

On the Causes and Consequences of Abusive Supervision

by

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Author's Declaration

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Statement of Contributions

Essay 1 is currently in press at Academy of Management Journal (Liang, Lian, Brown, Ferris, Hanig, & Keeping, in press). Essay 2 is currently under review at Organizational Behavior and Human Decision Processes (Liang, Brown, Lian, Hanig, Ferris, & Keeping, under review).

Abstract

Abusive supervision is a growing problem confronting organizations. In this dissertation, across two essays, I examine both the causes and the consequences of abusive supervision. In Essay 1, I answer the question when and why do supervisors abuse poor performing employees. Building on prior work showing that abusive supervision is a reaction to subordinates' poor performance, I develop a self-control framework to outline when and why supervisors abuse poor performing subordinates. In particular, I argue poor performing subordinates instill in supervisors a sense of hostility towards the subordinate, which in turn leads to engaging in abusive supervision. Within this self-control framework, poor performance is more likely to lead to abusive supervision when (a) the magnitude of the hostility experienced is higher (e.g., for those with a hostile attribution bias), or (b) the translation of hostility into abusive supervision is unconstrained (e.g., for those who are low in trait mindfulness). In two experimental studies with full-time supervisors where we manipulated the independent variable (Study 1) and the mediator (Study 2), and in a multi-wave and multi-source field study with data collected from supervisor-subordinate teams (50 supervisors and 206 subordinates) at two time points (Study 3), I found overall support for our predictions. In Essay 2, I answer the question under what circumstances and why the detrimental effect of abusive supervision on subordinate well-being can be mitigated. When a subordinate receives abusive treatment from a supervisor, a natural response is to retaliate against the supervisor. Although the majority of the abusive supervision literature has suggested that retaliation is dysfunctional and should be discouraged, I offer an alternative narrative by suggesting that retaliation may have a beneficial purpose. Based on the notion that retaliation following mistreatment can restore justice for victims, I propose a functional theory of retaliation and predict that retaliation alleviates the effect of abusive supervision on subordinate well-being

by virtue of restoring subordinate justice perceptions. In an experimental study using vignettes (Study 1), two additional experimental studies (Study 2A and 2B), and a field survey study with two independent samples (Study 3), I found general support for our predictions. Overall, the results of these two essays shed light on the phenomenon abusive supervision in terms of understanding its causes and consequences.

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CHAPTER 1: INTRODUCTION

Abusive supervision, or subordinates' perceptions of the extent to which their supervisors engage in the “sustained display of hostile verbal and nonverbal behaviors, excluding physical contact” (e.g., ridiculing, silent treatment, and belittling; Tepper, 2000, p. 178), is a significant issue confronting organizations. From an organizational perspective, supervisory abuse is financially costly in terms of its effect on employee productivity, absenteeism, and job morale (e.g., Tepper, 2007; Zellars, Tepper, & Duffy, 2002). For the immediate target, the situation is no less dire insofar as supervisory abuse negatively affects the physical and psychological well-being of both victims (e.g., Bamberger & Bachrach, 2006; Duffy, Ganster, & Pagon, 2002; Tepper, 2000) and their families (Carlson, Ferguson, Perrewé, & Whitten, 2011; Hoobler & Brass, 2006). Given the far-reaching impact of abusive supervision, researchers need to better understand the antecedents of abusive supervision in order to minimize its occurrence, as well as to better understand when and why the detrimental consequences of abusive supervision can be mitigated.

In the present work, I sought to examine the causes and consequences of abusive supervision. Regarding the antecedents of abusive supervision, in Essay 1, I applied a dual-system self-control framework to examine when and why do supervisors abuse a poor performing subordinate. I argued that subordinate poor performance instigates supervisor hostility towards the subordinate, which in turn results in abusive supervision towards the subordinate. Moreover, supervisor hostile attribution bias influences the extent to which supervisors experience hostility towards the subordinate, whereas supervisor mindfulness influences the extent to which supervisors enact on their hostility by abusing the subordinate. Data from two experimental studies and one field study supported my predictions. This work

contributes to the literature by highlighting the interplay between subordinate and supervisor characteristics in determining when and why do supervisors engage in abusive supervision. Regarding the consequences of abusive supervision, in Essay 2, I drew upon a justice explanation of abusive supervision (Tepper, 2000) to explain under what circumstances and why the link between abusive supervision to subordinate well-being can be mitigated. I argued that engaging in retaliation following abusive supervision mitigates the negative effect of abusive supervision on subordinate well-being by virtue of restoring justice for subordinates. Data from two experimental studies and a field study supported my predictions. This work contributes to the literature by highlighting subordinate retaliation in response to abusive supervision as a means to reaffirm justice thus protects the negative effect of abusive supervision on subordinate well-being.

CHAPTER 2: WHY ARE ABUSIVE SUPERVISORS ABUSIVE? A DUAL-SYSTEM SELF-CONTROL MODEL (ESSAY 1)

The following work is currently in press in *Academy of Management Journal* (Liang, Lian, Brown, Ferris, Hanig, & Keeping, in press).

Literature Review

Abusive supervision, or “subordinates’ perceptions of the extent to which their supervisors engage in the sustained display of hostile verbal and non-verbal behaviors, excluding physical contact” (e.g., ridiculing and belittling; Tepper, 2000: 178), represents a significant issue confronting organizations. Supervisory abuse affects a number of organizational and individual outcomes, such as decreased productivity, increased legal costs, and decreased employee well-being (Lian, Ferris, & Brown, 2012a, 2012b; Tepper, 2000; Tepper, Duffy, Henle, & Lambert, 2006). These negative consequences have encouraged research on its antecedents, with researchers tending to conceptualize abusive supervision as a function of the mistreatment that a supervisor experiences at the hands of his/her own superiors (i.e., the *trickle-down* perspective; Aryee, Chen, Sun, & Debrah, 2007; Hoobler & Brass, 2006; Liu, Liao, & Loi, 2012; Mawritz, Mayer, Hoobler, Wayne, & Marinova, 2012), or as a function of the characteristics and actions of subordinates who provoke mistreatment (i.e., the *victimization* perspective; Lian, Ferris, Morrison, & Brown, 2012; Tepper, Moss, & Duffy, 2011; Tepper et al., 2006).

Both perspectives have advanced our understanding of the antecedents of abusive supervision, but both perspectives also possess limitations. With respect to the trickle-down perspective, an implicit assumption of this perspective is that all subordinates have an equal chance of being abused, given abusive supervision is viewed as spilling over from the treatment

that a supervisor receives himself/herself. However, recent findings document variability in subordinates' reports of abusive supervision within work teams (Mawritz et al., 2012), which would seem to contradict the assumption of trickle-down models. Such a limitation is not germane to victimization perspectives, which argue abusive supervision is caused by subordinates acting in a provocative manner (Aquino & Thau, 2009); hence, variability of abusive treatment within work teams is a natural consequence of some team members acting provocatively and others, not.

