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I Judge, Therefore I React: An Experimental Investigation of Acceptance

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by

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Abstract

The present study was designed to provide empirical tests of some of the mechanisms thought to operate in mindfulness-based treatments. Specifically, I tested the hypothesis that appraising distress judgmentally (as a needless and useless indication of personal weakness) would be associated with experiencing meta-distress (e.g., feeling ashamed about being distressed), which would, in turn, be associated with increased experiential avoidance (i.e., suppression or distraction from the distress) and shorter distress tolerance. In addition, I examined the hypothesis that compassionately appraising distress (as normal, understandable, and potentially a source of growth) would be associated with spending more time curiously exploring that distress and thereby be associated with being able to tolerate distress for longer periods of time. Finally, I examined the prediction that compassionately appraising distress would be associated with even greater curious exploration and distress tolerance than viewing distress from a distanced perspective (as a passing mental event), which is often taught along side or as a prerequisite for compassionate appraisal. One-hundred-sixty-seven psychologically healthy college students and members of the academic community at a large Mid Southern University underwent a series of distress inductions and were told to either simply monitor their level of distress (Awareness), judgmentally appraise distress (Judgment), maintain a distanced perspective from distress (Distancing), or compassionately appraise distress while also maintaining a distanced perspective (Compassion). As expected, some support was found for the hypothesis that compassionately appraising distress was associated with greater curious investigation of distress, if not longer distress tolerance. Moreover, compassionately appraising distress was associated with greater curious investigation than simply viewing distress from a distanced perspective, but only for the idiographic sadness induction. Hypotheses regarding the

impact of judgmental appraisal could not be fairly evaluated in the present study, as it appeared that the judgment manipulation failed to sufficiently alter behavior.

Keywords: Acceptance, Experimental, Mindfulness, Emotion, Appraisal

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Special thanks to Dr. Timothy A. Cavell, who first introduced me to the concept of acceptance, to Dr. Denise R. Beike, who influenced this work as part of my dissertation committee and whose fortitude is truly amazing, and to Dr. Jennifer C. Veilleux, who insisted that I follow my passion and without whom none of this would have been possible.

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An Experimental Investigation of Acceptance

Over the past two decades, interest in acceptance-based or "third wave" therapies has exploded. Indeed, randomized controlled trials now support the efficacy of flagship acceptance-based treatments, such as Mindfulness-Based Stress Reduction (Kabat-Zinn, 1990), Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002), Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999; 2012), Acceptance-Based Behavior Therapy for Generalized Anxiety Disorder (Roemer & Orsillo, 2005), and Dialectical Behavior Therapy (DBT; Linehan, 1993). In fact, these treatments appear to be more effective than either waitlist conditions or other active treatments for a variety of pathologies (Hofmann, Sawyer, Witt, & Oh, 2010). Such evidence presently exists for depression and depressive relapse (Bondolfi et al., 2010; Hofmann, Sawyer, Witt, & Oh, 2010; Teasdale. Segal, Williams, Ridgeway, Soulsby, & Lau, 2000), generalized anxiety disorder (Hayes-Skelton, Roemer, & Orsillo, 2013; Hofmann et al., 2010), and social anxiety disorder (Jazaieri, Goldin, Werner, Ziv, & Gross, 2012, Koszycki, Benger, Shlik, & Bradwejn, 2007), to name a few conditions. Among the largest bodies of such research belongs to investigations of DBT. DBT appears superior to waitlist and some other treatments for Borderline Personality Disorder (BPD) or features of BPD (Gratz & Gunderson, 2006; Harrned, Chapman, Dexter-Mazza, Murray, Comtois, & Linehan, 2009; Linehan et al., 2006; Pistorello, Fruzzetti, MacLane, Gallop, & Iverson, 2012; van den Bosch, Koeter, Stijnen, Verheul, & van den Brink, 2005; Verheul, van den Bosch, Koeter, Ridder, Stijnen, & van den Brink, 2003), substance use in individuals with BPD (Linehan Schmidt, Dimeff, Craft, Kanter, & Comtois, 1999; Linehan et al, 2002), and disordered eating (Hill, Craighead, & Safer, 2011; Safer, Robinson, & Jo, 2010; Telch, Agras, & Linehan, 2001).

While such evidence is encouraging and may ultimately result in these treatments being designated empirically supported for these conditions (Chambless & Ollendick., 2001), treatment outcome studies also have considerable limitations.

For example, authors of varying theoretical persuasions have argued that an exclusive focus on treatment package efficacy research results in the propagation of "technologies of change," rather than advancing scientific understanding of human function and dysfunction and informing "principles of change" that may then be included in multiple therapies (Hayes, Levin, Plumb-Vilardaga, Villatte, & Pistorello, 2013, Rosen & Davison, 2003). Furthermore, some have recently argued that evidence from randomized controlled trials ought to be augmented or even based on experimental demonstrations of the mechanisms of change posited to underlie the treatment under investigation (David & Montgomery, 2011; Lohr, 2011). Absent this latter form of evidence, both David and Montgomery (2011) and Lohr (2011) argue that the number of available treatments will continue to grow with no discernible end point, efforts to refine treatments will be slow, and fundamental questions about how people change in therapy will not be addressed. These authors argue that theories of change within therapies should be based on theories of how pathology develops or is maintained. Therefore, researchers interested in furthering the status of acceptance-based therapies are charged with evaluating and enhancing the current evidence base for the putative mechanisms of change in these therapies.

Although acceptance has long been considered a central mechanism of effortful change in several third-wave therapies (e.g., Baer, 2003; Bishop et al., 2004; Chadwick, Hember, Symes, Peters, Kuijpers, & Dagan, 2008; Hayes et al., 1999; Kabat-Zinn, 1990; Linehan, 1993; Marlatt & Kristeller, 1999), until recently, there was no definition of acceptance (Block-Lerner. Wulfert, & Moses, 2009; Herbert, Forman, & England, 2009; Hofmann, Heering, Sawyer, & Asnani,

2009; Karekla, Forsyth, & Kelly, 2004). The field was also lacking a clearly articulated working model of how lack of acceptance might lead to pathology by affecting thoughts, feelings, and actions and how acceptance might work to alter these things to promote healthy and effective functioning (Baer, 2003; Baer et al., 2004; Coffey at al., 2010; Dimidjian & Linehan, 2003; Marlatt & Kristeller, 1999). Absent a definition of or model for acceptance, researchers had difficulties finding evidence for the posited mechanisms of change in acceptance-based therapies, leaving those therapies vulnerable to accusations of pseudo-scientific bases (David & Montgomery, 2011; Lohr, 2011). Recognizing the need for both a definition and a working model of acceptance, Shaver and Veilleux (under review) have recently striven to fill these gaps.

Two Dimensions of Acceptance

After a thorough examination of existing literature and source books for mindfulness and acceptance-based treatments, Shaver and Veilleux (under review) have discerned that the term "acceptance of negative emotions" has been used to refer to at least two inter-related dimensions of conscious and effortful behavior: the appraisal dimension and the reaction dimension. The authors also identify two extremes of either of these dimensions, which roughly correspond to mechanisms for either pathology (which may involve automatic of overlearned processes) or healthy and effective emotional functioning (which generally entails conscious goal-directed efforts). In regards to the appraisal dimension, the authors identify either conscious or automatic judgmental appraisals of emotional distress (i.e., as baseless, useless responses that reflect a personal deficit in the person having the reaction) as a pathology-generating mechanism, and link conscious and effortful compassionate appraisals of emotional distress (i.e., as natural, appropriate reactions that provide useful information about the environment, and/or one's needs, and are sources of potential personal strength) to healthy and effective emotional functioning. In

regards to the reaction dimension, the authors identify experientially avoidant reactions to emotional distress (e.g., suppressing emotions, avoiding stimuli associated with emotion, and dampening emotion through other means) as being linked to pathology. On the other hand, the authors summarize several works that theoretically link either willingly tolerating emotional distress (i.e., choosing to pursue goals, even when distress is involved, with no focus on altering that distress) or curiously exploring emotional distress (i.e., sitting with emotions in order to understand what information they might provide and how to best regulate or express them) with more effective and healthy behavior, such as continued goal pursuit in the face of distress and effective coping with that distress (e.g., Farmer & Chapman, 2008; Hayes et al., 1999; 2012; Leahy, Tirch, & Napolitano, 2011; Linehan, 1993).

While some (e.g. Greenberg, 2002; Linehan, 1993, McKay, Wood, & Brantley, 2007), but not all (Hayes et al., 1999; 2012; Kabat-Zinn, 1990; Roemer & Orsillo, 2005; Segal et al., 2003) third-wave therapies directly encourage pursuit the ideal poles identified by Shaver and Veilleux, theories underlying acceptance-based treatments uniformly suggest gains are partly due to moving clients from the pathology-generating end toward the healthy and effective end of both the appraisal and reaction dimensions (Greenberg, 2002; Hayes et al., 1999; 2012; Kabat-Zinn,. 1990; Linehan, 1993, McKay, et al., 2007; Roemer & Orsillo, 2005). Moreover, there is some evidence for these claims (see Berking, Neasciu, Comtois, & Linehan, 2009; Forman, Herberg, Moitra, Yeomans, & Geller, 2007; Tanay, Lotan, & Bernstein, 2012). As such, both dimensions represent important theoretical mechanisms of action for third-wave therapies. Ergo, evidence, particularly experimental evidence, for either or both would help augment the comparative treatment findings reviewed above (David & Montgomery, 2011; Lohr, 2011).

Reaction dimension. What Shaver and Veilleux (under review) identify as the reaction dimension of acceptance (i.e., the continuum from either engaging in experiential avoidance to curiously exploring emotional distress) has been relatively better explored in the literature. Models of acceptance suggest that, when contrasted with willing tolerance or curious exploration of emotional distress (henceforth referred to simply distress), experientially avoidant coping with distress may dampen immediate distress, while also forestalling the resolution of that distress (c.f., Hayes et al., 1999; 2012; Linehan, 1993). Simply, people who respond by avoiding the experience of the distress (i.e., employ experiential avoidance) may not get less upset, but may also remain somewhat distressed longer than those who react with willing tolerance or by curiously investigating their distress. Therefore, by encouraging either willing tolerance or curious exploration of distress, third-wave therapies promote emotional recovery each time an emotion-evoking stimulus is encountered. Indeed, ample available experimental evidence supports this hypothesized mechanism of change in third-wave behavior therapies (Campbell-Sills, Barlow, Brown, & Hoffmann, 2006b; Dunn, Billotti, Murphy, & Dalgleish, 2009; Liverant, Brown, Barlow, & Roemer, 2008; Singer & Dobson, 2007; 2009; Tull, Jacupcak, & Roemer, 2010).

In addition, with repeated exposures to distress, either willingly tolerating or curiously exploring distress should function much like exposure and lead to habituation. That is, if they repeatedly encounter situations that make them feel distressed, people who willingly tolerate or curiously investigate their distress may become less distressed by those situations across time (c.f., Quirk, Garcia, & Gonzalez-Lima, 2006; Quirk, 2007; Shaver & Veilleux, under review; Tull et al., 2010). There is presently a paucity of research on this topic. Moreover, with repeated exposures to distress, it has been argued that either willingly tolerating distress or curiously

exploring distress may reduce other types of appraisals of distress, like beliefs that distress may be physically dangerous or result in social ostracism (e.g., Hayes et al., 1999; Taylor et al., 2007; Williams, Chambless, & Ahrens, 1997). Indeed, there is both evidence that individuals who are more often willing to tolerate distress are less afraid of emotions (Forsyth, Parker, & Finlay, 2003; McKee, Zvolensky, Solomon, Bernsetein, & Leen-Feldner, 2007; Vujanovic, Bonn-Miller, Bernstein, McKee, & Zvolensky, 2010) and some evidence that treatments that aim to increase willing tolerance of distress also decrease fear of emotions (Arch, Wolitzky-Taylor, Eifert, & Craske, 2012; Keng, Smoski, Robins, Ekblad, & Brantley, 2012; Treanor, Erisman, Saulters-Pedneault, Roemer, & Orsillo, 2011). There is presently no strong causal evidence for these mechanisms of change, however.

Finally, if practiced habitually, curious exploration should increase self-understanding and emotional intelligence (Greenberg & Elliot, 2002; Hayes et al., 2012; Leahy et al., 2011; Linehan, 1993). While there is some cross-sectional evidence that individuals who are more often willing to tolerate distress are also more emotionally intelligent (e.g., Baer, Smith, & Allen, 2004; Baer et al., 2006; Donaldson-Fielder & Bond, 2004), there is no experimental evidence documenting the long-term benefits of willingness in regards to increasing emotional intelligence. Experimental support for the link between willing tolerance, curious exploration, habituation of stimulus-driven fear, reductions of fear of emotions, and increasing emotional intelligence might be difficult to achieve. Because these effects of willing tolerance/ curious exploration are posited to occur with repeated applications of willing tolerance or curious exploration, tests of these effects would necessarily involve either multiple sessions or longitudinal designs and would be subject to logistical challenges associated with repeated

measures designs that may threaten internal validity, such as demand characteristics and attrition (Stratford, Mulligan, Downey, & Voss, 1999).

Appraisal dimension. The appraisal dimension in Shaver and Veilleux's (under review) model (i.e., the continuum between judgmentally appraising and compassionately appraising distress) has been considerably less well explored than the reaction dimension. The extant literature contains three main predictions regarding the impact of appraising emotions judgmentally, each of which currently lacks experimental support. Firstly, theory would suggest that judgmental appraisals should be linked to experiencing negative meta-emotions (emotions about emotions; Gottman, Katz, & Hooven, 1997; Mitmansgruber, Beck, Höfer, & Schüßler, 2009), such as shame, guilt, embarrassment, or self-directed anger about being distressed (e.g., Gratz & Roemer, 2004; Linehan, 1993; Leahy et al., 2011). Indeed, cross-sectional evidence does suggest that individuals who often judgmentally appraise their distress experience more negative meta-emotions than those who less often appraise their distress this way (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Coffey, Hartman, & Fredrickson, 2010; Vujanovic, et al., 2010). In addition, this link is indirectly supported by some treatment research that suggests that individuals treated with at least one mindfulness-based therapy seem to experience reduced negative meta-emotions as a result (Gratz & Gunderson, 2006; Gratz & Tull, 2011). However, though amenable to single-session experimental designs, studies that have arguably manipulated appraisals of emotion have not measured meta-emotions (Atkinson & Wade, 2012; Dunn et al., 2009; Low, Stanton, & Bower, 2008; Singer & Dobson, 2007; Szasz, Szentogotai, & Hofmann, 2011; 2012). Thus, there is presently no experimental evidence of this mechanism of change. Appendix A provides a synopsis of such studies.

Secondly, judgmental appraisals should be directly associated with experientially avoidant reactions towards distress, like suppression of subjective distress, distraction, or dampening of emotional responding through drinking or drug use (Hayes et al., 1999; Leahy et al., 2011; Linehan, 1993; Shaver & Veilleux, under review). Indeed, judgmental appraisals have been cross-sectionally positively linked to suppression of subjective distress (Campbell-Sills et al., 2006a), as well as other forms of experiential avoidance (Hayes et al., 2004), such as thought suppression, trauma-related avoidance, and drinking to cope (Baer et al., 2004; Baer et al., 2006; Hollis-Walker & Colosimo, 2011; Thompson & Waltz, 2010; Vujanovic, Bonn-Miller, & Marlatt., 2011; Vujanovic, Youngswirth, Johnson, & Zvolensky, 2009). This effect should be demonstrable in a single session, thus making this mechanism highly amenable to experimental psychopathological examination (Shaver & Veilleux, under review). Unfortunately, studies that have manipulated appraisals of emotion have generally also manipulated reactions towards emotions, precluding tests of this hypothesis (Atkinson & Wade, 2012; Campbell-Sills et al., 2006b; Dunn et al., 2009; Hofmann et al., 2009; Liverant et al., 2008; Low et al., 2008; Singer & Dobson, 2007; Szasz et al., 2011; 2012; Tull et al., 2010). See Appendix A for specific examples. Due to this limitation, there is presently no experimental support for the idea that judgmental appraisals of emotion lead to experientially avoidant reactions towards emotion.

Finally, expert opinion suggests that judgmental appraisals of distress may indirectly increase experientially avoidant responses towards distress via increasing negative meta-emotions (e.g., Leahy et al., 2011; Linehan, 1993). Though there is some cross-sectional evidence that individuals who experience more negative meta-emotions also tend to engage in more frequent experiential avoidance (Coffey et al., 2010; Gratz & Roemer, 2004; Tull, Rodman, & Roemer, 2008; Tull & Roemer, 2007), the indirect link between judgmental appraisals and

experientially avoidant reactions has not been explored in the cross-sectional literature. Furthermore, because experimental studies to date of either appraisals of emotions or reactions towards emotions have not assessed meta-emotions (Atkinson & Wade, 2012; Dunn et al., 2009; Low et al., 2008; Singer & Dobson, 2007; Szasz et al., 2011; 2012), there is no experimental support that judgmental appraisals of emotion directly or indirectly increase experiential avoidance.

In addition to describing the effects of the pathological side of the appraisal continuum (i.e., judgmental appraisal), Shaver and Veilleux (under review) also enumerate potential positive consequences of the more adaptive end of the appraisal continuum- compassionate appraisals of distress. Indeed, therapies that provide a focus on this type of acceptance, such as DBT (Linehan, 1993) and Emotion Schema Therapy (Leahy et al., 2011) seem to reduce judgmental appraisals of distress (Forman et al., 2007). Moreover, these treatments focus on teaching clients to appraise their distress compassionately. As Shaver and Veilleux (under review) deduced by reviewing several treatment manuals, the compassionate way to evaluate emotions is to see them as natural, appropriate reactions that provide useful information about the environment, and/or one's needs, and are sources of potential personal strength (c.f. Craske & Barlow, 2006; Greenberg & Elliot, 2002; Hope, Heimberg, & Turk, 2010;; Leahy et al., 2011; Linehan, 1993; Resick, Monson, & Chard., 2007; Roemer & Orsillo, 2009; Shapiro, Carlson, Astin, & Freedman., 2006). These compassionate appraisals of emotion are thought to be associated with effective emotion regulation specifically because they are thought to be associated with curious exploration of distress (Hayes et al., 1999; Leahy et al., 2011; Linehan, 1993). That is, whereas judgmental appraisals of emotion distress are thought to lead to experientially avoidant reactions towards emotion, these compassionate appraisals of emotion

are expected to lead to more curious welcoming exploration of distress, such as exploring distress to understand which negative emotion one is feeling, why one is feeling that way, and whether this feeling might best direct further action or be regulated in order to facilitate continued effective action (e.g., Linehan, 1993; McKay et al., 2007). These compassionate appraisals have not been explored in the literature. Moreover, as mentioned above, no study has striven to manipulate judgmental appraisals of emotion without also instructing participants to employ either experiential avoidant or curios and welcoming exploration of distress. Therefore, there is presently a paucity of experimental evidence for judging emotions as a potential mechanism of change within third-wave therapies.

Disentangling Acceptance and Distancing

Shaver and Veilleux (under review) highlight one further gap in the existing experimental literature that deserves mention. Specifically, the authors highlight the need to consider whether viewing emotions from a distanced perspective (i.e., watching one's emotions as if they were on a movie screen, with an appreciation that they change from moment to moment and need not direct behavior) might have effects similar to those of either form of acceptance. Indeed, distancing is considered a pre-requisite for either dimension of acceptance (c.f., Baer, 2003, Bishop et al., 2004; Kabat-Zinn, 1990) and has also been associated with mental health gains similar to those posited to result from acceptance. In particular, adopting an observing/ distanced perspective towards one's thoughts and emotions is a putative mechanism of change in cognitive-behavior therapies and third wave therapies (e.g., Hayes et al., 1999; 2012; Mennin, Ellard, Fresco, & Gross, 2013; Segal et al., 2003) and has been empirically linked to mood recovery (Levin, Hildebrandt, Lillis, & Hayes, 2012; Ortner & Zelazo, 2012; Pilecki & Deacon, 2012) and symptom improvement across a variety of disorders treated with either form of

therapy (Arch, et al., 2012; Carmody, Baer, Lykins, & Olendzki, 2009; Forman, Chapman, Herbert, Goetter, Yuen, & Moitra, 2012; Hayes-Skelton, Usmani, Lee, Roemer, & Orsillo, 2012; Lau et al., 2006; Teasdale, Moore, Hayhurst, Pope, Williams, & Segal, 2002).

