Minding the Interpersonal Gap: Mindfulness-based Interventions in the Prevention of Ostracism

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Abstract

Ostracism is a ubiquitous phenomenon, occurring across a broad range of social contexts and detrimentally impacting personal outcomes. Through enhanced present-moment attention and awareness, mindfulness-based interventions may help prevent this harmful behavior. The current research examined the role of state mindfulness in reducing the propensity to commit ostracism. This relationship was investigated in two studies: a field-based quasi-experiment (Study 1, n=51) and a laboratory-based experiment (Study 2, n=100). Both studies supported the utility of brief mindfulness-based interventions in reducing the propensity to ostracize others. The current studies support the relevance of mindfulness in addressing the substantial problem of ostracism. Among other benefits, fostering mindfulness in a variety of contexts may help reduce personal and social costs associated with this type of incivility. This research represents the first known attempt to utilize a personal resource (mindfulness) to decrease the degree to which individuals ostracize others.

Keywords

mindfulness; attention; awareness; ostracism; exclusion; pro-social behavior; prevention

1. Introduction

For many, interacting with teammates, coworkers, and other group members is a rewarding experience that fulfills many human needs, enabling us to obtain optimal happiness, well-being, and functioning. Unfortunately for some, these interpersonal experiences may not be a satisfying experience, and may instead be a truly unpleasant and stressful ordeal.

Ostracism, which involves "ignoring and excluding individuals or groups by individuals or groups" (Williams, 2007: p. 427), is a subtle, yet insidious form of incivility that can ruin these interactions. Research has demonstrated the damaging effects of prolonged exposure to social exclusion, including decreased self-regulation, heightened aggression, and suppressed immune and cardiovascular functioning (Baumeister et al., 2005; Dickerson, 2011). Anecdotal evidence also suggests that ostracism is a substantial contributor to violence among students at school (Leary, Kowalski, Smith, & Phillips, 2003). Research indicates that these detrimental consequences stem in a large part from a set of core needs that are left unfulfilled as a result of social ostracism: belonging, self-esteem, control, and meaningful existence (Williams, 1997, 2001). Over time, long-term targets of ostracism may suffer from a variety of psychological symptoms, such as feelings of resignation, hopelessness, and depression.

Ostracism is a ubiquitous phenomenon, frequently occurring in a variety of social contexts (Gruter & Masters, 1986; Robinson et al., 2013; Williams, 1997). As an example, one study of 262 full-time employees revealed that, in the past five years, 66% had been deliberately shunned by co-workers or supervisors (Fox & Stallworth, 2005). Interestingly, ostracism is often unintentional (the instigator is not aware that he or she is ignoring or excluding another individual). Unfortunately, this lack of awareness or intent does not preclude the social pain felt by the target (Williams, 2007). Recent findings suggest that interventions can aid in the recovery of distress for targets of ostracism (Molet, Macquet, Lefebvre, & Williams, 2013); however, little research has explored mechanisms that may mitigate the incidence or degree to which this exclusion occurs. Accordingly, the current research taps into the personal resource of state mindfulness and its potential effect on individuals' tendency to exclude others.

1.1. Mindfulness

1.1.1. The concept of mindfulness—The concept of mindfulness has been described as a heightened state of involvement and wakefulness in the present moment. Mindful behavior is achieved by considering context and multiple perspectives in order to make novel distinctions that keep one focused on the present moment—the only time that can be directly experienced (Langer & Moldoveanu, 2000). Mindfulness is often conceptualized as the presentation of two psychological characteristics—1) attention to the present moment and 2) awareness of one's surroundings (Brown & Ryan, 2003; Kabat-Zinn, 1990). These resources represent the cornerstone of mindfulness, and as later discussed, may together play a vital role in the incidence (and prevention) of ostracism.

While mindfulness can be thought of as both a trait-related and a state-related characteristic of the individual, a growing body of research has focused on mindfulness as a state construct, in which the environment is largely responsible for fostering one's human capacity to be mindful. In fact, numerous studies point to significant enhancements in mindfulness following daily exercises or interventions (e.g., Kabat-Zinn, 2003; Shapiro et al., 2011; Williams, 2006).

The concept of mindfulness is of both theoretical and practical concern within virtually any social context. In experimental research, Molet et al. (2013) found that a focused attention

intervention reduced long-term distress from experiences of ostracism. Previously, the mechanisms of focused attention and awareness have primarily been used to explain coping responses following incidences of ostracism. However, the current research contends that these mechanisms of mindfulness may influence one's predisposition to more closely consider the presence and perspectives of other individuals, which has direct implications for the prevention of ostracism.

Mindfulness has also yielded fruitful results in organizational research (Langer & Moldoveanu, 2000), and has been used to address interpersonal factors related to ostracism through mindfulness-based stress management interventions (Hunter and McCormick, 2008). Studies in this area, however, have not directly assessed the influence of mindfulness-based interventions on the propensity to ostracize others. Through in-depth interviewing, Hunter and McCormick (2008) have identified a variety of positive effects stemming from the practice of mindfulness in the workplace, including enhanced selflessness and awareness of others' perspectives. In a worksite wellness program (Williams, 2006), a mindfulness-based stress reduction intervention decreased emotional reactivity, giving participants an opportunity to respond more calmly and appropriately to workplace stressors. Mindfulness-based interventions also led to reductions in perceived stress (Shapiro et al., 2008) and increased empathy for others (Shapiro et al., 2011). Together, these findings suggest that mindfulness-based interventions may be a particularly effective method for preventing instigators from engaging in ostracizing behaviors, even in the face of daily stressors. However, virtually no research to date has investigated the utility of such interventions in targeting the incidence of ostracism.

