

# EFFECTS OF MINDFULNESS ON AGGRESSION FOLLOWING SOCIAL REJECTION

by

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(Under the Direction of Michael H. Kernis)

## ABSTRACT

Mindful people are attentive to what is going on around them without being judgmental (Brown & Ryan, 2003) and without being concerned about their self-esteem. In this study, I examined the possibility that being mindful would decrease aggressiveness following social rejection (Twenge, Baumeister, Tice & Stucke, 2001). I hypothesized that a mindfulness induction performed before receiving social rejection feedback would reduce later aggression, making aggression level similar to participants who received acceptance feedback. Planned comparisons showed that mean aggression levels between acceptance ( $M = -.623$ ) and rejection ( $M = .725$ ) conditions were significantly different ( $p < .01$ ), and the difference between mindful-rejected ( $M = -.173$ ) and rejection conditions was marginally significant ( $p < .06$ ). Importantly, aggression in the acceptance and mindfulness conditions did not differ ( $p > .33$ ). These results suggest that mindfulness can reduce the sting of social rejection by activating a relatively low level of ego-involvement.

INDEX WORDS: Mindfulness, Aggression, Social rejection, Ego-involvement

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## CHAPTER 1

### INTRODUCTION

In this work, I report findings from a study that focused on the construct of mindfulness and its implications for healthier outcomes in a common aversive interpersonal situation—social rejection. I begin by reviewing various conceptualizations of mindfulness across different psychological domains. Next, I provide research and theory that supports mindfulness as a healthy construct for a wide variety of outcomes, and I propose that one mechanism by which mindfulness operates is through promoting a relatively low level of ego-involvement in individuals. Then, I report and discuss my findings from the aforementioned study, which supports my assertions about the utility of mindfulness for healthy interpersonal outcomes.

#### *What is mindfulness?*

Mindfulness can be easily and briefly defined. Kabat-Zinn considers mindfulness to be moment-to-moment awareness (1990) or paying attention on purpose in the present moment (2003). However, this seemingly simple construct has provoked a flurry of discourse on “what is mindfulness?” Indeed, Brown & Ryan (2004) stated that “mindfulness is a deceptively simple concept that is difficult to characterize accurately” (p. 242). Surprisingly, despite this situation, research has produced fairly consistent results (e.g. Baer, 2003). Importantly, inquiries into the conceptual definition of mindfulness have revealed that the “simple” construct of mindfulness may be more complex than first considered but still worthy of considerable attention and optimism with regard to its potential for positive psychological outcomes. Three psychological domains across which mindfulness has received significant attention will be briefly reviewed—clinical, cognitive, and social-personality.

Mindfulness first began to be investigated empirically in the clinical realm as the basis for a number of therapies and interventions. Perhaps the first and most popular of these is the Mindfulness-Based Stress Reduction (MBSR) program developed and implemented by Jon Kabat-Zinn (e.g. 1990). As already mentioned, in this context, Kabat-Zinn defines mindfulness as non-evaluative, purposeful attention and awareness in the present moment (Kabat-Zinn, 2003). From this perspective, mindfulness is a state of being that is cultivated through practice and is employed throughout one's day-to-day activities to better equip one for the "full catastrophe" (Kabat-Zinn, 1990, p. 5) of life. The Kabat-Zinn approach also includes the conscious adoption of seven attitudinal stances: nonjudging, patience, beginner's mind, trust, nonstriving, acceptance, and letting go.

Secondly, mindfulness has been defined and investigated from the perspective of cognitive processing. Most notably in this regard, Langer (e.g. 1989) has focused on the cognitive attributes of the mindfulness—mindlessness distinction. Specifically, Langer and colleagues (1989; Grant, Langer, Falk & Capodilupo, 2004) link mindlessness to thinking that is trapped by categories, to automatic behavior, and to acting from a single perspective. In contrast, a mindful state of being includes the creation of new categories, openness to new information, awareness of more than one perspective, and a process (as opposed to an outcome) orientation (Langer, 1989). Langer (1989) also asserts that the "ability to transcend context is the essence of mindfulness" (pg. 131). Sternberg (2000), in a review of various theories of mindfulness, adds orientation to the present as an element of mindfulness. He also considers mindfulness to be related to a cognitive ability or style that resembles, but is not wholly encapsulated by, broadly defined intelligence. Cognitive-based mindfulness also is considered to be an active, goal-

oriented process that is implicated in solving problems, and that is focused almost exclusively on the examination of external stimuli (Baer, 2003).