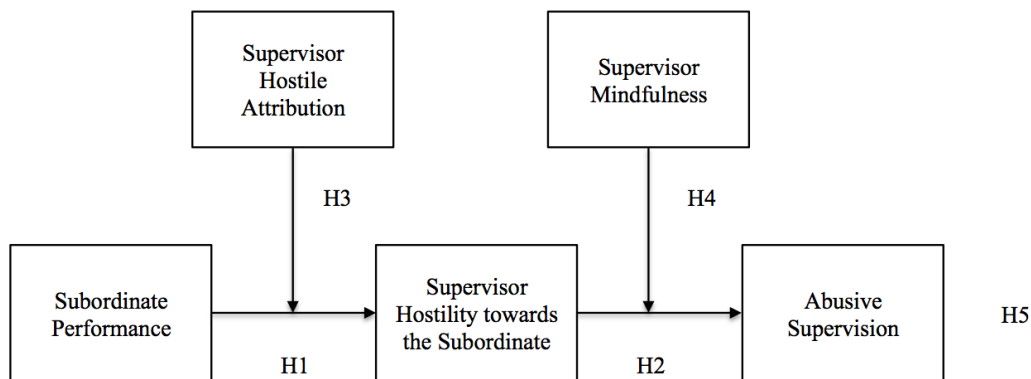
Yet, while a victimization perspective avoids the trappings associated with a trickle-down perspective, it is also limited. Although a victimization perspective argues that victims can behave provocatively, there is little theoretical guidance for why such behavior leads to being mistreated. In line with this, a recent review of the victimization literature conceptualized much of the research as theoretically underspecified (Aquino & Thau, 2009). Such a limitation is also reflected within abusive supervision research. In particular, although an employee's poor performance has been found to be directly related to being abused by his or her supervisor (consistent with a victimization perspective; Lian, Ferris et al., 2014; Tepper et al., 2011), studies have yet to assess any theoretical mechanisms or boundary conditions associated with the relation (though reasons have been proffered for the relation – for example, that supervisors find poor performers to be “frustrating, aggravating, and annoying”; Tepper et al., 2011: 653). Moreover, a victimization perspective tends to emphasize the role that victims play (e.g., subordinates' traits or behaviors) without considering perpetrator (e.g., supervisor) factors (Aquino & Lamertz, 2004). Given that abusive supervision occurs in a supervisor-subordinate relationship, a more balanced perspective integrating both subordinate and supervisor factors is needed to provide additional insights on this phenomenon (Hershcovis & Reich, 2013).

In the present paper, we sought to advance the victimization perspective of abusive supervision (and victimization research as a whole) by suggesting and testing a theoretical model that improves our understanding of when and why an employee's poor performance leads to abusive supervision. In particular, we conceptualize poor performance as a provocation to supervisors, and abusive supervision as a failure to exhibit self-control in the face of such a provocation. Stemming from this conceptualization, we use a dual-system theoretical framework of self-control (e.g., Hofmann, Friese, & Strack, 2009; Strack & Deutsch, 2004) to argue that abusive supervision emerges from the product of two systems associated with self-control: first, a system which represents the extent to which supervisors feel a sense of hostility towards poor performing subordinates and lash out accordingly; second, a system which represents the extent to which supervisors can exert reflective or deliberative control over their hostile behaviors.

Importantly, using a dual-system theoretical framework addresses two main limitations associated with prior victimization perspectives on the occurrence of abusive supervision. First, it highlights *why* poor performance leads to abusive behaviors. In particular, the first system implies failures of self-control arise when emotional reactions to provocations overwhelm the capacity of the second system to exert control. As such, supervisors' experienced hostility towards a subordinate—defined as supervisors' outward-focused affective state characterized by intense “hot” feelings (Mayer, Thau, Workman, Van Dijke, & De Cremer, 2012) directed towards a subordinate—is highlighted as the mediating process impelling supervisors to act abusively towards poor performing subordinates. Second, a dual-system perspective highlights *when* this process may be exacerbated or overcome. In particular, in a dual-system theoretical framework, factors that either enhance or mitigate the sense of hostility a supervisor experiences (i.e., factors that potentiate the first system) or factors that enhance or detract from the

supervisor’s ability to exert control over hostile behaviors (i.e., factors that potentiate the second system) should in turn influence the extent to which poor performing subordinates are abused. As such, a dual-system perspective highlights the potential moderating roles various factors can play. In particular, *hostile attribution biases*—a tendency to attribute hostile intent to others’ actions (even when the intent of these actions is not readily apparent; Tedeschi & Felson, 1994)—serve to intensify supervisors’ experienced hostility owing to attributing subordinates’ poor performance to malicious intent. Alternately, *mindfulness*—defined as an individual’s ability to attend to and accept moment-to-moment experiences without judgment (Brown & Ryan, 2003; Glomb, Duffy, Bono, & Yang, 2011)—serves to facilitate control over hostile behaviors by attending to and accepting experienced hostility.

Figure 1. The Self-Control Model of the Antecedents of Abusive Supervision (Essay 1)



In proposing our model (see Figure 1), we make a number of significant contributions to the literature. First, our dual-system model of self-control extends past research demonstrating that employee behavior can invoke abuse (Lian, Ferris et al., 2014; Tepper et al., 2011) by

additionally illustrating why provocations lead to abuse, as well as boundary conditions under which subordinates are more or less likely to be abused. In this sense, our work is an important complement to extant victimization research on the antecedents of abusive supervision.

Second, and perhaps more broadly, our dual-system model of self-control addresses the lack of a theoretical framework endemic to much of the victimization literature (Aquino & Thau, 2009). Via use of a dual-system self-control model, which recognizes abusive responses to a provocation as being a function of the intensity of a desire to respond, and the ability to override that desire, key moderating and mediating variables are readily derived from our model. Thus, our work provides a model for both antecedents of abusive supervision and the victimization literature as a whole. Third, our model also adds perpetrator factors into the victimization perspective by examining how victims' behaviors (i.e., subordinate task performance) interact with perpetrators' traits (i.e., supervisor hostile attribution bias and mindfulness) to affect abusive supervision. In doing so, we consider roles played by both the perpetrator and the victim in a dyadic supervisor-subordinate relationship and thus provide a more balanced perspective in understanding abusive supervision as a form of workplace victimization.

Finally, in addition to contributing to the leadership and victimization literatures, our paper also "gives back" (Whetten, Felin, & King, 2009) to the self-control literature from which it draws by extending self-control research models. In particular, the self-control literature has traditionally focused solely on overriding behavioral responses and has ignored the role of desire, which drives behavioral responses and also requires self-regulation (Hofmann & Van Dillen, 2012). In modeling supervisors' hostility towards a subordinate as the strength of their desire to engage in abusive supervision as well as moderators that affect the extent to which hostility is experienced and translated into behaviors, our paper extends current understanding of how self-

control operates within the context of workplace aggression and suggests factors that may intensify or mitigate the experienced desires and consequent behaviors.

Abusive Supervision: A Dual-System Self-Control Perspective

Self-control reflects an individual's capacity and motivation to override desires and urges (e.g., a desire to harm someone who has insulted you) in order to act in accordance with one's long-range goals (e.g., maintaining positive relationships with others; Hofmann & Kotabe, 2012). Effective human functioning requires the capacity to transcend primal desires and habitual behaviors in order to behave in a socially appropriate manner (Baumeister, 2005). When self-control fails, individuals disregard the long-term implications of their behaviors and succumb to their desires, such as eating fatty foods (Jasinska et al., 2012), cheating on a partner (Heatherton & Wagner, 2011), or engaging in unethical behaviors (Gino, Schweitzer, Mead, & Ariely, 2011). Ultimately, self-control failure contributes to poor physical and mental health, crime, and low quality interpersonal relationships (Tangney, Baumeister, & Boone, 2004).

