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Mindfully outraged: Mindfulness increases deontic retribution for third-party injustice

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Abstract

Mindfulness is known to temper negative reactions by both victims and perpetrators of injustice. Accordingly, critics claim that mindfulness numbs people to injustice. This raises concerns about the implications of mindfulness for moral responding. Thus, it is important to examine how mindful observers respond to third-party injustice. We integrate mindfulness with deontic justice theory to propose that mindfulness does not numb but rather enlivens people to third-party injustice. Results from three studies show that measured mindfulness heightens moral outrage in witnesses of injustice, particularly when the injustice is modest (but not severe). Although these findings did not replicate with a mindfulness induction (Study 4), results show that manipulated mindfulness perhaps heightens moral outrage when observers have a weak (but not strong) deontic justice orientation. In documenting this moral enlivening effect, we demonstrate that mindfulness, measured as a state or trait, leads people to exact greater deontic retribution against perpetrators of third-party injustice.

Highlights

- Mindfulness increases retribution via moral outrage at third-party injustice
- Mindful supervisors feel more contempt for employees who mistreat others
- Mindful consumers are more outraged by corporate social irresponsibility
- Mindfulness does not amplify moral anger at severe vicarious mistreatment
- Mindfulness may heighten moral outrage in observers who care least about fairness

Mindfully outraged:
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Introduction

If you simply bliss out and accept injustice, how is this different from being a drug addict, sedated into zombified oblivion? ~ Ronald Purser

In light of the rapidly growing literature on the benefits of mindfulness at work (Good et al., 2016; Kay et al., 2019; Reb et al., 2020), Purser's (2019) vivid critique that mindfulness can potentially make people "bliss out and accept injustice" is intriguing. While this critique contrasts with voluminous research on a broad range of affective advantages of mindfulness in the workplace (Ashkanasy & Kay, in press), it may not be without merit. Defined as receptive attention to and awareness of present events and experiences (Brown & Ryan, 2003), mindfulness has been shown to reliably lessen negative emotions (Chambers et al., 2009; DeSteno et al., 2018; Liang et al., 2018). Consistent with such findings and Purser's (2019) *mindful sedation hypothesis*, Long and Christian (2015) showed that mindfulness lowers anger and hostility in victims of injustice. More pertinent to the hypothesis, however, is whether mindfulness sedates *third-party observers*. As Skarlicki et al. (2015) argue, being an observer (rather than victim) of injustice is a far more common experience. Thus, an important question remains unanswered in the literature to date: does mindfulness numb observers to injustice perpetrated by others against others? If so, despite its many benefits, mindfulness could have morally and socially problematic implications that warrant investigation.

In addressing this question, we theorize that mindfulness does *not* numb people to third-party injustice, as the mindful sedation hypothesis would have it. On the contrary, integrating conceptual and empirical research on mindfulness with deontic justice theory (Folger, 1998), we theorize that mindfulness *enlivens* people to moral outrage at third-party injustice. Deonance

theory holds that reactions to third-party injustice stem from deep-seated moral intuitions that lead observers to transcend their self-interest to stand by and do nothing (Folger, 2001). Building from theorizing that mindfulness involves transcending egoic self-concerns (Vago & Silbersweig, 2012), and in light of burgeoning empirical research on the prosocial characteristics of mindfulness (Donald et al., 2019), in contrast to the mindful sedation hypothesis we advance the *mindful enlivening hypothesis*: mindfulness *heightens*, as opposed to lowers, moral outrage in observers of third-party injustice. As outrage is a powerful motivator for punishing moral transgressors (O'Reilly et al., 2016), we argue that mindful observers are *more* – not less – likely to exact retribution against perpetrators of third-party injustice due to heightened moral outrage when witnessing injustice.

We test our mindful enlivening hypothesis across a series of studies that replicate and extend one another with a variety of methods in diverse contexts, thereby triangulating our findings and exposing boundary conditions (Kohler & Cortina, 2021). First, as a within-person test of our model, in Study 1 we employ a daily diary study to examine the role of measured state mindfulness in supervisor responses to justice violations by their subordinates. Second, for internal validity and robustness, in Study 2 we examine the role of trait mindfulness in consumer reactions to experimentally manipulated injustice perpetrated by a business organization against stakeholders and the natural environment. Third, to obtain a behavioral measure of retribution and test a contextual boundary condition to our model – namely, severity of injustice – in Study 3 we conduct an in-person lab experiment with a modified ultimatum game. Finally, to extend our model and explore an individual difference boundary condition – namely, deontic justice orientation – in Study 4 we conduct an online experiment that examines observer responses to third-party injustice after a mindfulness manipulation.

This research makes at least three contributions. First, the literature to date has taken as a matter of course that mindfulness *reduces* negative affective states like anxiety (Chambers et al., 2009), hostility (Long & Christian, 2015), and emotional exhaustion (Hülsheger et al., 2013). Our research adds to a nascent body of work that calls this assumption into question (e.g., Dong et al., 2020, Hülsheger et al., 2021), showing that mindfulness can also *augment* a "hot" negative emotion like moral outrage.

Second, another largely unquestioned assumption in the mindfulness literature to date is that the positive behaviors stimulated by mindfulness are overtly prosocial. For example, growing research shows that mindful individuals tend to be more generous (Hafenbrack et al., 2020), collaborative (Kay & Skarlicki, 2020), and helpful (Sawyer et al., 2022). Conversely, they also tend to engage in less deviant behaviors (Shaffakat et al., 2021) such as incivility (Hülsheger et al., 2021), ostracism (Jones et al., 2019), and abusive supervision (Liang et al., 2016). Complementing these important findings, we advance the literature by proposing a more nuanced perspective: mindfulness can also incite retribution – a less overtly prosocial behavior aimed at upholding moral norms (Tripp & Bies, 1997) – against perpetrators of injustice.

Third, this research contributes to the mindfulness literature by investigating the role of mindfulness from a third-party perspective. To date, the literature has considered the implications of mindfulness only from the perspective of victims (Long & Christian, 2015) and perpetrators (Hafenbrack et al., 2022; Schindler et al., 2019) of injustice. By examining the effects of mindfulness in reactions to third-party injustice, we round out the literature on mindfulness and injustice from different perspectives. In so doing, we demonstrate that mindfulness affects the way people most commonly experience injustice, highlighting implications for employees, consumers, and organizations alike.

Theory and Hypothesis Development

Deontic retribution for third-party injustice. In recent years a substantial body of theory and research has emerged to explain why and how individuals respond to injustice perpetrated by others against others. Third-party injustice is a construct that includes a wide array of negative behaviors perceived as unfair, inappropriate, or offensive, and that amount to mistreatment by one party against another party, but not the observer (Dhanani & LaPalme, 2019). The theoretical lens most commonly adopted in this domain is the deontic model of justice (Folger, 1998). Deontology is a branch of moral philosophy which contends that the morality of an action is based not on its consequences, but rather on whether it is morally right or wrong in-and-of-itself (Folger, 2001). The etymological root *deon* stems from Greek for *right thing to do*, and the term *deontic justice* refers to a moral obligation to ensure that people are treated fairly, irrespective of self-interest (Rupp et al., 2013). Accordingly, deontic retribution is an act that is motivated not by the anticipated outcome for oneself, but rather by concern about what is right. In other words, a deontic response to third-party injustice is one in which a third party responds to injustice in such a way that is prosocial and transcends their self-interest.

Folger et al. (2005) outlined three defining qualities of deontic reactions to injustice. First, deontic reactions stem from reflexive heuristic processes. Heuristics are cognitive shortcuts that simplify judgment and decision-making (Gigerenzer et al., 2022). They are indispensable for distilling meaning from large amounts of information and guiding quick responses. Deontic reactions stem from deep-seated moral intuitions forged by evolution (Folger & Skarlicki, 2008). Scholars have argued that moral intuitions and the heuristic processes by which they function play a central role in guiding third-party reactions to injustice (Haidt, 2001), such as by engaging in “swift blame” (Skarlicki et al., 2017).

Second, deontic responses to injustice manifest as moral emotions (Folger & Skarlicki, 2008). Haidt (2003) defined moral emotions as "linked to the interests or welfare of society as a whole or at least of persons other than the judge or agent" (p. 853). Moral emotions can be divided into families (Greenbaum et al., 2020), one of which includes the other-condemning emotions of contempt, anger, and disgust – the so-called "CAD Triad" (Rozin et al., 1999). These emotions can be combined (Hutcherson & Gross, 2011) and termed *moral outrage* (Molho et al., 2017). Consistent with deonance theory, moral outrage is conceptualized not as a reaction to a violation of self-interest, but rather as a reaction to a violation of a moral standard about the just treatment of others (Batson et al., 2007).

Third, affective deontic reactions like moral outrage motivate observers of third-party injustice to seek retribution against the transgressor (Folger & Cropanzano, 2001). Accordingly, a substantial body of empirical research has emerged to show that moral outrage motivates observers of third-party injustice to exact retribution on the perpetrator, and in so doing transcend their self-interest to stand by and do nothing (e.g., De Cremer & Van Hiel, 2006; Hershcovis & Bhatnagar, 2017; Lotz et al., 2011; Reich & Hershcovis, 2015). From a deontic perspective, retribution is not driven by a destructive or antisocial animus; on the contrary, deontic retribution is prosocially motivated insofar as it is a means by which observers of third-party injustice seek to uphold moral norms (Tripp & Bies, 1997).

In line with the above-noted theory and research, as a first step in elaborating our model we recapitulate the following hypothesis from extant research on third-party injustice:

Hypothesis 1. Observing third-party injustice incites retribution via moral outrage.

Mindfulness and moral outrage at third-party injustice. The deontic model explains why and how observers respond to third-party injustice. However, only a limited body of

research has examined whether deontic responses vary between individuals (Dhanani & LaPalme, 2019). To date, researchers have focused on individual differences with manifest implications for deontic responding, showing for example that observer reactions to third-party injustice intensify for those with strong religious commitment (Ghumman et al., 2016) or moral identity (Mitchell et al., 2015; O'Reilly et al., 2016). Though instructive, such findings are perhaps unsurprising since individuals with strong moral values can be expected to uphold them. A more interesting question, in our view, is whether individuals who differ in ways with less readily apparent implications for moral life might also vary in their responses to third-party injustice. To this end, we now turn our attention to mindfulness.

Mindfulness has roots in contemplative traditions dating back at least 2,500 years to the times of the historical Buddha (Harvey, 2012). More recently, mindfulness was transplanted from its contemplative heritage to a secular and scientific tradition (Kabat-Zinn, 1990). From a contemplative perspective, mindfulness is a cultivated state of awareness in which people maintain equanimous attention on present-moment experience and it is, at its core, closely associated with moral concern (Purser & Milillo, 2015). By contrast, from a psychological standpoint mindfulness is commonly conceptualized as a receptive state of awareness of and attention to present events and experiences. As a dispositional trait, mindfulness reflects the tendency or frequency of being in a mindful state (Brown & Ryan, 2003). Although some conceptualizations of mindfulness include additional facets like openness to negative experience (Buchheld et al., 2001), observing and describing stimuli (Baer et al., 2004; Baer et al., 2006), and non-judgment of internal experience (Baer et al., 2006; Feldman, 2022), each conceptualization is, on its face, morally neutral (Sutcliffe et al., 2016).

Growing research suggests that, despite its amoral visage, mindfulness may be relevant to

the moral domain. Mindful individuals have been shown to have more developed moral reasoning (Shapiro et al., 2012) and a greater capacity for ethical decision-making (Ruedy & Schweitzer, 2010). Accordingly, a literature review by Good et al. (2016) showed that mindfulness tends to minimize antisocial attitudes and behaviors. Conversely, in meta-analytic research, Donald et al. (2019) demonstrated that mindfulness is positively associated with a host of prosocial attitudes and behaviors.

