a sample of university students (mean age 18.9 years; 70% female). The researchers utilised confirmatory factor analysis to investigate the validity of a hierarchical mindfulness model; however, they found that a correlated facets model more accurately explained the data. The researchers noted that this indicated that the FFMQ “measures components that may relate to, but do not seem to directly reflect, a latent variable of mindfulness” (p. 198). In other words, their findings suggest that the individual subscales of the FFMQ—not the total FFMQ score—should be used to measure mindfulness, since a superordinate mindfulness factor does not appear to exist. This suggestion is also consistent with research conducted by Coffey, Hartman and Fredrickson (2010), who sampled university students (mean age 19.2 years; 60% female) and found that some subscales of the FFMQ appear to have more predictive utility than others. Hence, considering scores on the individual subscales of the FFMQ appears to be more useful than looking at the FFMQ total score on its own.

The Relationship between Dispositional Mindfulness and Psychological Distress. The characteristics of a mindful disposition have been shown to be associated with emotional well-being (Brown & Ryan, 2003; Fredrickson, 2000) and broad positive physical and psychological attributes (Hoffman, Sawyer, Witt, & Oh, 2010). Several studies have provided evidence that self-reported dispositional mindfulness is linked to better psychological health outcomes, with statistically significant correlations found for samples of undergraduate university students, adult community populations, and adult clinical populations (Baer et al., 2004; Baer et al., 2006; Brown & Ryan, 2003; Chadwick et al., 2008; Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006). Moreover, according to Hayes, Strosahl and Wilson (1999), individuals with high levels of dispositional mindfulness tend to react less sensitively to their thoughts and feelings, and tend to be less emotionally affected by life stressors, in comparison with those with low levels of dispositional mindfulness.
Brown and Ryan (2003) examined the effect of dispositional mindfulness (i.e., scores on the MAAS) on psychological well-being, in a sample of university students ($n = 327$) and a community sample ($n = 239$), and found that higher levels of dispositional mindfulness are linked with greater life satisfaction, self-esteem, vitality, autonomy, competence, optimism, self-awareness, and pleasant affect. Their research also revealed that dispositional mindfulness predicts both the experience of positive emotional states and the ability to self-regulate behaviour. The researchers also conducted an eight-week mindfulness intervention with cancer patients (mean age 55.3 years; 78% female), which revealed a negative correlation between dispositional mindfulness and levels of stress and mood disturbance, even when they controlled for levels of both fatigue and pain.

In a similar vein, Bowlin and Baer (2012) examined whether dispositional mindfulness accounts for a significant percentage of the variance in psychological health when controlling for level of dispositional self-control. The researchers asked university undergraduates ($N = 280$; mean age 19.0 years; 63% female) to complete self-report measures on mindfulness, self-control, psychological well-being, and psychological distress (depression, anxiety, and stress). Results revealed that there was a positive correlation between mindfulness and psychological well-being, and a negative correlation between mindfulness and psychological distress. The researchers also found that mindfulness explained a significant amount of the variance in psychological well-being and psychological distress, even when accounting for level of self-control. Mindfulness was also shown to significantly moderate the association between self-control and psychological distress symptoms.

Using self-report measures, Rasmussen and Pidgeon (2011) examined the relationship between dispositional mindfulness (i.e., scores on the MAAS), self-esteem (i.e., scores on the Rosenberg Self-Esteem Scale [RSES; Rosenberg, 1989]) and social anxiety (i.e., scores on the Social Interaction Anxiety Scale [SIAS; Mattick & Clarke, 1998]), in a sample of university students (mean age 23.1 years; 59% female). Correlational analyses indicated that mindfulness was significantly associated with increased self-esteem and decreased social anxiety, and self-esteem was shown to be a partial mediator between mindfulness and social anxiety.