Therefore, Shaver and Veilleux (under review) argue that researchers interested in demonstrating the effects of the appraisal and reaction dimensions of acceptance should strive to demonstrate its incremental effects over those of distancing by including a distancing-only condition. Without such a condition, important questions about the chance processes in third wave therapies would remain (David & Montgomery, 2011; Lohr, 2011). Several studies that have assessed the impact of compassionate appraisals of distress and/or willingness and curious exploration on distress have failed to include clear distancing instructions in these conditions (Campbell-Sills et al., 2006b; Hofmann et al., 2009; Liverant et al., 2008; Szasz et al., 2011; Tull et al., 2010), and those that have done so have not included distancing-only conditions for comparison (Atkinson & Wade, 2012; Dunn et al., 2009; Low et al., 2008; Singer & Dobson, 2007; Szasz et al., 2012). See Appendix A for details. Therefore, the questions of whether either dimension of acceptance produces incremental gains over those attributable to adopting a distanced perspective towards distress remains open.

The Present Study

The present study was designed to address the most sizable gaps in the current body of experimental literature on the effects of acceptance. I provided a test of whether judgmentally appraising distress can lead to experiential avoidance of distress, while judging emotions compassionately may lead to curious and welcoming reactions towards negative emotions. Further, I examined whether judgmentally appraising distress appears to lead to greater negative meta-emotions and have an indirect influence on experiential avoidance of distress via this

mechanism. Moreover, I tested whether adopting a distanced perspective towards distress produces results similar to those of compassionate acceptance in that distancing with or without compassionate appraisal is associated with less experiential avoidance and more curious exploration than a non-distanced control condition. Finally, I examined the incremental benefits of compassionate appraisals of emotion in terms of whether adopting these appraisals reduces experiential avoidance and increases curious exploration above the effects of adopting a distancing perspective.

Specific Hypotheses

I examined 5 inter-related hypotheses:

1. Appraising distress judgmentally would lead to greater experiential avoidance, in part by leading to greater meta-distress. Thus:
    a. People coached to judgmentally appraise their distress would react with greater experiential avoidance than other conditions.
    b. People coached to judgmentally appraise their distress would experience greater meta-distress than the other conditions.
2. Viewing distressing emotions from a distanced perspective reduced experiential avoidance by reducing meta-distress. Thus:
    a. People who were given the instruction to view distress from a distanced perspective (i.e., those in either the Distancing or the Compassion conditions) would endorse less experiential avoidance than those in the Awareness condition who were not given this instruction.

   b. People who were given the instruction to view distress from a distanced perspective (i.e., those in either the Distancing or the Compassion conditions) would endorse lower meta-distress than those in the control condition.

3. Adopting a distanced perspective from distress increases distress tolerance by increasing curious exploration of distress.
   a. People coached to adopt a distanced perspective from their distress (i.e., those in the Distancing and Compassion conditions) would evidence greater distress tolerance than those in the other two conditions.
   b. People coached to adopt a distanced perspective from distress (i.e., those in the Distancing and Compassion conditions) would endorse more curious exploration of their distress than the other two conditions.
4. Compassionately appraising distress increases distress tolerance by increasing curious exploration beyond the effect of defusing from distress.
   a. People in the Compassion condition would tolerate distress for a longer period of time than those in the Distancing condition.
   b. People in the Compassion condition would endorse more curious exploration of their distress than those in the Distancing condition.
5. Beyond condition differences in outcomes, path models will support the indirect effects of judgment on experiential avoidance (via meta-distress) and the indirect effects of distancing and compassionate appraisal on distress tolerance (via curious investigation).

Method

Participants

All participants were recruited from a larger pool of people who had expressed the desire to be involved in one or more of the many studies that were ongoing between Spring 2014 and Spring 2015 in a research laboratory at a large public Mid-Southern University. Introductory psychology students were recruited for the initial screener using Experimetrix and all other students and community members were recruited for the initial screener via advertisements in the university paper and on Craigslist. The initial screener was administered by Qualtrics and included measures of current mood, psychiatric symptoms, and medication use, along with lifetime history of diagnosis with mood, anxiety, substance use, or personality pathology. To qualify for the present study, participants denied ever having been diagnosed with a mood disorder, indicated they had not started anti-depressants or mood stabilizers in the past six months, and denied current or lifetime history of receiving a diagnosis borderline personality disorder. Moreover, to qualify, participants were required to endorse insufficient current depressive symptoms to suggest they might actively be experiencing a major depressive episode. Finally, to qualify, participants were required to endorse fewer than 7 symptoms of borderline personality disorder on the McLean Screening Inventory for Borderline Personality Disorder (MSI-BPD: Zanarini, Vujanovic, Parachini, Boulanger, Frankenburg, & Henson, 2003).

Of the 2,115 people who completed the Qualtrics screener, 1,593 (75%) were qualified for the present study. The largest number of people disqualified ($N = 266$, 12%) were disqualified because their responses indicated they might be experiencing a major depressive episode. The next most frequent reason for disqualification was having been prescribed mood-

altering medications in the last six months (suggestive of potential mood diagnosis; $N = 259$, 12%). A total of 227 (11%) interested participants were disqualified because they endorsed 7 or more items on the MSI-MPD, and 102 (5%) were disqualified because they reported having previously been diagnosed with a mood disorder or BPD. Offers for participation were made either via email or with a telephone call, contingent upon the availability of funding and other methods of compensation (i.e., research credits) on a first-come first-served basis to subjects from this pool. Qualified participants were contacted either via email or over the phone and were directly scheduled for a two-hour slot to the laboratory and complete the rest of the study.

The final recruited pool of participants consisted of 86 introductory psychology students ($M_{age} = 20.36$, $SD = 4.21$, *range* = 18- 25, 59.3% Women, 73% White, 10.5% Hispanic, 7% Black, 3.5% Asian American, 3.5% Native American, and 2.3% Other) and 80 university students with other majors or other members of the University community ($M_{age} = 20.22$, $SD = 2.67$, *range* = 18 – 37, 63.6% Women, 60.5% White, 14.5% Black, 9.2% Hispanic, 2.6% Asian American, 1.3% Native American, 11.7% Other). There were no significant differences between introductory psychology students and other students or community members in terms of gender (χ^2 [1, $N = 164$] = 0.77, $p = .39$), ethnicity, (χ^2 [7, $N = 164$] = 9.77, $p = .22$ or age, t (164) = 0.22, $p = .22$. Introductory psychology students were compensated with research credits and all others were paid $15 for their participation. Four of these participants experienced technological difficulties (i.e., data loss due to computer malfunction) and their data is not reported here.

Materials

Measures.

Affect Control Scales (ACS; Williams et al., 1997). Because there is some evidence that individuals who fear their negative emotions may be less willing to react acceptingly towards

their emotions (Singer & Dobson, 2009), all qualified participants' fears of emotions were measured using the ACS (Williams et al., 1997). The ACS is a 42-item self-report measure of fears related to experiencing anger, anxiety, depression, and positive emotions. Participants responded to items on a scale of 1 (*Very Strongly Disagree*) to 7 (*Very Strongly Agree*), where 7 indicates a strong fear of the named emotion. A total score was derived using the average of all items. Example items include: "There is nothing I can do to stop anxiety once it has started" and "I am afraid that letting myself feel really angry about something could lead me into an unending rage." The ACS has demonstrated acceptable internal consistency across multiple samples (αs from .94 to .95; Stapinski, Abbott, & Rapee, 2010; Williams et al., 1997) and has also demonstrated adequate test-retest reliability (α= .78) and convergent validity with similar measures (Williams et al., 1997). The ACS had a mean of 2.86 (*SD* = .79, *range* = 1.28 – 4.74) and demonstrated excellent internal consistency (α = .94) in the present sample.

***Difficulties in Emotion Regulation Scale (DERS;* Gratz & Roemer, 2004).** The DERS was completed by all participants in order to control for the group-level individual differences in the tendency to experience shame, guilt, embarrassment, or self-directed anger when upset. The DERS is a 36-item measure that assesses 6 types of abilities thought to underlie effective emotion regulation: Awareness of Emotions (Awareness), the ability to label one's feeling states (Clarity), the ability not to feel guilty, ashamed, embarrassed, and angry at oneself for feeling upset, the ability to control emotional impulses while emotional (Impulse), the ability to pursue valued goals while emotional (goals), and the belief in one's ability to regulate emotions (Strategies). Participants were asked to respond on a scale from 1 (*almost never*) to 5 (*almost always*) how often each statement applies to them. The DERS subscales demonstrated good reliability (αs = .80 - .89) in two samples of college students (Gratz & Roemer, 2004; Gratz &

Roemer, 2008) The non-acceptance subscale, in particular, has shown good internal consistency in at least two other samples (αs = .90-.92; Gratz, Bornovalova, Delany-Brumsey, Nick, & Lejuez, 2007; Kashdan, Zvolensky, & McLeish, 2008) and has demonstrated adequate test-retest reliability (α = .69; Gratz & Roemer, 2004). The non-acceptance subscale of the DERS had a mean of 11.55 (*SD* = 4.78, *range* = 6 – 30) and showed good (α = .85) internal consistency in this sample. In addition to completing the published measure once at the start of the study, all participants completed modified version of the non-acceptance subscales of this measure after both the sad mood induction and the distressing images task that was revised specifically to assess meta-distress experienced during each task. These revisions are contained in Appendix E and F. The version completed in the sad mood induction task (DERS-NA-SM) demonstrated excellent internal consistency (α = .90) and the version completed in the distressing images task (DERS-NA-DT) displayed good internal consistency (α = .80).

Experiences Questionnaire (EQ;* Fresco et al., 2007*). In order to consider the possibility that group differences in reactions and meta-emotions might be due to group differences in trait distancing, all qualified participants were administered the EQ. The EQ is an 11-tem measure designed to assess trait differences in defusion/distancing Items are rated on a 5-point Likert scale from 1 (*never*) to 5 (*all the time)*. The EQ has demonstrated adequate internal consistency in a college sample (α = .83) and excellent reliability in a clinical sample (α = .90; Fresco et al., 2007). In the present sample, the mean of the EQ was 31.10 (*SD* = 5.53, *range* = 20 – 52) and it displayed adequate internal consistency (α = .78).

Five Facet Mindfulness Questionnaire (FFMQ;* Baer et al., 2006*). The FFMQ was administered to all qualified participants tin order o control for group-level differences in certain the non-judgmental and non-reactive facets of mindfulness, which could confound experimental

findings. The FFMQ is a 39-item questionnaire designed to measure five aspects off mindfulness: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. Responses are recorded on a 5-point Likert-type scale ranging from 1 (*never or very rarely true*) to 5 (*always or almost always true*). All five facet scales showed adequate to good internal consistency during scale development: non-reactivity (FFMQ-NR) = .75, observing= .83, acting with awareness = .87, describing = .91, and non-judging (FFMQ-NJ) = .87. In the present sample, the mean of the FFMQ-NJ subscale was 27.73 (*SD* = 6.40, *range* = 10 – 40) and that subscale demonstrated good internal consistency (α = .87). Similarly, the mean of the FFMQ-NR was 22.58 (*SD* = 4.16, *range* = 12 – 35) and this subscale demonstrated adequate (α = .75) internal consistency in this sample.

Reactions to Emotions Questionnaire (REQ;* Campbell-Sills et al., 2006a*). The REQ is a measure designed to assess reacting either by employing experiential avoidance or acceptance towards one's emotions during an induction. Participants completed two modified versions of the REQ-experiential avoidance subscale that will assess the level of experiential avoidance towards emotions (suppression, distraction, reframing to reduce emotional response, and redirecting attention) that they experience during both the sad mood induction (REQ-SM) and the distressing images task (REQ-DT), described below. Specifically, participants will all respond to four items that ask them to rate on a scale of 0 (*not at all*) to 8 (*all the time*) how often they responded to their emotions in each of the ways described above during each manipulation. These measures are in Appendix E and F. The REQ-SM demonstrated adequate internal consistency (α = .78), and the REQ-DT demonstrated good internal consistency (α = .81).

Toronto Mindfulness Scale (TMS;* Lau et al., 2006*). The TMS is a 13-item scale that strives to assess an individual's curious and distanced responses to emotions during meditative

practice. Participants were asked to indicate on a scale from 0 (*not at all*) to 4 (*very much*) how well each of 13 statements applied to the way they reacted to their emotions during each of the affect inductions reviewed below. The TMS was chosen as a repeated assessment of curiosity and distancing because it was designed to use after mindfulness instructions and practice (Lau et al., 2006). The version completed by participants after the sad mood induction (TMS-C-SM) is contained in Appendix E, and the version completed after the distressing images task (TMS-C-DT) is contained in Appendix F. The TMS-C-SM demonstrated excellent internal consistency (α = .90) and the TMS-C-DT demonstrated good internal consistency in this sample (α = .89).

Visual Analogue Scale for distress (VAS). A VAS is a type of measure that has historically been used to assess the bipolar dimensions of emotional valence or emotional arousal on a scale ranging from 0 (*positive/ calm*) to 100 (*negatives/ highly aroused*). It has been used with the following anchors: relaxed–tense, calm–angry, unafraid–afraid, happy–sad, normal–unreal, relieved– uptight, contented–ashamed, and accepting–punishing. In the present study, participants were asked to rate the valence of their general and current emotional state on a computer, on a continuous line from 0 (*positive)* to 100 (*negative*; Singer & Dobson, 2007; 2009; Teasdale, Taylor, & Fogarty, 1980; Watkins, Teasdale, & Williams, 2003). This measure will be administered as a trait measure once and as a state measure seven times. The trait measure asked participants to rate their general emotional state (i.e., how they tend to feel), whereas the state measures (Appendix B, C, E, and F) inquired about the participants' current emotional state.

Procedures

Trait measures. Invited participants were brought in for an in-person session lasting approximately 2 hours. They began their session by completing a battery of trait measures, including the ACS, DERS, EQ, and FFMQ. Participants were randomized prior to arrival to one

of four instruction conditions: control/Awareness, Distancing, Compassion, and Judgment using a random number table. Because research assistants were required to be prepared to answer condition-specific questions, they were not blind to participant condition. However, the majority of the protocol was standardized through scripting in order to minimize demand effects and any differences between research assistants.

Psycho-education and initial assessment point. Participants in all conditions were then provided with psycho-education in video format. Each participant in every condition watched the same animated psycho-education video, in which the constructs of distress, mindful attention, distanced perspective, meta-distress, experiential avoidance, and curious exploration of distress were all explained using animated shorts and a voiceover. Exact psycho-educational text and specific text for the repeated assessments are in Appendix B. The following assessments were administered after the associated psycho-educational clip, in the order presented:

Initial assessment of momentary distress. Participants were asked to complete the VAS.

Initial assessment of mindful attention. Each participant was asked to rate from 0 (*not at all*) to 8 (*all the time*) how often they remained aware (i.e., intentionally focused on emotions and sensations and attempting to label noted sensations and emotions) since the experiment began (or, for further administrations, since the last assessment point).

Initial assessment of distanced perspective. Each participant was asked to rate on a scale of 0 (*not at all*) to 8 (*all the time*) how often they intentionally viewed their emotions from a distanced perspective (i.e., as if they were on a movie screen) since the experiment began (or, for further administrations, since the last assessment point).

Initial assessment of meta-distress. Each participant was asked to indicate on a scale of 0 (*not at all*) to 8 (*extremely*) the level of shame, embarrassment, guilt, self-directed anger about

being distressed that they experienced since the experiment began (or, for further administrations, since the last assessment point).

Initial assessment of experiential avoidance and curious exploration. Each participant was asked to respond to a single question that asked how often on a scale of 0 (*not at all*) to 8 (*all the time*) they had responded to their emotions with experiential avoidance (i.e., by suppressing, distracting, reframing, or redirecting attention) or curious exploration (i.e., by sitting with and exploring their emotions to learn more about themselves) since the experiment began.

Self-monitoring instructions. At the end of the psycho-education, all participants were given the following instructions: "As part of this experiment, you will do two tasks that can be upsetting to some people. As you go through these tasks, we would like you to pay attention to your level of distress."

Sad mood induction. After the psycho-education, all participants underwent a 5-minute negative mood induction consisting of listening to the first five minutes of the 1996 London Philharmonic's recording of "Adagio in G Minor," composed by Albinoni, replayed at half speed, combined with being prompted to recall three autobiographical events that made them feel lonely, rejected, defeated, or hurt. They will be instructed to remember everything that happened and how they felt, with each memory getting sadder and more unpleasant. This induction methodology has been used in previous studies (Singer & Dobson, 2007; 2009), combines two effective methods for negative mood induction that, when used together, produce the largest effect size of any well-used induction methods (Westerman, Spies, Stahl, & Hesse, 1996). This induction method may be ideal for acceptance studies because it can be administered multiple times (Hernandez, Wal, & Spring, 2003). The musical score continued to play until the post-

induction measures were collected in order to allow everything that occurred between the initial induction and the end of the post-booster recovery period (discussed below) to serve as a continuous sad mood induction.

Second administration of repeated measures. After undergoing the sad mood induction, participants completed a second repeated measurement of the VAS and measures of meta-distress, mindful attention, distanced perspective, experiential avoidance, and curios exploration of distress. The VAS was later used to determine the efficacy of the inductions for this study and the other measurement points were collected for future exploratory analyses. These measures are contained in Appendix D.

Experimental instructions. After the sad mood induction, participants in each condition received the experimental instructions given below. The musical score continued to play at a lower volume during the instructions in order to allow the verbal instructions to be heard and to allow the participants to attend to the video. Because there is a difference in the length of the instructions, the point at which the instructions are read was varied so that the instructions for all conditions ended at the same point, approximately 2 minutes after the initial sad mood induction. Participants in the control condition received the monitoring instructions twice, in order that they might be mentally occupied to the same extent as other conditions.

Control/ Awareness instructions. "Many people become upset during this task. Over the next few minutes, we would you to pay attention to your level of distress. Many people become upset during this task. Over the next few minutes, we would you to pay attention to your level of distress."

Judgment instructions. "Many people become upset during this task. Over the next few minutes, we would you to pay attention to your level of distress. Now we would like you to

remind yourself that there is no reason to become upset during this task, as doing so will not be useful to you. We would also like you to remind yourself that if you are upset, that is only because you are not strong enough to stop yourself from becoming upset. For example, you could repeat to yourself periodically, 'I don't have to feel this way, it is not helping me, and I only feel this way because I am not strong enough to stop myself.'"

Distancing instructions. "Many people become upset during this task. Over the next few minutes, we would you to pay attention to your level of distress. Over the next few minutes, we would you to pay attention to your level of distress. Now we would like you to try to view your distress from a distanced perspective. This means, as you focus on the way the music and memories make you feel, tell yourself 'I am noticing that I am feeling distressed, and these feelings are only events happening in my mind at this moment.' An additional tool for maintaining a distant perspective from emotions is visualizing emotions as images passing on a movie screen. So, if it works better for you, visualize your feelings and the sensations in your body as images on a screen, constantly changing and evolving from second to second."