Mindfulness may also have positive implications for attitudes and behaviors about justice. Specifically, mindful individuals are more likely to treat others in a just manner both procedurally (Schuh et al., 2019) and interpersonally (Reb et al., 2019). This suggests that mindfulness may be positively associated with fairness concerns. Moreover, mindfulness has been demonstrated to reduce anger and retaliation by individuals who are the victims of injustice (Long & Christian, 2015), and conversely to heighten guilt in perpetrators of injustice (Hülsheger et al., 2021; cf. Hafenbrack et al., 2022).

Mindful sedation vs. enlivening hypothesis. While research to date has examined the effects of mindfulness on both victims (Long & Christian, 2015) and perpetrators of injustice (Hafenbrack et al., 2022; Schindler et al., 2019), the literature so far is incomplete in that no research has looked at the implications of mindfulness for those who witness injustice from the third-party perspective. From this perspective, what role might mindfulness play? In light of extant theory and research, two possibilities become apparent.

On the one hand, since the preponderance of research to date has shown that mindfulness reduces negative emotions like anger (Chambers et al., 2009), mindfulness could lower moral outrage at third-party injustice (the mindful sedation hypothesis). Theory and research suggest at least three mechanisms by which mindfulness can temper negative emotions. First, Good et al.

(2016) theorized that it does so primarily through attention regulation. Consistent with this theorizing, Wadlinger and Isaacowitz (2011) showed that the ability to direct attention towards positive information can help regulate negative emotions. Second, Kudesia (2019) theorized that the metacognitive awareness intrinsic to mindfulness affords individuals greater agency in thinking about negative events. Drawing from this theorizing, Kay & Skarlicki (2020) demonstrated that in the face of workplace conflict mindfulness helps improve emotion regulation through cognitive reappraisal. Third, Glomb et al. (2011) theorized that mindfulness enables individuals to decouple from their experiences, thereby lowering ego-involvement and tempering emotional reactivity. Drawing on this idea, Long & Christian (2015) showed that mindful victims of injustice experience less anger. Consistent with the mindful sedation hypothesis (Purser, 2019), these findings suggest that when individuals observe third-party injustice, mindfulness could lower their moral outrage.

On the other hand, a growing body of research suggests that mindfulness can heighten emotional experience. For example, Hafenbrack et al. (2020) showed that state mindfulness can increase empathy, thereby augmenting individuals' experience of others' emotions. Sawyer et al. (2022) further demonstrated that mindfulness can foster a feeling of gratitude by heightening positive affect and perspective taking. Mindfulness has been associated with higher levels of some negative emotions as well. For example, Hülsheger et al. (2021) demonstrated that trait mindfulness is associated with a heightened sense of guilt in those who behave in an uncivil manner towards others. Additionally, Dong et al. (2020) showed that trait mindfulness is indirectly associated with higher levels of benign envy. Consistent with the mindful enlivening hypothesis, such research could be taken to suggest that mindful observers of third-party injustice could experience greater moral outrage.

Drawing on Vago & Silbersweig's (2012) self-awareness, self-regulation, and self-transcendence (S-ART) framework, we theorize that mindful observers experience more – not less – moral outrage at third-party injustice. According to the S-ART framework, mindfulness implicates an emotion regulation process that transcends egoic self-concern. This helps explain why mindful individuals can down-regulate emotions when they personally commit injustice (Hafenbrack et al., 2022) or are the victims of injustice (Long & Christian, 2015). Beyond tempering emotions that reflect egoic self-concern, according to the S-ART framework mindfulness also implies emotional processing that reflects greater concern for ethical conduct and the wellbeing of others. This is why the S-ART framework is particularly well-suited for theorizing the role of mindfulness in observers of third-party injustice. Unlike first- and second-party injustice, third-party injustice does not entail a transgression by or against the self. Thus, in observers of injustice against others, mindfulness need not down-regulate emotions that arise due to egoic self-concern. Freed from regulating such emotions, mindfulness can instead up-regulate emotions that reflect ethical concern for others. In the case of third-party injustice, such emotions are more likely to reflect concerns of the victim than the perpetrator – which manifests as moral outrage. As such, integrating the S-ART framework with deonance theory, we hypothesize:

> **Hypothesis 2.** Mindfulness moderates the effect of observing third-party injustice on moral outrage, such that it is stronger for observers who are high in mindfulness.

If moral outrage mediates the effect of observing third-party injustice on retribution by the observer against the transgressor (H1) and mindfulness heightens moral outrage at third-party injustice (H2), then the enlivening effect of mindfulness on moral outrage at third-party injustice should result in greater deontic retribution against the transgressor.

> **Hypothesis 3.** Mindfulness moderates the indirect effect of observing third-party injustice on deontic retribution via moral outrage, such that the indirect effect is stronger for observers who are high in mindfulness.

Study 1

Methods

Sample and procedure. We recruited 147 supervisors in the United Kingdom via Prolific Academic, a professional recruitment firm that connects researchers with their target participants (Palan & Schitter, 2018). Prolific provides a vetted sample of employees using rigorous quality checks. As additional screenings, we sampled participants who worked regular hours (9am to 5pm), held a supervisory role, and interacted with their employees on a regular basis. We specifically targeted supervisors in this study to maintain a consistent power dynamic between observer and perpetrator across our studies. Our final sample was comprised of 64 males (43.5%) and 134 Caucasians (91.2%), with an average age of 38.1 years (*SD* = 10.36).

In this study, we used an experience sampling methodology to examine responses by supervisors to acts of injustice by their subordinates. Specifically, we used event-contingent sampling such that participants only completed our measures (described below) on days in which they observed acts of injustice by a direct report (Beal, 2015).[1] We conducted the study over a two-week period. One week prior to the study, participants completed a pre-survey containing demographic variables. Thereafter, at the end of each of 10 workdays during the study period, they were invited to respond to a short online survey. In total, participants completed 1,230 of the possible 1,470 daily surveys (83.7%), observing 426 unique justice violations.

Measures. Consistent with research to date on mindfulness and justice (Long & Christian, 2015; Schindler et al., 2019) and in line with the preponderance of organizational research to date, we operationalized mindfulness as a unidimensional construct consisting of

[1] On days in which such events did not occur, participants completed a set of questions of similar length about acts of injustice they had seen committed by individuals other than their subordinates (e.g., customers, peers, family members). These data were not used in our analyses.

present-moment attention and awareness. Accordingly, we measured mindfulness with the five-item state version of the Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003). The MAAS is the most widely used mindfulness scale (Quaglia et al., 2015), and it measures the frequency with which people experience mind-wandering, distraction, or absent-mindedness (e.g., "Today at work, I found myself doing things without paying attention" – reverse coded). Every day, supervisors indicated the frequency with which they were in a mindful state on a scale from 1 (*never*) to 6 (*very often*) ($\alpha = .87$).

Consistent with the broad definition of third-party injustice in the literature to date (Dhanani & LaPalme, 2019), supervisors were then asked to indicate if they observed any of their direct reports mistreating another person that day. Mistreatment was defined as "any act you observe (or hear about from another colleague) at work, in which an individual (not you) acts in a way that causes harm or distress to another person (not you)." Those who responded in the affirmative were asked to rate the severity of the mistreatment on a scale from 1 (*not at all serious*) to 5 (*extremely serious*). We used a single-item measure for two reasons. First, one-item measures are common in experience sampling studies to reduce participant demand (Conway et al., 2009; Wanous et al., 1997). Second, given that perceived injustice severity is a relatively narrow psychological construct, a single item helps reduce ambiguity (Gabriel et al., 2019).

As a measure of moral outrage, participants indicated on a three-item scale how much the observed mistreatment elicited in them contempt, anger, and disgust (Rozin et al., 1999). Response options were from 1 (*not at all*) to 5 (*to a very great extent*). Consistent with prior research (e.g., Hutcherson & Gross, 2011; Molho et al., 2017; Xie et al., 2015), we combined these items to make a composite measure of moral outrage ($\alpha = .88$). Exploratory factor analysis revealed that all three items load onto a single factor.

In this study, we did not consider it likely that many supervisors would seek to uphold moral norms via formal disciplinary action against their subordinates, but instead would be more likely to do so via less formal actions. As we sought to capture retribution for various severities of injustice – from mild to strong – we also decided to measure a "softer" form of retribution (since supervisors are unlikely to exact strong retribution for mild third-party injustice, yet more likely exact both mild and strong retribution for strong injustice). As such, in this case we operationalized retribution as uncivil behavior directed by the supervisor against the perpetrator. For this purpose, we used three items from the Workplace Incivility Scale (Cortina et al., 2001), selected and adapted to fit the context (Heggestad et al., 2019). Participants indicated the extent to which they engaged in the following behaviors: "avoided or excluded the perpetrator at work (i.e., giving them the 'cold shoulder')," "referred to the perpetrator in unprofessional terms, either publicly or privately," and "put the perpetrator down or was condescending towards them." Response options ranged from 1 (*not at all*) to 7 (*an extensive amount*) ($\alpha = .83$).

Analysis and Results

To ensure reliability of analyses and results, following best practices we began by screening for outliers (Aguinis et al., 2013). We scanned for error outliers by examining scatterplots and calculating Mahalanobis distances (DeSimone et al., 2015; Goldammer et al., 2020; Meade & Craig, 2012). No outliers were detected.[2]

Means, standard deviations, and correlations are shown in Table 1. Our data included multiple observations of supervisors' emotional and retributive responses to injustice over time. Therefore, to investigate whether daily variations in mindfulness impacted supervisors' emotional responses to third-party injustice by their subordinates, we followed best practices and

[2] We conducted the same preliminary outlier analysis in all studies for which it was appropriate to do so (i.e., Studies 1-3). Unless otherwise indicated, no outliers were detected.

used a fixed-effects regression model to control for individual heterogeneity (White et al., 2013). This allowed us to focus on the time-variant relation of daily mindfulness with emotional responses to third-party injustice while removing time-invariant factors (e.g., individual differences) from the model (Bartels, 2008; Stock & Watson, 2012). In so doing, we were able to account for the nested nature of the data (i.e., observations within supervisors). Also following best practices, we controlled for day-level effects (Lindsay et al., 2019). Since we used an event-contingent design in which injustice was not necessarily observed every day, we did not include lagged variables (Gabriel et al., 2019). We tested all indirect effects by multiplying "path a" (the direct effect of the independent variable (severity of injustice) on the mediator (moral outrage)) and "path b" (the effect of the mediator on the dependent variable (retribution)), using 5,000 bootstrapped samples. Finally, to test our moderated mediation model, we examined this indirect effect at different levels of daily mindfulness (+1 SD, Mean, -1 SD).

As shown in Table 2, results indicate that moral outrage mediated the relationship between third-party injustice and retribution against the transgressor, b = .29, SE = .08, 95% CI = [.17, .42]. Thus, Hypothesis 1 was supported. In addition, mindfulness moderated the relationship between third-party injustice and moral outrage, b = .06, $t(421)$ = 2.12 SE = .03, p = .036, 95% CI = [.00, .11]. As depicted in Figure 1, the relationship between third-party injustice and moral outrage was stronger for supervisors who reported higher levels of state mindfulness.[3] Thus, Hypothesis 2 was supported. Finally, the conditional indirect effect of third-party injustice on retribution via moral outrage was strongest at high levels of mindfulness, b = .30, SE = .07, 95% CI = [.16, .44], and weakest at low levels, b = .23, SE = .06, 95% CI =

[3] Further probing the interaction pattern via the Johnson–Neyman technique (Miller et al., 2013) revealed that a region of significance analysis was of little importance with these data (Bauer & Curran, 2005; Lin, 2020). Specifically, moral outrage was amplified for observers scoring across the entire mindfulness scale; the critical value delineating the region of significance was -3.77SD below the sample mean in mindfulness).

[.11, .34]. However, the difference did not reach statistical significance, *index of moderated mediation* = .08, *SE* = .04, 95% CI = [-.02, .17], *p* = .12.