In addition to the considerable evidence showing that higher levels of dispositional mindfulness are associated with lower levels of psychological distress, there is also research to suggest that higher levels of dispositional mindfulness are linked to neurophysiological differences in brain activity (Keng et al., 2011). A study by Creswell, Way, Eisenberger and Lieberman (2007) utilised functional...
neuroimaging to explore what effect dispositional mindfulness may have on the brain. The researchers drew on a sample of university students (59% female) and found that, when participants were asked to label emotions, the brains of participants with higher levels of dispositional mindfulness showed decreased bilateral activation of the amygdala and increased widespread activation of the prefrontal cortex. They also found a strong, negative correlation between activation in the prefrontal cortex and in the right amygdala in individuals with high levels of dispositional mindfulness, but not in individuals with low levels of dispositional mindfulness. Based on these findings, the researchers suggested that the prefrontal cortex may be utilised by individuals who are higher in dispositional mindfulness to inhibit the amygdala, when regulating their emotions.

Drawing on the same sample as Creswell et al. (2007), Way, Creswell, Eisenberger, and Lieberman (2010) also noted a negative association between dispositional mindfulness and resting activity in the amygdala and the medial prefrontal and parietal brain regions, and a positive association between symptoms of depression and resting activity in these regions. This finding is consistent with a previous finding in university students (73% female) that higher levels of dispositional mindfulness are linked to an increased ability to let go of negative automatic thoughts about oneself (Frewen, Evans, Maraj, Dozois, & Partridge, 2008).

The mechanisms by which mindfulness reduces psychological distress are not yet fully understood. One hypothesis is that mindfulness allows individuals to react emotionally to events in the moment and not connect them in their mind to past or future concerns (Williams, 2010). According to this hypothesis, mindfulness allows individuals to remember that the negative emotions they experience in any one moment (i.e., feeling depressed, anxious and/or stressed) are transient and, therefore, they do not dwell on them as much (Farb, Anderson, & Segal, 2012).

When an individual is truly being mindful, they are not judging or reacting to any inner experiences. However, when an individual experiences depression, they have a negative view of themselves, the world, and the future—this is known as Beck’s (1970) cognitive triad. In fact, depression, anxiety, and stress all involve negative judgments and reactions to both inner and outer experiences. Mindfulness, then, may help an individual experiencing psychological distress by allowing them to minimise their negative judgments and reactions.

The Relationship between the Five Facets of Mindfulness and Psychological Distress. There have been preliminary investigations into the relationships between the five facets of mindfulness and
depression, anxiety, and stress. Cash and Whittingham (2010) examined the five facets of mindfulness with the intention of determining which of the facets predicted symptoms of depression, anxiety, and stress. The researchers drew on a sample comprised of meditators who were recruited from Vipassana or Zen meditation organisations (n = 80), and university students (n = 26) (mean age 36.8 years; 59% female). Using hierarchical multiple regression analysis, the researchers found that non-judgment of inner experiences was a significant independent predictor of depression, anxiety, and stress, accounting for 6.9%, 10.6% and 8.7%, respectively, of the variance in levels of depression, anxiety, and stress. The researchers also found that acting with awareness was a significant independent predictor of depression, accounting for 9.1% of the variance in levels of depression. None of the three remaining facets of mindfulness (observing, describing, and non-reactivity to inner experiences) was found to be a significant independent predictor of psychological distress. Based on these findings, Cash and Whittingham suggested that non-judgment of inner experiences and acting with awareness “may be the most important mindfulness facets in predicting psychological symptoms, with Act-aware [acting with awareness] having particular relevance for depression” (p. 180).