As implied above, a longstanding and widely accepted idea of self-control is that it reflects a struggle between two antagonistic forces: the push of hedonic desires and the pull of overriding forces such as self-regulatory goals (Baumeister & Heatherton, 1996). Seizing on this observation, contemporary self-control research has developed what are known as dual-system frameworks of self-control (Strack & Deutsch, 2004). Within a dual-system framework, human behaviors are thought to be determined by two systems: the first is a primitive impulsive system wherein desire arises and drives behaviors, and the second is a higher order reflective system wherein the desires and action tendencies that arise in the first primitive impulsive system are monitored and restrained (Strack & Deutsch, 2004). Corroborating this line of thought, functional neuroimaging work has shown that successful self-control arises when the prefrontal

cortex exerts top-down control over the subcortical neural circuits responsible for generating emotionally charged desires towards environmental stimuli (Heatherton & Wagner, 2011). In effect, self-control failure arises because an individual experiences a potent and overwhelming desire that drives impulsive behaviors, while higher level executive mental functioning is temporarily or permanently compromised and unable to override behaviors impelled by the desire (Heatherton & Wagner, 2011).

Although self-control failure is a result of a desire that is too strong to stifle, the extant self-control literature has largely neglected the role of the first system—that is, the role of desires, or the very force that ought to be regulated in the first place (Hofmann et al., 2009; Hofmann & Van Dillen, 2012). Desires reflect emotionally charged feelings of wanting to have or do something towards a specific person or object which, when acted upon, brings pleasure or relief from displeasure (Hofmann & Van Dillen, 2012). Notwithstanding individual differences in the ability to regulate desires prompted by external stimuli, a tenet of the first system is that the stronger the desire that an individual experiences the greater the probability that the experienced desire will guide subsequent behavior (Hofmann & Van Dillen, 2012).

In terms of understanding aggressive behaviors (such as abusive supervision), such behaviors are often driven by intense desires to express hostility induced by perceived interpersonal provocations (Berkowitz, 1993; Bettencourt, Talley, Benjamin & Valentine, 2006). Provocations can be defined as any actions that interfere with and frustrate one's goal-directed behaviors, such as an employee failing to adequately complete an assigned task. Faced with someone who has provoked them, individuals experience intense emotional agitation and hostility towards the provocateur (Berkowitz, 1993). Hostility impels actions towards the eliciting source of the emotion (Frijda, 1986), and as such represent a desire to act aggressively

towards the provocateur (Carver & Harmon-Jones, 2009). In this regard, perceived interpersonal provocation is an antecedent of the experienced hostility towards a provocative individual, and (in line with the first system of dual-system self-control models) the greater the intensity of the hostility experienced, the stronger the desire to aggress against the provocateur (Fitness, 2000).

Within the context of supervisor-subordinate interactions, we conceptualize poor performing subordinates, or subordinates who do not adequately complete the essential duties required for a job, as provocateurs who may elicit supervisors' hostility towards them. The workplace victimization literature suggests that certain target behaviors may elicit victimization from potential perpetrators because perpetrators interpret the target as provocative, vulnerable, and deserving of being punished (e.g., Aquino & Thau, 2009). Although other interpretations and reactions are possible (e.g., feeling empathy, or helping the poor performer; LePine & Van Dyne 2001), the most typical and immediate reaction to provocation is to experience hostility (Berkowitz, 1993; Mayer et al., 2012). In this sense, a subordinate who does not meet required performance standards such as not doing assigned work properly, or failing to complete essential duties, can be difficult and frustrating to work with; such poor performance can be perceived and interpreted by the supervisor as a personal insult or a challenge to their authority (Tedeschi & Felson, 1994). Moreover, a poor performing subordinate may compromise a supervisor's own performance and impede a supervisor's own goal achievement, as supervisors may need to spend time and effort fixing the work that the subordinate failed to adequately perform (Bass, 1990). Consistent with these arguments, prior work has demonstrated that subordinates' poor work performance can elicit abusive supervision (Lian, Ferris et al., 2014; Tepper et al., 2011) and is the most frequent cause of supervisor anger at work (Fitness, 2000).

Hypothesis 1: Subordinate performance is negatively related to supervisor hostility towards the subordinate.

As hostility towards subordinates increases, dual-system self-control models argue that so too does the desire to strike out at the subordinate (Averill, 1982). Affective experiences such as hostility produce action readiness and energize behaviors to satisfy hostile desires (Frijda, 2007). The main reason for such consequent impulsive actions is that hostile feelings are aversive and individuals are motivated to act in ways to alleviate these negative feelings (Larsen, 2000). It is believed that venting hostile feelings by aggressing against others will reduce the aversive feelings (Berkowitz, 1993). In fact, individuals anticipate feelings of pleasure and satisfaction if they are given the opportunity to cause harm to a provocateur (Knutson, 2004), and research has shown that brain regions associated with feeling good (e.g., caudate nucleus) are activated when people have the opportunity to punish a transgressor (De Quervain et al., 2004).

In line with these theoretical arguments and empirical findings, we suggest that the more intense a supervisor's experienced hostility towards a subordinate, the stronger the desires to relieve this unpleasant feeling by inflicting pain onto the subordinate who provoked it. As such, supervisors' hostility towards a subordinate energizes their abusive behaviors towards that subordinate. We therefore hypothesize:

Hypothesis 2: Supervisor hostility towards a subordinate is positively related to abusive supervision.

Moderators of The Dual-System of Self-Control

To this point we have used a dual-system model of self-control to argue that poor performing subordinates imbue supervisors with a sense of hostility towards such subordinates. This hostility consequently impels abusive actions directed at the poor performing subordinates. This perspective is generally in line with the dual-system view that self-control failures arise when the first system responsible for generating affectively charged desires overwhelms the

capacity of the second system to rein in and control behavioral reactions engendered by the first system (Strack & Deutsch, 2004). However, a corollary of a dual-system perspective of self-control is that it suggests two possible ways in which one can exert influence over the self-control process: by influencing the strength of the hostility that is experienced, and by influencing whether one acts on one's hostility by engaging in abusive supervision. In other words, self-control can be manifested via factors which enhance or diminish the sense of hostility (i.e., influencing the potency of the first system), and factors which enhance or diminish acting on such hostility (i.e., influencing the potency of the second system). Two variables that properly operationalize these two factors are supervisors' hostile attribution bias and mindfulness. In the following section, we discuss each in more detail.

Potentiating the First System: The Moderating Role of Supervisor Hostile Attribution Bias

As explained previously, poor performing subordinates tend to elicit supervisor hostility because supervisors interpret such subordinates as provocative, threatening their authority, and impeding their goal accomplishment. This suggests that factors that increase the likelihood of experiencing hostility in response to situations may exacerbate the possibility of subordinate poor performance in eliciting supervisors' experienced hostility towards the subordinate. Along these lines, we argue that supervisors who hold a hostile attribution bias should be more likely to interpret subordinates' poor performance as intentional and thus are more likely to experience hostility when dealing with poor performing subordinates.

Individuals with hostile attribution biases are "automatically biased toward hostile interpretations of situational input" (Wilkowski & Robinson, 2010: 13). These biases operate largely automatically: prior research demonstrates that manipulations of cognitive load (which only disrupt controlled rather than automatic processes) have no effect on the hostile appraisals

individuals make of a negative social interaction (Hazebroek, Howells, & Day, 2001). As such, when a supervisor with a strong hostile attribution bias encounters a poor performing subordinate, he or she will be more likely to automatically react with a sense of hostility toward the poor performing subordinate, as compared to a supervisor who lacks such a hostile attribution bias. Consistent with this perspective, it has also been argued that when faced with a provocateur, individuals with a hostile attribution bias are more likely to encode the hostile cues and interpret the provocateur as intentionally impeding them from reaching a desired goal or deliberately threatening them (Averill, 1982; Berkowitz, 1993; Wilkowski & Robinson, 2007). As a result, they are more likely to experience a heightened desire to harm the provocateur. Building on these theoretical arguments and empirical findings, we suggest that when faced with a poor performing subordinate, hostile attribution bias can serve to intensify supervisors' experience of hostility towards the subordinate, as supervisors with a hostile attribution bias are more likely to perceive poor performance as the intention of the subordinate to cause harm.