---------- Insert Table 1, Table 2, and Figure 1 about here ----------

Discussion

Study 1 furnished initial support for the mindful enlivening hypothesis over the mindful sedation hypothesis. Findings reveal that moral outrage mediated the relationship between third-party injustice and retribution (H1), and that at higher levels of mindfulness observers experienced greater moral outrage at third-party injustice (H2). However, even though the difference in conditional indirect effects (H3) was in the expected direction, it did not reach significance. This could potentially be due to error in measuring retribution. For example, although we operationalized retribution as incivility to capture responses to a broad array of justice violations, our measure may not have been well-aligned with typical retributive responses by managers. In addition, supervisors self-reported retribution several hours after the violation, which may have softened their views of the actions they took (Robinson & Clore, 2002). Supervisors may also have delayed retribution to another day, which this study design could not capture. Another limitation of this study is that mindfulness was measured at the daily level. Therefore, we cannot be certain that the level of mindfulness supervisors reported over the whole day corresponds to the level when the injustice event occurred. These limitations likely increased measurement error, making it harder to detect the hypothesized effects. To account for these limitations, as well as to move beyond observational data and test for causality, we conducted a set of experiments with more temporally proximate conditions and measures.

Study 2

Third-party injustice is often committed by business organizations against their

stakeholders, society, and the natural environment (Mena et al., 2016). As observers, consumers increasingly seek retribution in the marketplace (Shea & Hawn, 2019). To test our model in a product-market context, we sought to examine consumer responses to firms that engage in unjust business practices, specifically through their purchasing behavior. Although price is normally a key driver of purchasing behavior, it is extraneous to our theoretical model. Therefore, to rule out price as a factor driving purchasing behavior, we first conducted a price-calibration pre-study. Doing so allowed us to determine the price points at which consumers are indifferent between the products of firms that have engaged in unjust business practices versus those that have not.

Price Calibration Pre-Study

Participants, manipulation, and procedure. We recruited 150 participants on Amazon Mechanical Turk. This sample included 92 males (61.3%) and 100 Caucasians (66.7%) who were an average of 34.8 years of age (*SD* = 11.8).

Participants were randomly assigned to either a (1) injustice or (2) control condition, and they were presented with an article said to have been published in the *Financial Times*. To enhance market realism, the article described two rival firms in the personal health and household products industry. On the pretense of maintaining anonymity, one firm was referred to as “Company 1” and the other “Company 2”. Participants read a paragraph describing basic market information about the two firms, with identical descriptions in each condition. This was the only information provided in the control condition. In the injustice condition, the article went on to describe some unjust business practices by Company 1 (see Appendix A).

Participants were then presented with 10 pairs of products, each with one product from the two firms. For each product pair, we established a range of prices based on real market samples. From this range of prices, we asked participants to indicate what they would be most

willing to pay for the products of Company 1 vs. Company 2 (see Appendix B).

Results. As expected, participants in the control condition were indifferent between the products of Company 1 and Company 2 when their prices were equal. By contrast, participants in the injustice condition indicated that they would only be indifferent between the products if the transgressing firm's (Company 1) products were on average 28% less expensive than those of the other firm. These results served as the basis for the prices used in our main experiment.

Main Experiment

Participants, manipulation, and procedure. We recruited a further 285 participants on Amazon Mechanical Turk. This sample included 167 males (58.6%) and 215 Caucasians (75.4%) who were an average of 35.1 years of age (*SD* = 10.2) and located in the United States. To enhance data quality, participation was restricted to individuals with a 99% approval rating on a minimum of 500 studies (Peer et al., 2014).

Participants were randomly assigned to an injustice or control condition and presented with one of the same two *Financial Times* articles used in our price calibration pre-study. They completed a one-item attention check to ensure they understood which firm had engaged in the unjust business practices. After applying an *a priori* rule to exclude participants who failed an attention check (n = 6), 279 participants (97.9%) remained in our sample.[4]

Measures and materials. In addition to reporting their dispositional mindfulness with the acting with awareness facet of the Five Facet Mindfulness Questionnaire Short Form (FFMQ-SF; Bohlmeijer et al., 2011; note, all items are from the MAAS used in Study 1, Brown

[4] We excluded participants who failed a one-item attention check designed to test whether they had a basic understanding of the scenario they were asked to read. Specifically, participants were asked to indicate which company had engaged in harmful business practices. Response options were: (1) Company 1; (2) Company 2; or (3) It is impossible to tell. Of 285 responses, five participants indicated the wrong company, and one participant indicated that it was impossible to tell. Since a misunderstanding of this basic point would have invalidated their responses on subsequent questions and distorted results, we excluded these six participants from analyses. These exclusions did not significantly affect results.

& Ryan, 2003) (α = .88), participants indicated their emotional response to each of the firms. For moral outrage, we used the same emotions as in Study 1 (Rozin et al., 1999). To account for the possibility that participants might experience positive emotions towards the non-transgressing rival by way of a contrast effect (Mussweiler, 2003), we counterpoised the negative emotions of contempt, anger and disgust with admiration, gratitude, and elevation (Algoe & Haidt, 2009; Tangney et al., 2007). Participants were presented with three 11-point sliding scales to gauge the valence and strength of their emotional response: (a) -5 (*contempt*) to +5 (*admiration*); (b) -5 (*anger*) to +5 (*gratitude*); (c) -5 (*disgust*) to +5 (*elevation*). Factor analysis revealed that all three items loaded onto a single factor, and the scales showed internal reliability for both Company 1 (α = .97) and Company 2 (α = .90). We reverse coded responses so that the more positive a score was, the greater the moral outrage it signified (i.e., negative scores signify positive emotion).

Participants then engaged in a shopping task with the products we had pre-tested. For this task, we allotted each participant $50. Each product (e.g., shampoo, toothpaste, hand soap, etc.) was presented in counterbalanced pairs. Prices were based on the results of the pre-study (see Appendix C). Participants were instructed to purchase only products they really wanted, as they would be selected by random draw to win the products. Since we designed the study to minimize exogenous factors (e.g., product quality, brand, and price), any difference in purchases between the rival products could only be attributed to endogenous factors (i.e., injustice, mindfulness, and moral outrage). Retribution was operationalized as the percentage of funds spent on the products of Company 2 as compared to Company 1 (i.e., the justice violator). The more funds spent on Company 2's products, the greater the retribution against Company 1 was taken to be.

Analyses and results. Means, standard deviations, and correlations are presented in Table 3. Results of one-way ANOVA reveal that, in contrast to the mildly positive emotions that

the control condition reported for both Company 1 (M = -.32, SD = 1.26) and Company 2 (M = -.33, SD = 1.27), the injustice condition showed moral outrage at Company 1 (M = 3.94, SD = 1.53, $F(1, 278) = 644.68$, $p < .001$, $\eta_p^2 = .70$), and mildly positive emotions for Company 2 (M = -1.04, SD = 1.51, $F(1, 278) = 18.40$, $p < .001$, $\eta_p^2 = .06$). Moral outrage at Company 1 was also strongly associated with purchases from Company 2, $b = 2.88$, $SE = .28$, $t(278) = 10.39$, $p < .001$.

We tested our hypotheses with Hayes' (2018) PROCESS macro drawing 10,000 bootstrap samples, with moral emotions toward both firms as parallel mediators (to account for the possibility that instead of being retributive, purchasing might instead be driven by positive emotions towards Company 2). As seen in Table 4, mediation analysis reveals that the moral outrage participants felt against Company 1 drove purchases from Company 2, $b = .24$, $SE = .07$, 95% CI = [.06, .36]. Thus, Hypothesis 1 was supported. Further, mindfulness moderated the effect of observing injustice on moral outrage at Company 1, $b = .63$, $SE = .22$, $t(275) = 2.84$, $p = .005$, 95% CI = [.19, 1.06]. As depicted in Figure 2, observing injustice increased moral outrage to a greater degree in participants who were high in mindfulness, $b = 4.83$, $SE = .26$, $t(275) = 18.38$, $p < .001$, 95% CI = [4.31, 5.35], compared to those who were low in mindfulness, $b = 3.80$, $SE = .23$, $t(275) = 16.56$, $p < .001$, 95% CI = [3.35, 4.25]. Thus, Hypothesis 2 was also supported. Finally, the indirect effect of observing injustice on retribution via moral outrage was stronger for participants who were high in mindfulness, $b = .28$, $SE = .08$, 95% CI = [.09, .42], compared to low in mindfulness, $b = .22$, $SE = .06$, 95% CI = [.07, .33], *index of moderated mediation* = .04, $SE = .02$, 95% CI = [.00, .08], supporting Hypothesis 3.

---------- Insert Table 3, Table 4 and Figure 2 about here ----------

Discussion. Accounting for the shortcomings of Study 1 (e.g., observational design with

temporal lag between observing third-party injustice and retribution ratings), Study 2 supported our predictions in the context of consumers observing firms engage in corporate social irresponsibility. As in Study 1, mindfulness heightened moral outrage at third-party injustice (H2). As a result, they exacted greater retribution against the transgressing firm (H3). These findings provide additional support for our mindful enlivening hypothesis.

Strengths of Study 2 are that it included a measure of moral outrage immediately after consumers learned of the injustice, while strengthening internal validity and causal inferences by manipulating injustice. However, even though we strived to create a convincing product-market context, this study was conducted as an online experiment that could not match real market conditions. In addition, up to this point we had sampled from so-called "WEIRD" (Western, educated, industrialized, rich and democratic) populations (Henrich et al., 2010), which limited the generalizability of our findings. To account for these issues and begin to understand potential boundary conditions of the mindful enlivening hypothesis, we conducted a third study.

Study 3

We conducted Study 3 to test the mindful enlivening hypothesis in a controlled setting for different intensities of injustice using a behavioral measure of retribution. In so doing, we extended our theorizing on the role of mindfulness in deontic responding by observers of moderate vs. severe injustice. Prior theorizing suggests that third-party injustice stirs the moral intuitions of those who observe it (Haidt, 2001; O'Reilly & Aquino, 2011). Consistent with the heuristic and affect-laden nature of deontic responding, intuitions are defined as "affectively charged judgments that arise through rapid, non-conscious, and holistic associations" (Dane & Pratt, 2007: p. 40). As mindfulness facilitates intrapsychic awareness (Brown et al., 2007), mindful individuals are said to have a heightened awareness of their intuitions (Dane & Pratt,

2009; Dane, 2011), and a growing body of empirical evidence supports this view. For example, implicit and explicit affect have been shown to be more congruent in mindful individuals (Brown & Ryan, 2003; Remmers et al., 2016). Similarly, individuals who undergo a mindfulness induction have been shown to have greater access to their unconscious (Strick et al., 2012), and thus to evince a closer alignment between implicit and explicit self-views (Koole et al., 2009).

In the present context, the extent to which heightened intuitive awareness matters likely depends on the severity of the observed injustice. Specifically, when third-party injustice is severe, mindfulness may not be required for observers to attune to their moral outrage upon observing the injustice – for almost anybody is likely to notice the strong deontic intuitions that severe third-party injustice triggers within them. For example, when an individual witnesses a vicious attack on an innocent third party, even an observer who is low in mindfulness is likely to register strong moral outrage in the moment. By contrast, when the same individual witnesses an innocent third party merely being rudely treated, only a highly mindful observer is likely to have the deontic impulse to self-transcend and to notice the relatively modest moral outrage such third-party injustice elicits in them in the moment. Thus, we hypothesize that injustice severity acts as a boundary condition in the following manner:

> **Hypothesis 4.** Mindfulness heightens deontic retribution via moral outrage in observers of modest but not severe third-party injustice.

Participants, Manipulation, and Procedure

We recruited 477 students at a business school in Singapore. Participants were an average of 21.2 years of age (*SD* = 1.5) and predominantly female (62.5%). We had participants take part in a modified dictator game (Fehr & Fischbacher, 2004). The classic dictator game involves two participants, one of whom (Person A) unilaterally decides how to allocate a given sum of money between themself and a second individual (Person B). Anything less than an even split represents

a justice violation. To measure observer reactions, we used a third-party dictator game, which adds an additional player (Person C) to the original design. In this modified version, Person C (observer) could punish Person A (transgressor) for unjustly distributing funds to Person B (victim) by deducting money from Person A (transgressor). Person C (observer) could not take any money for themself or redistribute funds to Person B (victim).