1.1.2. Addressing the incidence of ostracism—There is evidence to suggest that a lack of attention to and awareness of the present situation may promote ostracizing behaviors (Stout & Dasgupta, 2011). Essentially, ostracism represents the absence of attention and awareness concerning the social needs of another individual. This lack of regard for others is likely one contributing factor that leads to perpetrations of ostracism, whether intentionally or unintentionally. A variety of factors may lead to intentional ostracism, including interpersonal hostility or the inability of a target to contribute positively to group goals (Gruter & Masters, 1986). However, these antecedents do not satisfactorily explain the commission of unintentional forms of ostracism, of which mindfulness may play a critical role. Presumably, those who are unaware and inattentive to the needs of others are more likely to engage in oblivious ostracism (Williams, 1997, 2001), which represents an unintentional, but blatant disregard, indifference, or neglect of others. Oftentimes we become stuck in a mindless state of "auto-pilot", in which we are not aware of or actively attentive to important aspects of our surrounding environment, such as the needs or even presence of others (Brown & Ryan, 2003). As a result, ostracism often occurs outside of the awareness of the instigator, and it may not be until later that the instigator learns about the oversight. Therefore, enhancing mindfulness may help tune one to interpersonal relationships with others. The effects of mindfulness on reduced ostracism may come about indirectly as well. Research indicates that increasing one's current state of attention and awareness through a brief "raisin-eating" exercise—a mindfulness-based activity in which individuals are guided step-by-step through the experiential and sensory process of

consuming each raisin rather than "mindlessly" eating an entire handful of raisins—leads to lower levels of ego-involvement, aggression, and hostility (Heppner et al., 2008; Kabat-Zinn, 1990). As ostracism is a form of relational aggression that can be derived from hostility or an over-involvement with the self, boosting one's present awareness and attention may serve to inhibit relational aggression such as ostracism. In light of these findings, bolstering mindfulness should reduce the tendency to engage in ostracizing behaviors.

1.2. The Present Research

The current research investigated the effects of state mindfulness with one primary hypothesis in mind: mindfulness will be negatively related to instigated ostracizing behaviors. That is, enhancing state mindfulness will decrease the frequency with which individuals ostracize or exclude others. Specifically, we examined whether mindfulness-based interventions could reduce the propensity of potential instigators to ostracize others. In doing so, this research represents the only known effort to link a personal resource to the incidence of ostracism. The current research addresses this need by investigating the effects of a mindfulness-based field intervention (Study 1) and a lab-based mindfulness manipulation (Study 2) on instigated ostracism.

2. Study 1: Field-based Quasi-experiment

2.1. Study 1 Method

2.1.1. Participants—Participants consisted of 51 (11 male, 40 female) elementary and secondary school teachers. Of these participants, 92% were Caucasian, 2% were African-American, 2% were Hispanic, 2% were Asian/Pacific Islander, and 2% chose not to respond. The average age of the sample was 45.76 years, and ranged from 24 to 72. On average, participants had worked at their current position for 11.66 years and reported interacting with 26.61 coworkers per work week.

These participants all consisted of classroom educators within the same school district in the Midwestern United States. Librarians, office administrators, or other staff members were not included in the study. Participants were recruited through the local Regional Office of Education from a total of 10 public and private schools. The intervention group consisted of 22 participants from six schools, and the no-intervention control group consisted of 29 participants from four separate schools. The six schools represented in the intervention group were asked to send a "committee" of three to five teachers to an in-person teacher in-service workshop, of which the current mindfulness-based intervention was a part. As they were assigned by their respective schools to attend the in-service which was *not* described as a mindfulness-related workshop, the intervention group participants did not self-select into the mindfulness-related activities. Therefore, this group was unlikely to have had differential levels of knowledge, motivation, or beliefs about mindfulness interventions or their potential benefits. Individuals attending the workshop but not participating in this study experienced similar sessions and activities during the workshop. The no-intervention control group consisted of educators from schools not participating in the workshop intervention. The annual workshop provided a unique opportunity to gain access to schools and educators in a

venue appropriate for an intervention. However, the restricted ability to intervene with school teachers following the workshop precluded the use of a wait-list control group. To our knowledge, participants in the intervention group were not exposed to any other intervention components during the in-service workshop that could account for changes in the dependent variable. Likewise, control group participants were likely not exposed to intervention components from the mindfulness group, thereby preventing contamination.

Most participants in both the intervention and control groups continued as participants for the duration of the study, although there was some attrition from pretest to posttest. At posttest, there were 37 total participants—13 in the intervention group and 24 in the control group—for a total attrition rate of 27%. Those in the intervention group were compensated via the provision of mindfulness-based resources, which have been shown to benefit employees in previous research. Participants in the control group also received the paper-based mindfulness resources as compensation, but did not obtain these resources until the conclusion of study.

2.1.2. Procedure—A quasi-experimental treatment-control study was implemented, featuring a mindfulness-based intervention. The multi-wave study began with a pretest questionnaire (Time 1), followed by an in-person workshop and take-home exercises for those in the mindfulness intervention group. A posttest questionnaire was administered on Day 15 (Time 2)[1]. Pretest data were collected in order to guard against potential threats to internal validity (e.g., any pre-existing differences between intervention and control group). Time 1 data for the treatment group was collected in-person, prior to the intervention, during a regional teachers' workshop at a local high school. Time 2 observations for the treatment group, and both observation waves for the control group, were collected online using SurveyMonkey. Data collection for both groups occurred simultaneously.