Hypothesis 3: Supervisor hostile attribution bias moderates the negative relation between subordinate performance and supervisor hostility towards the subordinate, such that the relation is stronger when supervisors have a high (vs. low) hostile attribution bias.

Potentiating the Second System: The Moderating Role of Supervisor Mindfulness

Although uncommon, it is clear that abusive supervisory behaviors towards a subordinate are not socially appropriate or prototypical (Epitropaki & Martin, 2004). By yelling and hurling insults at subordinates, abusive supervision may have a number of negative repercussions. For example, it may be detrimental to maintaining a mutually respectful supervisor-subordinate relationship, decrease subordinate performance at work (Aryee et al., 2007), and result in subordinate direct retaliation against supervisors (Lian, Brown, Ferris, Liang, Keeping, & Morrison, 2014).

Given that engaging in abusive supervision is not adaptive for supervisors, supervisors face a struggle between acting on their desire to lash out at a provocative subordinate and attaining their long-term goal of being an effective leader. As such, abusive supervision can be regarded as a self-control failure, and in order to achieve the long-term goal, supervisors must override their desire to lash out against a poor performing subordinate. By framing abusive supervision as a self-control problem, we can explain why not all supervisors lash out to satisfy their desire to express hostility towards poor performing subordinates. In particular, we suggest that the extent to which supervisors are mindful determines whether they act on their hostility.

Although often conceptualized as a state of consciousness, mindfulness varies among individuals (Brown & Ryan, 2003). As its definition reflects, mindfulness involves two components: *attention* and *acceptance*. With respect to *attention*, mindful individuals are more likely to attend to ongoing experiences without letting their habitual tendencies result in mindless behaviors (Brown & Ryan, 2003). With respect to *acceptance*, mindful individuals are more accepting of what they are experiencing in the present moment, be it positive or negative, and are able to simply accept this experience without necessarily acting on it. As a result, mindful individuals are less likely to ruminate on their experiences (Brown & Ryan, 2003; Brown, Ryan, & Creswell, 2007). Such attention and acceptance of experiences and emotions cultivate self-control and result in better regulation of emotions and behaviors (Teper, Segal, & Inzlicht, 2013).

Based on current conceptualizations of mindfulness, we suggest that mindfulness influences whether supervisors' experienced hostility towards a subordinate translates into abusive supervisory behaviors in two ways. First, supervisors do not always devote full attention to their feelings and desires and oftentimes they act impulsively and mindlessly without awareness (Deci & Ryan, 1980). Mindfulness encourages undivided awareness and attention to

supervisors' present circumstances and hostile feelings. By deploying attention to current experiences and feelings of hostility, mindfulness facilitates the monitoring and detection of conflicts between potential actions (e.g., choosing to abuse a subordinate) and long-term goals (e.g., maintaining good relations with subordinates). As a result, mindfulness promotes more conscious and self-controlled behaviors (Brown & Ryan, 2003; Brown et al., 2007) and prevents supervisors from engaging in habitual and mindless behaviors in reaction to their hostility.

Second, an acceptance of present feelings without mental filters or judgments reflects a willingness to stay in contact with the uncomfortable and often negative feelings that accompany desires, without ruminating and acting upon those feelings (Glomb et al., 2011; Teper et al., 2013). By being receptive to their hostile feelings, mindfulness can prevent supervisors from engaging in recurrent and ruminative thinking about their desires to express hostility, which often depletes self-regulatory resources and renders desires more accessible and harder to resist (Kavanagh, Andrade, & May, 2005; Wegner & Zanakos, 1994). Moreover, by promoting acceptance of experiences without reactions, mindfulness itself implies a connection to the second system of self-control: overriding instinctual reactions and desires in response to experiences. Consistent with this perspective, research has shown that mindfulness measures tend to correlate strongly with trait measures of self-control (95% CI: [.39, .61]; Yusainy & Lawrence, 2014).

Hypothesis 4: Supervisor mindfulness moderates the positive relation between supervisor hostility towards the subordinate and abusive supervision, such that the relation is weaker when supervisors are high (vs. low) in mindfulness.

Integrating the previous hypotheses, we propose a moderated mediation model whereby a supervisor's hostility towards a subordinate should mediate the relationship between subordinate performance and abusive supervision. This mediation will be moderated by supervisor hostile

attribution bias at the first stage of the self-control process (i.e., subordinate performance to supervisor hostility towards the subordinate) and by mindfulness at the second stage of the self-control process (i.e., supervisor hostility towards the subordinate to abusive supervision) such that the mediating effect will be the strongest when a supervisor is high in hostile attribution bias and low in mindfulness.

Hypothesis 5: Supervisor hostile attribution and mindfulness moderate the indirect effect of subordinate performance on abusive supervision via supervisor hostility towards the subordinate, such that the indirect effect is the strongest when supervisor is high in hostile attribution and low in mindfulness.

We present three studies testing our model depicted in Figure 1. In two experimental studies (Studies 1 and 2), we employed an experimental-causal-chain design (Spencer, Zanna, & Fong, 2005) to make internally valid inferences about the causal relations suggested by our model. More precisely, Study 1 manipulates our independent variable (subordinate performance) to assess its impact on the mediator (hostility) at different levels of hostile attributions, while Study 2 manipulates the mediator to assess its impact on the dependent variable (abusive supervision) with mindfulness as a moderator of the relation. By manipulating our independent variable and mediator in separate studies, we can more strongly infer that supervisor hostility towards the subordinate is a consequence of poor subordinate performance and that abusive supervision is a consequence of supervisor hostility towards the subordinate. While these studies provide a strong case for the internal validity of our hypothesized model, they can be critiqued with respect to external validity; thus, in a multi-source and multi-wave field study with supervisor and subordinate teams (Study 3), we tested the overall moderated mediation model.

Study 1 Method

Participants and Procedure

We recruited participants from Amazon's Mechanical Turk. Interested participants who are living in the USA or Canada were directed to complete an online pre-screen questionnaire assessing their demographic information. A total of 324 participants completed the pre-screen questionnaire, and 108 participants fulfilled our study requirements (i.e., were full-time employees currently holding a supervisory position) and were subsequently invited to participate in our study in exchange for \$0.75 USD. Following the recommendations by Meade and Craig (2012), we excluded participants who responded carelessly (i.e., those who failed the direct response measures [e.g. please respond with "strongly agree"]), resulting in a sample of 92 full-time supervisors (58% male). Participants' mean age was 35.18 years ($SD = 10.08$), had been employed in their current organization for an average of 65.58 months ($SD = 66.58$), and had worked in their current position for an average of 39.14 months ($SD = 41.69$).

Supervisors were informed that the study concerned episodic memory. They were asked to complete a task involving visualizing one of their subordinates, and then recalling an interaction with the visualized subordinate. Supervisors were randomly assigned to one of three conditions: subordinate good performance, subordinate bad performance with non-hostile attribution of bad performance, and subordinate bad performance with hostile attribution of bad performance. After completing the recall task, supervisors rated their feelings of hostility towards the subordinate that they visualized.