Finally, from the personality-social perspective, mindfulness has been investigated both for between- and within-person variability. Two important dispositional measures of mindfulness that are suitable for various populations (i.e. not only for experienced meditators) have recently been developed. Brown & Ryan (2003) define mindfulness in the Kabat-Zinn tradition—as enhanced attention and awareness to the present moment. They conceptualize awareness as the background monitor of the environment, whereas attention reflects sensitivity to a more focused experience. These researchers developed a single-factor scale that measures a person’s general tendency to be attentive and aware (the Mindful Attention and Awareness Scale, MAAS). In addition, they adapted their dispositional measure to effectively capture day-to-day fluctuations in mindfulness as well. This extension is an important one because they presume that mindfulness is inherently a state of consciousness and therefore should be measurable at the state level.

Similarly motivated to measure disposition mindfulness “skills,” Baer and colleagues (2004) developed the Kentucky Inventory of Mindfulness Skills (KIMS), which is a four-factor model of mindfulness that includes the following subscales: observe, describe, act with awareness, and accept without judgment. The “Observe” component refers to how much an individual “observe[s], notice[s], or attend[s] to a variety of stimuli, including internal phenomena, such as bodily sensations, cognitions, and emotions and external phenomena, such as sounds and smells” (Baer, Smith & Allen, 2004, pg. 193). The “Describe” factor refers to “describing, labeling, or noting of observed phenomena by covertly applying words”; describing is done “nonjudgmentally and without conceptual analysis” (Baer et al., 2004, pg. 193). The

“Acting with awareness” component refers to “engaging fully in one’s current activity with undivided attention, or focusing with awareness on one thing at a time” (Baer et al., 2004, pg. 193). The “Accepting without judgment” factor refers to “accepting, allowing, or being nonjudgmental or nonevaluative about present moment experience” and refraining from “applying evaluative labels such as good/bad, right/wrong, or worthwhile/worthless” (Baer et al., 2004, pg.194). These four factors seem to offer a complete picture of the construct of mindfulness. This formulation is most strongly influenced by mindfulness as it is taught in dialectical behavior therapy (e.g. Linehan, 1993), but it is very much in agreement with other models of mindfulness (e.g. Brown & Ryan, 2003; Kabat-Zinn, 1990).

This brief review of the literature indicates that ongoing discussion and debate exist regarding how best to conceptualize and operationalize mindfulness. Researchers from different domains of psychology draw from different elements of the original Buddhist construct. However, each perspective has at its core the notion that mindfulness involves heightened awareness of the present moment that is neither judgmental nor evaluative. This is particularly important with respect to how mindfulness may relate to interpersonal behaviors, such as aggression following social rejection.

#### *Healthy and unhealthy states of consciousness*

Research across psychological domains and across conceptualizations of mindfulness has illustrated that mindfulness should be considered a *healthy* state of consciousness—one with positive psychological outcomes (Baer, 2003). Clinical therapies based on mindfulness meditation have helped individuals deal with chronic pain (Kabat-Zinn, 1982), prevent depressive episode relapses (Teasdale, Segal & Williams, 1995), deal with borderline personality disorder through emotion regulation (Linehan, 1993), and prevent substance abuse relapses

(Marlatt, 1994). Cognitive conceptions of mindfulness (i.e. primarily of Langer and colleagues) have revealed decreased prejudice with more differentiated, more mindful conceptions of handicapped people among children (Langer, Bashner, & Chanowitz, 1985). In other research, individuals who performed a task mindfully (i.e. in a novel setting) had greater perceptions of competence (Grant, Langer, Falk, Capodilupo, 2004).