Participants in this study assumed the role of Person C (observer). They were randomly assigned to one of three conditions based on the amount that Person A (transgressor) kept for themself: $5 (just); $7 (moderately unjust); and $9 (severely unjust). Participants were given an envelope with one of these three amounts in $1 and ¢50 coins. After being told about the scenario between Persons A (transgressor) and B (victim), participants were told that they could anonymously remove any amount they wished from Person A (transgressor). To ensure proper understanding and a measure of deontic retribution untainted by the desire to allocate funds to themself or the victim, we asked them to indicate the reasons for their decision.[5]

Measures

At the start of the experiment, participants completed the same mindfulness scale that we used in Study 2 (Bohlmeijer et al., 2011) ($\alpha = .79$). Immediately after participants learned how much Person A (transgressor) kept for themself, they reported their moral outrage (Rozin et al., 1999) on a 5-point scale from 1 (*very slightly or not at all*) to 5 (*extremely*) ($\alpha = .75$). Again,

[5] Two of the authors conducted independent reviews of all responses to ensure the participants correctly understood and followed the instructions provided, as well as to allow the research team to discern their motivation for exacting retribution or not. Applying conservative criteria, they identified 33 participants (6.9%) who either provided no reason for their decision, intended to redistribute funds to Person B (victim), or who displayed a fundamental and material misunderstanding of the experiment (inter-rater reliability = 96.2%). To ensure high quality data, these responses were excluded from the sample, for as DeSimone & Harms (2018) note, "[i]t is difficult to rationalize retaining a participant's data… when it is obvious that (s)he was not paying attention, or when (s)he fails to comply with instructions" (p. 561). Our final sample was comprised of 443 participants. Of the 296 participants in the injustice conditions, it was determined that 239 participants (80.7%) were motivated by deontic concern (inter-rater reliability = 83.1%).

factor analysis showed that the three items of the CAD Triad load onto a single factor. Retribution was operationalized as the amount of money participants deducted from Person A (transgressor). Finally, since moral identity has been shown to relate positively with mindfulness (Ruedy & Schweitzer, 2010) and to amplify intuitive psychological responses (Aquino & Kay, 2018) like moral anger at third-party injustice (O'Reilly et al., 2016), to test the incremental validity of our model we controlled for moral identity with the five-item internalization factor of Aquino and Reed's (2002) scale (α = .80). Doing so did not significantly affect results.

Analyses and Results

As in our previous studies, following best practices we began by screening for outliers (Aguinis et al., 2013). In this case, we identified one influential outlier and excluded it from analyses.[6] Means, standard deviations, and correlations are shown in Table 5.

Severe injustice. In the severe injustice condition ($9), one-way ANOVA reveals that moral outrage was higher (M = 2.31, SD = .95) than in the control group (M = 1.27, SD = .45, $F(1, 318) = 148.89$, $p < .001$, $\eta_p^2 = .32$). Similarly, retribution was also higher (M = 4.69, SD = 3.22) than in the control group (M = .17, SD = .80, $F(1, 318) = 272.80$, $p < .001$, $\eta_p^2 = .46$).

To test our hypotheses, we conducted multi-categorical conditional indirect effects analysis with Hayes' (2018) PROCESS macro drawing 10,000 bootstrap samples. We used indicator coding, with the control condition ($5) coded 0, the moderate injustice condition ($7) coded 1, and the severe injustice condition ($9) coded 2 (Hayes & Montoya, 2017). As seen in Table 6, moral outrage mediated the effect of severe injustice on retribution, b = .61, SE = .17,

[6] Following Aguinis et al. (2013), to ascertain whether this was a true influential outlier we subjected it to three tests: (1) Difference in FIT, Standardized (DFFITS); (2) Cook's D; and (3) Difference in BETA, Standardized (DFBETAS). In line with recommended guidelines (Belsley et al., 1980; Cohen et al. 2003), we set the cut-off scores for each statistic as follows: (1) DFFITS = $\pm 2\sqrt{(k+1)/n} = \pm .24$; (2) Cook's D = $F(2, 138) = .70$ (at α = .50); and (3) DFBETAS = $\pm 2/\sqrt{n} = \pm .17$. As the outlier surpassed the cut-off scores for both DFFITS and DFBETAS, we concluded that it was a true influential outlier.

95% CI = [.29, .95], supporting Hypothesis 1. However, in the severe injustice condition, mindfulness did not moderate the effect of witnessing injustice on moral outrage, b = .06, SE = .14, $t(436)$ = .43, p = .67, 95% CI = [-.21, .33]. As depicted in Figure 3, witnesses of severe injustice experienced a similar level of moral outrage across all levels of mindfulness. The indirect effect of severe injustice on retribution via moral outrage for observers who were high in mindfulness, b = .63, SE = .18, 95% CI = [.29, .99], compared to low in mindfulness, b = .58, SE = .18, 95% CI = [.26, .95], was thus not significant, *index of moderated mediation* = .04, SE = .08, 95% CI = [-.13, .20].

Moderate injustice. For the moderate injustice condition ($7), however, a different picture emerged. One-way ANOVA reveals that moral outrage (M = 1.97, SD = .89) was still higher than the control group ($5), ($M$ = 1.27, SD = .45, $F(1, 298)$ = 75.79, $p < .001$, η_p^2 = .20). Similarly, retribution was also higher (M = 2.60, SD = 1.76) than the control group (M = .17, SD = .80, $F(1, 298)$ = 224.47, $p < .001$, η_p^2 = .43).

Continuing with the analysis detailed above, results indicate that moral outrage mediated the effect of moderate injustice on retribution, b = .41, SE = .11, 95% CI = [.19, .64]. Thus, Hypothesis 1 was supported. Further, mindfulness moderated the effect of witnessing moderate injustice on moral outrage, b = .30, SE = .14, $t(436)$ = 2.08, p = .039, 95% CI = [.02, .58]. As shown in Figure 3, observers who were high in mindfulness experienced significantly greater moral outrage. As such, Hypothesis 2 was also supported. Finally, the indirect effect of moderate injustice on retribution via moral outrage for observers who were high in mindfulness, b = .53, SE = .15, 95% CI = [.24, .84], versus low in mindfulness, b = .29, SE = .10, 95% CI = [.11, .50], was significantly stronger, *index of moderated mediation* = .18, SE = .09, 95% CI = [.02, .37]. As such, results supported Hypotheses 3 and 4.

---------- Insert Table 5, Table 6 and Figure 3 about here ----------

Discussion

Study 3 offers further support for our mindful enlivening hypothesis with a behavioral measure of retribution, while adding nuance to our findings by showing incremental validity and exposing a boundary condition. On the one hand, contrary to Study 1 – in which moral outrage was measured up to several hours after the observed injustice – when measured immediately after the injustice, moral outrage was elevated in mindful observers of moderate injustice, thereby leading them to exact greater retribution against the transgressor. On the other hand, also contrary to Study 1, observers who were high in mindfulness did not report higher levels of moral outrage in the face of severe third-party injustice and thus did not exact more retribution. These findings suggest that observers of third-party injustice experience greater moral outrage immediately upon observing injustice, provided that the injustice is moderate enough for the more dispositionally mindful among them to detect their deontic intuition, which registers as moral outrage. These findings also suggest that mindfulness does not have this effect when the injustice is so strong as to immediately evoke a high level of moral outrage in all observers, regardless of their level of trait mindfulness.

Strengths of Study 3 are that it tested our model on a third type of injustice (i.e., distributive injustice) in a controlled laboratory setting, and that it obtained a behavioral measure of deontic retribution. In so doing, Study 3 exposed a boundary condition to our model – namely, severity of injustice – while also controlling for moral identity as a known predictor of deontic responding. By this point in our research program, however, we had not yet examined the effects of manipulated mindfulness on deontic responding, and we had yet to investigate an individual difference boundary condition on the effects of mindfulness, which researchers have started to

uncover (Kay & Young, 2022). To explore these issues, we conducted a fourth study.

Study 4

Having demonstrated a contextual boundary condition to deontic responding by mindful observers of third-party injustice, we sought to extend our theorizing by moving beyond this contextual moderator to test which observers are dispositionally more likely to respond deontically to third-party injustice. Building from our theorizing that mindfulness helps observers attune to their deontic intuitions in the face of modest but not severe injustice, we reasoned that mindfulness should heighten deontic responding in observers who are less but not more predisposed to respond deontically in the first place. In other words, observers who are less dispositionally inclined to respond deontically to injustice should be more likely to need mindfulness to help them attune to their deontic intuitions. Thus, we hypothesized as follows:

> **Hypothesis 5.** Mindfulness heightens deontic retribution via moral outrage in observers of third-party injustice, but only for those who are low in deontic justice orientation.

Participants, Manipulation, and Procedure

We recruited 905 working adults in the United Kingdom to undergo a pre-registered (https://aspredicted.org/d2uf4.pdf) online experiment via Prolific Academic. To augment data quality, based on *a priori* criteria, we removed 16 responses with duplicate IP addresses. Following Hafenbrack et al. (2014), we further excluded 116 participants who suffer from asthma. The 773 remaining participants were an average of 28.6 years of age (*SD* = 13.7) and equally divided between males and females (male = 386; female = 385; prefer not to say = 2).

Participants were assigned to a (1) mindfulness or (2) mind-wandering control condition. In each condition, they listened to an 8-minute recording developed by Hafenbrack and Vohs (2018). Participants were then assigned to a (1) injustice condition or (2) no injustice control condition. In each justice condition, they read a vignette adapted from O'Reilly et al. (2016)

describing an employer that paid its workers either the (1) average market rate (control condition), or (2) 20% less than the market rate (injustice) (see Appendix D).

Measures

Immediately after the mindfulness manipulation, participants completed a three-item state mindfulness manipulation check adapted from Hafenbrack and Vohs (2018), on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The items were: (1) "I was focused on my breathing", (2) "I was focused on the physical sensations of breathing", and (3) "I was in touch with my body" ($\alpha = .91$). After the injustice manipulation, participants completed a three-item measure of moral outrage adapted from Fredrickson et al. (2003), in which they indicated from 1 (*very slightly or not at all*) to 5 (*extremely*) the extent to which they felt: (1) "angry/irritated/ annoyed", (2) "contemptuous/scornful/disdainful", and (3) "disgust/distaste/revulsion" ($\alpha = .94$). Retribution was measured with a six-item scale adapted from O'Reilly et al. (2016), with responses from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is "If asked, I would discourage my colleagues and friends from doing business with [the employer]" ($\alpha = .93$). Prior to the experimental manipulation, deontic justice orientation was measured with six items from the Deontic Justice Scale (Beugré, 2012), in which participants indicated from 1 (*strongly disagree*) to 5 (*strongly agree*) how much perpetrators of injustice should be punished. A sample item is "people who treat others unfairly should be held accountable" ($\alpha = .91$).

Analyses and Results

Means, standard deviations, and correlations are presented in Table 7. For the manipulation check, one-way ANOVA shows that participants in the mindfulness condition reported higher levels of state mindfulness ($M = 5.90$, $SD = .88$) than the control condition ($M = 4.28$, $SD = 1.50$, $F(1, 769) = 331.56$, $p < .001$, $\eta_p^2 = .30$).