Bränström, Duncan and Moskowitz (2011) also completed a cross-sectional study into the relationship between dispositional mindfulness and psychological functioning (depression, anxiety, and stress). The FFMQ was utilised to measure dispositional mindfulness, the Hospital Anxiety and Depression Scale (HADS; Bjelland, Dahl, Haug, & Neckelmann, 2002) was utilised to measure participants’ current state of depression and anxiety, and the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) was utilised to measure perceptions of stressful events in the past month. Drawing on a non-clinical sample of the Swedish population (59% female), the researchers found that mindfulness—especially acting with awareness and non-reactivity to inner experiences—was negatively correlated with depression and anxiety. Moreover, it was found that mindfulness acted as a buffer against the negative influence of stress on psychological health—that is, the strength of the relationship between perceived stress and depressive symptoms was moderated (i.e., reduced) by higher levels of dispositional mindfulness. Based on these findings, the researchers suggested that mindfulness interventions may improve psychological health in those who are experiencing stress.

The studies by Cash and Whittingham (2010) and Bränström et al. (2011) emphasised the importance of acting with awareness, non-reactivity to inner experiences, and non-judgment of inner experiences as protective factors against psychological distress. In turn, these findings suggest that
observing and describing may be less important elements of mindfulness in relationship to psychological distress. The two studies have been the only investigations conducted, thus far, into the incremental validity of each of the five facets of mindfulness in predicting depression, anxiety, and stress. Therefore, further research should be conducted into the relationships between specific mindfulness facets and symptoms of depression, anxiety, and stress, in order to confirm and build on these findings. Improved understanding of the relationship between the five facets of mindfulness and psychological distress may enhance the development of mindfulness interventions for clinical use. Previous research (e.g., Bohlmeijer et al., 2011) has shown that dispositional mindfulness (as measured by scores on the FFMQ) can be enhanced by engagement in mindfulness-based interventions.

In summary, research suggests that dispositional mindfulness is negatively correlated with symptoms of depression, anxiety, and stress. Only a few studies, however, have investigated which of the five facets of mindfulness are significantly associated with depression, anxiety, and stress, and there is no clear consensus. Further research is, thus, needed in order to solidify understanding of the “clinically active ingredients of mindfulness” (Cash & Whittingham, 2010, p. 181) and their importance to depression, anxiety, and stress. This may in turn enhance understanding of how and why mindfulness acts as a protector against psychological distress.

Gratitude

How does dispositional mindfulness relate to other positive psychological constructs, such as gratitude? Gratitude has been described as the practice of recognising, in a positive way, the gifts or benefits that one has been given (Nelson, 2009). In other words, gratitude requires an individual to be aware of what they have in their life. Mindfulness may be seen as a starting point for gratitude: in order to feel grateful, one must first be aware of and attentive to one’s internal and external experiences (i.e., observing) and then one must be able to use words to express or illustrate these experiences (i.e., describing). Thus, two of the five facets of mindfulness appear to be implicated in the practice of gratitude and, consequently, mindfulness and gratitude appear theoretically linked (Chlebak, 2013).

Gratitude can be experienced as a disposition (or trait or attitude), as a mood, or as a state (McCullough, Emmons, & Tsang, 2002). The current review is concerned with dispositional gratitude, which refers to a “wider life orientation towards noticing and appreciating the positive in the world”

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2 “Appreciation”, “thankfulness” and “gratefulness” are commonly used interchangeably with “gratitude”, and are considered as synonyms for the purpose of this review.
(Wood et al., 2010, p. 2) The key adaptive function of gratitude may be that it prepares an individual to be more generous and act in a pro-social manner (McCullough, Kimeldorf, & Cohen, 2008).

Like mindfulness, gratitude has theological origins. Historically, gratitude was a virtue promoted and emphasised by the three main monotheistic religions in the world—Christianity, Islam and Judaism—as one way to lead an individual to live a fulfilling life (Emmons & Crumpler, 2000; Emmons & Kneezel, 2005). A study by Lambert, Fincham, Braithwaite, Graham, and Beach (2009) of a sample of university students (mean age 19.0 years; 74% female) found a strong positive correlation between prayer frequency and gratitude, and noted that frequency of prayer was a predictor of gratitude levels six weeks later, even when controlling for pre-experimental levels of gratitude and religiosity. Rosmarin, Pirutinsky, Cohen, Galler, and Krumrei (2011), in a sample of community dwellers ($n = 140$) and a sample of university students ($n = 265$) also found that there was a positive correlation between gratitude and “religious commitment” (p. 390).