Manipulating subordinate performance. To manipulate subordinate performance, we used the critical incident technique (see, e.g., Aquino, Tripp, & Bies, 2001; Bobocel, 2013). Supervisors were first asked to visualize a subordinate with whom they interact frequently. In

the poor performance condition, supervisors were asked to recall an episode when the particular subordinate exhibited poor in-role performance at work, and they were given seven examples (e.g., “the subordinate did not adequately complete his/her assigned duties” and “the subordinate did not meet formal performance requirements of the job”). In the good performance condition, supervisors were asked to recall an episode when the particular subordinate exhibited good in-role performance, and they were also given seven examples (e.g., “the subordinate adequately completed his/her assigned duties” and the subordinate met formal performance requirements of the job”). The examples for poor and good subordinate performance were drawn from the in-role behavior questionnaire (Williams & Anderson, 1991). Immediately after the recall task, participants were asked to write a paragraph to elaborate on what happened during the incident, which was later coded as a manipulation check of subordinate performance.

Manipulating supervisor hostile attribution. To manipulate supervisor hostile attribution, supervisors who were in the poor subordinate performance condition were then asked to either make non-hostile attributions or hostile attributions of the subordinate’s poor performance. Because a hostile attribution bias would only become relevant in dealing with provocative situations such as subordinate poor performance (Tett & Burnett, 2003) and cannot be meaningfully manipulated outside of such a context, we only manipulated hostile attribution in the subordinate poor performance condition. More specifically, supervisors in the non-hostile attribution condition were asked to imagine that the visualized subordinate exhibited bad performance because of reasons outside of the subordinate’s control (i.e., without malicious intent), and were given five examples (e.g., “the subordinate encountered some technical difficulties at work such as a computer virus” and “the subordinate had to leave work early to pick up his/her kids from school”). Consistent with the construct definition of hostile attribution,

supervisors in the hostile-attribution condition were asked to imagine that the visualized subordinate exhibited poor performance because of the subordinate's intention to cause harm, and were given five examples (e.g., "the subordinate wanted to challenge your authority" and "the subordinate wanted to impede you from reaching your desired goals"). Immediately after the hostile attribution manipulation, supervisors were asked to write a paragraph to elaborate why the subordinate exhibited poor performance¹.

Measures

Hostility towards the subordinate. We assessed supervisor hostility towards the subordinate with the hostility subscale of the Positive and Negative Affect Schedule – Expanded Form (PANAS-X; Watson & Clark, 1999). The scale consists of six adjectives: angry, hostile, irritable, scornful, disgusted, loathing" ($\alpha = .95$). For each item, supervisors rated the extent to which they felt this way about the subordinate (1 = *very slightly or not at all*; 5 = *extremely*).

Study 1 Results

Manipulation Checks

Subordinate performance. Two independent research assistants who were blind to the study's hypotheses and conditions coded supervisors' descriptions of subordinate performance based on the overall judgment of the subordinate's performance on a scale of 1 (*extremely poor*) to 5 (*extremely good*). Because there was a high reliability among the two coders' scores ($r = .88, p < .01$), we averaged them to form an overall judgment of the subordinate's performance.

¹ In an independent sample with 96 full-time supervisors who were living in USA or Canada recruited from Amazon's Mechanical Turk, we pre-tested the supervisor hostile attribution manipulation. After implementing the manipulation, we asked these participants to rate the extent to which they agreed with items attributing hostile intent for the subordinate poor performance on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*). Example hostile attribution items include "He/she wanted to challenge your authority," "He/she wanted to compromise your performance," "He/she wanted to harm your reputation" ($\alpha = .96$). We found that participants in the hostile attribution condition had more hostile attributions for subordinate poor performance ($M = 3.88, SD = 1.83$) compared to those in the non-hostile attribution condition [$(M = 2.11, SD = 1.22), t(95) = -5.61, p < .01$].

An independent samples *t*-test revealed that subordinate performance was rated significantly better in the subordinate good performance condition ($M = 4.27, SD = .83$) than in the subordinate poor performance condition [$(M = 1.82, SD = .46), t(90) = 18.21, p < .01, d = 3.65$]. This indicates that our subordinate performance manipulation was successful.

Hypothesis Testing

To test the hypothesis that subordinate performance is negatively related to supervisor hostility towards the visualized subordinate (Hypothesis 1) and that subordinate poor performance engenders greater supervisor hostility towards the visualized subordinate when hostile attributions are made (Hypothesis 3), we conducted an Analysis of Variance (ANOVA). There was a significant effect of condition (i.e., subordinate good performance, subordinate poor performance with hostile attribution, and subordinate poor performance with non-hostile attribution) on supervisor hostility towards the visualized subordinate [$F(2, 89) = 19.34, p < .01, \eta^2 = .30$]. In support of Hypothesis 1, planned contrasts revealed that supervisors who visualized subordinate good performance ($M = 1.16, SD = .49$) experienced significantly less hostility towards the subordinate compared to supervisors who visualized subordinate poor performance with a non-hostile attribution [$M = 2.09, SD = 1.01; t(89) = -3.76, p < .01, r = .37$], and compared to supervisors who visualized subordinate poor performance with a hostile attribution [$M = 2.66, SD = 1.25; t(89) = -6.16, p < .01, r = .55$]. In support of Hypothesis 3, supervisors who visualized subordinate poor performance with a hostile attribution experienced greater hostility towards the subordinate compared to supervisors who visualized subordinate poor performance with a non-hostile attribution [$t(89) = 2.28, p < .05, r = .23$].

Study 1 thus established that a subordinate's poor performance led to an increase in hostility felt toward that subordinate (versus hostility felt toward a subordinate with good

performance), and that supervisors who made hostile attributions for the poor performance felt the greatest amount of hostility. This is in line with our predictions, in that hostile attributions made when faced with a provocateur led to greater experience of hostility towards the provocateur. In Study 2, we sought to demonstrate that supervisor hostility toward a subordinate leads to greater intentions to abuse that subordinate, with trait mindfulness as a moderator.

Study 2 Method

Participants and Procedure

Following procedures similar to Study 1, we pre-screened 395 participants and recruited 124 of those who were full-time supervisors from Amazon's Mechanical Turk. After excluding careless respondents, we obtained a final sample of 101 full-time supervisors (51% male). Participants' mean age was 36.76 years ($SD = 10.49$), had been employed in their current organization an average of 71.79 months ($SD = 68.42$), and had worked in their current position for an average of 44.32 months ($SD = 48.85$). Supervisors were informed that the study concerned the vividness of visualization and emotions, and they were asked to recall a time when they felt either hostile or jovial towards a subordinate. Following the recall task, supervisors completed questionnaires assessing their trait mindfulness, and their abusive supervision intentions towards the visualized subordinate.

Manipulating supervisor emotions towards the subordinate. To manipulate supervisors' emotions towards a particular subordinate, supervisors were first asked to visualize a subordinate with whom they interact frequently. Supervisors were then randomly assigned into one of the two conditions: hostility towards the subordinate and joviality towards the subordinate (joviality being the opposite in valence of hostility; Barrett & Russell, 1999). In the hostility condition, supervisors were asked to recall an interaction when they felt angry, hostile, irritable, scornful,

disgusted, and loathing towards the visualized subordinate. In the joviality condition, supervisors were asked to recall an interaction when they felt happy, joyful, delighted, cheerful, excited, and enthusiastic towards the visualized subordinate. Relevant adjectives were drawn from the hostility and joviality subscales of the Positive and Negative Affect Schedule (PANAS-X; Watson & Clark, 1999). Supervisors were then asked to write a description to elaborate what happened during the interaction and what emotions they felt towards the visualized subordinate.