To test our hypotheses, we conducted first-stage moderated conditional indirect effects analysis with Hayes' (2018) PROCESS macro drawing 10,000 bootstrap samples. The moral outrage participants felt toward the employer drove the indirect effect of third-party injustice on retribution against it, b = .80, SE = .07, 95% CI = [.67, .95]. Thus, Hypothesis 1 was supported. The mindfulness induction, however, did not moderate the effect of witnessing injustice on moral outrage at the employer, b = .08, SE = .15, $t(772)$ = .54, p = .59, 95% CI = [-.22, .38]. Thus, Hypothesis 2 was not supported. Further, the three-way interaction between justice condition, mindfulness condition, and deontic justice orientation on moral outrage was non-significant, b = -.02, SE = .28, p = .93, 95% CI [-.56, .52]. Accordingly, the moderated conditional indirect effects model (Hypothesis 5) was also not significant, *index of moderated moderated mediation* = -.01, SE = .18, 95% CI = [-.38, .36].

---------- Insert Table 7 about here ----------

Preliminary Findings

These results contrast findings from a prior experiment we had conducted, in which we tested the same experimental paradigm on 805 working adults via Prolific Academic but did not pre-register Hypothesis 5 (https://aspredicted.org/blind.php?x=N2G_7BK). In that study, although manipulated mindfulness did not heighten moral outrage at third-party injustice, post-hoc analysis showed that deontic justice orientation moderated the moderating effect of the mindfulness induction, b = -.56, SE = .26, p = .03, 95% CI [-1.07, -.06]. As seen in Appendix E, the mindfulness induction heightened moral outrage in observers of injustice with a low deontic justice orientation. Probing the interaction pattern via the Johnson–Neyman technique (Miller et al., 2013) revealed that the induction amplified moral outrage in observers who were -.76SD below the sample mean on deontic justice orientation (M = 4.24, SD = .58). Overall, this three-

way interaction was consistent with Hypothesis 5, *index of moderated moderated mediation* = -.35, *SE* = .17, 95% CI = [-.67, -.01].

Post Hoc Analysis

These contrasting findings led us to scrutinize the data from Study 4 more thoroughly. Taking inspiration from Ruedy and Schweitzer (2010), who replaced experimental condition with a continuous measure of mindfulness after their mindfulness manipulation failed to elicit the hypothesized effects (see Study 2), we followed Hauser et al. (2018) by replacing mindfulness condition with the state mindfulness manipulation check, and controlled for experimental condition.[7] Although the linear interaction pattern on the three-way interaction did not reach statistical significance, *b* = -.16, *SE* = .09, *p* = .068, 95% CI [-.33, .01], probing it via the Johnson–Neyman technique revealed that measured state mindfulness amplified moral outrage in observers who were -.20 *SD* or lower than the sample mean on deontic justice orientation (*M* = 4.18, *SD* = .55). As seen in Table 8 and Figure 4, the interaction pattern suggests that measured state mindfulness heightened moral outrage at manipulated injustice in participants with a low deontic justice orientation. Although Hypothesis 3 was still not supported, consistent with Hypothesis 5, this three-way interaction predicted an indirect effect on retribution through moral outrage for observers with a low deontic justice orientation, *index of moderated moderated mediation* = -.08, *SE* = .04, 95% CI = [.01, .16].

---------- Insert Tables 8 and Figure 4 about here ----------

These post-hoc findings show that, similar to Study 3, where in situations of severe injustice (a contextual moderator) the enlivening effect of trait mindfulness on moral outrage was

[7] As Hauser et al. (2018) note: "manipulation checks provide opportunities for… internal analyses when treatments fail… The idea of internal analysis has resurfaced in the modern methods literature where new approaches to account for the actual effects of the manipulation or treatment have been proposed. This allows for the possibility that a participant assigned to a given condition may not experience the intended effect."

reduced (Hypothesis 4), in Study 4 the enlivening effect of measured state mindfulness was reduced in individuals with a high deontic justice orientation (an individual difference moderator). What these post-hoc findings suggest is that observers who are less dispositionally inclined to respond deontically to injustice may be more likely to need mindfulness to help them attune to their deontic intuitions and exact retribution on the offender.

Theory Robustness Test

To test whether the retribution participants sought against the employer was in fact deontic (i.e., motivated by prosocial concern), we also conducted a theory robustness test. To this end, we asked participants to indicate the reason for their retributive response: (1) to punish the employer, (2) to help its workers, or (3) neither to punish the employer nor help its workers. Consistent with findings from our preliminary study (noted above), the substantial preponderance of participants (75.5%) indicated that they wanted to help the workers, while only a small minority (4.9%) wanted to punish the employer. These results suggest that the retribution participants sought against the employer was prosocially motivated.

General Discussion

In the present research, we examined reactions to injustice from a novel point of view: the *mindful observer* perspective. It is well established that observers of third-party injustice experience moral anger and exact retribution against transgressors (O'Reilly et al., 2016). Until now, it also seemed established that mindfulness tempers negative emotions in the face of injustice, whether in perpetrators (Hafenbrack et al., 2022; Schindler et al., 2019) or victims of injustice (Long & Christian, 2015). This may partly explain why the mindful sedation hypothesis emerged to suggest that mindfulness can numb people to injustice (Purser, 2019). If that were true, however, mindfulness could be rightly disparaged for making people indifferent to the most

common form of injustice – that experienced from the third-party perspective. In contrast, our mindful enlivening hypothesis proposes that mindfulness does not numb but rather enlivens people to third-party injustice by heightening moral outrage. We found some evidence for our mindful enlivening hypothesis, showing that mindfulness – measured as a state or trait – stimulates stronger (not weaker) moral outrage in observers of third-party injustice, thereby leading them to exact more (not less) deontic retribution against perpetrators. We further showed that deontic responding is particularly pronounced in mindful observers when third-party injustice is moderate (as opposed to severe), and perhaps when observers have a low deontic justice orientation as well.

Theoretical Implications

The primary driver of the present research was our mindful enlivening hypothesis, which we argue is key to understanding the role of mindfulness in the previously unstudied domain of third-party injustice. In this respect, our research makes at least three contributions. First, it integrates the S-ART framework (Vago & Silbersweig, 2012) with deontic justice theory (Folger, 2001) to show that mindfulness helps observers of third-party injustice transcend their egoic self-concerns by tapping into their deontic intuitions and moral emotions. In so doing, this research reveals that the effects of mindfulness on emotional experience are more complex than previously realized. Rounding out the literature on mindfulness and reactions to injustice from different perspectives (see Figure 5), our research demonstrates that mindfulness – measured as a state or trait – does not reduce but rather heightens moral outrage at third-party injustice. It thereby adds to a nascent literature espousing a more nuanced view that mindfulness does not always temper negative emotions (Dong et al., 2020; Hülsheger et al., 2020), offering evidence that mindfulness can intensify a "hot" negative emotion like moral outrage.

---------- Insert Figure 5 about here ----------

Second, our work responds to calls to develop research on factors that moderate observer reactions to third-party injustice (Dhanani & LaPalme, 2019). Growing research shows that deontic responding intensifies for observers of third-party injustice who have overtly prosocial characteristics, including a strong moral identity (O'Reilly et al., 2016) or religious commitment (Ghumman et al., 2016). While important, it is perhaps unsurprising that moderators with clear moral connotations motivate individuals to take action against perpetrators of third-party injustice. In revealing that mindfulness – measured as a state or trait – can heighten moral outrage at third-party injustice (Studies 1 & 2), that it does so in some contexts but not others (i.e., for moderate but not severe injustice; Study 3), and that it may do so for some people but not others (i.e., for observers who are *less* predisposed to deontic responding; Study 4), we extend this literature to an amplifier of deontic responding that has less readily apparent implications for moral life.

Third, this research contributes to theory on the role of mindfulness in prosocial behavior. Burgeoning research shows that mindfulness promotes prosocial behaviors like generosity (Hafenbrack et al., 2020), collaboration (Kay & Skarlicki, 2020), and interpersonal citizenship behaviors (Sawyer et al., 2022). It is important to note, however, that prosociality need not always manifest as helping or other-promoting behaviors. For example, it can also take the form of altruistic punishment, defined as "behavior in which individuals punish others at a cost to themselves in order to provide a public good" (Fehr & Gächter 2002, p. E1). Though guided by prosocial concern, such behaviors can be motivated by other-condemning moral emotions like anger (van Doorn et al., 2014). In examining the role of mindfulness in deontic retribution, our research shows that mindfulness – measured as a state or trait – can contribute to other-

condemning prosocial behavior such as retribution against perpetrators of third-party injustice.

Practical Implications

This research also has practical implications for managers and organizations. First, it shows that mindfulness matters in regulating employee responses to injustice. In particular, it reveals that mindful observers are more likely to exact retribution on those who mistreat others – unless the injustice is so severe as to trigger deontic responding by everyone (Study 3), and perhaps when the observer already has a strong deontic justice orientation (Study 4). Since most injustice is not severe, these findings suggest that mindfulness – measured as a state or trait – affects third-party reactions to most forms of injustice encountered on an everyday basis. Insofar as managers and organizations would like their employees to stand up to injustice perpetrated by others against others, these results reveal who among them is more likely to do so. That said, results from Study 4 suggest that "on-the-spot" interventions (Hafenbrack, 2017) are not sufficient to reliably enliven individuals to third-party injustice. This could reflect inherent limitations of short mindfulness inductions in experimental contexts (Van Dam et al., 2018), and points to the possibility that enlivening people to third-party injustice may require more extensive mindfulness training to increase trait mindfulness over time (Kiken et al., 2015).

Second, our results show that mindfulness matters in the marketplace. Corporate social irresponsibility is a growing concern for employees (Hericher & Bridoux, 2022), investors (Kölbel et al., 2017), and consumers alike (Kassinis et al., 2022; Shea & Hawn, 2019). Responding to calls for research on third-party reactions to corporate social irresponsibility (Skarlicki et al., 2015), our research has shown that consumers who are higher in mindfulness are more likely to respond deontically to unjust business practices. To the extent that regulators want to limit formal regulation and rely on markets to hold organizations accountable for their

wrongdoings, these findings offer welcome news. In recent years, the practice of mindfulness meditation has been growing rapidly (National Health Interview Survey, 2017). As mindfulness continues to take root in business and society at large, our research suggests that managers need to be alert to stakeholders increasingly holding organizations to account for their misdeeds.

Strengths, Limitations, and Future Research

Our work also has some strengths and limitations, which create opportunities for further research. A key strength of this research is that it tests new theory by replicating and extending findings across a diverse set of studies (Kohler & Cortina, 2001). To test our theorizing, we employed experimental methods conducted both online (Studies 2 & 4) and in the lab (Study 3), as well as a daily diary study in the field (Study 1). In so doing, we tested the role of measured state mindfulness and trait mindfulness on reactions of disparate observers (supervisors, consumers, and students) to different forms of third-party injustice (interpersonal, socio-environmental, and distributive) of varying degrees of strength (moderate vs. strong) committed by different perpetrators (direct reports, businesses, peers, and employers) against various third parties (employees, stakeholders and the natural environment, and students) across three countries on three continents (UK, USA, and Singapore) using a variety of measures of third-party retribution (self-report, quasi-behavioral, behavioral, and hypothetical). Such diverse methods served to triangulate results, expose boundary conditions, and enhance the generalizability and reliability of our findings.

However, a limitation of this approach is that it did not allow us to investigate any single context in greater detail. For example, while Study 1 found the expected moderation of the relationship between third-party injustice and supervisor moral outrage, the conditional indirect effect on retribution did not reach significance. This may be due to the possibility that retribution

could be delayed to another day, yet we did not specifically test for this in subsequent studies. Thus, it may be that the effects of mindfulness on third-party reactions are more applicable when an immediate or urgent response is needed. Additionally, although we designed Study 2 to be as ecologically representative as possible, we were not able to replicate a true market context. Even though 76% of participant responses suggest they thought the companies in Study 2 were real even when it was revealed that they might not be, we cannot rule out the possibility that consumers in a real market context might act differently. Further, due to a cultural norm against direct confrontation in Asian societies (Leung et al., 2002), in Study 3 we had observers punish the transgressor anonymously. Thus, our research does not clarify whether mindfulness leads observers to exact more retribution against transgressors in a face-to-face context.