Compassion instructions. "Many people become upset during this task. Over the next few minutes, we would you to pay attention to your level of distress. Over the next few minutes, we would you to pay attention to your level of distress. Now we would like you to try to view your distress from a distanced perspective. This means, as you focus on the way the music and memories make you feel, tell yourself 'I am noticing that I am feeling distressed, and these feelings are only events happening in my mind at this moment.' An additional tool for maintaining a distant perspective from emotions is visualizing emotions as images passing on a movie screen. So, if it works better for you, visualize your feelings and the sensations in your body as images on a screen, constantly changing and evolving from second to second.

As you notice your emotions from a distanced perspective, we would like you to remind yourself that you are feeling distressed for a reasons, that your distress might provide you with useful information about yourself, and that being distressed in this way might actually make you stronger in the long run. For example, while holding a distanced perspective, you might repeat to yourself 'I am feeling distressed for a reason, I might be able to learn about myself from this feeling, and I can grow stronger though feeling this way.'"

Comprehension check. Participants' level of comprehension of experimental instructions was assessed after the instructional video using a self-report measure containing four items adapted from Campbell-Sills and colleagues (2006b**).** Table 2 shows questions asked, numbers of participants who provided the correct answers for each condition, and the numbers of participants who made errors of omission (selected *No* when the answer should have been *Yes*) or commission (selected *Yes* when the answer should have been *No*) for each item in each condition**.** Those participants who provided incorrect responses their comprehension check received a brief verbal instruction from a trained research assistant as to which instructions they were to follow. Control participants with errors of commission were told that they could respond to their emotions any way they wanted to and were not being asked to do any particular thing. Exact text is contained in Appendix C. Experimenters added a note to the participant's file regarding whether correction was given, in order that it could be used as a covariate in the analyses.

Cue cards. In order to continuously prompt participants in the use of the techniques covered in the instructional videos, experimenters provided cue cards to participants in all conditions after the comprehension check. For ease of reading, cue cards were generally placed standing in between the monitor and keyboard. These cue cards reiterated the instructions for the

participant's given condition in bulleted format. Research assistants specifically reminded participants to use the technique described on the cue card by saying "As you go through this next task, please remember to respond to emotions that arise by [*condition-specific method*]."

Sad mood booster session. After receiving cue cards, participants began a 3-minute sad mood booster session. Specifically, the musical score returned to full volume and they were asked to recall the event that made them feel the most lonely, rejected, defeated, or hurt. They were instructed to remember everything that happened and how they felt. Furthermore, they were asked to focus on the scenery when the event occurred, on any physical sensations they recalled having experienced, and on what they were thinking the event meant about them.

Sad mood booster recovery period. After the 3-minute booster session, all participants were prompted to respond to any distress they felt over the subsequent few minutes using the methods detailed in the video and on the cue cards. They then entered a 5-minute recovery period in which they continued listening to the musical score and completed all repeated once every minute. These measures are contained in Appendix E.

Post-recovery assessments for the sad mood induction. After the sad mood booster recovery period, all participants completed measures of experimental compliance. Consistent with prior research on acceptance (e.g., Campbell-Sills et al., 2006b), participants across all groups rated their level of compliance with instructions and engagement in out-of-condition behaviors (i.e., engaging in behaviors in which they were not asked to engage) by rating how often from 0 (*never*) to 8 (*always*) they viewed their emotions from a distanced perspective, appraised their emotions judgmentally (e.g., "Reminded myself that I had no reason to feel distressed, it is a useless way to feel, and that the only reason I feel that way is because I have not yet learned to control my feelings"), or appraised their emotion compassionately (e.g., "

Reminded myself that I felt distressed for a reason, that I could use that feeling to better understand myself and my needs, and that allowing myself to feel that way might make me stronger.") during the sad mood induction booster session and recovery period. They also completed versions of the Non-Acceptance subscale of the DERS (i.e., DERS-NA-SM), the Experiential Avoidance subscale of the REQ (i.e., REQ-SM), and the Curiosity subscale of the TMS (i.e., TMS-C-SM) that referred to behaviors during the induction, booster, and recovery periods. These assessments are contained in Appendix E. Research assistants entered the room at this point in the protocol to verify that all measures were complete prior to moving to the next task.

Distressing images task. Immediately after the sad mood induction booster recovery period, participants were oriented to the distressing images tasked and told that they were to press "q" when they first noticed themselves becoming distressed and "p" when that distress was intolerable and they wished to move to the next slide. They were verbally reminded to use the technique provided on the cue card to respond to any distress that presented during the task. They then viewed 45 IAPS images that have been rated as negatively valenced and highly arousing (Lang, Bradley, & Cuthbert, 2008) across 5 randomized blocks of 9 randomly placed images within each block. This task was recently developed in order to provide an objective measure of tolerance of distressing emotions aside from frustration (Veilleux, Pollert, Zielinski, & Shaver, 2013)**.** I chose this secondary task in order to provide an objective measure of distress tolerance, and thereby assess experiential avoidance using multiple methods. Distress tolerance was operationalized as the difference between when a participant pressed the "q" key to express distress and when that same participant pressed the "p" key to terminate the slide and move to the next slide. Each slide was presented for a maximum of 30 seconds. During the distressing

images task, VAS, meta-distress, experiential avoidance, and curious exploration were assessed after each of the randomly ordered groups of 9 slides. These measures are in Appendix F.

Compliance check and post-induction assessment for the distressing images task. After the distressing images task, all participants completed the same measures of experimental compliance again (Campbell-Sills et al., 2006b), this time with a focus on their experiences in the distressing images task. Numbers of participants who responded correctly and committed errors or omission and commission are presented in Table 2. They also completed versions of the Non-Acceptance subscale of the DERS (i.e., DERS-NA-DT), the Experiential Avoidance subscale of the REQ (i.e., REQ-DT), and the Curiosity subscale of the TMS (i.e., TMC-C-DT) that had been reworded to refer to behaviors during the distressing images task. Text for these measures is in the Appendix F.

Credibility and perceived utility checks. In order to examine reasons for compliance or non-compliance with experimental instructions, I assessed participants' opinions about the credibility of the person in the instructional video and their initial beliefs about whether the method presented might be helpful (Singer & Dobson, 2007). To accomplish the former, all participants indicated on a 7-point Likert scale the extent to which they found the instructor credible/knowledgeable from 1 (*not at all*) to 7 (*extremely*). To accomplish the latter, participants in all conditions were asked how useful they believe the approach presented would be from 1 (*not at all*) to 7 (*extremely*). Exact text is contained in Appendix C.

Positive mood induction. Following the distressing images task, the research assistant reentered the room, assessed the participant's level of distress, and offered the participants the chance to watch between 1 and 3 amusing video clips that evidence suggests would raise their mood (Hewig, Hagemann, Siefert, Gollwitzer, Naumann, & Bartussek, 2005). After finishing the

videos, the research assistant again checked on the participant's mood and offered the chance to repeat them. Specific videos are listed below:

On Golden Pond (Universal Pictures, 1981). In this 32 second clip, Ethel is shown on holiday and walks through the wood. There, she meets her daughter Chelsea. This movie has been shown to induce amusement (Tomarken, Davidson, & Henriques, 1990).

An Officer and a Gentleman (Lorimar Film Entertainment, 1982). In this 111s clip, Paula, a factory worker, is carried out of her work by Zack, a young marine. This clip has been shown to induce amusement (Tomarken et al., 1990).

When Harry Met Sally (New Line Cinema, 1989). In this 149s clip. Harry and Sally discuss about whether Harry would notice it if a woman could fake an orgasm. This film has been shown to induce amusement (Gross & Levenson, 1995).

Debriefing and compensation. Once they were no longer distressed about the experiment, participants were then debriefed and compensated.

Results

Preliminary Analyses

Missing data imputation. In order to maximize power, missing values on the trait measures were imputed. Less than 5% of responses were missing on any of the covariates, with the exception of a single item on the Affect Control Scales. Approximately 8% of respondents (N = 13) chose not to answer this question, which read "Having an orgasm is scary for me because I am afraid of losing control." Tests for randomness in missing values on the ACS suggested they were missing completely at random, Little's MCAR χ^2 (202, 163) = 229.09, p = .09. As such, missing values were imputed using linear interpolation.

Pre-manipulation group differences in confounding traits. To protect against the possibility that any condition-level differences in outcomes could result from failures in randomization, condition-level differences in possible confounding demographics (i.e., gender), and trait measures of judgmental appraisals (FFMQ-NJ), experiential avoidance (FFMQ-NR), fear of emotions (ACQ-Total), meta-distress (DERS-NonAccept), distancing (EQ-Total), distress (the trait VAS), and pre-manipulation state measures of distress, meta-distress, experiential avoidance, and curious investigation were examined using ANOVAs. In order not to allow the fact that some of these variables may actually impact likelihood of compliance or response to the manipulation (e.g., Singer & Dobson, 2009) to confound the results, I conducted these ANOVAs prior to limiting the sample to only those who had complied with instructions at least half the time. No condition differences were found in gender (χ^2 [3, N = 163] = 4.52, p = .21). Similarly, there were no significant condition differences in trait judgmental appraisals (FFMQ-NJ; F[3, 162] = 0.66, p = .58), meta-distress (DERS-NonAccept; F[3, 163] = 1.37, p = .25), distancing (EQ-Total; F[3, 163] = 0.09, p = .96), experiential avoidance (FFMQ-NR; F[3, 162] = 0.25, p = .86), or fear of distressing emotions (ACQ-Total), F(3, 163) = 0.92, p = .43. Hence, it would seem unlikely that any of the hypothesis-driven analyses are due to failures in randomization and no covariates were included in the hypothesis-driven analyses.

Examining comprehension. Although comprehension errors were corrected by trained research assistants using a script and, thus, were not considered potential confounds in this study, I examined rates or errors across and between each group for the purposes of improving future study methodology. Table 2 presents data on the number of participants who made no errors, made any type of error, and errors of omission (not endorsing an item that should have been

endorsed) and commission (endorsing an item that should not have been endorsed) for the total sample along with each of the four conditions.

. The average participant in this study made less than 1 error on the comprehension check (M_{error} = 0.71, *SD* = .85, *range* = 0 – 4). Of the 164 participants who whose data could be used for further analyses, approximately half (*N* = 80, 48%) made no errors on the comprehension check. Approximately one-third (*N* = 54, 33%) of participants made one error on the comprehension check, and the remaining one-fifth of participants (*N* = 30, 19%) made 2 or more errors on the comprehension check. Relatively few participants across conditions committed errors of omission (i.e., failing to endorse an item that one is intended to endorse). Instead most common type of error across conditions was errors of commission (i.e., endorsing an item one is not intended to endorse). In particular, almost half of the participants in the Awareness/Control and Judgment conditions incorrectly reported they had been asked to view distress from a distanced perspective and between a fourth and a fifth of participants in these conditions also reported being asked to judge distress compassionately. By contrast, few participants in any condition incorrectly expressed the belief they were being asked to judgmentally appraise distress.

Moreover, overall, there were moderate magnitude between-group differences in total number of errors, F (3, 161) = 10.03, $p < .001$, $\eta_p^{2 =}$ .16. Surprisingly, follow-up Tukey tests suggested that people in the Awareness condition made significantly more errors than any other condition. Participants in the Judgment condition made significantly more errors than people in the Compassion condition, Δ_M = 0.47, p = .04. There were no other significant between-condition differences. Because these errors were corrected in the course of the study by trained research assistants, errors were not considered covariates for the hypothesis-driven analyses.

Identifying successful inductions.

Sad mood induction. Overall rate of induction success and condition-dependent differences in that success rate were explored using chi-squared tests. I originally intended to follow precedent (e.g., Teasdale & Fogarty, 1979; Singer & Dobson, 2007:2009) and require a 20-pooint VAS shift from pre-induction to post-induction to consider either the sad mood or the distressing images induction successful. Using this criterion, only 53% ($N = 88$) of the participants were successfully induced through the sad mood task and there were no condition differences, χ^2 (3, $N = 164$) = 5.90, $p = .12$. These rates are significantly lower than those reported in other studies using similar induction methods with either the same (Singer & Dobson, 2007; Singer & Dobson, 2009) or different methods of assessing successful induction (Clark & Teasdale, 1985; Martin, 1990). Although it would have been possible to simply eliminate the induction success criterion, I chose not to do so on the grounds that the experimental instructions specifically instructed participants to apply the techniques to distressing emotional reactions to the induction. As such, it seemed important to only include participants who had had some measurable decrement in mood during the induction. To accomplish this goal, I chose to use a relatively less stringent criterion of 10-point change in VAS from pre to post-sad induction. This criterion produced a 71% success rate ($N = 116$), which is the range found in previous research using both university students and those with remitted major depression (e.g., 69% [Clark & Teasdale, 1985], 75% [Martin, 1990], 81% [Singer & Dobson, 2009], and 86% [Singer & Dobson, 2007]). Moreover, there were no between-condition differences in sad mood induction success rate determined using this criterion, χ^2 (3, $N = 163$) = 0.84, $p = .84$. Successful induction, as measured with this criterion, also seemed unrelated to gender (χ^2 [1, $N = 163$] = .08, $p = .77$), or age (t [134] = .1.19, $p = .23$).

Distressing images task. Because there are no empirically or conceptually clear pre and post assessment points for the distressing images task, I initially required a shift of 20 points between pre-sad mood induction VAS and the highest VAS rating during the distressing images task to consider this induction successful. This method produced a 65% success rate ($N = 110$), with no condition differences observed, χ^2 (3, $N = 164$) = 4.64, $p = .20$. However, to keep the inclusion criteria between different parts of the study similar, I ultimately decided to set the induction success criterion for the distressing images test to a 10-point VAS shift, which produced a success rate of 85% (N =142), with no between-condition differences, χ^2 (3, $N = 164$) = 6.52, $p = .08$. Successful induction, as measured with this criterion, also seemed unrelated to gender (χ^2 [1, $N = 163$] = 0.18, $p = .67$), or age, t (134) = .0.85, $p = .39$.

Checking compliance. Because there is evidence that compliance with experimental instructions enhances effects of acceptance (Singer & Dobson, 2009), participants in all active conditions were screened for compliance with instructions for both inductions. In keeping with prior research (e.g., Campbell-Sills et al., 2006b), participants were classified as compliant within a given induction if they indicate they responded more in the manner instructed than half the time (i.e., respond a 4 [*half the time*] or higher on a scale of 0/[*never*] to 8 [*always*]). Only data from those who complied with experimental instructions were used in further analyses for each induction.

Sad mood induction. For the sad mood induction, 85% of subjects ($N = 136$) across conditions reported following their given instructions at least half the time (i.e., reported complying), with significant between-groups differences, χ^2 (3, $N = 137$) = 9.06, $p = .03$. In order to understand this finding, a series of follow-up orthogonal likelihood chi-squared contrast was performed comparing the given condition with the highest non-compliance to the average of all

other conditions. Results suggested that 71% of participants in the Judgment condition reported complying with their given instruction at least half the time, a significantly lower rate of compliance than the rate of compliance in all other groups averaged together, L^2 (1, N= 163) = 6.29, p = .01. None of the other conditions significantly differed in rates of compliance (Awareness = 85%; Distancing = 87%, and Compassion = 94%). Over all, rates of compliance were in the range observed in previous studies (i.e., between 60% [Singer & Dobson, 2009] and 90% [Singer & Dobson, 2007]).

Distressing images task. For the distress tolerance task, 76% of participants (N = 128) across conditions reportedly complied (i.e., engaged in their instructed in-task behavior at least half the time), with significant between-condition differences in rates of reported compliance (χ^2 (3, N = 163) = 39.11, p < .001. Follow-up orthogonal likelihood chi-square contrasts suggested that participants in the Judgment condition reported complying at significantly lower percentages (45%) than participants in any of the other conditions, L^2 (1, N = 164) = 34.59, p < .001. All other conditions had relatively equivalent compliance rates (Awareness = 95%, Distancing = 90%, and Compassion = 82%).

Final sample demographics. The above analyses produced two separate, but related samples- one who provided usable data for the sad mood induction (e.g., people who reported at least a 10-point VAS shift pre-post sad mood induction and reported complying with in-task behavior at least half of the time), and one of subjects who provided usable data for the distressing images task (e.g., same criteria applied to the distressing images task). Of the 138 people who provided usable data for at least one of the manipulations, only approximately 51% (N = 71) provided usable data for both sets of analyses. Therefore, in order to improve power, all

further analyses were done separately for those who provided usable data for either each of the manipulations.

Sad mood induction. For the sad mood induction, approximately 60% of all participants ($N = 98$) both complied with the instructions and reported a shift of at least 10 points in the VAS. The average age of these subjects was 20 years ($SD = 2.75$, *range* = 18-37), and they identified as Women ($N = 61$, 62.2%), White (65%, $N = 63$), Black (N = 14, 14.4%), Hispanic ($N = 8$, 8.2%), Native American ($N = 3$, 3.1%) and Other ($N = 9$, 9.3%).

Distressing images task. Similarly, for the distressing images task, approximately 68% of all participants ($N = 111$) both complied with their instructions and experienced a shift of at least 10 points at some time during the task. These subjects were largely Women ($N = 68$, 61.3%), had an average age of around 20 years ($SD = 3.70$, range = 18-46) and identified as White ($N = .74$, 66.7%), Black ($N = 14$, 12.7%), Hispanic ($N = 8$, 7,2%), Asian American ($N = 5$, 4.5%), Native American ($N = 2$, 1.8%), and Other ($N =7$, 6.3%).

Hypothesis-Driven Analyses

Analytic overview. All between-condition hypotheses were tested in SPSS using a 2-step process. The first step in this process was testing the existence of any significant between-condition differences in the three dependent measures (meta-distress, experiential avoidance, curious investigation) separately for each induction, with an additional analysis for distress tolerance only for the distressing images task. A series of one-way ANOVAs was used for this purpose. For any significant omnibus findings, specific hypotheses were evaluated using three planned orthogonal contrasts (see Table 1). I planned to test mediation hypotheses in the second step in AMOS using these same contrast codes only if there were robust omnibus findings both the outcome and the expected mediator.

Results for experiential avoidance. There were no significant between-condition differences in experiential avoidance in either the sad mood induction, (REQ-SM; F [3, 93] = 1.35, p = .26) or the distressing images task (REQ-DT), F (3, 106) = 0.79, p = .49.

Results for meta-distress. All measures of post-task meta-distress were significantly skewed and kurtotic. As such, natural log transformations were performed on these variables, creating new variables LG10-DERS-NA-SM (log-transformed DERS-NA-SM) and LG10-DERS-NA-DT (log-transformed DERS-NA-DT). For the sad mood induction, the results of a one-way ANOVA found no significant between-condition differences in post-task meta-distress (LG10-DERS-NA-SM), F (3, 93) = 1.59, p = .19. For the distressing images task, a one-way ANOVA found a small magnitude marginally significant effect of condition on post-task meta-distress (LG10-DERS-NA-DT), F (3, 06) = 2.56, p = .06, $\eta_p^{2 =}$ .08. Follow-up contrasts suggested that the Judgment (M = 0.98) condition endorsed significant greater log-transformed meta-distress (LG10-DERS-NA-DT) than did the other conditions, Δ_M = 0.20, SD_Δ = .09, p = .03. No other contrasts were significant.

Results for curious investigation. No significant differences in curious investigation were found for either the sad mood induction (TMS-C-SM), F (3, 93) = 0.79, p = .50 or the distressing images task, (TMS-C-DT), F (3, 110) = 0.89, p = .45.

Results for distress tolerance. Finally for the distressing images task only, an ANOVA found no significant differences in average distress tolerance (AV-DT), F(3, 106) = 0.90, p = .44.

Follow-up mediation analyses. Because omnibus results failed to find condition differences in any of the outcomes except for meta-distress (only in the distressing images task),

only Hypothesis 1b (that participants in the judgment condition would experience greater meta-distress than those in the other conditions) was further explored.

Planned Exploratory Analyses

Scoring repeated measures In order to increase sensitivity and account for the possibility of biased post-task recall, hypothesis-driven analyses were repeated using the average of the in-task measures of meta-distress, experiential avoidance, and curious exploration**.** As a reminder, participants completed five measurements of distress, experiential avoidance, and curious exploration during each induction task. There were averaged, separately for each induction, leaving one score between 0 and 8 for each of these dependent variables within each distress induction.