Measures

Mindfulness. We assessed mindfulness using Brown and Ryan's (2003) scale ($\alpha = .93$). Supervisors rated their agreement with statements such as "I find it difficult to stay focused on what's happening in the present" (reverse coded) and "I do jobs or tasks automatically without being really attentive to them" (reverse coded) (1 = *almost never*; 6 = *almost always*).²

Abusive supervision intentions. Abusive supervision intentions were measured using the 5-item abusive supervision scale ($\alpha = .90$; Mitchell & Ambrose, 2007; Tepper, 2000). Supervisors were asked to refer to their visualized subordinate and were asked to indicate the frequency with which they plan to engage in behaviors such as "ridicule him/her" and "tell him/her they are incompetent" on a 5-point Likert scale (1 = *I don't plan to ever use this behavior with him/her*; 5 = *I plan to use this behavior very often with him/her*).

Study 2 Results

Manipulation Checks

To assess the manipulation of supervisors' emotions, we content-analyzed supervisors' descriptions of the event using a computerized text analysis program: the Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth, 2001). Using a pre-set dictionary of word

² Post hoc analyses indicate that there were no mean differences between the joviality condition ($M = 4.59$, $SD = .91$) and hostility condition ($M = 4.43$, $SD = 1.08$) in predicting supervisor mindfulness [$t(99) = .81$, $p = .42$]. Thus, the manipulation of supervisor emotions did not influence supervisor mindfulness.

categories developed by Pennebaker and colleagues (2001), the LIWC program reports the frequency of words within a given category that appear in written texts. We used the percentage of anger-related and positive emotion words reported by LIWC as a manipulation check for supervisor emotions towards the subordinate. Examples of anger-related words in the LIWC dictionary include hate, kill, and annoyed, among others. Examples of positive emotion words include love, nice, and sweet, among others. Independent sample *t*-tests revealed that supervisors in the hostility condition used a significantly greater percentage of anger-related words ($M = 2.66, SD = 7.05$) compared to those in the joviality condition [$M = .07, SD = .36, t(99) = -2.60, p < .05, d = -.52$]. Moreover, supervisors in the joviality condition used a significantly greater percentage of positive emotion words ($M = 8.19, SD = 4.62$) compared to those in the hostility condition [$M = 1.22, SD = 1.51; t(99) = 10.16, p < .01, d = 2.03$]. These results suggest our manipulation of supervisor emotions was successful.

Hypothesis Testing

Hypothesis 2 predicted that supervisor hostility towards a subordinate is positively related to abusive supervision. In support of Hypothesis 2, there was a significant main effect of the supervisor emotion manipulation on abusive supervision intentions ($b = .35, p < .01$; see Table 1). Hypothesis 4 predicted that supervisor mindfulness moderates the positive relation between supervisor hostility towards the subordinate and abusive supervision, such that the relation is weaker when supervisors are high (vs. low) in mindfulness. Consistent with Hypothesis 4, there was a significant supervisor emotion manipulation by supervisor trait mindfulness interaction in predicting supervisors' abusive supervision intentions ($b = -.23, p < .05$), and the additional variance explained by the two-way interaction term was significant ($\Delta R^2 = .04, p < .05$; see Table 1). The interaction is depicted in Figure 2. Tests of simple slopes at +/-

1 *SD* of mindfulness indicated that the relation between the supervisor emotion manipulation and abusive supervision intentions was significant when mindfulness was low ($t = 4.13, p < .01$) but not significant when mindfulness was high ($t = .94, n.s.$).

Figure 2. The Moderating Effect of Supervisor Mindfulness on Supervisor Emotions and Abusive Supervision Intentions (Essay 1 Study 2)

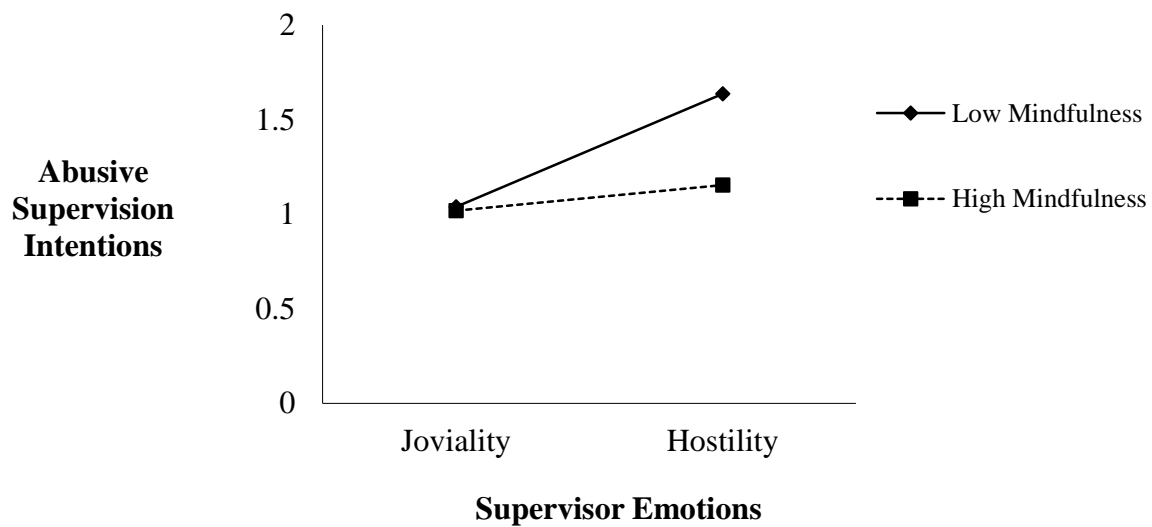


Table 1. Two-Way Interaction between Supervisor Emotions and Mindfulness in Predicting Abusive Supervision Intentions (Essay 1 Study 2)

Variables	Step 1	Step 2
Intercept	1.04** (.07)	1.03** (.07)
Supervisor emotions	.36** (.10)	.37** (.10)
Trait mindfulness	-.15** (.05)	-.01 (.08)
Emotions x Mindfulness		-.23* (.10)
ΔR^2	.19**	.04*

Note. $n = 101$. Values are unstandardized regression coefficients; standard error estimates are in parentheses. All lower-order terms used in interactions were centered prior to analysis. For Supervisor emotions, “joviality towards the subordinate” = 0, “hostility towards the subordinate” = 1.

* $p < .05$

** $p < .01$

Two tailed tests.

Taken together with the results of Study 1, the results of Study 2 establish evidence for the causal effects of subordinate performance on supervisor hostility towards the subordinate (Study 1) and of supervisor hostility towards the subordinate on abusive supervision (Study 2) via an experimental-causal-chain design. Of course, these studies are not without limitations: the lack of a neutral emotion condition in Study 2 raises concerns over whether it is hostility or joviality that is driving our effect (though in line with our theoretical development, hostile emotions are what energize aggressive action tendencies, suggesting hostility is responsible). Moreover, as with any experimental design, concerns over participants picking up on and responding in line with perceived demand characteristics are a potential issue, although the presence of interactions in our studies help argue against such demand characteristics influencing our results. Finally, while these studies have strong internal validity in terms of being able to argue that the causal chain outlined in our Figure 1 is accurate, they are weaker with respect to external validity in that they involve visualizations (not experiences) of subordinates, and intentions (not behaviors) towards subordinates.