Another noteworthy feature of our approach is the diverse operationalizations of mindfulness and moral outrage across the four studies. Most of these operationalizations have been employed in prior research. For example, mindfulness has been measured as both a trait and state (Brown & Ryan, 2003) as well as experimentally manipulated (Hafenbrack & Vohs, 2018). In addition, moral outrage has been measured as the average of contempt, anger, and disgust (Hutcherson & Gross, 2011), each of which has been measured using multiple adjectives (Fredrickson et al., 2003). Although in Study 2 we exercised creative licence by counterpoising the other-condemning emotions of contempt, anger, and disgust with the other-praising emotions of admiration, gratitude, and elevation (Algoe & Haidt, 2009), this was done specifically to account for a contrast effect while limiting cognitive load on participants in the tight timeframe necessary to capture heuristic deontic responding.

When evaluated individually, limitations can be identified for each of these approaches. For example, theoretical differences exist between trait, state, and experimentally manipulated

mindfulness, which could explain some variation in results and effect sizes across studies – and, in particular, the divergent results from the different operationalizations of mindfulness seen in Study 4, in which the mindfulness manipulation did not replicate our previous findings. Similarly, scholars have criticized measures of trait mindfulness (Van Dam et al., 2010) and counterpoised measures of emotion (Fredrickson, 2001). Despite valid concerns about these operationalizations individually, the considerable replication of results with a diverse range of operationalizations across these studies also supports the generalizability of our findings.

Finally, our work opens various avenues for future research. First, future research should examine the effects of mindfulness on retributive responding when observers have more time to consider their response. In this respect, the benefits of mindfulness for cognitive flexibility and reappraisal (Garland et al., 2015) could affect moral outrage and retribution over time. In particular, taken together, results from Study 1 (which show that, up to several hours after the fact, mindful observers experienced greater moral outrage only at severe injustice) and Study 3 (which show that, immediately upon witnessing injustice, mindful observers experienced greater moral outrage only at moderate injustice) open the possibility that, with the passage of time, mindfulness may temper initially heightened moral outrage in observers of moderate injustice, yet preserve moral outrage at severe injustice. Second, given the link between mindfulness and deontic emotions like compassion (Stewart et al., 2018), future research should examine the implications of mindfulness in terms of support for victims (van Doorn & Brouwers, 2017). Third, in line with prior discussion (Kay et al., 2019) and budding research on adverse implications of mindfulness at work (Hafenbrack et al., 2022; Lyddy et al., 2021), future research should examine if moral outrage and retributive responding by mindful observers of injustice can have negative consequences. These and other opportunities abound in this emerging

field of research on the moral implications of mindfulness from the third-party perspective.

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Table 1. Means, standard deviations, correlations and scale reliabilities (Study 1)

Variables	M	SD	1	2	3	4
1. Injustice	2.85	1.15	—	.04	.63***	.27***
2. State Mindfulness	5.04	1.38	-.08	(.87)	.02	.00
3. Moral Outrage	2.61	1.14	.66***	-.16***	(.88)	.42***
4. Retribution	2.05	1.32	.34***	-.24***	.51***	(.83)

Note. Pearson correlations in the lower diagonal correspond to the event level, whereas those in the upper diagonal correspond to the within-person level. Coefficient alphas are reported on the diagonal in parentheses.
$N = 426$. $^{***}p < .001$

Table 2. Regression results and conditional indirect effects (Study 1)

	Moral Outrage			Retribution		
	R^2	*b*	*SE*	R^2	*b*	*SE*
Total Effects	.43			.27		
Constant		1.63***	.54		.60***	.22
Injustice		.31*	.15		.04	.07
State Mindfulness		-.19†	.10			
Injustice x State Mindfulness		.06*	.03			
Moral Outrage					.45***	.09
Day						
2		.09	.18		.11	.18
3		.20	.17		-.07	.18
4		.33*	.16		.03	.22
5		.45*	.20		.42*	.21
6		.29	.16		.25	.24
7		.22	.20		.20	.20
8		.20	.18		.14	.23
9		.22	.19		.14	.21
10		.56**	.20		.51*	.24
Indirect Effect			*b*	*SE*	*LLCI*	*ULCI*
Injustice →Moral Outrage →Retribution			.29	.08	.17	.42
Conditioned by levels of state mindfulness						
16th percentile			.23	.06	.11	.34
50th percentile			.27	.06	.15	.39
84th percentile			.30	.07	.16	.44
Index of Moderated Mediation			.07	.04	-.02	.17

Note. $N = 426$. †$p < .10$, *$p < .05$, **$p < .01$ ***$p < .001$
Beta values are unstandardized.
Day 1 is used as a baseline for the day-effects.
CI = 95% Confidence Interval; LL = Lower Level; UL = Upper Level

Table 3. Means, standard deviations, correlations and scale reliabilities (Study 2)

Variables	M	SD	1	2	3	4	5
1. Injustice	.51	.50	---				
2. Trait Mindfulness	3.88	.76	.06	(.88)			
3. Moral Outrage 1	1.83	2.55	.84***	.09	(.97)		
4. Moral Outrage 2	-.69	1.44	-.25***	-.09	-.06	(.90)	
5. Retribution	.69	.31	.56***	.13*	.58***	-.23***	---

Note. Pearson correlations. Coefficient alphas in parentheses. $N = 279$. $^{**}p < .01$ $^{***}p < .001$
Injustice coded 0 (control) or 1 (injustice)
Moral Outrage 1 = Moral outrage towards Company 1 (offending firm)
Moral Outrage 2 = Moral outrage towards Company 2 (non-offending rival)
Retribution = Percentage of funds spent on Company 2 products

Table 4. Regression results and conditional indirect effects (Study 2)

	Moral Outrage 1			Moral Outrage 2			Retribution		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Constant	1.82***	.08	21.93	-.69***	.08	-8.25	.56***	.03	20.24
Injustice	4.26***	.17	25.64	-.70***	.17	-4.21	.08	.06	1.37
Trait Mindfulness	.10	.11	.94	-.15	.11	-1.39			
Injustice x Mindfulness	.62**	.22	2.84	.17	.22	.76			
Moral Outrage 1							.06***	.01	5.19
Moral Outrage 2							-.04***	.01	-3.22
Indirect Effect via Moral Outrage 1						*b*	*SE*	*LLCI*	*ULCI*
Injustice Condition → Moral Outrage 1 → Retribution						.23	.07	.06	.35
Conditioned by levels of trait mindfulness									
Low (16th percentile)						.22	.06	.07	.33
Moderate (50th percentile)						.25	.07	.08	.37
High (84th percentile)						.28	.08	.08	.42
Index of Moderated Mediation						.04	.02	.00	.08
Indirect Effect via Moral Outrage 2						*b*	*SE*	*LLCI*	*ULCI*
Injustice Condition → Moral Outrage 2 → Retribution						-.03	.01	.01	.05
Conditioned by levels of trait mindfulness									
Low (16th percentile)						.03	.01	.01	.05
Moderate (50th percentile)						.02	.01	.01	.04
High (84th percentile)						.02	.01	.00	.04
Index of Moderated Mediation						-.01	.01	-.02	.01

Note. $N = 279$. $^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$
Beta values are unstandardized
Injustice coded 0 (control) or 1 (injustice)
Moral Outrage 1 = Moral outrage at Company 1 (transgressing firm)
Moral Outrage 2 = Moral outrage at Company 2 (non-transgressing rival)
CI = 95% Confidence Interval; LL = Lower Level; UL = Upper Level

Table 5. Means, standard deviations, correlations and scale reliabilities (Study 3)

Variables	M	SD	1	2	3	4	5	6
1. Moderate Injustice[b]	.51	.50	---					
2. Severe Injustice[c]	1.08	1.00	---	---				
3. Trait Mindfulness[a]	3.17	.65	.00	.06	(.79)			
4. Moral Outrage[a]	1.86	.91	.45***	.57***	.10*	(.75)		
5. Retribution[a]	2.53	2.89	.66***	.68***	.09†	.45***	---	
6. Moral Identity[a]	5.99	.96	-.05	-.05	.10*	-.02	-.03	(.80)

Note. Pearson correlations. Coefficient alphas in parentheses. $N^a = 443$; $n^b = 299$; $n^c = 319$.
$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$ $^{***}p < .001$
Condition coding: $5 = 0, $7 = 1, $9 = 2
Moderate Injustice = $5 vs. $7 condition
Severe Injustice = $5 vs. $9 condition
Retribution = Amount of money (in dollars) Person C (observer) removed from Person A (transgressor)

Table 6. Regression results and conditional indirect effects (Study 3)

	Moral Outrage				Retribution			
	R^2	*b*	*SE*	*t*	R^2	*b*	*SE*	*t*
Total Effects	.24				.45			
Constant		1.28***	.25	5.11		-.64	.69	-.92
Moderate Injustice		.71***	.09	7.54		2.02***	.27	7.45
Severe Injustice		1.03***	.09	11.29		3.91***	.28	13.85
Trait Mindfulness		-.00	.09	-.02				
Moderate Injustice x Mindfulness		.30*	.14	2.07				
Severe Injustice x Mindfulness		.06	.14	.43				
Moral Identity		-.00	.04	-.02		.01	.11	.09
Moral Outrage						.59***	.13	4.58
Indirect Effect for Moderate Injustice				*Index*	*b*	*SE*	*LLCI*	*ULCI*
Moderate Injustice → Moral Outrage → Retribution					.41	.11	.19	.64
Conditioned upon levels of trait mindfulness								
Low (16th percentile)					.29	.10	.11	.50
Moderate (50th percentile)					.43	.12	.20	.66
High (86th percentile)					.53	.15	.24	.84
Index of Moderated Mediation				.18		.09	.02	.37
Indirect Effect for Severe Injustice				*Index*	*b*	*SE*	*LLCI*	*ULCI*
Severe Injustice → Moral Outrage → Retribution					.61	.17	.29	.95
Conditioned upon levels of trait mindfulness								
Low (16th percentile)					.58	.17	.26	.95
Moderate (50th percentile)					.61	.17	.29	.94
High (86th percentile)					.63	.18	.29	.99
Index of Moderated Mediation				.04		.08	-.13	.20

Note. $N = 443$. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.
Beta values are unstandardized
Condition coding: $5 = 0, $7 = 1, $9 = 2
Moderate Injustice = $5 vs. $7 condition
Severe Injustice = $5 vs. $9 condition
CI = 95% Confidence Interval; LLC= Lower Level; UL = Upper Level
Retribution = Amount of money (in dollars) Person C (observer) removed from Person A (transgressor)

Table 7. Means, standard deviations, correlations and scale reliabilities (Study 4)

Variables	M	SD	1	2	3	4	5	6
1. Manipulated Mindfulness	.49	.50	---					
2. Injustice Condition	.50	.50	.01	---				
3. Measured Mindfulness	5.06	1.48	.55***	-.03	(.91)			
4. Moral Outrage	3.22	1.25	.02	.50***	.14***	(.94)		
5. Deontic Justice Orientation	4.18	.55	.00	.01	.16***	.21***	(.91)	
6. Retribution	5.24	1.34	.01	.36***	.10**	.62***	.17***	(.93)

Note. Pearson correlations. Coefficient alphas in parentheses. $N = 773$
$^{**}p < .01$, $^{***}p < .001$
Mindfulness Condition: mind-wandering (control) = 0, mindfulness = 1
Injustice Condition = no third-party injustice (control) = 0, third-party injustice = 1

Table 8. Conditional indirect effects with measured state mindfulness as moderator (Study 4)