In addition, the social-personality research on mindfulness as a trait varying both within- and between-persons has yielded consistent evidence linking it to positive psychological outcomes. Higher trait mindfulness is related to lower neuroticism, depression, anxiety, and unpleasant affect; and to higher self-esteem, vitality, self-determination (Brown & Ryan, 2003), and life satisfaction (for the Describe subscale of the KIMS; Baer et al., 2004). Additionally, state mindfulness predicted higher levels of autonomy, more pleasant affect and less unpleasant affect in an experience-sampling study (Brown & Ryan, 2003). Finally, Hodgins & Knee (2002) describe the openness to experience aspect of mindfulness as rooted in more autonomous functioning and resulting in less cognitive defensiveness (e.g. self-serving bias, stereotyping, etc.).

Mindfulness also is intimately linked to the construct of authenticity. As conceptualized by Goldman & Kernis (2004), authenticity is comprised of four components, including “Awareness,” “Unbiased processing,” “Behavior,” and “Relational.” In recent research (Kernis, Lakey, Heppner & Davis, 2005), mindfulness positively correlated with these components of authenticity and with total authenticity. Authenticity also has been linked to numerous aspects of positive psychological functioning, including greater self-actualizing tendencies and vitality, as well as lower psychological distress and physical symptoms (Kernis & Goldman, in press).

Overall, empirical evidence indicates that heightened mindfulness is linked to positive intrapsychic and interpersonal outcomes.

Mindfulness also can be contrasted with other states of consciousness that often lead to negative interpersonal outcomes. One example is that of heightened ego-involvement. Heightened ego-involvement can be defined as being highly motivated to protect or enhance self-esteem (deCharms, 1968; Plant & Ryan, 1985), as in when one's feelings of self-worth are experienced as constantly on the line (Kernis et al., 2000). As a state of consciousness, it involves an enhanced *awareness* of threats to self-esteem and possibly *attention* to opportunities to defend this self-view. Opposite of the accepting stance of mindfulness, research and theory suggest that ego-involved individuals would be accepting of conscious experience only to the extent that it matches their ego-involved aspects of the self (i.e. these inputs are non-threatening; Hodgins & Knee, 2002).

Ego-involvement has been linked to fragile self-esteem (Kernis, 2003), which is characterized by positive self-feelings that are highly vulnerable to threat and aggressively defended. Conversely, secure self-esteem reflects positive self-feelings that are well-anchored and less vulnerable to ego-threats. One aspect or marker of self-esteem that is fragile is the degree to which immediate, contextually-based feelings of worth fluctuate over time, or the stability of one's self-esteem (Kernis, 2003). This particular marker of fragility of esteem has been tied to myriad negative outcomes, including high proneness to anger and hostility (Kernis, Granneman, Barclay, 1989), low self-determined goal striving and self-concept clarity (Kernis et al, 2000), and high reactivity to positive and negative feedback (Kernis et al., 1993) and events (Greenier et al, 1999). Heightened ego-involvement is implicated in individuals with unstable self-esteem in that they “are especially likely to link their immediate feelings of self-worth to

specific everyday outcomes and experiences...” and because, “slights or failures activate feelings of worthlessness, whereas successes and goal attainments magnify feelings of value and worth” (Kernis et al., 2000, p. 1299). In contrast, to the extent an individual is mindful, rather than ego-involved, I suggest that they would “observe” and “describe” these everyday outcomes and experiences, while “accepting” them without judgment (Baer et al., 2004), thus mitigating the effects of unstable self-esteem.

Heightened ego-involvement also is implicated in self-esteem that is contingent (Deci & Ryan, 1995). Contingent self-esteem reflects feelings of self-worth that “result from—indeed are dependent on—matching some standard of excellence or living up to some interpersonal or intrapsychic expectations” (Deci & Ryan, 1995, p. 32). According to Kernis (2003), contingent self-esteem is another aspect or marker of fragile self-esteem that reflects high ego-involvement, inasmuch as self-feelings are heavily invested in self- and other-imposed standards and outcomes. In contrast, true self-esteem is well-anchored and not dependent on such matching to standards (Deci & Ryan, 1995). Importantly, possessing contingent self-esteem appears to have interpersonal costs, including lower authenticity (one aspect of which is “relational” authenticity; Kernis & Goldman, 2005), and to less perceived supportiveness and likeability after threat to a contingency domain (Park & Crocker, 2005). Conversely, I suggest that mindful individuals generally will not be cognitively and behaviorally defensive, as they can “observe” and “describe” negative feedback and be “accepting without judgment” of such internal and external stimuli (Baer et al., 2004). That is, negative events and feedback may be considered relatively non-threatening to a mindful individual. This line of reasoning suggests that, evaluation concerns and contingencies of worth may be mitigated to the extent that one is mindful.