Thus, Study 1 and 2 should primarily be viewed as establishing support for the causal nature of our model, but also possessing limitations of their own. To address these limitations, in a multi-wave and multi-source field study with supervisor and subordinate teams (Study 3), we tested the overall moderated mediation model in a field setting. Moreover, an additional goal of Study 3 was to control for previously established antecedents of abusive supervision. As mentioned earlier, prior literature on the antecedents of abusive supervision has employed trickle-down perspectives to examine abusive supervision as a function of supervisors' perceived mistreatment at the hand of their superior (e.g., Aryee et al., 2007; Hoobler & Brass, 2006). To show our self-control model explains variance in abusive supervision above and beyond supervisors' perceived mistreatment, we controlled for related predictors shown in prior literature (i.e., interpersonal justice and psychological contract violation reported by supervisors).

Study 3 Method

Participants and Procedure

We collected our data from full-time employees working at four financial institutions in China. The organizations consist of work units of approximately 5 to 10 employees and a supervisor to whom these employees directly report. Subordinates' and supervisors' tasks in various work units mainly involve interacting with customers and greeting customers, preparing forms, coordinating transactions, and/or monitoring daily stock prices. Supervisors are also responsible for monitoring subordinates' work performance.

Unit supervisors were contacted by the human resource (HR) director at each organization on behalf of the researchers and were provided with information regarding the study, which consisted of completing two surveys about themselves as well as four subordinates. Subordinates were randomly selected from the employee roster by HR personnel. Once

subordinates were identified, they were contacted by the HR director on behalf of the researchers and provided with information about the study, which consisted of completing a survey in which they provided ratings of their supervisor. All supervisor and subordinate respondents were assured confidentiality of their responses and were asked to place their completed surveys in a sealed envelope that would be collected directly by the researchers. All respondents were given a small gift worth approximately \$1 USD in appreciation of their participation.

The first survey was sent to 77 supervisors to assess supervisor perceptions of interpersonal justice and psychological contract violation, each of the four subordinates' performance, supervisor hostile attribution, and supervisor mindfulness. We received 54 completed surveys from supervisors (73% response rate). One week later, we sent the second survey to these 54 supervisors, assessing supervisor hostility towards each of the four subordinates. Coinciding with the second survey, we also sent surveys to 216 subordinates to assess abusive supervision. In total, we received complete data from 50 supervisors and 206 subordinates (supervisor retention rate: 93%; subordinate response rate: 95%).

Measures

Subordinate performance. We assessed supervisor ratings of subordinate performance using Williams and Anderson's (1991) 7-item in-role behavior scale. Supervisors were asked to indicate whether each of the four subordinates engaged in behaviors such as “fulfills responsibilities specified in his/her job description” and “neglects aspects of the job he/she is obligated to perform (reversed coded)” (1 = *strongly disagree*; 5 = *strongly agree*).

Hostile attribution bias. We assessed supervisors' hostile attribution bias using the hostile attribution subscale from the California Psychological Inventory (Gough, 1987). Supervisors responded to items such as “people pretend to care more about one another than they

really do” (1 = *strongly disagree*; 5 = *strongly agree*)³.

Hostility towards subordinate. We assessed supervisor hostility towards each subordinate with the same instrument used in Study 1. For each item, supervisors rated the extent to which they felt this way about each of the four randomly selected subordinates on a 5-point Likert scale (1 = *very slightly or not at all*; 5 = *extremely*).

Mindfulness. Mindfulness was assessed with the same instrument used in Study 2.

Abusive supervision. Abusive supervision was measured using the 15-item scale developed by Tepper (2000). Subordinates rated how frequently their supervisor engaged in behaviors such as “ridicules me” and “puts me down in front of others” on a 5-point Likert scale (1 = *I can’t remember him/her ever using this behavior with me* and 5 = *he/she uses this behavior very often with me*).

Control variables. As noted previously, we controlled for supervisor perceptions of interpersonal justice and psychological contract violation. We assessed interpersonal justice using Colquitt’s (2001) 4-item measure. Supervisors were asked to rate the extent to which their immediate supervisor engaged in behavior such as “treated you in a polite manner?” (1 = *to a small extent*; 5 = *to a larger extent*). We assessed psychological contract violation with Robinson and Morrison’s (2000) 4-item measure. Supervisors responded to item such as “I feel betrayed by my organization” (1 = *strongly disagree*; 5 = *strongly agree*).

All scales were translated from English to Mandarin and back by two independent bilinguals (Brislin, 1980); the accuracy of the translation was verified by a third individual.

³ An initial internal consistency test revealed two questionable items (“I commonly wonder what hidden reason another person may have for doing something nice for me” and “A person is better off if he doesn’t trust anyone”). As the results of our analyses did not change with or without these two items, we removed them to increase the internal consistency of the scale.

Confirmatory Factor Analysis

To confirm the distinctiveness of our Level-1 constructs (subordinate performance, supervisor hostility towards the subordinate, and abusive supervision), we conducted multilevel confirmatory factor analysis (MCFA) using Mplus 7.0 (Muthén & Muthén, 1998–2012). The three-factor measurement model displayed an acceptable fit to the data ($\chi^2_{[694]} = 1607.268$, RMSEA = .078, SRMR = .086; RMSEA value no greater than .08 and SRMR values no higher than .10 suggest an acceptable fit [Hu & Bentler, 1999]). Moreover, we compared our hypothesized three-factor model with a more parsimonious two-factor model whereby items of supervisor hostility towards the subordinate and abusive supervision were loaded on the same factor ($\chi^2_{[698]} = 1752.054$, RMSEA = .086, SRMR = .11). Model comparison indicates that the hypothesized three-factor model was a significant improvement over the two-factor model ($\Delta\chi^2_{[4]} = 144.79$, $p < .001$). Overall, the results support the distinctiveness of our Level-1 constructs.

Analytical Strategy

Our hypotheses imply a multilevel moderated mediation model, such that the mediating process occurring at Level-1 (i.e., supervisor hostility towards the subordinate mediating the relation between subordinate performance and abusive supervision) is moderated by Level-2 variables (i.e., supervisor hostile attribution bias moderates the first stage, and supervisor mindfulness moderates the second stage). Accordingly, we analyzed our data using multilevel structural equation modeling (MSEM). Compared to the conventional multilevel modeling, MSEM does not require multiple stages of analysis and allows simultaneous tests of cross-level moderation, thus offering more robust estimates of the standard errors of the parameters (Preacher, Zyphur, & Zhang, 2010). In addition, the variance of Level-1 variables (i.e., subordinate performance, supervisor hostility towards the subordinate, and abusive supervision)

are decomposed into both within and between components (Preacher et al., 2010) thus separating cross-level interactions from between-group effects (Hofmann & Gavin, 1998).

Following Preacher and colleagues' recommendations (Preacher et al., 2010), we specified the Level-2 moderators (i.e., supervisor hostile attribution and supervisor mindfulness), and Level-2 covariates (i.e., supervisor perceptions of interpersonal justice and psychological contract violation) at the between-level, and did not specify the Level-1 variables (i.e., subordinate performance, supervisor hostility towards the subordinate, and abusive supervision) at either the within- or the between-level. In MSEM, all observed variables measured at Level-1 are by default decomposed into latent within-group and between-group components, and this decomposition "can be viewed as an implicit, latent group-mean centering of the latent within-level covariate" (Muthén & Muthén, 1998–2012: 263), which removes any between-group variation for estimating the Level-1 effects (Enders & Tofighi, 2007). Using Mplus 7.3, we set Level-1 effects (i.e., the relation between subordinate performance and supervisor hostility towards the subordinate, and the relation between supervisor hostility towards the subordinate and abusive supervision) to be random. These random effects were predicted by Level-2 moderators (i.e., supervisor hostile attribution and supervisor mindfulness). Moreover, to facilitate the interpretation of our results, we grand mean centered all the exogenous variables.