Notwithstanding the religious origins of gratitude, researchers in recent years have begun to approach gratitude from a scientific perspective. Gratitude is often discussed in relation to mindfulness, and activities to increase state gratitude are sometimes included in mindfulness interventions (e.g., Kimbrough, Magyari, Langenberg, Chesney, & Berman, 2010).

Different assessment tools have been developed to measure dispositional gratitude (Sansone & Sansone, 2010). The most commonly utilised measure of gratitude is the Gratitude Questionnaire—Six Item Form (GQ–6; McCullough et al., 2002). The GQ–6 is a six-item questionnaire which uses a seven-point Likert scale ($1 = “strongly disagree”, 7 = “strongly agree”) to measure the frequency, intensity, and density of an individual’s gratitude. McCullough and colleagues found that the items measure a one-dimensional conception of gratitude, and that the questionnaire has good internal consistency.

The Relationship between Dispositional Gratitude and Psychological Distress. While the negative correlations between dispositional mindfulness and psychological distress outcomes are relatively well established, research into the association between gratitude and psychological distress is only just emerging. Preliminary research, however, appears to indicate that gratitude is associated with enhanced emotional functioning—that is, high positive affect and life satisfaction, and low negative affect (Sansone & Sansone, 2010; Wood et al., 2010).

Sheldon and Lyubomirsky (2006) tested the effect of a gratitude intervention on a sample of undergraduate university students ($N = 67; 75\%$ female). Participants were allocated to either complete
one of two mental exercises—“counting one’s blessings (“gratitude”)” (p. 73) or “visualizing best possible selves (BPS)” (p. 73)—or to the control group, in which they were asked to pay attention to details of their day. Participants performed either the gratitude, BPS or control exercises at three points in time, with the sessions spaced two weeks apart. The researchers were interested in determining whether there would be an effect of intervention on the participants’ emotions. They found that participants in both the gratitude condition and the BPS condition immediately experienced statistically significant boosts in positive affect and reductions in negative affect, by comparison with participants in the control condition. After four weeks, these changes in mood persisted for participants in both experimental conditions, although the authors noted that BPS mental exercises appeared superior in raising and maintaining positive affect.

Wood, Joseph and Maltby (2009) assessed whether dispositional gratitude (as measured by scores on the GQ–6) predicted psychological well-being, even when controlling for both the domains and the facets of the Big Five personality traits. A sample of 201 university students (64% female) completed the Revised NEO Personality Inventory (NEO PI-R; Costa & McCrae, 1992) as well as scales of psychological well-being. Data analysis revealed a small correlation between gratitude and autonomy ($r = .17$), and medium to large correlations between gratitude and sense of mastery, personal growth, positive relationships, life purpose, and self-acceptance ($rs$ ranged from .28 to .61). Most importantly, the researchers found that gratitude accounted for a significant amount of unique variance in psychological well-being, even when controlling for the Big Five personality traits.