Analytic overview. All between-condition hypotheses were tested as described above using the average repeated-measures of experiential avoidance (EA-AV-SM and EA-AV-DT), meta-distress (MD-AV-SM and MD-AV-DT), and curious investigation (Curiosity-AV-SM and Curiosity-AV-DT).

Results for experiential avoidance. There were no significant between-condition differences in experiential avoidance in the sad mood induction (EA-AV-SM; F [3, 93] = 0.71, p = .55) or the distressing images task (EA-AV-DT), F (3, 106) = 1.24, p = .29.

Results for meta-distress. Measures of in-task meta-distress were significantly skewed and kurtotic. As such, natural log transformations were performed on these variables. There were no significant between-condition differences in log-transformed post-task meta-distress for either the sad mood induction (LG10-MD-AV-SM; F [3, 93] = 1.14, p = .34) or the distressing images task (MD-AV-DT), F (3, 106) = 1.39, p = .25.

Results for curious investigation. For the sad mood induction, an ANOVA found marginally significant medium-sized differences in curious investigation (Curiosity-AV-SM), F (3, 93) = 2.48, p = .06, $\eta_p^{2 =}$ .08. Follow-up contrasts suggested that the Compassion (M = 5.76) condition endorsed significant greater curiosity towards their experiences than did the Distancing condition (M = 4.60), Δ_M = 1.16, SD_Δ = .56, p = .04. No other contrasts were significant. For the distressing images task, an ANOVA found no significant condition differences in curious investigation (Curiosity-AV-DT), F (3, 106) = 2.39, p = .07.

Understanding factors influencing experimental compliance. In order to help understand how to promote compliance with experimental instructions and identify individual characteristics that seem to be related to compliance with each set of instructions, the association between compliance in each condition and trait characteristics, initial comprehension (number of errors), perceived credibility of the video, and perceived utility of the instructions were analyzed using zero-order correlations. Despite costs to power, I felt it was best to analyze compliance separately for group who received a given set of instructions for each task, as it seems likely that different factors may predispose people to comply with each set of fairly distinct instructions. In addition, because compliance with instructions is theoretically distinct from success of induction, I conducted these analyses using the entire sample. Correlations for the sad mood induction are presented in Table 3. Table 4 contains the associated correlations for the distressing images task. Follow-up regression analyses were not conducted due to power limitations.

The findings in Table 3 and Table 4 suggest that there may not be one single factor or set of factors that increased how often participants will follow all possible experimental instructions. Indeed, it seems that different factors increase the likelihood of following each set of directions. Moreover, type of induction seems to potentially play a role, as there are some suggestions here

that different factors seem to influence how often participants follow a given set of directions in the sad mood induction versus the distressing images task. Interestingly, trait distancing (EQ-Total) seems to have been associated with increased compliance with most types of instructions provided in the distressing image task (Table 4).

Unplanned Exploratory Analyses

I conducted a set of unplanned exploratory analyses to examine a series of explanations for the lack of significant between-condition findings. The first set of analyses focused on the possibility that, even within those who complied with their given instructions and were successfully induced into negative moods, the conditions did not differ in terms of how often they judged distressing emotions, adopted a distanced perspective from distressing emotions, and compassionately appraised distressing emotions. Because of the complexity of this study, I feared that telling a given condition not to do something (e.g., telling people in the Judgment condition not to compassionately appraise distress) might lead them to actually engage in that behavior. As such, no condition was specifically forbidden from engaging in the types of behaviors manipulated in other conditions. Therefore, out-of-condition compliance was not considered non-compliant. It would be possible, for instance, to appraise distress judgmentally approximately half the time (i.e., to comply sufficiently in the Judgment condition), but also to appraise it compassionately the other half of the time (i.e., to comply with the Compassion condition without having actually been provided those instructions). The possibility that participants did engage in out-of-condition behaviors, thus, warrants examination. Table 5 contains the average "compliance" score for each type of instruction in each condition.

There are two ways in which participants might not have significantly differed in how often they judged distressing emotions, adopted a distanced perspective from distressing

emotions, and compassionately appraised their distress. Firstly, the average amount of these behaviors might not have varied in expected ways between conditions. While I would expect that conditions that were told to behave in a certain way would have done so at higher rates than those who were not told to do so, there is the possibility that this did not occur. The second set of circumstances that might confound between-condition comparisons is if participants within a given condition did not engage in target behaviors (e.g., judgmental appraisal in the Judgment condition) significantly more of the time than they engaged in other out-of condition behaviors (e.g., holding a distanced perspective from distress in the Judgment condition). That is, while I would anticipate that participants followed experimental instructions to a greater degree than they engaged in out-of-condition behaviors, there is a possibility that they did not. Finally, it is possible that trait dispositions, in addition to (and sometimes in contradiction to) experimental instructions, predicted engaging in the desired behaviors (e.g., judging emotions, viewing them from a distanced perspective, or judging them compassionately), and thus predicted measured outcomes (e.g., meta-distress, experiential avoidance, curious investigation, and distress tolerance).

Examining out-of-condition compliance. If the manipulation worked as expected, I would expect that participants who were told to behave in a certain way would have done so at higher rates than those who were not told to do so. Specifically, I would expect that participants in the Judgment condition would have more often judgmentally appraised their distress than participants in any of the other conditions. Similarly, I would anticipate that participants in both the Distancing and Compassion conditions would have more often held a distanced perspective from distress than participants in the Awareness of Judgment conditions. Finally, I would expect

that participants in the Compassion condition would report more often compassionately appraising distress than those in any other condition.

Analyzing between-condition differences in reported in-task behavior/compliance. I examined the hypothesized between-condition differences in reported time spent following instructions (i.e., compliance) by conducting a series of ANOVAs probing condition differences in continuously scored compliance with each of the three condition instructions (judgment, distancing, and compassion). Because these analyses were intended to shed light on the failure of omnibus tests to find differences in outcomes, these ANOVAs were conducted using data from individuals who reported complying with their given instructions at least half the time. I followed up these ANOVAs with Tukey's HSD tests to examine differences between all combinations of conditions.

Between-condition differences in reported judgmental appraisal. In the sad mood induction, there were medium to large-sized between-condition differences in endorsement of judgmentally appraising distress, $F\ (3, 96) = 9.86\ p < .001$, $\eta_p^{2} = .24$. Moreover, as expected, participants in the Judgment condition reported judgmentally appraising distress "often (60-70%)" and reported doing so significantly more often than participants in any other condition, who all reported judgmentally appraising distress "sometimes (30-40%)" on average. As expected, none of the other conditions differed. Similar results emerged for the distressing images task. In the distressing images task, there were large magnitude between-condition differences in judgmentally appraising distress $F\ (3,110) = 19.61$, $p < .001$, $\eta_p^{2} = .35$. Here also, participants in the Judgment condition reported judgmentally appraising their distress "more than half the time (50-60%)" and reportedly did so significantly more often than participants in any of the other conditions. Unexpectedly, participants in the Distancing condition reported appraising

their distress and reportedly did so significantly more often than those in the Awareness condition. As expected, no other conditions were significantly different from one another in reported in-session judgmental appraisal of distress.

Between-condition differences in reported distanced perspective on distress. For the sad mood induction, there were moderate between-condition differences in reported adoption of a distanced perspective on distress, F (3, 96) = 6.59, $p < .001$, $\eta_p^2 = .14$. As expected, participants in the Distancing and Compassion conditions reported viewing distress from a distanced perspective significantly more often than participant sin the Judgment condition. Unexpectedly, people in the Distancing and Compassion conditions, who employed this skill "often (60-70%)" did not relate to their distress from a distance perspective more often than people in the Awareness condition, who reported viewing their distressing emotions from a distanced perspective "more than half the time (50-60%)."

For the distressing images task, similarly moderate magnitude differences in distancing emerged, F (3,110) = 6.18, $p = .001$, $\eta_p^{2 =} .15$. Follow-up tests produced largely anticipated results. People in the Distancing condition reportedly employed this skill "often (60-70%)" and reported doing so significantly more often than participants in the Judgment and Awareness conditions, who did so "about half the time (40-50%)." Moreover, as anticipated, the Compassion condition endorsed greater distancing than those in the Awareness condition. However, unexpectedly, the Judgment and Compassion conditions did not differ on distancing, which both reported doing about "half the time."

Between-condition differences in reported compassionate appraisal. Medium magnitude condition differences in reported compassionate appraisal of distressing emotions conformed to expectations for the sad mood induction, F (3, 96) = 4.96, $p < .001$, $\eta_p^2 = .14$. Specifically, for

the sad mood induction, the Compassion condition reported compassionately appraising distress "often (60-70%)" (M = 6.48) and reportedly did so significantly more often than did participants in any other condition. No other conditions evidenced significant differences in compassionately appraising emotions. Moreover, identical results emerged in the distressing images task, $F(3,110) = 7.64$, $p < .001$, $\eta_p^2 = .18$.

Analyzing reported use of skills/ compliance of instructions within each condition. I next turned my attention to the question of whether, within each condition, participants who reported complying with their given instructions engaged more often in the desired behaviors versus the out-of-condition behaviors. I anticipated here that people who reportedly complied within the Judgment condition would endorse significantly more time spent judgmentally appraising distress than either holding distress in a distanced perspective or compassionately appraising distress. Similarly, I expected that reportedly compliant participants in either the Distancing or Compassion conditions spent more of their time viewing distress from a distanced perspective than judging distress. People who indicated that they complied in the Distancing condition, similarly, I expected to have spent more of their time holding a distanced perspective from distress than compassionately appraising distress. I examined these possibilities in a series of repeated measures ANOVAS followed up with simple contrasts comparing participants' average reported in-task judgmental appraisal, distanced perspective, and compassionate appraisal as repeated measures separately for each active condition in each induction.

Analyzing reported in-task behaviors/compliance in the judgment condition. As anticipated, participants in the Judgment condition for the sad mood induction evidenced moderate sized differences between types of in-task behavior, $F(2, 38.35) = 8.64$, $p < .001$, $\eta_p^2 = .26$. Moreover, participants in the Judgment condition reported judgmentally appraising emotions

much more often than they either viewed distress from a distanced perspective (F[1, 25] = 25.53, $p < .001$, $\eta_p^2 = .52$) or compassionately appraised distress, $F(1, 25) = 8.47$, $p < .01$, $\eta_p^2 = .25$. Similar results emerged for the distressing images task. Participants in the Judgment condition evidenced moderate-sized differences in reported in-task behaviors in the distressing images task, F (2, 34) = 4.55, $p = .02$, $\eta_p^2 = .21$. Specifically, they reported judgmentally appraising distress much more frequently than they either viewed distress from a distanced perspective, (F [1, 25)] = 38.31, $p = .01$, $\eta_p^2 = .32$) or compassionately appraised distress, F (1, 25) = 89.41, $p < .01$, $\eta_p^2 = .35$.

Analyzing reported in-task behaviors/compliance in the distancing condition. Participants in the Distancing condition evidenced large differences in within-task behaviors during the sad mood induction, F (2, 42) = 8.91, $p = .001$, $\eta_p^2 = .30$. As expected participants in the Distancing condition in the sad mood induction also reported viewing distress from a distanced perspective far more often than they appraised distress either judgmentally (F[1, 21] = 16.36, $p = .001$, $\eta_p^2 = .44$) or compassionately, $F(1, 21) = 8.44$, $p < .01$, $\eta_p^2 = .29$. Similarly, participants in the Distancing condition also evidenced large differences in reported within-task behaviors in the distressing images task, F (2, 58) = 19.02, $p < .001$, $\eta_p^2 = .39$. As expected, these participants viewed distress from a distanced perspective far more often than they appraised distress either judgmentally (F [1, 29] = 54.59, $p < .001$, $\eta_p^2 = .65$) or compassionately, F (1, 29) = 14.91, $p = .001$, $\eta_p^2 = .34$.

Analyzing reported in-task behaviors in the compassion condition. Participants in the Compassion condition evidenced large differences in reported within-task behaviors during the sad mood induction, F (2, 52) = 31.49, $p < .001$, $\eta_p^2 = .55$. Specifically, as expected, these participants reported both viewing distress from a distanced perspective (F [1, 26] = 27.47, $p <$

.001, $\eta_p^2 = .54$) and compassionately appraising distress (F [1, 26] = 46.20, $p < .001$, $\eta_p^2 = .64$) far more often than they judgmentally appraised distress. Identical results emerged among members of the Compassion condition in the distressing images task, F (2, 50) = 45.89, $p < .001$, $\eta_p^2 = .64$. Just as in the sad mood induction, participants in the Compassion condition reported both viewing distress from a distanced perspective (F [1, 25] = 38.31, $p < .001$, $\eta_p^2 = .61$) and compassionately appraising distress (F [1, 25] = 89.41, $p < .001$, $\eta_p^2 = .78$) far more often than they reported judgmentally appraised distress,

Summary of reported compliance. Overall, it appears that participants who complied with their given instructions reportedly followed those directions (e.g., judgmentally appraised distress in the Judgment condition) more often than they reportedly engaged in behaviors they were not asked to do (e.g., compassionately appraising in the Judgment condition). It is notable that effect sizes were larger for participants in the Compassion condition than they were for those in other conditions. Moreover, given the relatively high out-of-condition use of distancing and compassionate appraisal, and the unexpected finding that judgmental appraisal was elevated in the Distancing condition versus other conditions, the above results suggest between-condition analyses may have been confounded by unanticipated behaviors on the parts of the participants.

Examining the impact of personality traits, condition instructions, and in-task behaviors on dependent variables. The possibility that both the experimental instructions and individual dispositions may have influenced in-task behaviors and thereby influenced salient outcome measures was assessed in a series of path models in AMOS (Arbuckle, 2007). Zero-order correlations were used to identify potential correlates of post-task measures of meta-distress, experiential avoidance, curiosity, and distress tolerance. These correlations were run separately for people who experienced a 10-point shift in distress during either the sad mood

induction (N = 114; Table 6) or the distressing images task (N = 140; Table 7). Zero-order correlations were also used to identify significant correlates of participant reported within-induction behaviors/use of instructed skills for successfully induced participants in the sad mood induction (Table 8) and the distressing images task (Table 9). Finally, zero-order correlations between trait measures are presented in Table 10 (sad mood induction) and Table 11 (distressing images task). In order not to restrict the range of reported in-task behaviors, these correlations and path models included data from individuals who had reported they had complied with given instructions less than half the time.

I anticipated that in-session judgmental appraisal would be significantly directly associated with greater reported experiential avoidance and meta-distress in both inductions. Moreover, I anticipated that being in the Judgment condition would be indirectly associated with greater experiential avoidance and meta-distress via leading to more frequent reported judgmental appraisal of distress in both inductions. Similarly, I anticipated that reported frequency of both distancing and compassionate appraisal would be directly associated with more frequent reported curious investigation and longer distress tolerance for both inductions. Moreover, I hypothesized that being in either the Distancing or Compassion condition would be associated with greater reported curious investigation and longer distress tolerance via leading to more frequent reported use of a distanced perspective from distress in both inductions. Finally, I anticipated that being in the Compassion condition would be associated with more frequently responding to distress with curious investigation than being in the Distancing condition and that this difference would be attributable to more frequent reported compassionate appraisals of distress in both inductions.

Models for each of the dependent measures are depicted in figures 1– 5. As detailed below, two path models failed to account for significant variance in the measured outcome and are not depicted in figures. A conservative approach to assessing the significance of indirect effects was followed, wherein path models were first estimated including direct paths from condition contrast codes to the outcome in question (see Table 2). If this full model fit the data adequately, direct paths were removed and decrement to model fit was assessed using chi-squared difference tests. If fit was unharmed, then the trimmed model was used to test hypotheses. Otherwise, the full model was used to examine hypotheses. Finally, the robustness of the significance of all squared multiple correlations, standardized direct effects, and standardized indirect effects was assessed using 95% bias-corrected confidence intervals across 1000 bootstrapped samples (Shrout & Bolger, 2002) for the retained model. In-task behaviors were allowed to have correlated error terms in all models.

Path models predicting meta-distress (Figure 1). The first model I tested was designed to explore factors influencing meta-distress experienced in the sad mood induction (DERS-NA-SM). Removing direct effects from the condition contrasts to the DERS-NA-SM did not significantly worsen model fit, $\chi^2\Delta$ (3, N = 114) = 3.13, p = .37. Moreover, the trimmed model for the data well (Figure 1). The trimmed model accounted for approximately 38% of the variance in DERS-NA-SM, sr^2 = .38, p = .02. Within the model, meta-distress (DERS-NA-SM) was negatively associated with trait non- judgmental appraisal of and was positively associated trait meta-distress. Post-task meta-distress (DERS-NA-SM) was not associated with any of the other entered variables, either directly or indirectly.

The second path model I tested was designed to explore factors influencing meta-distress in the distressing images task (DERS-NA-DT). Trimming the model resulted in reduced model

fit, $\chi^2\Delta$ (3, N = 140) = 7.35, p = .05, so the initial model was retained for further analysis. The initial model fit the data well, though it failed to account for significant variance in meta-distress, χ^2 (10, N = 140) = 13.05, p = .22, SRMR = .03, RMSEA = .05, CFI = .99, sr^2 = .16, p = .07. Given that this model failed to account for significant variance in the outcome, no figure is presented.

Path models predicting experiential avoidance (Figures 2 and 3). The third path model I tested was designed to explore factors influencing experiential avoidance employed in the sad mood induction (REQ-SM). Removing direct effects from the condition contrasts to the REQ-SM did not significantly worsen model fit, $\chi^2\Delta$ (3, N = 114) = 3.13, p = .37. Moreover, the trimmed model fit (Figure 2) the data well and accounted for 19% of the variance in post-task experiential avoidance (REQ-SM; sr^2 = .19, p = .04. Within this model, only appraising distress judgmentally (Judge-SM) was significantly associated with greater experiential avoidance (REQ-SM). The total model accounted for 17% of the variance in in-session judgmental appraisals (Judge-SM; sr^2 = .17, p = .03). The only factor that seemed to influence in-session judgmental appraisal (Judge-SM) was being in the Judgment condition (versus being in all other conditions). There were no significant indirect effects.

The fourth path model I tested was designed to explore factors influencing experiential avoidance employed in the distressing images task (REQ-DT). Removing direct effects from the condition contrasts to the REQ-SM did not significantly worsen model fit and resulted in a well fitting trimmed model (Figure 3), $\chi^2\Delta$ (3, N = 140) = 1.89, p = .59. The trimmed model accounted for approximately 24% of the variance in REQ-DT, sr^2 = .24, p = 03. Post-task experiential avoidance (REQ-DT) was associated with higher trait fear of emotions (ACS-Total) and more frequently judgmentally appraising distress during the induction (Judge-DT). The

trimmed model accounted for approximately 14% of the variance in Judgmentally appraising distress (Judge-DT), $sr^2 = .14$, $p = .02$. In tern, Judge-DT was associated with being in the Judgment condition. Moreover, it seemed that higher trait meta-distress (DERS-NA) had a significant indirect association with REQ-DT via Judge-DT, $\beta = .04$, $p = .03$.

Path models predicting curious investigation (Figures 4 and 5). The fifth path model I tested was designed to explore factors influencing curious investigation of distress in the sad mood induction (TMS-C-SM). Trimming the model did not result in reduced model fit, $\chi^2\Delta$ (3, $N = 114$) = 1.66, $p = .65$. The trimmed model fit the data well (Figure 4) and accounted for approximately 22% of the variance in TMS-C-SM, $sr^2 = .22$. In this induction, TMS-C-SM was associated with male gender and higher levels of in-session compassionate appraisal of distress (Compassion-SM). In turn, Compassion-SM was positively associated with being in one of the two conditions in which distancing instructions were provided (i.e., the Distancing and Compassion conditions versus the Judgment and Awareness conditions) and it was greater in the Compassion condition than in the Distancing condition. The total trimmed model accounted for approximately 14% of the variance in Compassion-SM, $sr^2 = .14$, $p = .02$. As expected, being in either of the two conditions in which distancing instructions were given was indirectly associated with greater TMS-C-SM via Compassion-SM. Similarly, being in the Compassion condition was associated with higher TMS-C-SM via leading to greater Compassion-SM.