### *Ego-threat and interpersonal outcomes*

The interpersonal implications of self-esteem threats have been empirically examined in several studies using ego-threat paradigms. These ego-threats often elicit negative interpersonal responses such as prejudice and aggression. For instance, in an exemplary study on prejudiced responding, Fein and Spencer (1997) manipulated ego-threat through the presence or absence of negative self-relevant feedback (e.g. about intelligence). These researchers found that subsequent stereotype endorsement and prejudiced responding was heightened among individuals whose self-esteem was threatened. Importantly, this heightened prejudicial responding was reduced when “threatened” individuals were given an opportunity to affirm an important self-value. Likewise, Crocker et al. (1987) also found that individuals (with high self-esteem) displayed more in-group bias following ego-threats.

Similar manipulations have been used in the investigation of aggression. Bushman & Baumeister (1998) found higher aggressive responses following ego-threat feedback (compared with praise feedback). Likewise, ego-threat manipulations utilizing social rejections may also be capitalizing on the heightened evaluation concerns triggered by ego threats. Specifically, several researchers (e.g. Twenge & Campbell, 2003; Twenge, Baumeister, Tice & Stucke, 2001) have found that social rejection and exclusion predict higher aggression.

In a similar vein, investigations of the threatened egotism model (Baumeister, Smart & Boden, 1996) posit that high self esteem in concert with ego-threats is responsible for many incidents of aggression and violence. More specifically, I suggest that heightened egotism, considered a favorable appraisal of the self *and* the motivation to sustain such an appraisal, parallels the heightened ego-involved state of consciousness. In the threatened egotism model, self-views are inflated, thus creating more instances where feedback regarding the self is

(negatively) discrepant with one's self-view. According to the model, this discrepancy is threatening and, to deal with the threat, people often react with prejudice or aggressive behavior.

I believe that being mindful may help to combat this plethora of negative interpersonal outcomes. Recall that mindfulness is a state of non-evaluative awareness of one's immediate experience, and, consequently, when individuals are mindful, they may feel little threatened when encountering negative feedback or evaluations. Therefore, mindfulness may replace a state of heightened ego-involvement by reducing the negative evaluations associated with the receipt of negative self-relevant feedback.

### *Current Study*

In the current study, I examined the potential for mindfulness to buffer the negative interpersonal effects of an aversive or threatening situation. Specifically, I tested the hypothesis that mindfulness would reduce people's adverse reactions to potentially threatening social feedback to a level similar to people who received affirming or positive social feedback. To test this hypothesis, we examined aggressive responses to social rejection among people whose degree of mindfulness was or was not heightened. Twenge et al. (2001) reported that rejection in the laboratory leads to higher aggression, and that these effects due to rejection are stronger than other mere misfortune manipulations. Thus, if mindfulness could lower aggression following a powerful situation like direct social rejection, its importance would be strongly supported.

Little work has attempted to link directly mindfulness with aggression. One notable exception is a case-study by Singh et al. (2003) in which an individual with aggressive behavior problems due to mental retardation was trained to focus his attention mindfully (in the Kabat-Zinn tradition) on the "soles of the feet" when encountering aggression-provoking stimuli. This training allowed the person to successfully live in the community although he had previously

been institutionalized for intense aggressive outbursts. However, the implications of this study are obviously limited in terms of generalizability.

In the present study, small groups of participants were given social acceptance or rejection feedback. In addition, some rejected individuals were encouraged to be mindful before the administration of the feedback. Then, all participants were allowed to blast their opponents with white noise (i.e. to aggress) in a competitive reaction time task, just after their degree of mindfulness was or was not heightened. I hypothesized that situationally heightened mindfulness would lower the aggression exhibited by socially rejected individuals, such that their level of aggression would be similar to that of socially accepted individuals.