Kerr, O’Donovan and Pepping (2014) analysed the effect of either a two-week gratitude intervention or a two-week kindness intervention on patients on a waiting list for outpatient psychological intervention (mean age 43.0 years; 75% female). The authors found that participation in either intervention—in comparison with the control condition—led to an increased sense of connectedness with others, improved life satisfaction and optimism, and reduced anxiety. Moreover, participants who received the gratitude intervention were found to reliably foster gratitude in this short period, whilst participants who received the kindness intervention were not. The brief interventions, however, did not influence general psychological function and perceived meaning in one’s life. Kerr and colleagues concluded that the emotional experiences of gratitude and kindness are both able to induce beneficial emotional change, and that both may have a role in clinical practice as “useful pre-treatment interventions that reduce the negative impact of long waiting times to receive treatment” (p. 33).
Boehm, Lyubomirsky and Sheldon (2011) were interested in exploring if positive psychological interventions were effective in increasing positive affect for a range of cultural backgrounds, given that previous studies had predominantly drawn on Caucasian samples. The researchers studied a sample of community dwellers (mean age 35.6 years; 53% female). They randomly assigned both Caucasian Americans and Asian Americans (not born in America) to either practise expressing gratitude or optimism, or list past experiences (control group). Boehm et al. found that, after six weeks, participants in both experimental conditions reported experiencing greater life satisfaction than participants in the control condition—regardless of ethnicity. Moreover, the researchers noted that Caucasian Americans in the experimental conditions showed greater improvements in life satisfaction than the Asian Americans. The authors ascribed this finding to the fact that, in individualist cultures, a high value is assigned to self-improvement—in comparison with collectivist cultures, which traditionally focus less on the self and individual goals with regard to enhancing well-being.

Gratitude has also been associated with a lower incidence of psychopathology. A large study (N = 2621) by Kendler et al. (2003) examined how different dimensions of religiosity related to lifetime risk of developing psychiatric and substance use disorders, in a sample of male and female twins drawn from the Virginia Twin Registry. Utilising logistic regression, the researchers identified that (religiously oriented) thankfulness was one factor that predicted a significantly lower lifetime risk for internalising and externalising disorders, which includes anxiety and depressive disorders. Kendler et al. were careful to emphasise, nevertheless, that the link between thankfulness and lower incidence of psychopathology was not necessarily causal. It should be noted, moreover, that this study did not specifically assess gratitude, but rather religious thankfulness, which likely measures other constructs besides gratitude. The four items that were identified as drawing on the factor of thankfulness were: (1) “I feel thankful for what I have received in life”, (2) “I feel grateful nearly every day”, (3) “I express anger at God for letting terrible things happen” (reverse scored), and (4) “I wonder whether God has abandoned me” (reverse scored). Items (3) and (4) appear to draw on constructs besides gratitude (e.g., anger and abandonment) and, thus, the study’s findings need to be considered with this qualification.

Similarly, Wood, Maltby, Gillett, Linley and Joseph (2008) conducted two longitudinal studies in order to analyse the relationships between dispositional gratitude, perceived social support, stress and depression while experiencing a life transition—starting university. Participants were first year undergraduate university students (51% female), who completed all measures both before and after their
first semester at university. The researchers utilised structural equation modelling, which revealed a direct model in which gratitude resulted in an increase in perceived social support and decreases in stress and depressive symptomatology. Moreover, their analyses revealed that no variable led to gratitude. The researchers noted that gratitude appeared to directly cultivate perceived social support and act as a protective factor against depression and stress.

Like mindfulness, the mechanisms by which gratitude reduces psychological distress have not been fully explored. Nelson (2009) noted that gratitude invokes positive feelings outwardly to both the gift and the source of the gift (i.e., another person, a God, or the universe) and, thus, fostering a sense of gratitude leads to reductions in negative affect such as self-pity and anger. Gratitude, therefore, requires a shift in attention—moving away from the self, and onto others—and a change in perspective to an outward focus (i.e., on the gift and the source of the gift), which then leads to a change in emotional state (Nelson, 2009). In this way, when an individual is practising gratitude, they are not making negative judgments or reacting negatively to inner or outer experiences—as one does when one is depressed, anxious or stressed. Instead, gratitude may help an individual experiencing psychological distress by moving their focus away from negative inner and outer experiences, and putting it onto positive inner and outer experiences.

In sum, only a handful of studies have investigated the link between dispositional gratitude and psychological distress. Early evidence indicates that dispositional gratitude is negatively correlated with symptoms of depression, anxiety, and stress; however, further research should specifically examine the relationships between these variables.