2.1.2.1. Mindfulness-based intervention: The intervention was managed by the first author and administered by a trained health education consultant with experience conducting stress management interventions. The group intervention session began with a discussion of a broad array of experiences in the workplace, such as work-related demands, environmental stressors, and interpersonal issues. The discussion then introduced more specific workplace issues, such as bullying, ostracism, and other work-related conflict among coworkers, providing a framework for which to reflect upon the concept of mindfulness. Teaching mindfulness practices within a framework of specific workplace stressors (e.g., workplace ostracism, workload) allows employees to more readily utilize mindfulness exercises in the presence of these stressors, directly targeting the difficult workrelated experiences (Jacobs & Blustein, 2008). Participants in the group were asked to consider a time in which they experienced one or more of the situations previously discussed. The group was then led through a series of standard mindfulness-based stress reduction (MBSR) exercises by the trainer. These guided meditation exercises provided a non-forceful opportunity for participants to internally investigate the presence of any strong emotions and simply acknowledge and release these thoughts and emotions rather than ruminating and

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[1]Another posttest questionnaire was administered on Day 30, consisting of measures separate from those assessed in the current study. These variables were not of interest to the current study, and therefore, this observation wave is not discussed further.

internalizing them. The intent of the exercise was to enhance present-moment awareness and offer a strategy to help participants identify their own life stressors moving forward.

Participants were also prompted to reflect upon a time in which they may not have fully "taken in" or experienced a situation at work, but instead, employed mindless, routine courses of action. Similar to before, the trainer led participants through a series of mindfulness exercises encouraging participants to be more cognizant of these situations, their surrounding environment, and others around them. For example, one sample exercise encouraged participants to expand their 'bubble of awareness' to include the external space and others within it.

In addition to the initial mindfulness training session, participants were sent home with a mindfulness "take-home" packet, consisting of simple mindfulness exercises to be completed once per workday during the intervention period. These exercises ranged from the "raisin-eating" exercise to a three-minute mindfulness meditation activity (Segal et al., 2002) to a "soles of the feet" exercise (Singh et al., 2003). To maximally balance benefits and adherence rates, exercises were practiced frequently, but only required approximately five minutes to complete, an approach found to be successful in prior research (Moore, 2008). A journal was included in the packet for participants to record their experiences and ensure a sense of accountability. After two weeks (Day 15), participants were contacted via email and asked to access an online questionnaire measuring stress and both perceived and instigated ostracism. Reminder emails were sent periodically to participants to encourage completion of each questionnaire.

2.1.3. Measures—The dependent variable and covariates were collected at Time 1 and Time 2. Internal consistency estimates for both measurements are included in parentheses below.

2.1.3.1. Perceived instigated ostracism: The frequency with which participants perceived ostracizing others was the focal dependent measure of the study. It was assessed through a 6-item measure (α=.90, .92), adapted from the Workplace Ostracism Scale by Ferris et al. (2008). Using a 7-point Likert-type response scale of 1 *(never)* to 7 *(always)*, these items measured the extent to which participants perceived that they personally ostracized others at work. (e.g., "You have shut someone at work out of your conversations.").

2.1.3.2. Control variables: Two variables were included as covariates, because they were expected to influence the outcome of perceived instigated ostracism. Ostracism within the workplace was measured by the Workplace Ostracism Scale (WOS; Ferris et al., 2008). Using a 7-point Likert-type response scale of 1 *(never)* to 7 *(always)*, this 10-item scale (α=.94, .89) assessed the extent to which participants experienced exclusion within the workplace (e.g., "Others at work treated you as if you weren't there.").

The Perceived Stress Scale (PSS) was used to measure the degree to which life situations were appraised as stressful (Cohen et al., 1983). The validated 4-item subscale (α=.80, .73) was measured along a 1 *(never)* to 5 *(very often)* response scale. A sample item from this

measure included "Considering the past month, how often have you felt that things were going your way?"

2.1.3.3. Manipulation checks: Participants in the intervention group were also asked to disclose the extent to which they participated in the daily mindfulness activities provided in the take-home packet. Participants responded to questions regarding the number of mindfulness exercises that they "read through" and that they "participated in" during the intervention period. Finally, participants responded to a demographics measure, consisting of questions such as gender, age, ethnicity, work status, position level, and type of work environment.

2.2. Study 1 Results

2.2.1. Preliminary Analyses—The current study consisted of two time points (Time 1 and 2) with the between-subjects variable being mindfulness condition (mindfulness intervention group and no-intervention control group). Participants' responses across measurements were tracked with a participant code number in order to allow for difference scores in instigated ostracism to be calculated for each individual. As much of the data was non-normal, the workplace ostracism and instigated ostracism variables were corrected using log transformations.

Additionally, as attrition was present in both the treatment and control groups, preliminary analyses were conducted to determine whether this attrition appeared to threaten the validity of the study's findings. Several simple regression analyses were conducted, modeling each collected variable as a predictor of participant drop out. None of the key variables were found to significantly predict attrition. Therefore, it was determined that participants who dropped out and those who remained in the study until completion were not significantly different in terms of any of the primary variables. Tables 1 and 2 report descriptive statistics and intercorrelations between key variables, using the untransformed values, at pretest and posttest, respectively. While not high, the reported levels of instigated ostracism were similar to the reported levels of experienced ostracism in previous studies (Ferris et al., 2008).

2.2.2. Manipulation Check—A posttest manipulation check was included for those in the mindfulness intervention group, assessing the degree to which participants' engaged in the daily mindfulness exercises. Regarding the proportion of exercises that participants "read through", responses ranged from 10% to 100%, and the median score was 85%. Of the 13 participants responding to this measure, 69% reported reading through at least half of the daily mindfulness exercises. Regarding the proportion of exercises that respondents "participated in", responses ranged from 5% to 90%, and the median score was 60%. Of the 13 participants responding to this measure, 62% reported actually participating in at least half of the daily mindfulness exercises.

2.2.3. Testing Hypotheses—In the following analyses, the independent variable and covariates were centered and standardized using *z*-scores (Aiken & West, 1991). To test our hypothesis, a multiple regression analysis was performed to examine the relationship

between condition (mindfulness vs. control) and change in instigated ostracism from Time 1 to Time 2. Difference scores were used to model change from Time 1 to Time 2 for the outcome (instigated ostracism) and for the covariates (experienced ostracism and perceived stress). As hypothesized, even when controlling for experienced ostracism and perceived stress, reports of instigated ostracism decreased in participants receiving the mindfulness intervention relative to those in the control group, $\beta = -.451$, $t(32) = -2.59$, $p = .014$, $R^2 = .178$ (medium-to-large effect). Figure 1 illustrates the mean changes in instigated ostracism from Time 1 to Time 2 for the mindfulness and control groups.