## CHAPTER 2

### METHOD

#### *Participants*

Participants were 60 undergraduate students (32 males, 28 females) who received partial course credit. Sessions took place in small (3-4 person), same-sexed groups. Three participants were dropped due to suspicion about the hypothesis or procedure.

#### *Procedure*

Experimenters first gave participants an overview of the study and obtained informed consent from them. Participants then were led to separate rooms where they were asked to write a brief self-descriptive essay, being careful not to reveal any personally identifying information (name, sex, etc.). Next, experimenters collected the essays which were ostensibly copied and passed out to everyone to use in their selection of who they would like to work with on a later task. In reality, the essays handed out to participants were pre-written by experimenters, and were labeled “A,” “B,” “C”, or “D” to signify that they came from their fellow participants in the other rooms. Experimenters collected the voting forms and waited in another room to give the illusion of tabulating the scores. Then, in a closed envelope, participants randomly received feedback indicating either that, based on their self-descriptive essay, everyone wanted to work with them (acceptance feedback), or that no one wanted to work with them (rejection feedback).

In one condition, participants were induced to be (temporarily) mindful just prior to receiving rejection feedback. This manipulation was accomplished by a “raisin-eating task” adapted from one of the exercises of Kabat-Zinn’s (1990) mindfulness based stress reduction (MBSR) program. In the raisin task, participants are encouraged to look at and examine the

raisin, noting its texture, color, and weight, and are encouraged to chew and swallow the raisin slowly and attentively (i.e. mindfully). Experimenters guided the participants through the raisin-eating task once, and then participants were given four more raisins to perform the task on their own. This feedback and manipulation combination resulted in three conditions: accepted (N = 18), rejected (N = 20) and mindful-rejected (N = 19).

Once all participants received the voting results, experimenters gave the instructions for the competitive reaction time task. This computer program ostensibly allows participants to administer a white noise blast to their opponents before each trial of the task. The noise is selected on two dimensions: noise level (intensity; from 0 to 10) and noise duration (corresponding to the amount of time the mouse button is held down). These two measures served as the measure of aggression. Participants' intensity and duration choices were recorded for all 25 trials of the task. The win/loss feedback, as well as the noises administered when participants lost a trial, was set up randomly in the programming of the computer game.

Following the computer task, participants were fully debriefed using process debriefing techniques (Ross, Lepper, & Hubbard, 1975) in order to minimize negative feelings about the study. At this time, we also assessed participants' suspicion regarding the voting results, the computer program, and the hypothesis of the experiment.

## CHAPTER 3

### RESULTS

Preliminary analyses revealed a significant correlation between noise intensity and noise duration choices ( $r = .23, p < .01$ ) on the computer task. As a result, we standardized and summed these two measures to create one overall measure of aggression (as in Bushman & Baumeister, 1998). Also, following previous research (e.g. Bushman & Baumeister, 1998; Twenge et al., 2001) we used only the first trial's intensity and duration data for a pure measure of participants' aggression stemming from social rejection or acceptance feedback. We performed a one-way ANOVA with planned comparisons of the three groups. The omnibus ANOVA value was significant ( $F(2, 57) = 4.47, p < .05$ ). More importantly, the planned comparisons of the means of the three conditions were as expected. Mean aggression levels between acceptance ( $M = -.623$ ) and rejection ( $M = .725$ ) conditions were significantly different ( $p < .01$ ), and the difference between mindfulness ( $M = -.173$ ) and rejection conditions was marginally significant ( $p < .06$ ). Importantly, aggression in the acceptance and mindfulness conditions did not differ ( $p > .33$ ).

## CHAPTER 4

### DISCUSSION

The findings from this study indicate that situationally-heightening individuals' mindfulness resulted in less aggressiveness following social rejection. Regarding the raisin task employed in this study, Kabat-Zinn (2003) says that the process of eating one raisin mindfully invites participants to "let go of their expectations, goals and aspirations...with suspension of judgment and distraction" (p. 148). Indeed, it seems that this simple experience of (temporary) mindfulness, as I anticipated, reduced people's aggressive behavior following social rejection to a level that was indistinguishable from people who were accepted.