The sixth path model I tested was designed to explore factors influencing curious investigation of distress in the distressing images task (TMS-C-DT). Trimming the model did not result in reduced model fit, $\chi^2\Delta$ (3, $N = 140$) = 3.96, $p = .27$. The trimmed model fit the data adequately (Figure 5) and accounted for approximately 25% of the variance in TMS-C-SM, $sr^2 = .25$, $p = .03$. In this induction, TMS-C-DT was associated with higher levels of both in-session

distancing (Distancing-DT) and in-session compassionate appraisal of distress (Compassion-DT). In turn, Distancing-DT was positively associated with being in one of the two conditions in which distancing instructions were provided (i.e., the Distancing and Compassion conditions versus the Judgment and Awareness conditions). Compassion-DT was also positively associated with receiving distancing instructions (i.e., being in either the Distancing or Compassion conditions) and it was greater in the Compassion condition than in the Distancing condition. The total trimmed model accounted for approximately 17% of the variance in Distancing-DT (sr^2 = .17, p = .01) and approximately 12% of the variance in Compassion-SM, sr^2 = .12, p < .01. As expected, being in either of the two conditions in which distancing instructions were given was indirectly associated with greater TMS-C-DT via Distancing-DT and Compassion-DT. However, contrary to expectations, being in the Compassion condition was not indirectly associated with significantly greater TMS-C-DT as compared to being in the Distancing condition.

Path model predicting distress tolerance. The seventh and last path model I tested was designed to explore factors influencing average distress tolerance in the distressing images task (DT-AV). Four people's data were excluded from this analysis because they never reported experiencing distress during the distressing images task. Based on zero-order correlations, there were no trait-level correlates of DT-AV. Trimming the model did not result in reduced model fit, $\chi^2\Delta$ (3, N = 137) = 4.91, p = .15, so the trimmed model was retained for further analysis. The trimmed model fit the data well, though it failed to account for significant variance in DT-AV, χ^2 (6, N = 137) = 5.71, p = .46, SRMR = .03, RMSEA < .01, CFI = 1.0, sr^2 = .02, p = .13. Because this model failed to account for significant variance in distress tolerance, no figure is presented.

Discussion

Summary of Findings

Overall, there were no significant condition differences in any of the dependent measures for participants who both experienced a 10-point shift in mood in the induction and reportedly followed experimental instructions at least half the time. There were two marginally significant differences, which suggested that the Judgment condition endorsed a marginally higher degree of meta-distress than the other conditions for the distressing images task and that the Compassion condition endorsed marginally greater curious exploration than the Distancing condition in the sad mood induction. Both findings were as predicted, although smaller in magnitude than anticipated. I conducted follow-up analyses that suggest several potential explanations for the null findings.

The Role of Induction Failure

The first possible factor contributing to null findings here is the low rates of response to the induction (e.g., Campbell-Sills et al., 2006a; 2006b; Singer & Dobson, 2007; 2009). The choice to focus on an emotionally healthy sample may have reduced the impact of the induction and, thereby, the effects of the manipulation. Rates of successful response (as typically means a 20-point shift in the VAS; Singer & Dobson, 2007) were so low, in fact that the choice was made to accept a 10-point shift as evidence of induction in the present study. Given that all experimental instructions pre-supposed successful induction, such a difference alone could have accounted for null findings. My choice to anchor the VAS from 0 (*Happy*) to 100 (*Very Distressed*), as has only been done in samples of individuals with diagnoses of major depressive disorder (Singer & Dobson, 2007; Singer & Dobson, 2009) may also have inflated rates of induction failure in this study. In future work, it may be best to anchor the scale from 0 (*Not at*

All Distressed) to 100 (*Extremely Distressed*) as has been done more commonly in induction research (Birch, Stewart, Wall, McKee, Eisnor, & Theakston, 2004; McKee, Wall, Hinson, Goldstein, & Bissonnette, 2003). It is also worth noting that most of these studies did not set induction success criteria and simply assessed general induction success using pre-post change in VAS.

The Role of Comprehension, Use of Unrequested Behaviors, and Trait Dispositions

For predictions involving experiential avoidance and meta-distress. Many of the hypotheses regarding the impact of judgmental appraisal were likely confounded by a series of factors negatively impacting interpretability of the data in the Judgment condition. Despite the fact that participants in this condition seem to almost all have understood that they were being asked to judgmentally appraise distress, up to 55% reported they followed these instructions less than half of the time in either induction. These rates of use of experimental instructions are significantly lower than those observed in all other conditions in this study, suggesting these instructions were not acceptable to participants. Indeed, anecdotally some participants reported they did not believe those appraisals were correct or useful to employ.

Moreover, while reportedly compliance participants in the Judgment condition did report judgmentally appraising distress significantly more often than they said they viewed it from a distanced perspective or compassionately appraised it , they also did both of these things at unexpectedly high rates. Most obviously, almost half of the compliant participants in the Judgment and Awareness conditions believed they were being asked to view distress from a distanced perspective and a third believed they were being asked to compassionately appraise distress. Even after being explicitly told they were not being asked to do either, on average

participants in these conditions indicated that they both compassionately appraised distress and viewed it from a distanced perspective approximately "half the time" in both inductions.

Although the reasons for confusion are unclear, perhaps watching a psycho-educational video about distancing contributed to these confounding behaviors and associated confounded results. It is also possible that these relatively psychologically healthy participants simply fell back into adaptive habits in the inductions. Simply put, perhaps they were too psychologically healthy to be coached to engage in pathological patterns of judgment and disengage from healthier ways of relating to distress, at least not in such a time-limited study. In fact, some anecdotal evidence suggested to us that participants who indicated they judgmentally appraised distress did not, in fact, do so because they did not believe it to be appropriate. Instead, they believed their emotions were valid and worthwhile. While, of course, this is positive for them, the result for the present study is that expected findings for meta-distress and experiential avoidance are likely confounded by low rates of judgmental appraisal and higher-than-anticipated rates of compassionate appraisal and distancing in the Judgment condition.

In fact, I found some support for the idea that individual dispositions, rather than experimental instructions, significantly predicted in-task meta-distress and experiential avoidance, in some cases because these traits are linked to greater in-task judgmental appraisal. For example, when accounting for all reported in-task behaviors and individual dispositions, only individual dispositions towards judgmentally appraise distressing emotions (FFMQ-NJ) and experiencing greater meta-distress (DERS-NonAccept), were associated with greater meta-distress in the sad mood induction (DERS-NA-SM; Figure 1). Similarly, while judgmentally appraising distress seemed associated with greater in-task experiential avoidance in both inductions (Figures 2 and 3), the most powerful influence on in-task judgmental appraisal was

the individual dispositions towards feeling greater meta-distress (i.e., higher DERS-NonAccept), rather than being told to judgmentally appraise distress in this experiment. In fact, this individual disposition seemed to be linked to such a significant increase in judgmental appraisal in task (regardless of experimental condition) that it appeared to possibly lead to greater in-task experiential avoidance via this route (Figure 3). Going forward with this knowledge, it may be best to recruit samples of individuals who are more likely to judgmentally appraise distress as a matter of habit (e.g., Campbell-Sills et al., 2006a), such as those with clinical anxiety (Campbell-Sills et al., 2006b) or depression (Campbell-Sills et al., 2006b; Singer & Dobson, 2007; 2009).

Results pertaining to distress tolerance and curious investigation. Results pertaining to distress tolerance and curious investigation were relatively less confounded than those for meta-distress and experiential avoidance. Firstly, none of the measured in-task behaviors appeared robustly associated with greater distress tolerance in the distressing images task (see Table 7), suggesting that the manipulations honestly had no impact on distress tolerance. Results for curious investigation were somewhat less straightforward, as explained below.

Over all and in stark contrast to the behaviors of participants who were asked to engage in theoretically pathological behaviors (i.e., judgmental appraisal), participants who were asked to engage in theoretically healthier methods of relating to emotions (e.g., distancing and compassionate appraisal) seem overwhelmingly to have understood what they were being asked to do and to have done so. However, perhaps again due to the healthy nature of the sample, more than a third of the participants in the Distancing condition thought they were being asked to compassionately appraise distress. Moreover, reportedly compliant participants in the Distancing condition did, in fact, report compassionately appraising distress at least half the time, even after being told they were not being asked to do so. As such, omnibus findings between the Distancing

and Compassion conditions pertaining to the effect of compassionate appraisal on curious investigation may have been obscured by the use of compassionate appraisal in the Distancing condition.

The results of a path model designed to account for any potentially confounding in-task behaviors largely supported hypotheses (Figure 4 and Figure 5). In contrast, again, to results for judgmental appraisal, it does seem that experimental instructions successfully lead to use of both distancing and compassionate appraisal in session. In fact, for the distressing images task, receiving distancing instructions was associated with greater reported in-task curious investigation of distress because it was associated with such a significant increase in reported in-task use of distancing (Figure 5). So it is possible to increase curious investigation of distress by instructing participants to relate to distress from a distanced perspective, as anticipated.

The present findings also yield some support for the hypothesis that compassionately appraising distress may be associated with even greater curious investigation than viewing distress from a distanced perspective. Even when controlling for the influence of in-task reported distancing, in-task reported compassionate appraisal was directly associated with reported curious investigation of distress in both inductions (Figures 4 and 5). For the sad mood induction, data were consistent with the supposition that participants in either the Distancing or Compassion conditions reported higher levels of curious investigation (TMS-C-SM) specifically because they also more often compassionately appraised distress (Figure 4). Moreover, data from this induction even suggest that individuals in the Compassion condition endorsed curiously investigating distress more often than participants in the Distancing condition because they compassionately appraised their distress more often (Figure 4). Total findings are consistent with the hypotheses that compassionately appraising distress, whether directly instructed or a

byproduct of adopting a distanced perspective, leads to greater curiosity about distressing emotions.

Limitations and Future Directions

Improving internal validity. One significant limitation of the present study's internal validity was the exclusive reliance on self-report measures of in-task behaviors and emotional responses. Given that there is no way of checking for the accuracy of reported emotions, the exclusive use of self-report to gauge compliance with experimental instructions is most troubling (and potentially more readily corrected) methodological limitation of this study. While other studies have used self-report to assess in-task behaviors/ compliance with experimental instructions (e.g., Atkinson & Wade, 2012; Campbell-Sills et al., 2006b), these methods leave experimenters with no way of gauging the accuracy of participant reports. This issue is particularly salient in this study because there were some anecdotal suggestions that participants who reported judgmentally appraising distress in the Judgment condition did not, in fact, do so. Future studies might include a speak-aloud procedure with expert coders to measure or confirm use of experimental instructions, as was done by Singer and Dobson (2007; 2009).

The second threat to this study's internal validity arises from the fact that the judgmental appraisal instructions do not appear to have been well received or implemented by participants in the Judgment condition. As such, the present data do not speak to the validity of the hypothesis that judgmental appraising distress leads to greater meta-distress and experiential avoidance. Given evidence that clinical samples (Campbell-Sills et al., 2006a) or psychologically healthy individuals with higher trait dispositions towards judgmentally appraising distress or experiencing meta-distress (Figure 1) may be more likely to spontaneously judgmentally

appraise distress, hypotheses related to the impact of judgmental appraisal are likely better tested in those samples.

Furthermore, unexpectedly high rates of either reportedly viewing distress from a distanced perspective or compassionately appraising distress in either the Awareness of Judgment conditions call into question the wisdom of including psycho-educational materials about viewing distress from a distanced perspective. These materials were included in order to allow participants to accurately complete post-task measures. However, it seems very possible that participants' confusion about what they were supposed to do during the induction and then their unrequested use of distancing and compassionate appraisal may have resulted from receiving this psycho-education. As such, future studies might consider removing this piece of psycho-education.

Similarly, there is a real possibility here that the brevity of this experiment and the lack of inclusion of formal mindfulness practices may have rendered these skills less effective or impactful than anticipated (as also argued by Low and colleagues [2008] and Shallcross and colleagues [2010]). Although the existence of significant indirect effects on measures of curious investigation suggest such a brief study may be minimally effective at teaching a complex skill like distancing and compassionate appraisal, it is very likely that they might gain even greater command of this skill (or, indeed, any of the skills) if they were to part in formal mindfulness practice over several sessions, such as they would in MBSR or MBCT. As such, providing participants more time to practice and more intense mentorship in implementing the desired skills would have augmented the internal validity of the present study.

Finally, my initial literature review did not reveal a trait measure of either compassionate appraisal or curious investigation of distress. As such, I could neither detect, nor rule out the

effects of trait differences in these dispositions on in-task behaviors. Future studies might consider including the trait version of the Toronto Mindfulness Scales (TMS-T; Davis, Lau, & Cairns, 2009), which provides measures of both distancing and curiosity. As far as I am aware, there is no measure of dispositional compassionate appraisal of distress, which is somewhat different from the related construct of self-compassion as assessed in the Self-Compassion Scale (SCS: Neff, 2003). Specifically, while the common humanity subscale of the SCS gets at the same idea as believing that emotions are natural, the SCS doesn't include a focus on believing emotions are informative or can help one to grow.

Improving external validity. The largest threat to the external validity of the present study was the use of a psychologically healthy sample. Although this sample was chosen strategically, it had the unintended consequence of causing measurable inflation in the rates of induction failure. Simply put, the present sample may not be representative of those who clinically receive mindfulness-based therapies. Most prior studies that have assessed emotional acceptance have done so in populations where emotional acceptance is an important treatment target, such as among individuals with diagnoses of anxiety and mood disorders (e.g.; Campbell-Sills et al., 2006a; 2006b; Singer & Dobson, 2007; 2009). Finally, in contrast to other studies in this area, the nearly all of the participants in this study were college students. Future studies may be conducted among populations for whom emotional acceptance is theoretically a salient focus for intervention, such as those with mood, anxiety, and personality pathology.

Improving power through simplifying design. A final concern about the present study is that the large number of conditions included hampered its execution. Low power was a potential contributor to some of the null findings in the present study. Given high documented rates of induction failure and non-compliance with experimental instructions among even clinical

samples (e.g.; Campbell-Sills et al., 2006a; 2006b; Singer & Dobson, 2007; 2009), it may be important to simplify future studies so that they only include a maximum of three conditions and only include two experimental conditions. Moreover, given the possibility, as documented here, that between-condition differences can be obscured when even compliant participants react to emotions in unrequested ways, it may be wise to enhance power by simplifying research designs to only those conditions directly involved in primary hypotheses., It may, for example, be profitable to break the present study into two component studies: one examining the effects of judgmentally appraising distress or compassionately appraising distress, and the other examining the benefits of compassionately appraising distress as compared to viewing distress from a distanced perspective.

Future Directions

In addition to suggesting a number of potential methodological refinements to improve the quality of future research in this area (see above), the present study suggests some additional areas of inquiry. For example, the reason results in the two inductions diverged in many instances is not presently clear. It is particularly interesting that none of the variables I assessed seemed to account for significant variance in meta-distress in the distressing images task, in contrast to the sad mood induction. One options to explain this contrast is that the sad mood induction and distressing images task induced different emotions. Although the IAPS images used in the distressing images task were not selected based on the type of distressing emotion associated with the images, we (Veilleux et al., 2013) have anecdotally noted that disgust may be associated with many of the images I used in this study. It may be that disgust, although it does seem associated with avoidance (e.g. Wolgast et al., 2010), is inherently "understandable" emotion such that people rarely judgmentally appraise it or feel upset about feeling disgusted. By

contrast, sadness, the emotion targeted in the sad mood induction, may be more often subject to judgmental appraisal. The current study was not designed to assess this possibility and I only assessed general distress in order to shorten the length of the study. However, if, indeed, different emotions are more or less prone to be judgmentally appraised or experientially avoided, that would have interesting implications for the use of MBTs to treat disorders that involve these emotions. Future studies may assess or intentionally strive to manipulate different types of distressing emotions in order to answer these theoretically important questions.

In addition to the possibility that the effects of appraisal may be contingent on the type of emotion being appraised, it is also possible that the different specific appraisals described here as either judgmental or compassionate may have different impacts on how people respond to those emotions. For example, believing that feeling a given emotion signifies personal defect may be associated with shame and experiential suppression, whereas believing that an emotion is unhelpful may not. Similarly, believing it is possible to learn and grow by experiencing distressing emotions may be more strongly associated with curious investigation of that distressing emotion than believing that one is justified in experiencing that emotion. I did not design this study to address these questions, though they could be of great clinical import because they suggest yet more specific types of interventions. Future work is needed to explore these possibilities. For example, future work may be designed to build on the present findings by examining which type of "compassionate" appraisals may be more strongly linked to curiously investigating emotion.

Similarly, future work might examine the question of whether certain types of "judgmental" appraisals are linked to certain discrete types of meta-distress. One might expect, for example, that the belief that experiencing a certain distressing emotion makes one weak

might be associated with shame, whereas potentially thinking that an emotion may block one from one's goals could be associated with anger. Finally, it may be worth considering that certain types of meta-distress (e.g., anger versus anxiety versus shame) may have different relationships with experiential avoidance. For example, a person who experiences self-directed anger about being distressed might punish themselves for that distress by, for example, self-injuring without the intention of reducing the initial distress (which qualifies as acting out in anger, not as utilizing experiential avoidance). By contrast, someone who is embarrassed about being distressed might engage in behaviors specifically to suppress that distress (which would qualify as experiential avoidance). Unsurprisingly, given the generally sparse research on meta-distress specifically, these questions are presently unanswered. Future cross-sectional and experimental work may help address this gap in the present literature.

Strengths

The present study had several significant strengths based on its design and sample methods. This study's rigorous experimental design is its primary strength. Moreover, the methodology used here was strengthened by included elements such as the use of well-validated measures, carefully designed psycho-education about salient and intellectually dense constructs of interest, video explanations of experimental instructions, and cue cards to aid memory of instructions. In addition, the sample was relatively diverse in terms of gender and ethnic makeup. Moreover, approximately half the sample had academic majors aside from psychology.

Importantly, the current study also represents a strong initial attempt to experimentally test the theoretically and clinically salient question of whether judgmentally appraising distress leads to potentially negative reactions to emotions, such as meta-distress and experiential avoidance. To my knowledge, this is first study to attempt to address this question

experimentally. Much can be learned from the present results, including, primarily, that this question may be best addressed using a clinical sample, rather than psychologically healthy participants. Furthermore, the current study is the first to experimentally investigate the incremental benefits of compassionately appraising distress beyond those of viewing distress from a distanced perspective. Methods used in addressing these questions seemed relatively effective, as participants largely understood what they were being asked to do and followed instructions as given. As such, the current study provides an easy-to-follow template for future investigations in this area. Finally, the choice to assess all in-task behaviors of interest for each induction is a significant strength here because that data provided fascinating insights into the participants' in-task behaviors that proved useful in understanding the present findings and making evidence-based suggestions for further work.

Clinical Implications

Particularly if replicated and expanded upon, as recommended above, the present results might have some interesting implications for how to promote mental health and decrease suffering by increasing curiosity towards one's distress, particularly within mindfulness-based interventions. The number and strength of clinical implications here is limited, both by the tenuous nature of present findings and largely by the fact that few experimental of treatment studies have assessed curious investigation of distress. However, a few preliminary implications are discernable.