	Moral Outrage				Retribution			
	R^2	*b*	*SE*	*t*	R^2	*b*	*SE*	*t*
Total Effects	.32				.39			
Constant		3.32***	.06	57.95		3.19***	.12	25.67
Injustice Condition		1.28***	.08	17.05		.17†	.09	1.92
Measured Mindfulness		.14***	.03	4.52				
Measured Mindfulness x Injustice		.07	.05	1.43				
Deontic Justice Orientation		.41***	.07	5.89				
Measured Mindfulness x Injustice x DJO		-16†	.09	-1.82				
Effect of Injustice at levels of Measured Mindfulness								
Mindfulness at low DJO		.13*						
Mindfulness at moderate DJO		.10†						
Mindfulness at high DJO		-.06						
Manipulated Mindfulness		-.18*	.09	-2.01		-.00	.08	-.06
Moral Outrage						.64***	.04	18.14
Indirect Effect				*Index*	*b*	*SE*	*LLCI*	*ULCI*
Injustice → Moral Outrage → Retribution					.80	.09	.66	.94
Effect of Injustice conditioned on levels of								
Low state mindfulness x low DJO					.74	.09	.56	.92
Low state mindfulness x moderate DJO					.74	.09	.57	.92
Low state mindfulness x high DJO					.74	.16	.44	1.07
Moderate state mindfulness x low DJO					.90	.08	.75	1.06
Moderate state mindfulness x moderate DJO					.87	.08	.72	1.02
Moderate state mindfulness x high DJO					.67	.11	.47	.88
High state mindfulness x low DJO					.98	.10	.79	1.18
High state mindfulness x moderate DJO					.93	.09	.76	1.11
High state mindfulness x high DJO					.63	.13	.39	.88
Index of Moderated Moderated Mediation at low DJO				.08		.04	.01	.16
Index of Moderated Moderated Mediation at median				.06		.03	-.00	.13
Index of Moderated Moderated Mediation at high DJO				-.04		.06	-.16	.08

Note. $N = 773$. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.
Injustice Condition = no third-party injustice (control) = 0, third-party injustice = 1
Mindfulness Condition = mind-wandering (control) = 0, mindfulness = 1
DJO = Deontic Justice Orientation; Low = 16th percentile; Moderate = 50th percentile; High = 84th percentile.
CI = 95% Confidence Interval; LLC= Lower Level; UL = Upper Level

Figure 1. State mindfulness heightens moral outrage in observers of interpersonal injustice (Study 1)

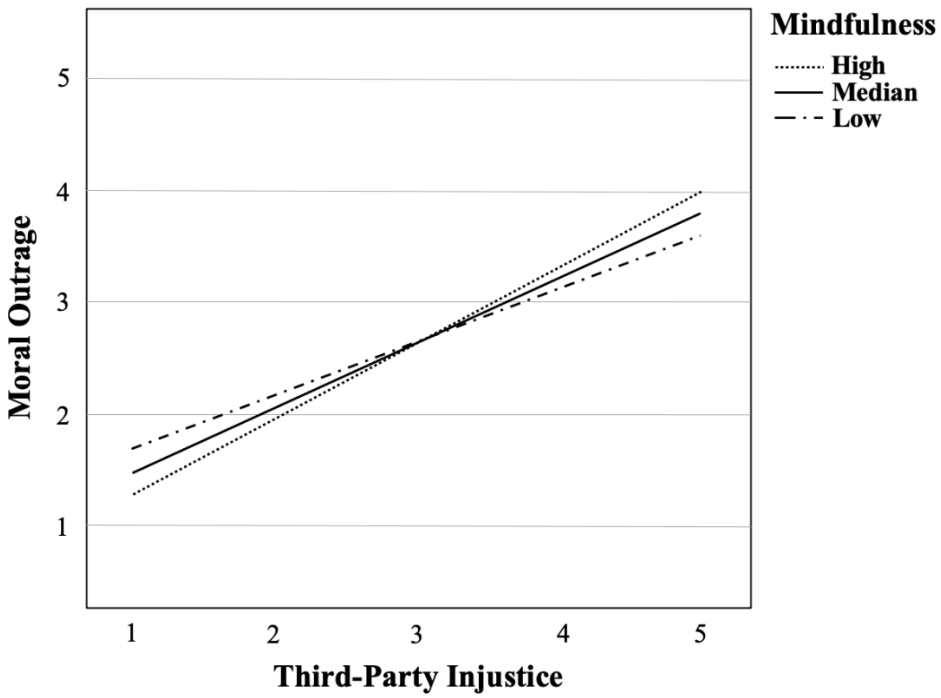
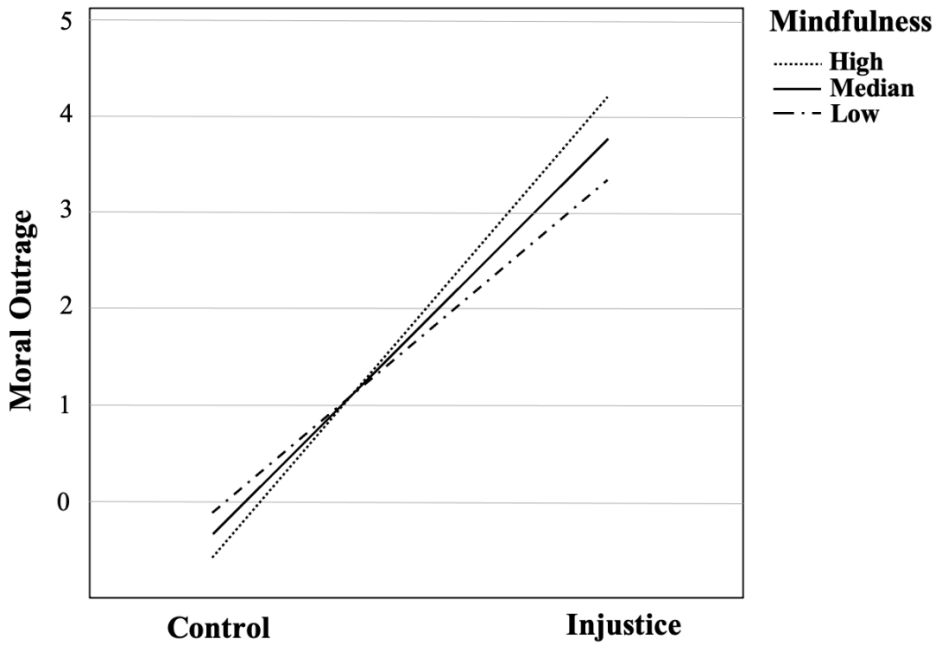


Figure 2. Trait mindfulness heightens moral outrage in observers of socio-environmental injustice (Study 2)



Note. The dependent variable was measured on an 11-point scale from -5 to +5, with the items constituting moral outrage (contempt, anger, disgust) given a positive valence (i.e., +1 to +5) and respectively counterpoised with admiration, gratitude, and moral elevation – which were given a negative valence (i.e., -1 to -5). Values below 0 have been truncated to show the full range of the scale above 0, representing moral outrage.

Figure 3. Trait mindfulness heightens moral outrage in observers of moderate but not severe third-party distributive injustice (Study 3)

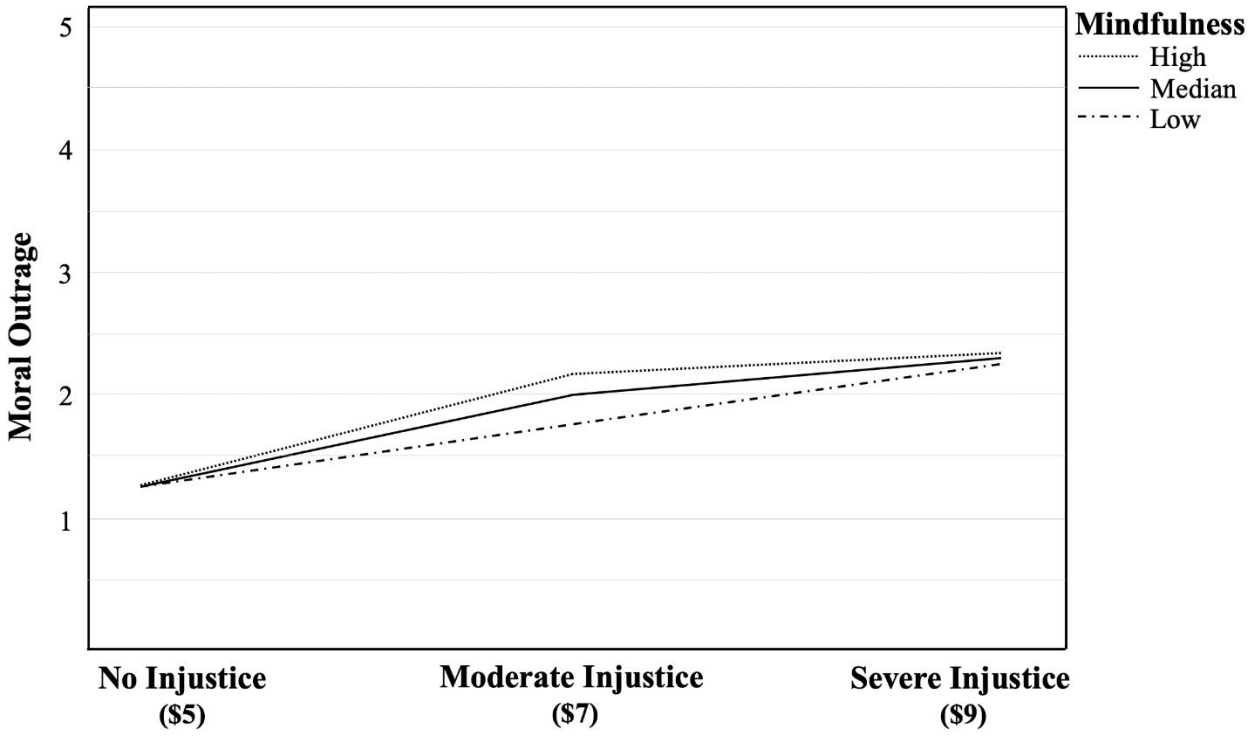
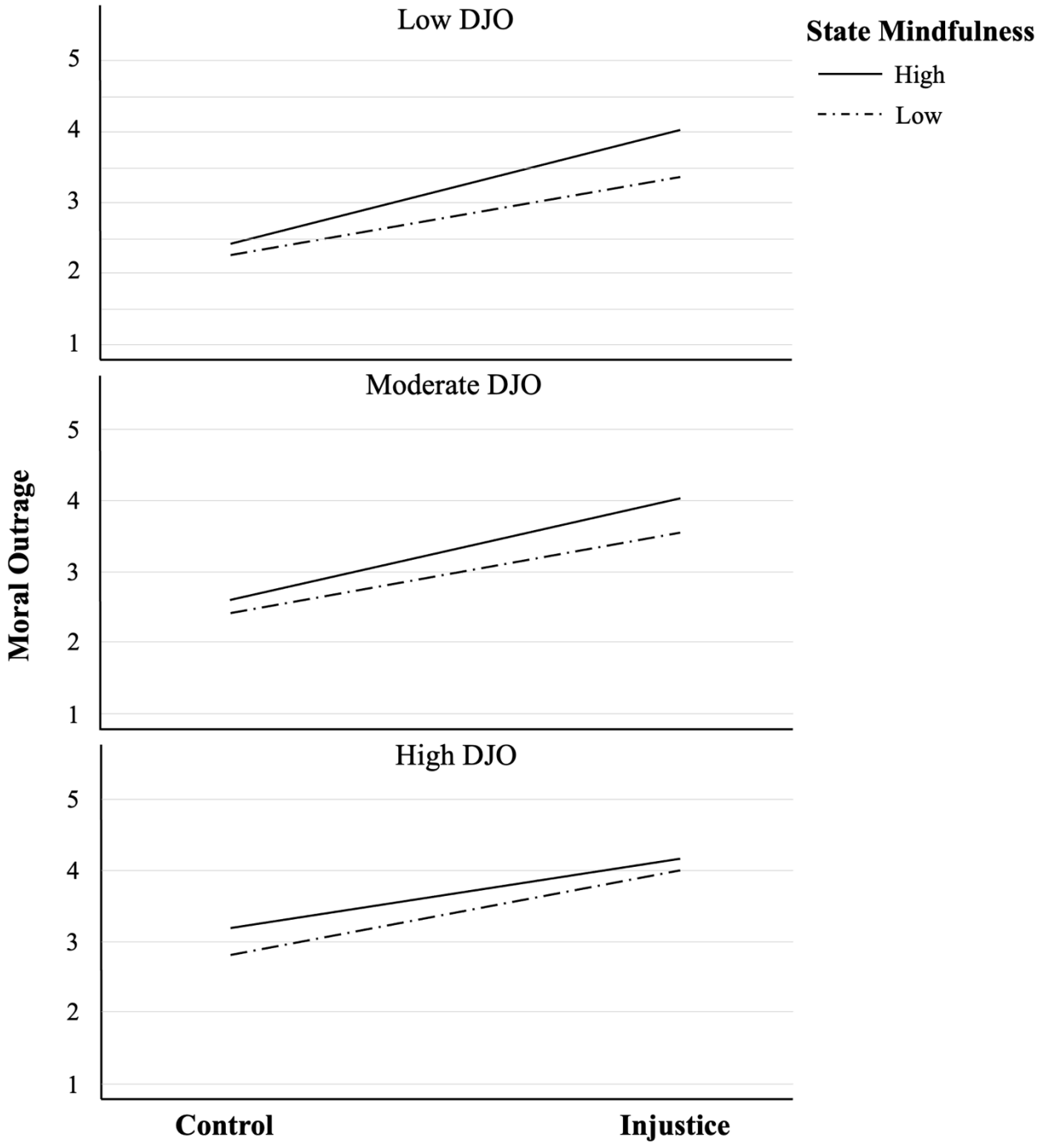
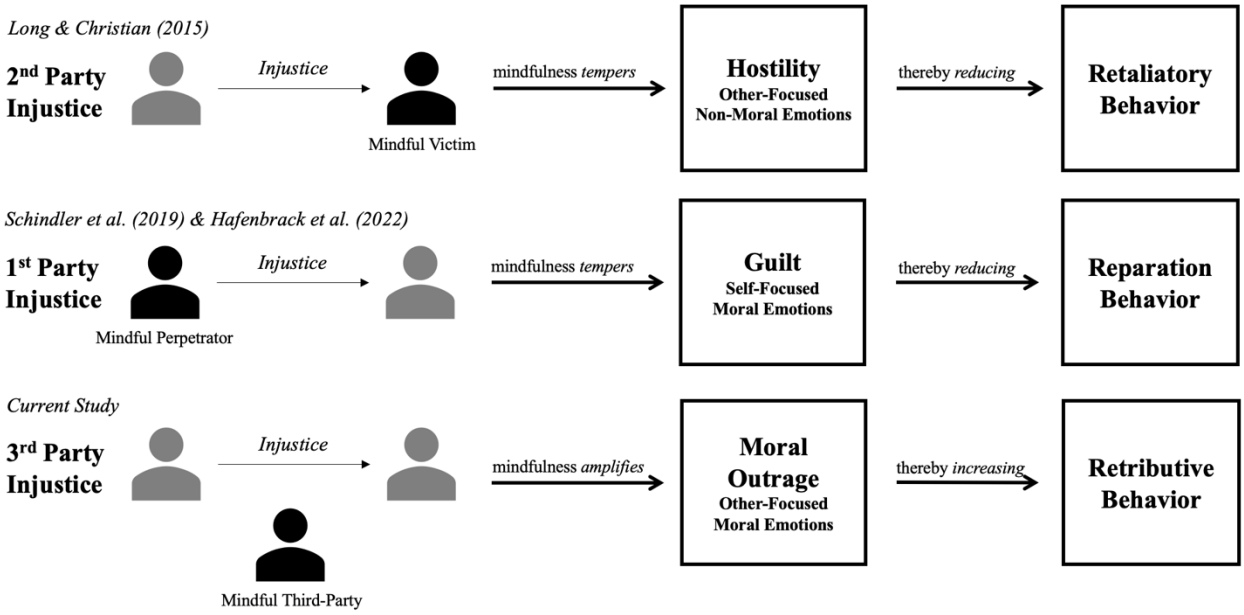