2.3. Study 1 Discussion

The present study represents the first known attempt to utilize a mindfulness-based intervention to facilitate a decrease in perpetrated ostracizing behaviors. Results provide initial evidence that enhanced states of mindfulness may decrease exclusion. This heightened inclusiveness may be explained by an increased awareness of and orientation towards the presence and needs of others. Managers, coaches, parents, and school teachers may benefit from implementing mindfulness practices at an organization-, group-, or individual-level.

In sum, Study 1 provides initial testing of the hypotheses by utilizing multiple observations and a control group within a field setting. Even so, the low sample size does somewhat limit confidence in the stability of the means, and potentially, the results and conclusions that follow. Additionally, because the control group did not receive a placebo treatment, demand characteristics could have played a role in the effects of the intervention on instigated ostracism. It cannot be ruled out that the intervention affected other constructs responsible for the observed effects. However, interpersonal contact between the researcher and participants in the experimental group was minimized (i.e., only one in-person training, no follow-up session) which would reduce any potential experimenter expectancy effects. Given the above limitations, a second study was conducted in order to investigate the reliability of these findings using a larger sample and an experimental design. Study 2 built onto Study 1 by examining the effects of a brief mindfulness-based manipulation on the propensity to engage in ostracizing behaviors within a controlled laboratory setting, thus enhancing internal validity.

3. Study 2: Lab-based Experiment

3.1. Study 2 Method

3.1.1. Participants and Design—Study 2 used a two condition experimental design (mindfulness and non-mindfulness). Participants consisted of 100 (36 male, 64 female) undergraduate psychology students from a large Midwestern university in the United States. Of these, 51% were African-American, 35% were Caucasian, 6% were Hispanic, 5% were Asian-American, 2% were multiracial, and 1% belonged to an ethnicity other than these categories. On average, participants were 20.05 years of age.

3.1.2. Procedure—Participants arrived to the lab in groups ranging from one to five people. Participants were immediately split up and assigned to individual computer locations

where they stayed for the remainder of the study. They were randomly assigned to one of two experimental conditions, a mindfulness treatment group (54%) or non-mindfulness control group (46%). Although participants completed the experiment individually, participants in the same experiment session were all randomly assigned to the same experimental condition.

3.1.2.1. Mindfulness manipulation: The mindfulness manipulation was based on a "raisin-eating" task developed by Kabat-Zinn (1990) and used previously in research involving reactions to rejection (Heppner et al., 2008). Similar to Heppner et al. (2008), the mindfulness manipulation was implemented at the beginning of the experiment; the prediction was that being made mindful would shape participants' perceptions of others and their propensity to engage in ostracizing behaviors. The raisin-eating task was designed to cultivate state mindfulness by enhancing awareness and encouraging the individual to focus their attention on the present moment and on experiencing something as simple as a raisin in a different and meaningful way (Kabat-Zinn, 1990). This exercise began with participants visually examining their raisin carefully, then gradually experiencing the raisin through touch, smell, and taste, and then finally, swallowing the raisin and deliberately tracking its path as it progressed down their throat. This simple manipulation has been shown to temporarily boost participants' state mindfulness in a laboratory setting, helping them to respond less aggressively to others after being socially rejected (Heppner et al., 2008). The raisin-eating exercise is generalizable beyond college samples as well; it has demonstrated effectiveness within adult clinical (e.g., eating disorder) populations and inner-city community health settings (Kristeller & Wolever, 2010; Roth & Creaser, 1997). There is consensus in the literature that the raisin-eating exercise impacts state awareness, attention, and emotional reactivity, thus manipulating the multifaceted construct of mindfulness (Heppner et al., 2008; Kabat-Zinn, 1990; Kristeller & Wolever, 2010). The raisin-eating exercise was presented to participants individually via voice recording programmed on each computer. Participants listened to the recording through headphones and remained in their private computer space for this activity so as not to be distracted by others or feel embarrassed during the exercise. This manipulation lasted approximately five minutes total.

Participants randomly assigned to the non-mindfulness control group began the experiment by engaging in a five-minute filler activity. This activity consisted of reading a generic passage followed by a typing task in which participants were asked to simply copy the passage of text by typing it verbatim. Participants were told not to worry about making errors and that the researchers were simply interested in whether reading a passage prior to typing it increased the number of words per minute that college students could type. In reality, the reading and typing task were merely intended to represent a filler activity of comparable intensity. Rather than instill a state of mindlessness, this exercise was intended to not influence participants' current state of mindfulness. The goal was to determine whether a mindfulness-based exercise would enhance responses to ostracized group members as compared to a baseline condition, not compared to a contrived condition of mindlessness.

3.1.2.2. Ostracism scenario: Following the mindfulness (or non-mindfulness-related) manipulation, participants were presented with a computer-based scenario in which they were asked to choose team members and play a virtual ball-tossing game with the chosen team members. Participants were told that the game was remotely linked with other universities so that they would perceive having interactions with real people. In actuality, the other team members were computer programmed in MediaLab such that there was no actual interaction between players. Participants were informed that they had been selected to be the "captain" who would choose team members, and that in the current study, we were concerned with the other team members' actions, rather than the participants' behaviors. In reality, we were interested in the participants' behaviors.