Firstly, given some evidence that MBCT may prevent depressive relapse by increasing recipients' tendencies to curiously investigate their distress (Beiling et al., 2012), the present findings imply a way to augment the efficacy of MBCT. Specifically, practices within MBCT currently focus heavily on helping recipients gain a distanced perspective from distress and only

very few include an explicit focus on instilling compassion towards the self, others, or distressing emotions (Segal et al., 2002). By increasing the encouragement to treat one's distress compassionately in MBCT meditations, it may be possible to beget yet greater curiosity in clients and further decrease rates of depressive relapse.

Changes in curious investigation over the course of MBSR have also been linked to a number of positive outcomes in a sample of HIV positive men who were neither presently depressed not abusing substances (Gayner et al., 2012). In this group, increased curious investigation of distress that occurred over the course of MBSR was related to decreased depressive symptoms, increased positive mood, decreased intrusions about stressful experiences, and decreased avoidance of stressful thoughts. Similar to MBCT, most practices included in MBSR focus on creating a distanced perspective from thoughts and emotions and an increased awareness of the physical sensations occurring in the present moment (Kabat-Zinn, 1990). The present findings suggest that MBSR might have an even greater effect on stress, sub-threshold depressive symptoms, and positive emotions if a greater number of practices explicitly assisted clients in compassionately regarding their distressing emotions.

Finally, the present findings have some interesting implications for the effects of validation and self-compassion on anger and shame within DBT. There is theory and some cross-sectional evidence that anger and angry rumination may beget the shame issues that form the core pathology of borderline personality disorder (Linehan, 1993; Peters, Geiger, Smart, & Baer, 2014). In turn, issues with anger and shame may be involved in the social dysfunction that often accompanies a diagnosis of BPD, because it appears that individuals with BPD features may be especially prone to experience irritability and shame when confronted with social rejection (Chapman, Walters, & Dixon-Gordon, 2014). Some experimental evidence suggests curious

investigation of distress may promote faster recovery for both anger and general negative affect (Ortner & Zelezao, 2012). As such, it seems plausible that DBT may help improve social functioning, reduce anger, and reduce shame by promoting a sense of curiosity about one's distress. In turn, validation strategies in DBT, once internalized, may increase compassionate appraisal of distress (a component of self-compassion; Neff, 2003), which may, present evidence suggests, promote curiosity towards distressing emotions. Although validation and compassion are attitudes utilized by therapists in all DBT therapy modalities, it might still be possible, as with all Mindfulness-Based Treatments, to increase the focus on compassionate appraisal of distress in the mindfulness module in DBT. The present results loosely suggest doing so could provide some benefit to clients participating in DBT.

Conclusion

I was unable to test many of my hypotheses related to meta-distress and experiential avoidance because the Judgment manipulation was ineffective in the present psychologically healthy sample. All available data from this and the broader literature suggest that many of the present study's hypotheses related to meta-distress and experiential avoidance are better tested using clinical samples. Moreover, due both to potential design issues and the healthy nature of the current sample, between one-third and one-half of participants who were never instructed to view distress from a distanced perspective or compassionately appraise distress reported going so in this study. Once those unexpected behaviors were taken into account, the present study did find support for the hypotheses that either viewing distress from a distanced perspective or compassionately appraising distress increases curious investigation of distress. This finding suggest that it might be helpful to make compassionate appraisal a specific focus in more of the mindfulness practices lead in MBTs, including MBCT, MBSR, and DBT. Finally, future work

might examine emotion-specific effects of distancing, judgmental appraisal, and compassionate appraisal or relations between different specific “judgmental” or “compassionate” appraisals and salient outcomes.

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Table 1.

Orthogonal Contrasts

Constructs	Measures	Relevant Hypothesis	Positive Contrast Code (Value)	Negative Contrast Code (Value)
Meta-Distress & Experiential Avoidance	• DERS-NA • REQ • (MD-AV) • (EA-AV)	1	Judgment (3)	Compassion (-1), Distancing (-1), Control (-1)
		2	Awareness (2)	Compassion (-1), Distancing (-1)
			Distancing (1)	Compassion (-1),
Curious Exploration & Distress Tolerance	• TMS-C • DT-AV • (Curiosity-AV)	3	Compassion (1) Distancing (1)	Judgment (-1), Control (-1),
		4	Compassion (1)	Distancing (-1)
			Awareness (1)	Judgment (-1)

***Note**:* DERS-NA = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004); REQ = Experiential Avoidance subscale of the Reactions to Emotion Questionnaire (Campbell-Sills et al., 2006a); MD-AV = Average reported in-task meta-distress; EA-AV = Average reported in-task experiential avoidance; TMS-C = Curiosity subscale of the Toronto Mindfulness Scales (Lau et al., 2006); DT-AV = Average distress tolerance; Curiosity-AV = Average reported in-task curious exploration of distress. Measures presented in parentheses were used in planned follow-up analyses.

Table 2.
Total Number of Participants Who Issued Correct Responses, Made Any Type of Error, Made Errors of Omission, and Made Errors of Commission on the Comprehension Check for the Total Sample (N = 164) and for Each Condition

Question:	Response Type	Total (*N* = 164)	Awareness Condition (*N* = 40)	Judgment Condition (*N* = 45)	Distancing Condition (*N* = 40)	Compassion Condition (*N* = 40)
All Questions	Correct	80	12	22	20	28
	Any Error	84	28	23	20	12
	Omission	22	4	3	1	8
	Commission	62	24	20	19	4
Focus on the emotions I am feeling during the task.	Correct	151	36	42	37	36
	Any Error	13	----------	----------	----------	----------
	Omission	13	4	3	3	3
	Commission	0	----------	----------	----------	----------
Remind myself that I have no reason to feel distressed, it is a useless way to feel, and that the only reason I feel that way is because I have not yet learned to control my feelings.	Correct	146	31	42	37	36
	Any Error	19	----------	----------	----------	----------
	Omission	3	----------	3	----------	----------
	Commission	16	9	----------	3	4
View my feelings from a distanced perspective, as if watching them on a movie screen.	Correct	123	21	25	39	39
	Any Error	41	----------	----------	----------	----------
	Omission	2	----------	----------	1	1
	Commission	39	19	20	----------	----------

Remind myself that I feel distressed for a reason, that I can use that feeling to better understand myself and my needs, and that allowing myself to feel that way might make me stronger.	Correct	116	22	34	24	36
	Any Error	48	----------	----------	----------	----------
	Omission	4	----------	----------	----------	4
	Commission	44	18	11	15	----------

Table 3.
Correlates of In-Task Behaviors/ Compliance with Experimental Instructions for the Sad Mood Induction Among All Participants (N = 164)

	In-Task Measures			
	Awareness of Distress (Compliance with Awareness Instructions in any condition; N = 164)	Judgmental Appraisal (Compliance with Judgment instructions in the Judgment condition; N = 45)	Distanced Perspective (Compliance with Distancing instructions in either the Distancing or Compassion conditions; N = 78)	Compassionate Appraisal (Compliance with Compassion instructions in the Compassion condition; N = 40)
Trait Measure				
Gender	-.10	.34*	.11	.31[t]
Fear of Emotion (ACS-Total)	.02	.28*	.04	.07
(Non) Judgmental Appraisal (FFMQ-NJ)	-.09	-.19	-.06	.19
(Non) Reaction/ Experiential Avoidance (FFMQ-NR)	.18*	-.01	.06	-.10
Meta-Distress (DERS-NonAccept)	< .01	.08	.03	.01
Distancing (EQ-Total)	.18*	-.13	.04	-.01
Comprehension				
Number of Errors	.15	-.07	-.18	.19
Perceptions of Video				
Credibility of Presenter	.28***	.27	.17	.11
Perceived Utility of	.22*	.19	.24*	.27

Method

Note: *< .05, ** < .01, ***< .001; Gender = dummy-coded gender (Male = 0, Female = 1); ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Number of Errors = Number of Mistakes Made on the Comprehension Check; Credibility of Presenter = Participant rating from 0 (*Not at all*) to 8 (*Completely*) of the credibility of the psycho-education and instructional videos; Perceived Utility of Method = Participant rating from (from 0 (*Not at all*) to 8 (*Completely*) of how strongly they believed the presented way of responding to emotion would be useful; Awareness of Distress = reported time spent being aware of distress during the Sad Mood Induction; Judgmental Appraisal = reported time spent appraising distressing emotions during the Sad Mood Induction; Distanced Perspective = reported time spent viewing distressing emotions from a distanced perspective in the Sad Mood Induction; Compassionate Appraisal = reported time spent appraising distressing emotions compassionately in the Sad Mood Induction.

Table 4.
Correlates of In-Task Behaviors/ Compliance with Experimental Instructions for the Distressing Images Task Among All Participants (N = 164)

	In-Task Measures			
	Awareness of Distress (Compliance with Awareness Instructions in any condition; N = 164)	Judgmental Appraisal (Compliance with Judgment instructions in the Judgment condition; N = 45)	Distanced Perspective (Compliance with Distancing instructions in either the Distancing or Compassion conditions; N = 78)	Compassionate Appraisal (Compliance with Compassion instructions in the Compassion condition; N = 40)
Trait Measure				
Gender	.02	.08	.08	.11
Fear of Emotion (ACS-Total)	-.09	-.04	-.09	-.25
(Non) Judgmental Appraisal (FFMQ-NJ)	.02	-.32*	-.05	.28
(Non) Reaction/ Experiential Avoidance (FFMQ-NR)	.16*	.18	< .01	-.34*
Meta-Distress (DERS-NonAccept)	-.01	.33*	-.04	-.16
Distancing (EQ-Total)	.27***	-.14	.29*	.46**
Comprehension				
Number of Errors	-.11	.17	.05	-.13
Perceptions of Video				
Credibility of Presenter	.03	-.05	.12	-.36*
Perceived Utility of	.08	.15	.12	.05

Method

Note: *< .05, ** < .01, ***< .001,Gender = dummy-coded gender (Male = 0, Female = 1); ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Number of Errors = Number of Mistakes Made on the Comprehension Check; Credibility of Presenter = Participant rating from 0 (*Not at all*) to 8 (*Completely*) of the credibility of the psycho-education and instructional videos; Perceived Utility of Method = Participant rating from (from 0 (*Not at all*) to 8 (*Completely*) of how strongly they believed the presented way of responding to emotion would be useful; Awareness of Distress = reported time spent being aware of distress during the Distressing Images Task; Judgmental Appraisal = reported time spent appraising distressing emotions during the Distressing Images Task; Distanced Perspective = reported time spent viewing distressing emotions from a distanced perspective in the Distressing Images Task; Compassionate Appraisal = reported time spent appraising distressing emotions compassionately in the Distressing Images Task.

Table 5.
Average Reported In-Task Behaviors/ Compliance with Experimental Instructions Among Induced Participants who Complied At Least "Half the Time" with Condition-Specific Instructions

Task	Condition	Judgmental Appraisal	Distanced Perspective	Compassionate Appraisal
Sad Mood Induction (N = 98)	Awareness Condition	M = 3.17 SD = 2.44	M = 4.70 SD = 2.48	M = 4.17 SD = 2.58
	Judgment Condition	M = 6.19 SD = 1.58	M = 3.92 SD = 2.49	M = 4.31 SD = 2.99
	Compassion Condition	M = 2.63 SD = 3.05	M = 5.92 SD = 1.88	M = 6.48 SD = 1.31
	Distancing Condition	M = 3.27 SD = 3.10	M = 6.27 SD = 1.28	M = 4.59 SD = 2.79
Distressing Images Task (N = 111)	Awareness Condition	M = 1.54 SD = 1.50	M = 3.73 SD = 2.26	M = 4.19 SD = 2.42
	Judgment Condition	M = 5.61 SD = 1.38	M = 4.11 SD = 2.37	M = 4.16 SD = 2.18
	Compassion Condition	M = 1.73 SD = 2.34	M = 5.27 SD = 2.47	M = 6.53 SD = 1.30
	Distancing Condition	M = 2.74 SD = 2.38	M = 5.93 SD = 1.17	M = 4.10 SD = 2.59

Note: Judgmental Appraisal = reported time spent appraising distressing emotions during the induction; Distanced Perspective = reported time spent viewing distressing emotions from a distanced perspective in the induction; Compassionate Appraisal = reported time spent appraising distressing emotions compassionately in the induction.

Table 6.
Correlates of Post-Task Dependent Measures Among Induced Participants in the Sad Mood Induction (N = 116)

	Post-Task Dependent Measures		
	Experiential Avoidance (REQ-SM)	Meta-Distress (DERS-NA-SM)	Curios Investigation (TMS-C-SM)
Trait Measures			
Gender	.18	-.11	-.24**
Fear of Emotion (ACS-Total)	.27**	.28**	.08
(Non) Judgmental Appraisal (FFMQ-NJ)	-.27**	-.47***	-.14
(Non) Reaction/ Experiential Avoidance (FFMQ-NR)	-.06	.06	.09
Meta-Distress (DERS-NonAccept)	.17	.58***	-.02
Distancing (EQ-Total)	-.13	-.05	.14
Comprehension			
Number of Errors	.03	.04	< .01
Reported In-Task Behaviors			
Judge-SM	.36***	.16	-.14
Distancing-SM	.11	.04	.24**
Compassion-SM	.13	.04	.31***
Post-Task Dependent Measures			
REQ-SM	1	--	--.
DERS-NA-SM	.27**	1	--
TMS-C-SM	-.15	.06	1

Note: *< .05, ** < .01, ***< .001, Gender = dummy-coded gender (Male = 0, Female = 1); ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Judge-SM = reported time spent appraising distressing emotions during the Sad Mood Induction; Distancing-SM = reported time spent viewing distressing emotions from a distanced perspective in the Sad Mood Induction;

Compassion-SM = reported time spent appraising distressing emotions compassionately in the Sad Mood Induction; REQ-SM = Experiential Avoidance subscale of the Responses to Emotion Questionnaire (Campbell-Sills et al., 2006a), reworded to refer to the Sad Mood Induction; DERS-NA-SM = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004), reworded to refer to the Sad Mood Induction; TMS-C-SM = Curiosity subscale of the Toronto Mindfulness Scales (Lau et al., 2006), reworded to refer to the Sad Mood Induction.

Table 7.
Correlates of Post-Task Dependent Measures Among Induced Participants in the Distressing Images Task (N = 140)

	Post-Task Dependent Measures			
	Experiential Avoidance (REQ-DT)	Meta-Distress (DERS-NA-DT)	Curious Investigation (TMS-C-DT)	Average Distress Tolerance (AV-DT)
Trait Measure				
Gender	.13	-.18**	-.09	< .01
Fear of Emotion (ACS-Total)	.40***	.24**	< .01	-.05
(Non) Judgmental Appraisal (FFMQ-NJ)	-.31***	-.20*	-.03	-.05
(Non) Reaction/ Lack of Experiential Avoidance (FFMQ-NR)	.05	-.07	.28**	.11
Meta-Distress (DERS-NonAccept)	.24**	.29***	.01	.06
Distancing (EQ-Total)	-.09	-.14	.29***	.15
Comprehension				
Number of Errors	.11	.19*	< .01	.17*
In-Task Behaviors				
Judge-DT	.31***	.22**	.04	-.02
Distance-DT	.07	< .01	.35***	-.12
Compassion-DT	-.05	.12	.42***	-.03
Post-Task Dependent Measures				
REQ-DT	1			
DERS-NA-DT	.22**	1		
TMS-C-DT	-.18*	.02	1	
AV-DT	-.07	-.12	-.09	1

Note: *< .05, ** < .01, ***< .001, Gender = dummy-coded gender (Male = 0, Female = 1); ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation

Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Judge-DT = reported time spent appraising distressing emotions during the Distressing Images Task; Distancing-DT = reported time spent viewing distressing emotions from a distanced perspective in the Distressing Images Task; Compassion-DT = reported time spent appraising distressing emotions compassionately in the Distressing Images Task; REQ-DT = Experiential Avoidance subscale of the Responses to Emotion Questionnaire (Campbell-Sills et al., 2006a), reworded to refer to the Distressing Images Task; DERS-NA-DT = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004), reworded to refer to the Distressing Images Task; TMS-C-SM = Curiosity subscale of the Toronto Mindfulness Scales (Lau et al., 2006), reworded to refer to the Distressing Images Task; AV-DT; Average time spent viewing distressing slides after distress is noted in the Distressing Images Task.

Table 8.
Correlates of In-Task Behavior/ Compliance with Experimental Instructions Among Inducted Participants in the Sad Mood Induction (N = 116)

	In-Task Behavior/ Compliance with Experimental Instructions		
	Judgmental Appraisal (Judge-SM)	Distanced Perspective (Distance-SM)	Compassionate Appraisal (Compassion-SM)
Trait Measures			
Gender (Men = 0, Woman = 1)	.16	-.14	.09
Fear of Emotion (ACS-Total)	.21*	-.03	.04
(Non) Judgmental Appraisal (FFMQ-NJ)	-.09	-.14	-.09
(Non) Reaction/ Experiential Avoidance (FFMQ-NR)	-.08	.15	.13
Meta-Distress (DERS-NonAccept)	.13	.04	.01
Distancing (EQ-Total)	-.09	< .01	.08
Comprehension			
Number of Errors	.09	-.20*	.01
Judge-SM	1	--	
Distance-SM	.07	1	--
Compassion-SM	.08	.33***	1

Note: * < .05** < .01 ***< .001; Gender = dummy-coded gender (Male = 0, Female = 1); ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Judge-SM = reported time spent appraising distressing emotions during the Sad Mood Induction; Distancing-SM = reported time spent viewing distressing emotions from a distanced perspective in the Sad Mood Induction; Compassion-SM = reported time spent appraising distressing emotions compassionately in the Sad Mood Induction.

Table 9.
Correlates of In-Task Behaviors/ Compliance with Experimental Instructions for Participants who were Induced in the Distressing Images Task (N = 140)

	In-Task Behavior/ Compliance with Experimental Instructions		
	Judgmental Appraisal (Judge-DT)	Distanced Perspective (Distance-DT)	Compassionate Appraisal (Compassion-DT)
Trait Measures			
Gender	.04	-.04	.08
Fear of Emotion (ACS-Total)	.11	-.04	-.03
(Non) Judgmental Appraisal (FFMQ-NJ)	-.16	-.05	.05
(Non) Reaction/ Experiential Avoidance (FFMQ-NR)	.02	.06	.16
Meta-Distress (DERS-NonAccept)	.21*	.07	< .01
Distancing (EQ-Total)	-.16	.09	.07
Comprehension			
Number of Errors	-.07	-.03	-.05
Reported In-Task Behaviors			
Judge-DT	1	--	
Distance-DT	.19*	1	--
Compassion-DT	.06	.35***	1

Note: * < .05** < .01 ***< .001; Gender = dummy-coded gender (Male = 0, Female = 1); ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Judge-DT = reported time spent appraising distressing emotions during the Distressing Images Task; Distancing-DT = reported time spent viewing distressing emotions from a distanced perspective in the Distressing Images Task; Compassion-DT = reported time spent appraising distressing emotions compassionately in the Distressing Images Task.

Table 10.
Correlations Between Trait Variables, Comprehension, Perceived Utility, and Perceived Credibility among Successfully-Induced Participants in the Sad Mood Induction (N = 116)

	1	2	3	4	5	6	7	8
1, Gender (0 = Male, 1 = Female)	1	--	--	--	--			
2. Fear of Emotion (ACS-Total)	.15	1						
3. (Non) Judgmental Appraisal (FFMQ-NJ)	.04	-.55***	1					
4. (Non) Reaction/ Experiential Avoidance (FFMQ-NR)	.26**	-.36***	.04	1				
5. Meta-Distress (DERS-NonAccept)	.05	-.42***	-.60***	-.11	1			
6. Distancing (EQ-Total)	.27**	-.50***	-.33***	-.60***	-.29**	1		
7. Number of Errors in Comprehension	.03	.32***	-.10	-.24*	.04	-.13	1	
8. Perceived Credibility	-.05	.04	-.04	-.01	.12	.06	.02	1
9. Perceived Utility	-.06	-.04	<-.01	-.10	.09	-.03	-.17[t]	.33***

Note: *< .05, ** < .01, ***< .001; ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Number of Errors = Number of Mistakes Made on the Comprehension Check; Credibility of Presenter = Participant rating from 0 (*Not at all*) to 8 (*Completely*) of the credibility of the psycho-education and instructional videos; Perceived Utility of Method = Participant rating from (from 0 (*Not at all*) to 8 (*Completely*) of how strongly they believed the presented way of responding to emotion would be useful.