**The Five Facets of Mindfulness and Dispositional Gratitude**

As described earlier, mindfulness appears to be implicated in the practice of gratitude and, thus, the two positive psychological constructs are likely linked. Two facets of mindfulness, observing and describing, appear to be essential for gratitude to occur. One of the other facets of mindfulness, acting with awareness, would not appear to be essential for gratitude to occur, as gratitude can involve directing one’s awareness to aspects of the past or the future, and not just to the present moment. Moreover, the two remaining facets of mindfulness, non-judgment of inner experiences and non-reactivity to inner experiences, would likely not be implicated in the practice of gratitude at all, given that gratitude involves making (positive) judgments about, and reacting to, one’s inner and outer experiences.
Preliminary research suggests that there are statistically significant links between dispositional mindfulness and dispositional gratitude (e.g., McCullough, 2002). Only one study to date, however, has directly explored the association between the five facets of mindfulness and dispositional gratitude. Ahrens, Breetz and Forbes (2011) were interested in exploring the relationship between the five facets of mindfulness and dispositional gratitude, and sought to determine if any of the five facets predicted gratitude after positive events had been experienced. The researchers drew on a sample of university students ($N = 89$; mean age 20.0 years; 73% female), and measured dispositional gratitude (utilising scores on the GQ-6) and dispositional mindfulness (utilising scores on the FFMQ) of participants. Then, participants were asked to complete an online gratitude diary every day for two weeks, in which they wrote about a positive event that had not been caused by themselves or others. Each day participants also completed the State Event Gratitude (SEG) scale (Kirby & Smith, 2010), in which they chose, from 11 groups of adjectives, which group best described their emotional response to gratitude-inducing situations, with gratitude being contained within the “grateful, thankful” group. They were also asked to report which emotions they had experienced when writing the diary entry, and if any behavioural urges were present. On average, participants wrote 11.43 daily gratitude entries over the two-week period.

Analyses by Ahrens et al. (2011) revealed a moderate and positive correlation between dispositional mindfulness and dispositional gratitude. The researchers also found that, of the five facets of mindfulness, dispositional gratitude was only significantly correlated with observing and describing. This finding provides preliminary evidence that dispositional mindfulness and dispositional gratitude are indeed linked, and that some of the five facets of mindfulness appear to be more relevant to the practice of gratitude than others. However, further research is needed in order for these findings to be replicated and for the links between these constructs to be more precisely determined.

Conclusions

This review has evaluated research in the fields of mindfulness and gratitude, and demonstrated that there are significant gaps in the literature. As outlined in this review, there is an extensive body of literature documenting the links between dispositional mindfulness and psychological distress. There has been comparatively less research, however, into the links between dispositional gratitude and psychological distress, and no studies that have evaluated the impact of both dispositional mindfulness and dispositional gratitude on psychological distress. Moreover, no study has comprehensively explored
the relationship between the five facets of mindfulness and gratitude, and how each of these variables uniquely contributes to psychological distress.

These gaps in the literature should be addressed by research that investigates how dispositional mindfulness, and particularly its facets, and dispositional gratitude relate to each other and to depression, anxiety, and stress. Given that the concepts of mindfulness and gratitude are somewhat intertwined, future research should also examine whether dispositional gratitude significantly predicts psychological distress outcomes, even when controlling for the five facets of mindfulness. This will assist researchers to establish to what degree dispositional gratitude diminishes levels of depression, anxiety, and stress—over and above the contribution made by the five facets of mindfulness. Understanding the extent of the relationship between dispositional mindfulness and dispositional gratitude will have implications for how clinical interventions (e.g., mindfulness training, gratitude practice) are designed and applied in a wide range of clinical settings. This research will add to the growing body of knowledge in this field, in turn leading to the refinement of existing mindfulness- and gratitude-based interventions. Ultimately, this will allow psychologists to provide highly efficacious, evidence-based treatment for individuals who present with anxiety and depressive disorders.
References


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