To help participants choose team members, they were given information regarding how many times each potential teammate had previously been chosen to be on a team. Participants were also provided with a short, neutral description of each potential teammate, so as to help conceal the more meaningful, exclusion-related information. For instance, one potential team member represented "jersey #41", was described as right-handed, and was shown to have been chosen 0 out of 6 times. Another potential team member represented "jersey #16", was described as left-handed, and was shown to have been chosen 4 out of 5 times. Out of a total of six potential team members, three members had previously been relatively excluded and three had previously been generally included. Participants were asked to choose three of these six potential team members to be on their team. Upon choosing their team, participants were presented with a computer-based ball-tossing game.

This ball-tossing game was structured similarly to Cyberball (Williams et al., 2000), a virtual ball-toss game commonly used in exclusion research. This four-person game was set up such that one of the three computer players was dramatically under-included by the other computer players. The ostracized computer player was thrown to a couple times early in the game, but then completely excluded afterwards. Thus, in order for that "ostracized" team member to be included, it was up to the participant to throw the ball to that player. The position of the excluded player was counterbalanced such that approximately half of participants witnessed the ostracized player at one end of the screen and half witnessed this player at the other end of the screen.

All participants threw the ball an equal amount of times (i.e., 13 throwing decisions), regardless of to whom they chose to throw. Whereas the team-picking activity measured ostracism subsequent to previous inclusion or exclusion of potential teammates, the ball-tossing exercise measured ostracism during current incidences of teammate inclusion or exclusion. Based on the rationale provided earlier, it was expected that those in the mindfulness condition would be more likely to 1) choose teammates who had been previously excluded in team-picking scenarios and 2) include teammates who were being currently excluded in the ball-toss game.

3.1.3. Measures—After the game, participants were administered a short set of questionnaires in the following order: Stress Arousal Adjective Checklist, International Positive and Negative Affect Schedule Short Form, and demographics.

As a measure of state-related stress, the Stress Arousal Adjective Checklist (SACL) was used (King et al., 1983). The measure consisted of eight stress adjectives (α=.84). Using a 4-point response scale from 0 (*definitely did not feel*) to 3 (*definitely felt*), participants indicated the degree to which each adjective described their perceived current state.

To measure and control for the influence of affect, the International Positive and Negative Affect Schedule Short Form (I-PANAS-SF) was also included (Thompson, 2007). This scale intended to measure the degree to which participants experienced adjectives representing both positive (e.g., active, determined) and negative (e.g., upset, nervous) affect during the balltossing game. Participants responded on a scale of 1 (*never*) to 5 (*always*). The positive affect scale yielded a Cronbach's alpha coefficient of .70 and the negative affect scale yielded an internal consistency coefficient of .51 in the current study. Finally, participants responded to a demographics questionnaire similar to that of Study 1.

3.2. Study 2 Results

3.2.1. Preliminary Analyses—The dependent variable of instigated ostracism consisted of two separate behaviors: team-picking and ball-tossing. For the team-picking behavior, ostracizing behaviors were coded by assigning each potential team member a value of 1 to 6 based on their previous level of inclusion. Higher numbers corresponded to higher levels of previous inclusion. Participants thus earned low scores for choosing players who had previously been ostracized (i.e., participants demonstrated low levels of ostracism) and high scores for choosing players who had previously been highly included (i.e., participants engaged in high levels of ostracism).

For the ball-tossing task, ostracizing behaviors were coded by simply counting the number of times participants threw the ball to a player other than the one being ostracized by the other teammates. That is, frequently throwing to non-ostracized players constituted higher levels of ostracism, because doing so excluded the ostracized player. Conversely, frequently throwing to the ostracized player constituted lower levels of ostracism. With the "ostracized" player being initially included, it was not until the end of round 3 that a pattern, or "streak", of excluding one player occurred. Therefore, it was decided a priori that, out of a total of 13 ball-tossing "decisions", analyses would be based on the last 10 decisions.

Because the positioning of the ostracized player did not interact with the other variables, this variable was not included in the reported analyses. Additionally, the subscales of positive and negative affect were normalized using the log transformation. Table 3 reports descriptive statistics for the measures of ostracism and the mindfulness manipulation check.

3.2.2. Manipulation Check—Participants were monitored through a two-way mirror during the manipulation period to ensure that they were engaging in the appropriate actions (i.e., either mindfully eating the raisin or typing the generic essay). Additionally, during debriefing, the study administrator asked participants in the experimental group whether or not they ate the raisin and whether they experienced any technical difficulties during the mindfulness voice recording; no such problems were reported. For those in the control group, a record was kept of participants' typed essays. Through assessing these records, all

participants appeared to have successfully engaged in this filler task without any technical difficulties.

3.2.3. Testing Hypotheses—Multiple regression analyses were conducted, including the covariates (see Table 4). It was predicted that the mindfulness condition would decrease participants' propensity to commit ostracizing behaviors, even after controlling for perceived stress, positive affect, and negative affect. When accounting for perceived stress and affect, mindfulness condition did not significantly predict ostracism during team-picking, $\beta = .089$, $t(95) = 0.88$, $p = .384$. However, in support of our hypothesis, mindfulness condition did significantly predict ostracism during balltossing, even after controlling for perceived stress and affect, $\beta = -.206$, $t(95) = -2.04$, $p = .044$. As illustrated in Figure 2, participants in the mindfulness group ($M = 5.33$, $SD = 1.98$) committed fewer ostracizing behaviors compared to those in the control group ($M = 6.09$, $SD = 1.59$) during ball-tossing ($d = 0.423$, medium effect). Thus, partial support was found for the hypothesis, that the mindfulness-based manipulation would lower participants' propensity to ostracize teammates who were previously or currently targets of exclusion.