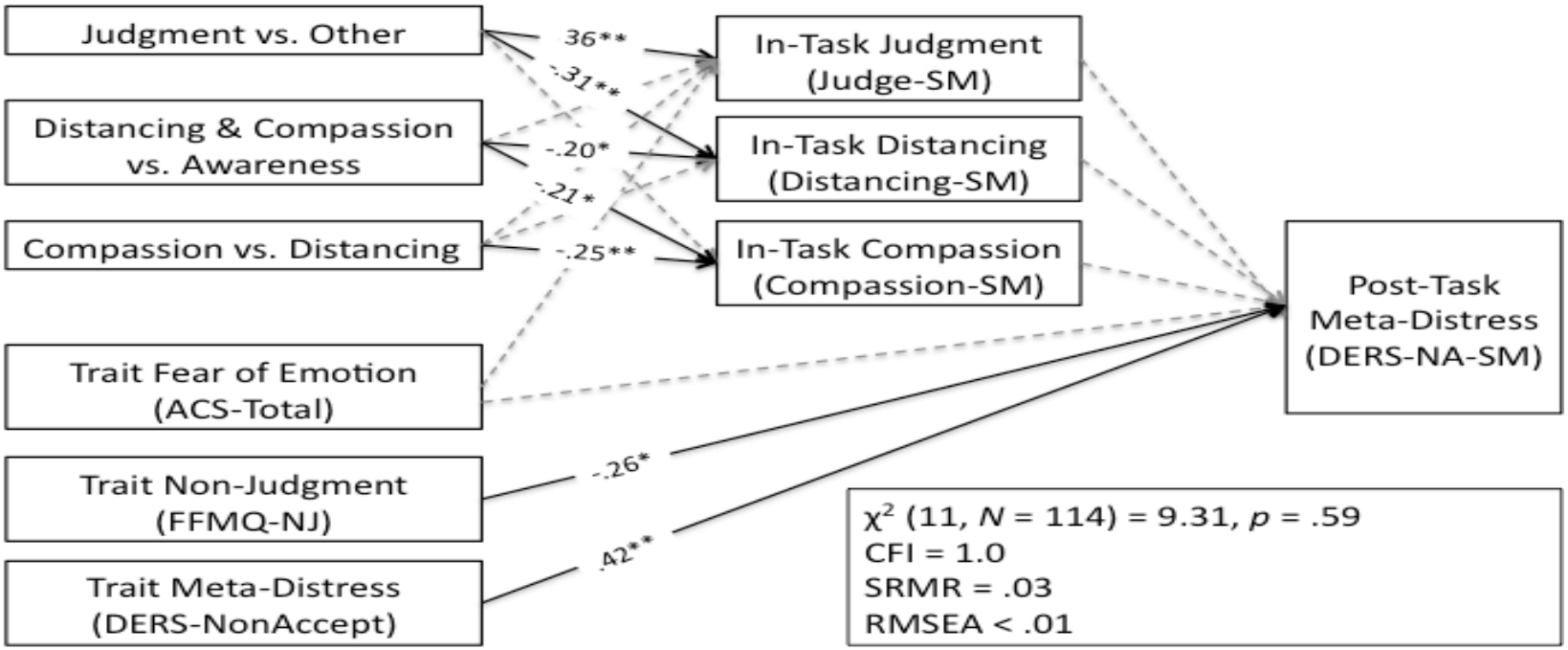
Table 11.
Correlations Between Trait Variables, Comprehension, Perceived Utility, and Perceived Credibility among Successfully-Induced Participants in the Distressing Images Task (N = 142)

	1	2	3	4	5	6	7	8
1, Gender (0 = Male, 1 = Female)	1	-						
2. Fear of Emotion (ACS-Total)	.09	1						
3. (Non) Judgmental Appraisal (FFMQ-NJ)	-.02	-.60***	1					
4. (Non) Reaction/ Experiential Avoidance (FFMQ-NR)	-.19*	-.41***	.05	1				
5. Meta-Distress (DERS-NonAccept)	.06	.55***	-.62***	-.21*	1			
6. Distancing (EQ-Total)	.27***	.54***	.37***	.62***	.42***	1		
7. Number of Errors in Comprehension	-.03	.23*	-.07	-.18**	.02	-.14	1	
8. Perceived Credibility of Instructions	-.03	.06	-.04	-.09	.09	-.03	-.02	1
9. Perceived Utility of Instructions	.04	< .01	-.01	-.07	.19*	-.01	-.16	.43***

Note: *< .05, ** < .01, ***< .001; ACS-Total = Total score of the Affective Control Scale (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Number of Errors = Number of Mistakes Made on the Comprehension Check; Credibility of Presenter = Participant rating from 0 (*Not at all*) to 8 (*Completely*) of the credibility of the psycho-education and instructional videos; Perceived Utility of Method = Participant rating from (from 0 (*Not at all*) to 8 (*Completely*) of how strongly they believed the presented way of responding to emotion would be useful.

Figure 1.

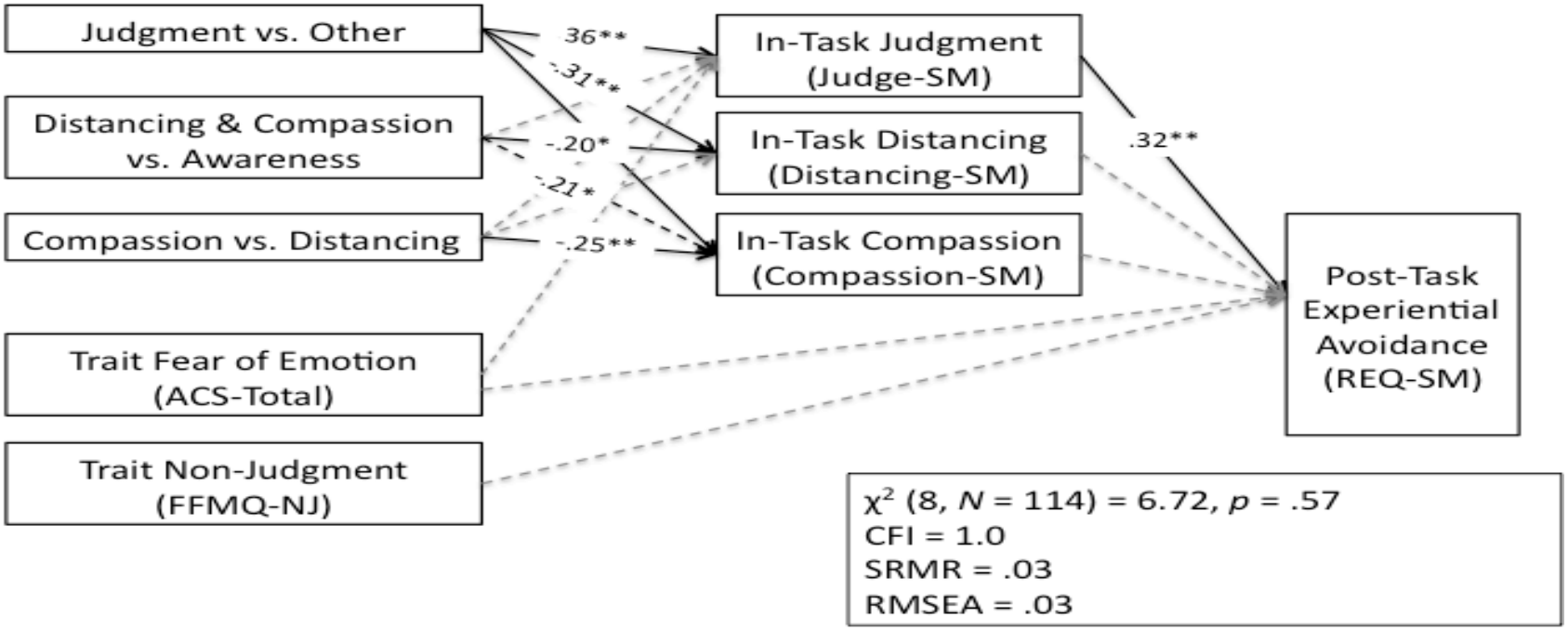
Path Model Predicting Post-Task Meta-Distress Among Induced Participants in the Sad Mood Induction (DERS-NA-SM) Using Experimental Conditions, Reported In-Task Behaviors, and Trait Dispositions (N = 114)



Note: * < .05, ** < .01; All probabilities are based on 95% bias-corrected confidence intervals drawn from 1000 bootstrapped samples; Straight black lines are significant direct effects; Dashed black lines are significant indirect effects; Dashed gray lines are non-significant pathways; Awareness = Awareness Condition; Judgment = Judgment Condition; Distancing = Distancing Condition; Compassion = Compassion Condition; ACS-Total = Total Score of the Affect Control Scales (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); Judge-SM = reported time spent appraising distressing emotions during the Sad Mood Induction; Distancing-SM = reported time spent viewing distressing emotions from a distanced perspective in the Sad Mood Induction; Compassion-SM = reported time spent appraising distressing emotions compassionately in the Sad Mood Induction; DERS-NA-SM = post-task adaptation of the Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004).

Figure 2.

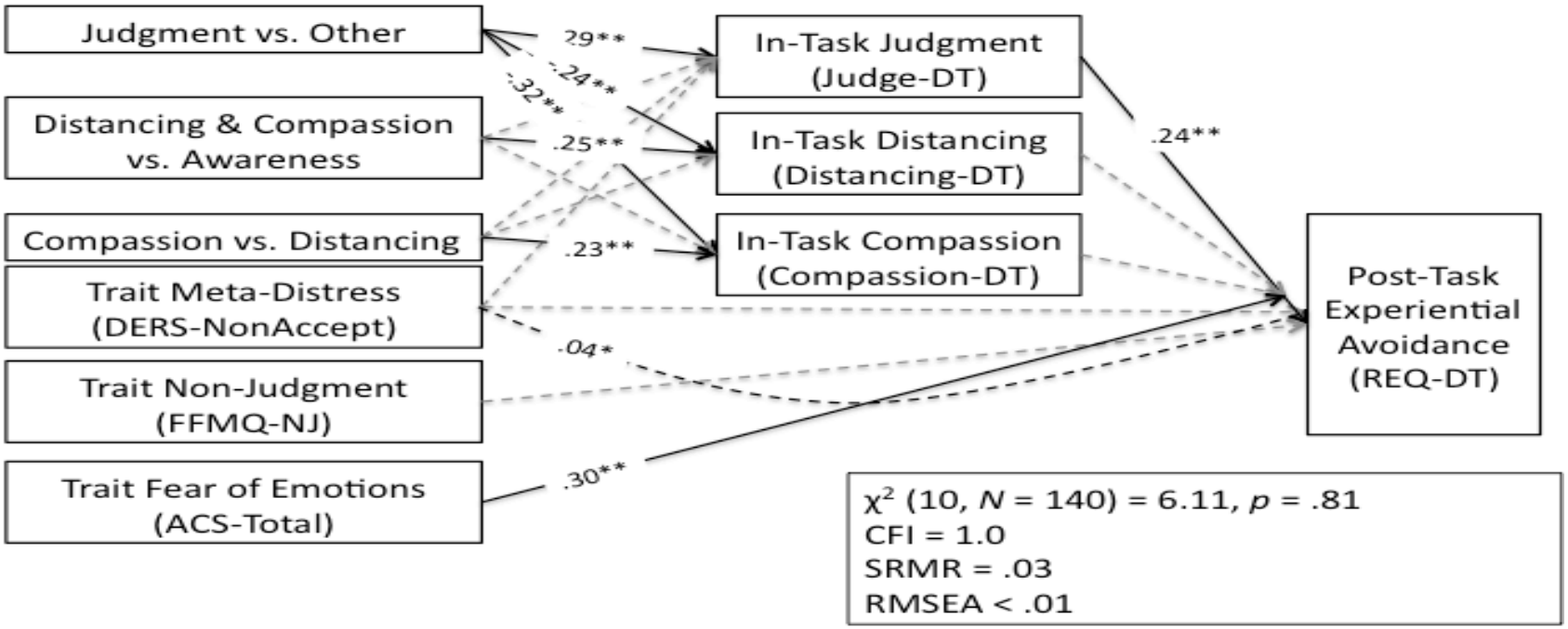
Path Model Predicting Post-Task Experiential Avoidance Among Induced Participants in the Sad Mood Induction (REQ-SM) Using Experimental Conditions, Reported In-Task Behaviors, and Trait Dispositions (N = 114)



Note: * < .05, ** < .01; All probabilities are based on 95% bias-corrected confidence intervals drawn from 1000 bootstrapped samples; Straight black lines are significant direct effects; Dashed black lines are significant indirect effects; Dashed gray lines are non-significant pathways; Awareness = Awareness Condition; Judgment = Judgment Condition; Other = All Other Conditions; Distancing = Distancing Condition; Compassion = Compassion Condition; ACS-Total = Total Score of the Affect Control Scales (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); Judge-SM = reported time spent appraising distressing emotions during the Sad Mood Induction; Distancing-SM = reported time spent viewing distressing emotions from a distanced perspective in the Sad Mood Induction; Compassion-SM = reported time spent appraising distressing emotions compassionately in the Sad Mood Induction; REQ-SM = Experiential Avoidance subscale of the Reactions to Emotion Questionnaire (Campbell-Sills et al., 2006a), reworded for the Sad Mood Induction.

Figure 3.

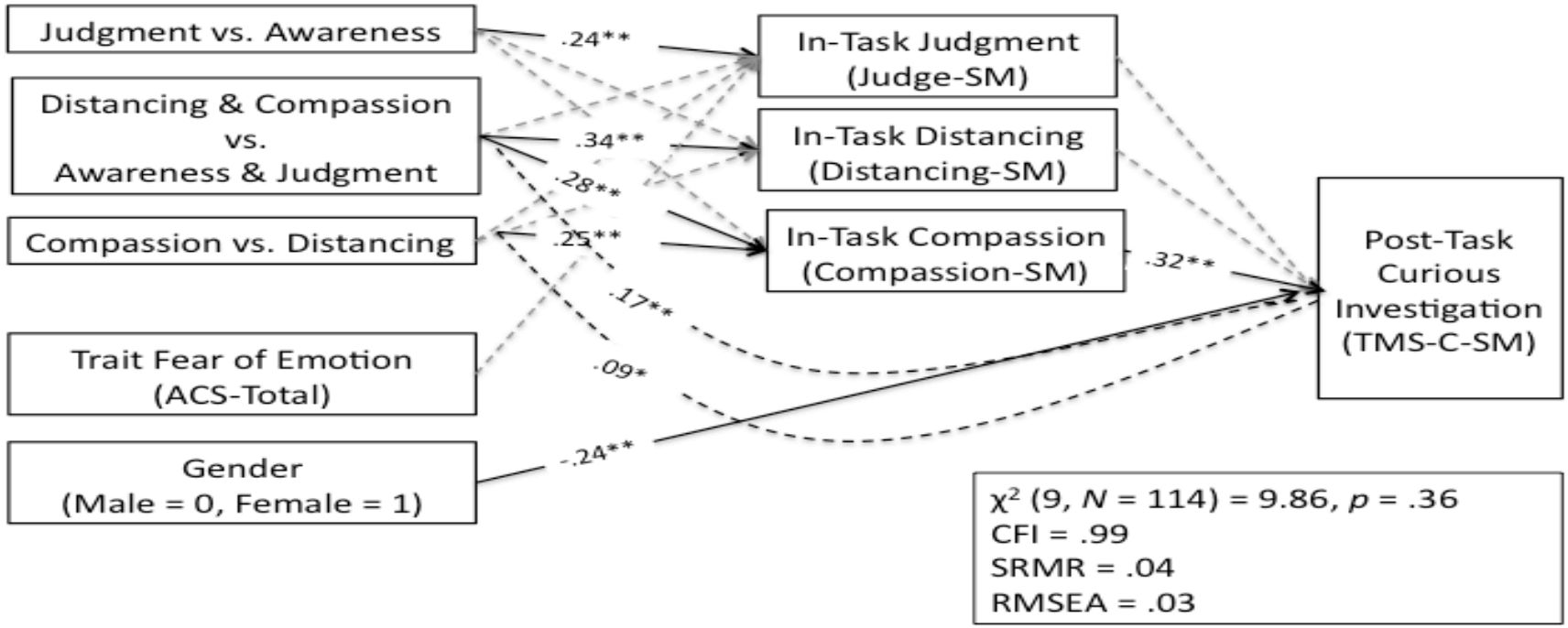
Path Model Predicting Post-Task Experiential Avoidance Among Induced Participants in the Distressing Images Task (REQ-DT) Using Experimental Conditions, Reported In-Task Behaviors, and Trait Dispositions (N = 140)



Note: * < .05, ** < .01, *** < .001; All probabilities are based on 95% bias-corrected confidence intervals drawn from 1000 bootstrapped samples; Straight black lines are significant direct effects; Dashed black lines are significant indirect effects; Dashed gray lines are non-significant pathways; Awareness = Awareness Condition; Judgment = Judgment Condition; Other = All Other Conditions; Distancing = Distancing Condition; Compassion = Compassion Condition; ACS-Total = Total Score of the Affect Control Scales (Williams et al., 1997); FFMQ-NJ = Non-Judgment subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); Judge-DT = reported time spent appraising distressing emotions during the Distressing Images Task; Distancing-DT = reported time spent viewing distressing emotions from a distanced perspective in the Distressing Images Task; Compassion-DT = reported time spent appraising distressing emotions compassionately in the Distressing Images Task; REQ-DT = Experiential Avoidance subscale of the Reactions to Emotions Questionnaire (Campbell-Sills et al., 2006a), reworded for the Distressing Images Task.

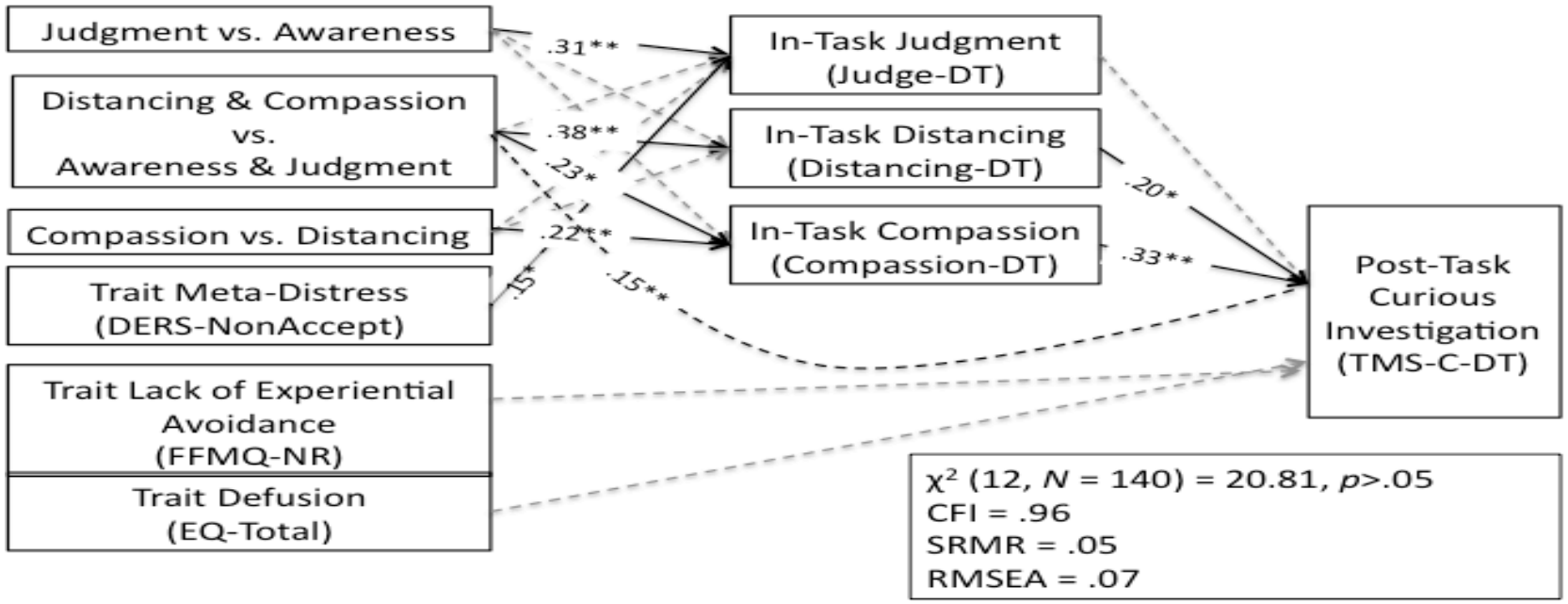
Figure 4.