Figure 4. Measured state mindfulness heightens moral outrage in observers who are low in deontic justice orientation (Study 4, post-hoc findings)



Note: DJO = Deontic Justice Orientation

Figure 5. Contribution to the literature on mindfulness and reactions to injustice



Appendix A. Manipulations in the control vs. injustice conditions (Study 2)

Participants in both the control and social injustice conditions read the following passage:

We are conducting research about two companies. Instead of using their real names, to maintain their anonymity we shall call them "Company 1" and "Company 2". On April 29, 2017, there was a write-up on Company 1 and Company 2 in the Saturday Edition of The Financial Times. An excerpt from the article reads:

"[Company 1] and [Company 2] are fierce rivals in the personal health and household products sectors. According to recent announcements, more than 2 billion consumers worldwide use their products. Last year the companies each added close to $5 billion of sales, pushing through the $50 billion mark. With a presence in over 150 countries, emerging markets now account for more than half of their businesses. The companies each have more than 10 brands with sales of more than $1 billion per year...

Note: This marked the end of the passage for participants in the control condition. However, the passage for those in the social injustice condition continued as follows:

Although profit maximization is the primary goal of most companies, "Company 1" has taken it too far, sacrificing the health of the planet and its inhabitants for a bigger bank balance. In 2014 "Company 1" was fined $5.5 million by US authorities for violating new standards for storm water runoff. Two years later, in June 2016, "Company 1" was forced to pay a $975,000 fine for violating the Clean Air Act at one of its manufacturing plants in New Britain, Connecticut. "Company 1" has repeatedly turned a blind eye to child slave labor in its factories in China and Bangladesh. The company uses raw materials harvested by slave labor, and only when Senator Thomas Harkin (D-Iowa) introduced legislation requiring products sold in the US to be labeled "slave free" did "Company 1" take any action. The CEO of the company, [name deleted], promised that by July 2016 they would certify their products as "slave free". However, "Company 1" has achieved little on this front. Finally, a 2016 study found that "Company 1" reduced the pay of its workers by an astounding $1.1 billion dollars. This adds insult to injury, as "Company 1" workers in lesser developed countries often work overtime for zero pay..."

Note: This marked the end of the passage for participants in the injustice condition.

Appendix B. Sample from product menu in price calibration pre-study (Study 2)

Company 1 Shampoo
Quantity: 1 x 375 ml (12.7 fl oz)

Company 2 Shampoo
Quantity: 1 x 375 ml (12.7 fl oz)

From the options below, please choose the prices you would most be willing to pay for the shampoos of Company 1 and Company 2, respectively.

- ○ $2.99 (Company 1) vs. $9.99 (Company 2)
- ○ $3.38 vs. $9.60
- ○ $3.77 vs. $9.21
- ○ $4.16 vs. $8.82
- ○ $4.55 vs. $8.43
- ○ $4.94 vs. $8.04
- ○ $5.33 vs. $7.65
- ○ $5.72 vs. $7.26
- ○ $6.11 vs. $6.87
- ○ $6.49 vs. $6.49

Appendix C. Sample from product menu in main experiment (Study 2)

Appendix D. Manipulations in the control vs. injustice conditions (Study 4)

Participants in the both the control and injustice conditions read the following passage:

Workers Compensation Case Study

A large part of the Mexican economy is driven by the maquiladoras, factories that receive duty-free status for export. Nearly half a million Mexicans work in these factories, producing low cost goods for the U.S. and Canadian markets.

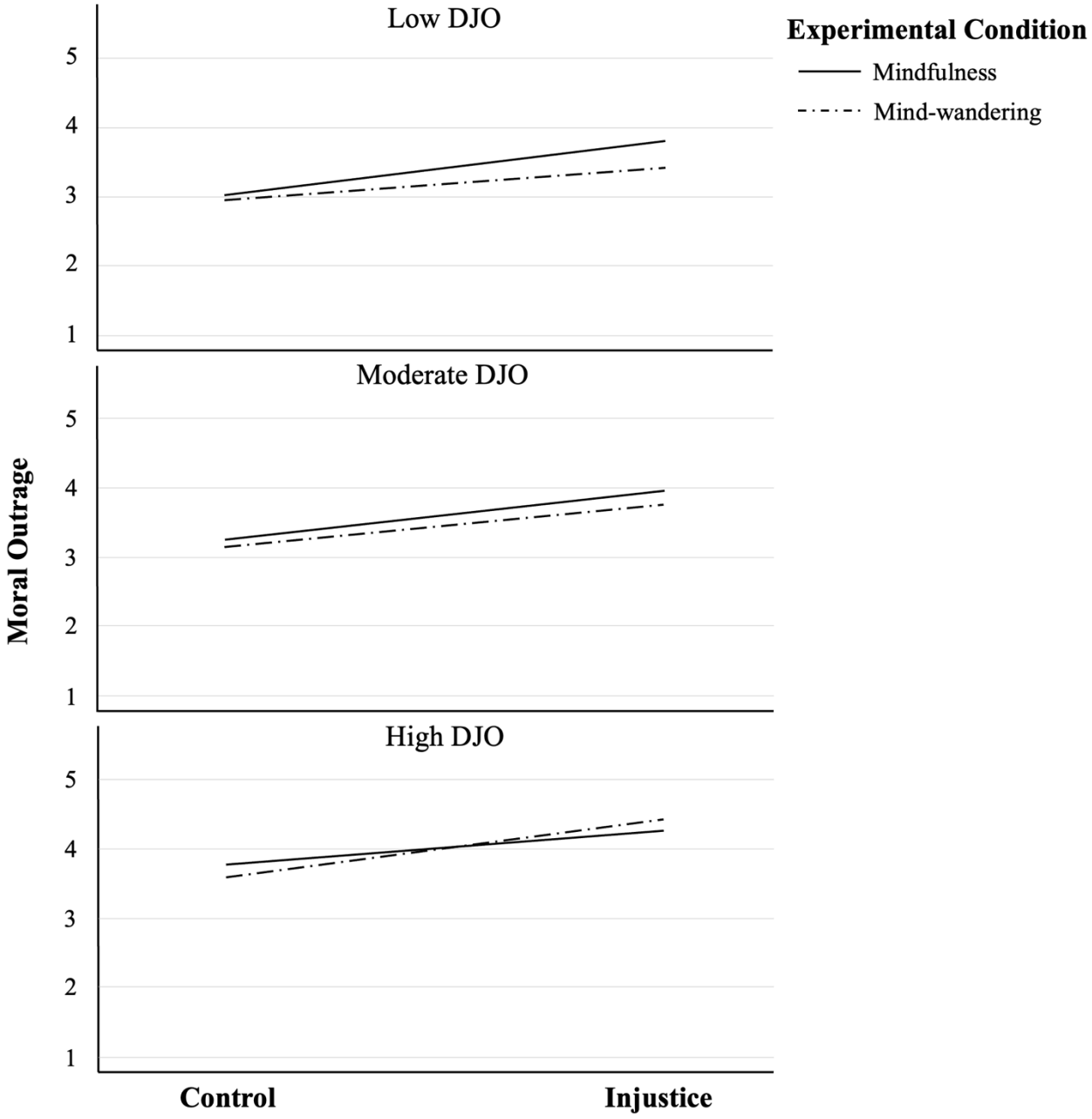
Participants in the control condition then read the following passage:

Western Garment Manufacturers (WGM) runs a maquiladora factory. WGM pays its workers the same as the average wage in the area, paying the equivalent of US $2.50 per hour. ***This wage is just enough to provide workers the basic necessities of life.***

By contrast, participants in the injustice condition read the following passage:

Western Garment Manufacturers (WGM) runs a maquiladora factory. WGM pays its workers 20% less than the average wage in the area, paying the equivalent of US $2.00 per hour. ***This wage is not enough to provide workers the basic necessities of life.***

Appendix E. Manipulated mindfulness heightened moral outrage in observers who are low in deontic justice orientation (Study 4, preliminary findings)



Note: DJO = Deontic Justice Orientation