3.3. Study 2 Discussion

This study found partial support for the notion that a mindfulness intervention could decrease ostracizing behaviors. There are several possible explanations for the mixed results, and the ball-tossing game may have been the more valid measure of instigated ostracism. For example, participants in the team-picking activity may have assumed that there were justifiable reasons (e.g., advanced skill) for certain players being included more often than others. This is substantiated by the fact that, across the board, participants were most likely to select the players with the highest rates of inclusion (i.e., most "experienced" players). Research indicates that people have adapted the tendency to ostracize others who are perceived as a burden (Gruter & Masters, 1986; Wesselmann, Wirth, Pryor, Reeder, & Williams, 2013). Players with less experience may have been viewed as potential burdens for the upcoming ball-toss game. Alternatively, experienced players may have been viewed as relatively more reliable, and thus, more appropriate or safer selections upon entering an unfamiliar scenario (i.e., ball-toss game). Further, this finding may reflect a limitation of mindfulness interventions in general. Specifically, such interventions may not reduce ostracism that appears to be justified (Wesselmann et al., 2013). Therefore, possible boundary conditions of mindfulness interventions may exist and should be investigated, along with potential remedies. For example, if the results for team-picking hold in other situations, avoiding justified ostracism may require stronger or longer-lasting interventions.

The finding that the mindfulness manipulation decreased the propensity to engage in ostracizing behaviors in the ball-tossing game is consistent with previous research indicating that state mindfulness is linked not only to greater attention and awareness (Brown & Ryan, 2008), but also to enhanced compassion, kindness, and concern for others (Hutcherson et al., 2008). Additionally, this result fits with the more general finding that mindfulness tends to shift decision-making processes from a reliance on automatic heuristics to more conscious and controlled cognitive processing (Brown & Ryan, 2003). Rather than perceiving that a player is rarely included, and therefore, should be further avoided, the mindfulness

manipulation may have enhanced participants' inclinations to offer previously-avoided players an opportunity to be involved before deciding to dismiss them. The primary implication is that varying states of mindfulness may be an important factor behind one's decision to include or exclude others who are current targets of ostracism. This suggests the potential utility of implementing mindfulness-based interventions within a variety of social settings, particularly in those dealing with incidences of toxic or hostile interpersonal behaviors.

Overall, the findings of this experiment parallel those of Study 1. However, this study has limitations of its own. The experimental design and computer-based scenario did not permit real-world encounters, potentially limiting external validity. Even so, ostracism occurs in a wide array of social and interpersonal situations, including via computer interactions (e.g., cyberostracism; Williams et al., 2000). Furthermore, the computer-based scenario modeled social encounters and games that may commonly take place in a variety of settings and contexts, and therefore, should not be seen as devoid of real-world implications.

4. Overall Discussion

Together, the current studies yield interesting and thought-provoking findings about the nature and influence of state mindfulness. The results support the notion that brief mindfulness-based interventions may reduce the degree to which individuals ostracize others. Study 1 demonstrates the mitigating effect of a mindfulness-based workplace intervention on self-reports of instigated ostracism at work. Study 2 supports the utility of a temporarily induced mindfulness-based manipulation in reducing the propensity to ostracize others, particularly those currently being socially excluded. While efforts could certainly be made to alleviate, or buffer, the psychological or physical impairments associated with experiencing ostracism, we chose instead to target the incidence (i.e., reduce the prevalence) of this phenomenon. By focusing on mindfulness-based interventions as a prevention strategy, we presumably are able to reduce perpetrations of ostracism before victimization is even initiated.

This research uniquely advances the limited research on sources, or instigators, of ostracism. A few studies have investigated the physical and psychological effects of ostracizing others when randomly assigned to be a source of ostracism (e.g., Wittenbaum et al., 2010; Zadro et al., 2005). However, to our knowledge, no research tests the effectiveness of potential mechanisms in reducing one's propensity to actually engage in ostracizing behaviors. The current studies represent the first known attempt to utilize a personal resource (i.e., mindfulness) to decrease the degree to which individuals, who are completely free to include or exclude others, actually ostracize targets of exclusion.

4.1. Limitations

In addition to the limitations discussed above, the generalizability of the findings is somewhat uncertain. There may be boundaries to the mindfulness intervention that were not uncovered in the current research. For instance, it is possible that mindfulness may not be as beneficial in situations where people are actually motivated to ostracize others. Presumably, participants in Study 2 had no reason to want to ostracize anyone, and it is unclear whether

or not such motivations existed among the sample in Study 1. A more contextualized understanding of the organizational, group, and interpersonal level systems being studied may be necessary to gain insight into potential moderators of the current findings. Additionally, while we offer plausible conceptual explanations for our findings, we recognize that the current studies do not directly explore specific psychological mechanisms and call on future research to further contribute to theory by testing such explanatory processes. Finally, while environmental and logistical constraints prevented us from utilizing a wait-list control group in Study 1, we acknowledge that a stronger research design would have included an active control condition and urge future studies to employ such designs whenever possible. Despite these limitations, both studies featured unique strengths, complementary methodologies, and corresponding results that bolster confidence in the overall conclusions.

4.2. Future Directions

Future research on this topic would benefit from measuring concepts such as instigated ostracism within field settings through other methods in addition to self-report measures. For instance, researchers could assess feedback from the potential ostracizer's social network (e.g., non-targeted friends, teammates, work peers) prior and subsequent to a mindfulness-based intervention to capture changes in perpetrated ostracizing behaviors. These reports may be less subject to biases such as social desirability and faking. Alternatively, researchers could attempt to observe actual ostracizing behaviors within social settings, either through natural interpersonal encounters and work processes or during arranged, but realistic, group scenarios.

Our data suggest that enhancing attention and awareness is one promising method for reducing perpetrations of ostracism. However, future research should also consider examining other constructs representative of mindfulness, such as empathy, compassion, and pro-social behavior. These factors are foundational to the Loving-Kindness Meditation (LKM), which is often included as a component in mindfulness-based interventions (Hutcherson et al., 2008). LKM has been shown to activate regions of the brain linked to social connectedness, pro-social behavior, and positive feelings toward others.