Path Model Predicting Post-Task Curious Investigation Among Induced Participants in the Sad Mood Induction (TMS-C-SM) Using Experimental Conditions, Reported In-Task Behaviors, and Trait Dispositions (N = 114)



Note: * < .05, ** < .01; All probabilities are based on 95% bias-corrected confidence intervals drawn from 1000 bootstrapped samples. Straight black lines are significant direct effects; Dashed black lines are significant indirect effects; Dashed gray lines are non-significant pathways; Awareness = Awareness Condition; Judgment = Judgment Condition; Distancing = Distancing Condition; Compassion = Compassion Condition; ACS-Total = Total Score of the Affect Control Scales (Williams et al., 1997); Judge-SM = reported time spent appraising distressing emotions during the Sad Mood Induction; Distancing-SM = reported time spent viewing distressing emotions from a distanced perspective in the Sad Mood Induction; Compassion-SM = reported time spent appraising distressing emotions compassionately in the Sad Mood Induction; TMS-C-SM = Curiosity subscale of the Toronto Mindfulness Scales (Lau et al., 2006), reworded to refer to the Sad Mood Induction.

Figure 5.
Path Model Predicting Post-Task Curious Investigation Among Induced Participants in the Distressing Images Task (TMS-C-DT) Using Experimental Conditions, Reported In-Task Behaviors, and Trait Dispositions (N = 140)



Note: * < .05, ** < .01; All probabilities are based on 95% bias-corrected confidence intervals drawn from 1000 bootstrapped samples; Straight black lines are significant direct effects; Dashed black lines are significant indirect effects; Dashed gray lines are non-significant pathways; Awareness = Awareness Condition; Judgment = Judgment Condition; Distancing = Distancing Condition; Compassion = Compassion Condition; DERS-NonAccept = Non-Acceptance subscale of the Difficulties in Emotion Regulation Scales (Gratz & Roemer, 2004); FFMQ-NR = Non-Reaction subscale of the Five Factor Mindfulness Questionnaire (Baer et al., 2006); EQ-Total = Total of the Distancing subscale of the Experiences Questionnaire (Fresco et al., 2007); Judge-DT = reported time spent appraising distressing emotions during the Distressing Images Task; Distancing-DT = reported time spent viewing distressing emotions from a distanced perspective in the Distressing Images Task; Compassion-DT = reported time spent appraising distressing emotions compassionately in the Distressing Images Task; TMS-C-SM = Curiosity subscale of the Toronto Mindfulness Scales (Lau et al., 2006), reworded to refer to the Distressing Images Task.

Appendix B

Psycho-Education Script and Initial Ongoing Assessments

"Today we are interested in examining differences in how people relate to their emotions. Before we get into the experiment, we just want to tell you a few things about how individual people may differ in the way they relate to their own emotions. Please pay attention to these descriptions, because we will be asking you to what extent you relate to your emotions in these ways during the experiment. Following this video, you will be provided with cue cards that will help you remember the information provided here.

The first way that people vary is in how much distress they may feel at any one time. Some people tend to feel more positively/ happier, whereas others tend to feel more negatively/distressed."

VAS

Please rate your present emotional state.

_____

0 *100*
Positive *Negative*

"The next way people vary is that some people tend to pay more attention to how they are feeling emotionally right now. For example, some people may check in with themselves during the day by asking, 'how am I feeling in this moment?' People who are very mindfully aware of their emotions often also pay closer attention to current changes in their body that might signify an emotional shift, like feeling tense in their shoulders and having a quicker heart rate might signify anxiety or anger. Other people are less aware of their emotions and do not think about their emotions until they are asked. Importantly, paying attention to how you felt one minute, ten

minutes, a day, or a week ago is not being mindfully aware of emotion. Mindful awareness is about how you feel in this moment."

Over the last few minutes, I have been intentionally aware of and have been focusing on the emotions and sensations I was feeling in the moment and have been attempting to label them, either as sensations and feelings or more specifically.
0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

"People also vary in how they view their emotions. Specifically, some people feel pushed around by their emotions and might even feel that they must always react to their thoughts and emotions. For these people, the way they feel seems to consume their whole being and their feelings are real forces in their bodies that direct their behaviors. For example, these people might say that feelings push them just as strongly as being knocked over by a truck! By contrast, some people look at thoughts and feelings as events that occur in the brain that neither consume their whole being nor dictate actions. Instead, these people believe they have the ability to choose if and how to respond to their feelings. Whereas a person from the first condition might have the thought "I am sad," and feel that their entire being is engulfed in the sadness, people in the latter condition might say 'I am feeling sad,' or 'I am noticing that I am feeling sad' which signifies that sadness is only part of their momentary experience. In particular, people who might describe themselves as noticing that they are feeling sad are thought to have a distanced perspective on their emotions. These people sometimes describe their relationship to their feelings as if they are riding atop the wave of emotion or watching their feelings like a movie in

their mind, changing from moment to moment, rather than perceiving that their emotions are strong waves that consume them and then toss them about."

Over the last few minutes, I have been intentionally viewing my emotions from a distanced perspective (i.e., as if they were on a movie screen or were a wave I was riding).
0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

"People also vary in how they feel about their emotions. Some people might feel ashamed of and angry at themselves for becoming upset. Others might feel guilty or embarrassed for becoming upset. Still others might feel empowered when upset or angry at others when they become upset."

Over the last few minutes, I have felt embarrassed, ashamed, guilty, or angry at myself for being distressed.
0=not at all
1
2=a little
3
4=somewhat
5
6=a lot
7
8=extremely

"Finally, people vary in how they react to being upset. Some people notice they are upset and then take immediate steps to be rid of the feeling by distracting themselves (e.g., looking at something happy), blunting their negative feelings through substance use (e.g., smoking or drinking to be rid of distress) or just simply try to force themselves not to feel upset by force of

will, which we call suppressing distress. These people are using a strategy called experiential avoidance. By contrast, other people might notice that they are upset and allow themselves to feel that way without taking any steps to distract themselves or dampen the intensity of the feeling. These people might even become curious about which emotion they are feeling (like sadness or anger), where they can notice physical symptoms in their body (like a headache, tense shoulders, or breathing fast), and why they are feeling that way (e.g., perhaps they were offended by something somebody said or maybe they are worried that they will not be able to repair a friendship with someone). These people are curiously exploring their emotions."

Over the last few minutes, I tried to hold back or suppress my emotional reactions, think in a way to feel less distressed, focus on things that would help me feel less distressed, distracted myself from whatever was upsetting me, or shifted my attention away from things I thought might upset me.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

Over the last few minutes, I have tried to sit with my emotions and learn from them in order to understand why I feel the way I feel.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

Appendix C

Comprehension, Credibility, and Perceived Utility Checks

Comprehension Check

The film you watched might or might not have suggested some specific ways of thinking about and viewing your emotions during the coming tasks. Please respond yes/no to the following questions about your specific video:

My video asked me to:		
	Yes	No
Remind myself that I have no reason to feel distressed, it is a useless way to feel, and that the only reason I feel that way is because I have not yet learned to control my feelings.		
Remind myself that I feel distressed for a reason, that I can use that feeling to better understand myself and my needs, and that allowing myself to feel that way might make me stronger.		
View my feelings from a distanced perspective, as if watching them on a movie screen.		
Focus on the emotions I am feeling during the task.		

Credibility Check

Please provide a rating of how credible you found the person in the video (for example, did you believe they were an expert in the subject matter covered):

1	2	3	4	5	6	7
Not credible at all		Somewhat credible		Moderately credible		Extremely credible

Perceived Utility Check

Please provide a rating of how useful you expect to find the method presented in the video in coping with distress during this experiment:

1	2	3	4	5	6	7
Not useful at all		Somewhat useful		Moderately useful		Extremely useful

Appendix D

Post-Instruction Repeated Measures

VAS

Please rate your present emotional state.

_____

0 100

Positive Negative

1. Over the last few minutes, I tried to hold back or suppress my emotional reactions, think in a way to feel less distressed, focus on things that would help me feel less distressed, distracted myself from whatever was upsetting me, or shifted my attention away from things I thought might upset me.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

2. Over the last few minutes, I have tried to sit with my emotions and learn from them in order to understand why I feel the way I feel.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

3. Over the last few minutes, I have felt embarrassed, ashamed, guilty, or angry at myself for being distressed.

0=not at all
1
2=a little
3
4=somewhat
5
6=a lot
7
8=extremely

4. Over the last few minutes, I have been intentionally viewing my emotions from a distanced perspective (i.e., as if they were on a movie screen or were a wave I was riding).

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

5. Over the last few minutes, I have been intentionally aware of and have been focusing on the emotions and sensations I was feeling in the moment and have been attempting to label them, either as sensations and feelings or more specifically.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

Appendix E

Measures for Sad Mood Induction

Ongoing Assessments for Sad Mood Induction

VAS

Please rate your present emotional state.

_____

0 100

Positive Negative

1. Over the last minute, I tried to hold back or suppress my emotional reactions, think in a way to feel less distressed, focus on things that would help me feel less distressed, distracted myself from whatever was upsetting me, or shifted my attention away from things I thought might upset me.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

2. Over the last minute, I have tried to sit with my emotions and learn from them in order to understand why I feel the way I feel.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

3. Over the last minutes I have felt embarrassed, ashamed, guilty, or angry at myself for being distressed.
0=not at all
1
2=a little
3
4=somewhat
5
6=a lot
7
8=extremely

4. Over the last minute, I have been intentionally viewing my emotions from a distanced perspective (i.e., as if they were on a movie screen or were a wave I was riding).
0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

5. Over the last minute, I have been intentionally aware of and have been focusing on the emotions and sensations I was feeling in the moment and have been attempting to label them, either as sensations and feelings or more specifically.
0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

Post-Task Measures for Sad Mood Induction

Compliance check. During the task, I:

Reminded myself that I had no reason to feel distressed, it is a useless way to feel, and that the only
reason I feel that way is because I have not yet learned to control my feelings.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)

3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Reminded myself that I felt distressed for a reason, that I could use that feeling to better understand
myself and my needs, and that allowing myself to feel that way might make me stronger.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)
3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Viewed my feelings from a distanced perspective, as if watching them on a movie screen.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)
3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Was mindfully attentive to emotions I was feeling during the task.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)
3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Difficulties in Emotion Regulation Scales- Post sad mood induction (DERS: Gratz & Roemer, 2004).

Please indicate below how often the items applied to you since you began listening to the music and recalling the memories, using the following scale:

1 = Almost never
2 = Sometimes
3 = About half the time
4 = most of the time
5 = almost always

2. I paid attention to how I feel.
6. I was attentive to my feelings.
8. I cared about what I was feeling.
10. When I was upset, I acknowledged my emotions
11. When I was upset, I became angry at myself for feeling that way.
12. When I was upset, I became embarrassed for feeling that way.
17. When I was upset, I believed that my feelings were valid and important.
21. When I was upset, I felt ashamed of myself for feeling that way.
23. When I was upset, I felt like I am weak.
25. When I was upset, I felt guilty for feeling that way.
29. When I was upset, I became irritated at myself for feeling that way.
34. When I was upset, I took time to figure out what I'm really feeling.
36. When I was upset, my emotions felt overwhelming

Reactions to Emotions Questionnaire-Post sad mood induction (Campbell Sills et al., 2006a). There are many different reactions that you might have had to your emotions over the last few minutes. Please rate the degree to which you engaged in each of the responses listed below using the following scale:

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

1. I tried to hold back or suppress my emotional reactions.
2. I tried to think about the music or events I recalled in a way that would make me feel less distressed (e.g., reminding myself it is in the past).
3. I distracted myself from either the music or my memories.
4. I focused on the less emotional details of the music or memory or shifted my focus when I thought I might become upset

Toronto Mindfulness Scale- Post sad mood induction (Lau et al., 2006). We are interested in what you just experienced. Below is a list of things that people sometimes experience. Please read each statement.

Next to each statement are five choices: “not at all,” “a little,” “moderately,” “quite a bit” and “very much.” Please indicate the extent to which you agree with each statement. In other words, how well does the statement describe what you experienced since the music started and you began recalling the memories?

Curiosity
17: I was curious about my reactions to things.
32: I was curious about what I might learn about myself by taking notice of how I react to certain thoughts, feelings or sensations.
26: I was curious to see what my mind was up to from moment to moment. .
06: I was curious about each of the thoughts and feelings that I was having.
39: I remained curious about the nature of each experience as it arose.
41: I was curious about what I might learn about myself by just taking notice of what my attention gets drawn to.

Decentering
34: I was more invested in just watching my experiences as they arose, than in figuring out what they could mean.
33: I was more concerned with being open to my experiences than controlling or changing them.
37: I was receptive to observing unpleasant thoughts and feelings without interfering with them.
42: I approached each experience by trying to accept it, no matter whether it was pleasant or unpleasant.
40: I was aware of my thoughts and feelings without over-identifying them.
35: I experienced my thoughts more as events in my mind than as a necessarily accurate reflection of the way things ‘really’ are.
36: I experienced myself as separate from my changing thoughts and feelings. .

Appendix F

Measures for the Distressing Images Task

Ongoing Assessments for Distressing Images Task

VAS

Please rate your present emotional state.

_____

0 100

Positive Negative

1. Over the past few slides, I tried to hold back or suppress my emotional reactions, think in a way to feel less distressed, focus on things that would help me feel less distressed, distracted myself from whatever was upsetting me, or shifted my attention away from things I thought might upset me.

0=not at all

1

2=rarely

3

4=occasionally

5

6=often

7

8=all the time

2. Over the past few slides, I have tried to sit with my emotions and learn from them in order to understand why I feel the way I feel.

0=not at all

1

2=rarely

3

4=occasionally

5

6=often

7

8=all the time

3. Over the past few slides, I have felt embarrassed, ashamed, guilty, or angry at myself for being distressed.

0=not at all

1

2=a little
3
4=somewhat
5
6=a lot
7
8=extremely

4. Over the past few slides, I have been intentionally viewing my emotions from a distanced perspective (i.e., as if they were on a movie screen or were a wave I was riding).

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

5. Over the past few slides, I have been intentionally aware of and have been focusing on the emotions and sensations I was feeling in the moment and have been attempting to label them, either as sensations and feelings or more specifically.

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

Post-Task Measures for Distressing Images Task

Compliance check. During the task, I:

Reminded myself that I had no reason to feel distressed, it is a useless way to feel, and that the only reason I feel that way is because I have not yet learned to control my feelings.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)
3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Reminded myself that I felt distressed for a reason, that I could use that feeling to better understand myself and my needs, and that allowing myself to feel that way might make me stronger.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)
3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Viewed my feelings from a distanced perspective, as if watching them on a movie screen.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)
3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Was mindfully attentive to emotions I was feeling during the task.
0 = not at all (0 – 10%)
1= seldom (10-20%)
2 = occasionally (20-30%)
3 = sometimes (30-40%)
4 = about half the time (40-50%)
5 = more than half the time (50-60%)
6 = often (60-70%)
7 = most of the time (70-80%)
8 = almost all the time (80% - 100%)

Difficulties in Emotion Regulation Scales- Post distressing images (DERS: Gratz & Roemer, 2004). Please indicate below how often the items applied to you during or after viewing the distressing slides, using the following scale:

1 = Almost never
2 = Sometimes
3 = About half the time
4 = most of the time
5 = almost always

2. I paid attention to how I feel.
6. I was attentive to my feelings.
8. I cared about what I was feeling.
10. When I was upset, I acknowledged my emotions
11. When I was upset, I became angry at myself for feeling that way.
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29. When I was upset, I became irritated at myself for feeling that way.
34. When I was upset, I took time to figure out what I'm really feeling.
36. When I was upset, my emotions felt overwhelming

Reactions to Emotions Questionnaire- Post distressing images task (Campbell-Sills et al., 2006a). There are many different reactions that you might have to your emotions while viewing the slides. Please rate the degree to which you engaged in each of the responses listed below using the following scale:

0=not at all
1
2=rarely
3
4=occasionally
5
6=often
7
8=all the time

1. I tried to hold back or suppress my emotional reactions.
2. I tried to think about the events depicted in the slides in a way that would make me feel less distressed (e.g., reminding myself it was fake).
3. I distracted myself during the slides.
4. I focused on the less emotional details of the slides (e.g., the scenery) or shifted

my gaze when I thought I might see something upsetting.

Toronto Mindfulness Scale- Post distressing images task (Lau et al., 2006). We are interested in what you just experienced. Below is a list of things that people sometimes experience. Please read each statement.

Next to each statement are five choices: “not at all,” “a little,” “moderately,” “quite a bit” and “very much.” Please indicate the extent to which you agree with each statement. In other words, how well does the statement describe what you experienced while viewing the distressing images?

Curiosity
17: I was curious about my reactions to things.
32: I was curious about what I might learn about myself by taking notice of how I react to certain thoughts, feelings or sensations.
26: I was curious to see what my mind was up to from moment to moment. .
06: I was curious about each of the thoughts and feelings that I was having.
39: I remained curious about the nature of each experience as it arose.
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40: I was aware of my thoughts and feelings without over-identifying them.
35: I experienced my thoughts more as events in my mind than as a necessarily accurate reflection of the way things ‘really’ are.
36: I experienced myself as separate from my changing thoughts and feelings.

UNIVERSITY OF ARKANSAS

October 17, 2013

Office of Research Compliance
Institutional Review Board

MEMORANDUM

TO: Jennifer Shaver
Garrett Pollert
Anna Salomaa
Kate Sosna
Jennifer Veilleux

FROM: Ro Windwalker
IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 13-10-138

Protocol Title: *Appraisals of Emotion*

Review Type: ☐ EXEMPT ☐ EXPEDITED ☒ FULL IRB

Approved Project Period: Start Date: 10/17/2013 Expiration Date: 10/14/2014

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 200 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

UNIVERSITY OF ARKANSAS

October 13, 2014

Office of Research Compliance
Institutional Review Board

MEMORANDUM

TO: Jennifer Shaver
Garrett Pollert
Kayla Skinner
Anna Salomaa
Kate Sosna
Jennifer Veilleux

FROM: Ro Windwalker
IRB Coordinator

RE: PROJECT CONTINUATION

IRB Protocol #: 13-10-138

Protocol Title: *Appraisals of Emotion*

Review Type: ☐ EXEMPT ☐ EXPEDITED ☒ FULL IRB

Previous Approval Period: Start Date: 10/17/2013 Expiration Date: 10/14/2014

New Expiration Date: 10/14/2015

Your request to extend the referenced protocol has been approved by the IRB. If at the end of this period you wish to continue the project, you must submit a request using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. Failure to obtain approval for a continuation on or prior to this new expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

This protocol has been approved for 200 total participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change. If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.