Consequently, this study takes an important first step in identifying the positive interpersonal implications of mindfulness. Specifically, the present study supports the possible utility of mindfulness for buffering the negative effects of an all-too-common negative experience—that of being rejected. However, the current study does not examine directly the links between mindfulness and ego-involvement for these aggression outcomes; ego-involvement is assumed to be activated in participants who respond to threatening social feedback with aggression. Ego-involvement has been implicated in both unstable (high) self-esteem (Kernis et al., 2000) and in contingent self-esteem (Deci & Ryan, 1995; Kernis, 2003), and both of these constructs can be measured relatively easily and reliably by self-report. Thus, to the extent that these measures can serve as proxies for heightened ego-involvement, their possible mediation or moderation of mindfulness effects could potentially shed some light on the role of ego-involvement in these outcomes. In addition, future studies may address the measurement of ego-involvement more directly in paradigms that allow for the examination and

measurement of attentional resources devoted to self-relevant stimuli. One such example is the Eye Response Interface Computer Aid, which measures the direction of the eye gaze and the time spent reading or looking at text on a screen (see, for example, Olmeda, 2002). Methods such as these would allow for more direct investigations of the presumed inverse relation between mindfulness and ego-involvement processes.

Another candidate for an underlying mechanism by which mindfulness may reduce aggression is that of implicit-explicit self-discrepancies. With the growing literature supporting the utility of implicit measures such as the Implicit Associations Test (Greenwald, McGhee, & Schwartz, 1998) and the Name Letter Task (e.g. Pelham, Miernberg, and Jones, 2002), implicit or nonconscious feelings toward various targets can now be assessed. Of particular interest for the current purposes are implicit feelings of self-worth, or implicit self-esteem. These nonconscious feelings toward the self and self-relevant stimuli seem to be positive among most people. Likewise, the mean on an explicit measure of esteem is now considerably higher than the theoretical scale mean on measures such as the Rosenberg self-esteem scale. However, for individuals with negative implicit but positive explicit self-esteem, some interesting and pernicious effects occur due to self-esteem fragility (Kernis, 2003). For example, researchers have shown that individuals with incongruent implicit and explicit esteem (both low implicit-high explicit and vice-versa) exhibit increased self-enhancement (Bosson, Brown, Zeigler-Hill, & Swann, 2003), and higher narcissism and defensiveness (Jordan et al., 2003). In addition, Kernis et al. (2005) showed that a situational manipulation of implicit self-esteem (to be discrepant or congruent with explicit self-esteem) yielded similar outcomes, with higher self-enhancement and higher out-group derogation associated with discrepant implicit and explicit self-esteem.

Preliminary evidence exists that mindfulness is related to greater implicit—explicit self-concordance; Brown & Ryan (2003) found that dispositionally highly mindful people showed greater concordance in implicit and explicit measures of affect than did less mindful individuals. If this concordance effect extends to esteem discrepancies, mindfulness may mitigate other aversive personal and interpersonal outcomes, such as those mentioned above—excessive self-enhancement, defensiveness, and outgroup derogation—thereby greatly extending and expanding the “benefits of being present” (Brown & Ryan, 2003, p. 822). In addition, studying individuals actually participating in a mindfulness training program, as they presumably increase in dispositional mindfulness, may illustrate changes (i.e. increases) in concordance over time.

This study takes an important first step in extending the effectiveness of mindfulness beyond clinical contexts and as a personal tactic or tool by demonstrating the mitigation of aggression following social rejection through a simple mindfulness manipulation. With further study, the role of mindfulness in a person’s level of ego-involvement should be investigated more thoroughly, and the positive effects of mindfulness for interpersonal outcomes may extend to other aversive situations such as prejudice. Much work remains to be done to better define and measure the construct, as well as further extending the investigation of mindfulness into other psychological domains, but the future certainly seems bright and rich for the study of mindfulness.

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