The current research largely attempted to alter states of mindfulness temporarily through relatively brief manipulations and interventions. While able to yield interesting effects through minimal investment, this approach may be overlooking the proper conceptualization and large scale benefit of this resource. Mindfulness is perhaps most appropriately viewed as an enduring, lifelong process that cannot simply be "achieved" through quick interventions (Germer, 2005). While more costly, long-term interventions that gradually incorporate mindfulness principles into individuals' lifestyles will likely have more substantial and farther-reaching implications than those that attempt to effect rapid changes.

The studies presented here yield results in favor of mindfulness interventions implemented in a workplace and laboratory context for the prevention of ostracism. However, this research is relevant to a vast array of other social contexts, including families, friendships, schools, sports teams, and workgroups. The application of mindfulness-based interventions to incivility in these contexts should be further explored. The current research observed

promising results even with relatively brief mindfulness-based interventions, and we hope this will spark greater interest in more permanent implementation strategies.

4.3. Conclusions

While the phenomenon of ostracism can stifle human fulfillment and well-being, its incidence can be mitigated through mechanisms such as mindfulness-based interventions. By increasing attention and awareness, mindfulness provides a way for both potential sources and targets of ostracism to flourish. Reducing ostracism enables a wide range of positive interpersonal interactions and the development of meaningful relationships. This alone validates the prevention of ostracism as an effort worthy of attention and investment, and we hope that researchers and non-researchers alike will seize the opportunity to effect positive change in ways that we demonstrate possible in the current studies.

Acknowledgments

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Highlights

1. We tested the effectiveness of state mindfulness interventions in reducing ostracism.

2. A field-based quasi-experiment and a laboratory-based experiment were conducted.

3. Ostracism was reduced in the mindfulness groups relative to the control groups.

4. Brief mindfulness-based interventions may reduce the propensity to ostracize others.

5. Enhancing mindfulness may increase awareness of the presence and needs of others.
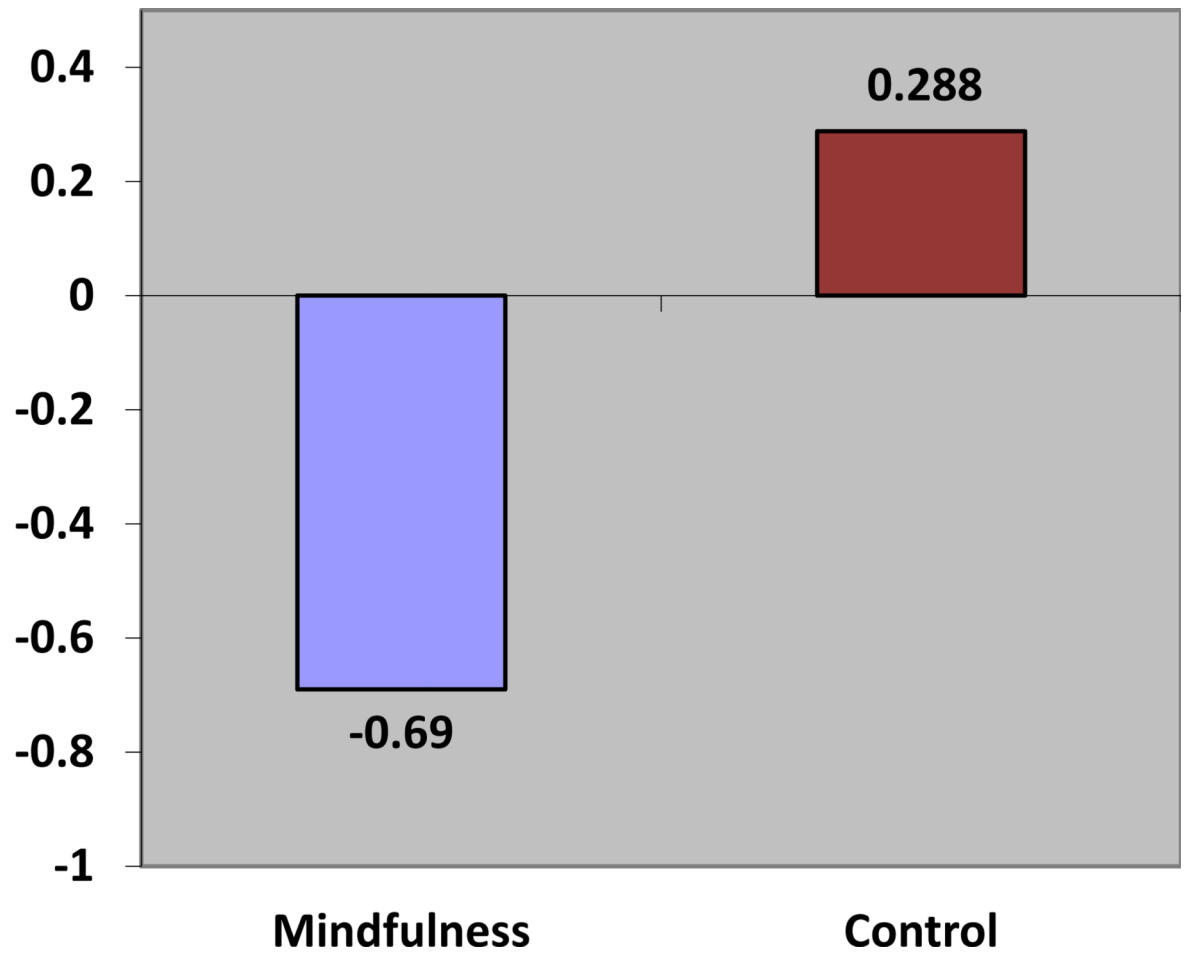
Figure 1.
Bar graph illustrating mean changes in participants' perceived instigated ostracism from
Time 1 to Time 2 for the mindfulness and control groups.
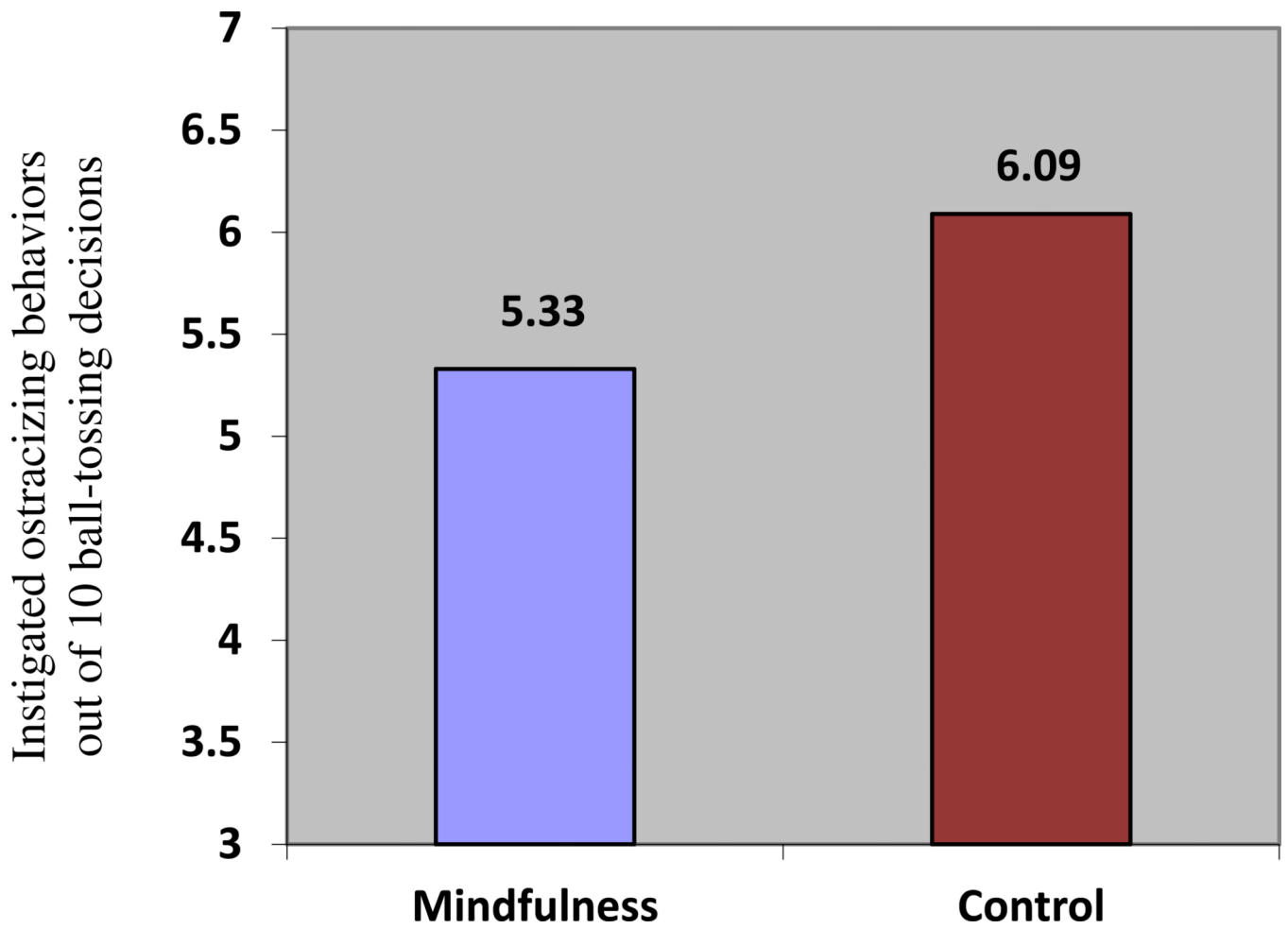
Figure 2.
Bar graph illustrating group mean differences in instigated ostracism during ball-tossing.

Table 1

Intercorrelations Between Key Variables at Pretest for Study 1

Variable	1	2	3	N	Mean	SD
1. Workplace ostracism	.94	.33*	.46**	51	1.84	0.97
2. Instigated ostracism		.90	.66**	51	1.70	0.95
3. Perceived stress			.80	50	2.44	0.72

Note. Internal consistency estimates for each measure are reported in italics along the diagonal.

*
p < .05.

**
p < .01.

Table 2

Intercorrelations Between Key Variables at Posttest for Study 1

Variable	1	2	3	N	Mean	SD
1. Workplace ostracism	.89	.47**	.50**	37	1.45	0.52
2. Instigated ostracism		.92	.38*	37	1.45	0.85
3. Perceived stress			.73	37	2.09	0.76

Note. Internal consistency estimates for each measure are reported in italics along the diagonal.

*
p < .05.

**
p < .01.

Table 3

Descriptive Statistics for Study 2

Variable	Mindfulness			Control		
	N	Mean	SD	N	Mean	SD
1. Ostracism During Ball-Tossing	54	5.33	1.98	46	6.09	1.59
2. Ostracism During Team-Picking	54	11.94	2.61	46	11.70	2.37

Table 4

Multiple Regression Analyses Predicting Ostracism during Team-Picking and Ball-Tossing for Study 2

	Team-Picking		Ball-Tossing	
Predictor	β	*t*	β	*t*
Step 1				
Perceived Stress	−0.05	−0.40	0.03	0.21
Positive Affect	−0.22	−2.16*	−0.13	−1.24
Negative Affect	0.03	0.26	−0.14	−1.09
Step 2				
Perceived Stress	−0.06	−0.47	0.05	0.37
Positive Affect	−0.24	−2.27*	−0.09	−0.91
Negative Affect	0.05	0.36	−0.17	−1.34
Mindfulness Condition	0.09	0.88	−0.21	−2.04*

Note. Mindfulness Condition (1=Experimental Group, 0=Control Group).

*
$p < .05$.