To test the overall moderated mediation model (Hypothesis 5), we followed Edwards and Lambert's (2007) path analytic approach, which integrates regression analysis for moderation with path analysis for mediation to examine whether the mediating effects vary at high and low levels of the moderators. To derive the significance of the mediating effects (indirect effects), it is conventional to use the resampling-based bootstrapping approach, as such an approach does not violate normal distribution assumptions (Edwards & Lambert, 2007). However, given the

multi-level nature of our data, the resampling-based bootstrapping method cannot be applied (Preacher & Selig, 2012). We therefore used a Monte Carlo simulation approach, which generates a sampling distribution of the indirect effects. The sampling distribution of the indirect effects was generated by first fitting our hypothesized model to the data, and obtaining estimates and asymptotic variances for direct effects (e.g., path coefficient a and path coefficient b of an indirect effect $a*b$). Unlike the indirect effect $a*b$ which is not normally distributed, parameters of direct effects a and b are typically normally distributed. Therefore, a large number of random draws can be taken from the normal distribution of the parameters a and b , creating the indirect effect $a*b$ each time, resulting in a sample distribution of the indirect effects (Preacher & Selig, 2012). We generated 100,000 simulated parameter sets, and constructed 95% confidence intervals for the indirect effects.

With respect to our control variables (interpersonal justice and psychological contract violation), trickle-down models of abusive supervision primarily theorize that frustrated supervisors are more likely to experience negative emotions (Aryee et al., 2007) and engage in behaviors as a means of relieving their frustrations (Aryee et al., 2007; Hoobler & Brass, 2006). Consequently, we modeled each of our control variables as predictors of both supervisor hostility towards the subordinate and abusive supervision.

Study 3 Results

Preliminary Analyses

To justify the use of multilevel modeling for our data, we first calculated the unconditional *ICCs* by running null models with hostility towards subordinates and abusive supervision as the dependent variable without predictors. The results show substantial amounts of variance in hostility and abusive supervision can be explained by group membership

($ICC1_{\text{hostility}} = .72$; $ICC1_{\text{abusive supervision}} = .55$), justifying the use of MSEM.⁴

Hypothesis Testing

Table 2 presents the descriptive statistics, zero-order correlations, and alphas of the measured variables. Figure 3 presents the unstandardized MSEM path coefficients. Hypothesis 1 predicted that subordinate performance is positively related to supervisor hostility towards the subordinate. As shown in Figure 3, the main effect of subordinate performance on supervisor hostility towards the subordinate was not significant ($\gamma = -.10$, $SE = .06$, *n.s.*), therefore, Hypothesis 1 was not supported. Hypothesis 2 predicted that supervisor hostility towards the subordinate is positively related to abusive supervision. As shown in Figure 3, the main effect of supervisor hostility towards the subordinate on abusive supervision was not significant ($\gamma = .09$, $SE = .18$, *n.s.*), therefore, Hypothesis 2 was not supported.

⁴ Given that we collected our data from four organizations, we attempted to calculate unconditional ICC to determine whether a three-level model where employees nested within supervisors and supervisors nested within organizations is needed. However, due to the small number of organizations (i.e., four), this model did not converge. Analyses were repeated controlling for dummy coded organizational membership. Controlling for organizational membership did not change our findings.

Table 2. Descriptive Statistics, Zero-order Correlations, Reliabilities (Essay 1 Study 3)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Interpersonal justice	3.58	.78	.89						
2. Psychological contract violation	1.82	.61	-.01	.85					
3. Subordinate performance	3.66	.58	.48**	-.27**	.84				
4. Hostile attribution	2.54	.59	.20**	.18*	-.11	.67			
5. Supervisor hostility towards the subordinate	1.31	.51	-.23**	-.01	-.32**	.16*	.87		
6. Mindfulness	3.55	.47	.37**	-.32**	.46**	-.14	-.25**	.80	
7. Abusive supervision	1.53	.77	-.19**	.23**	-.27**	.04	.37**	-.29**	.97

Note. $n = 206$ at the individual level, $n = 50$ at the team level.

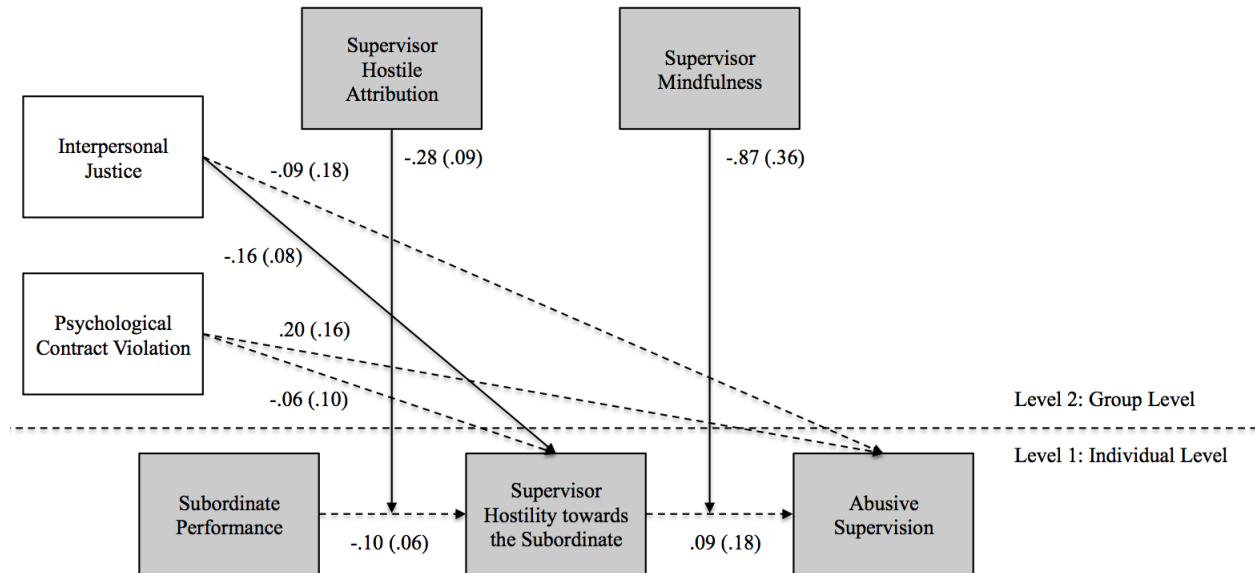
Reliabilities of the scales are boldfaced and noted in the diagonals.

* $p < .05$

** $p < .01$

Two tailed tests.

Figure 3. MSEM Model with Study Variables (Essay 1 Study 3)



Note. Numbers shown are unstandardized path estimates; standard error estimates are in parentheses. Solid lines indicate significant relations ($p < .05$); dashed lines indicate non-significant relationships ($p > .05$); shaded boxes indicate our focal model.

Hypothesis 3 predicted that supervisor hostile attribution bias moderates the relationship between subordinate performance and supervisor hostility towards the subordinate, such that the relationship is stronger for supervisors who are high in hostile attribution bias. As seen in Figure 3, the interaction of subordinate performance and supervisor hostile attribution on supervisor hostility towards the subordinate was significant ($\gamma = -0.28$, $SE = .09$, $p < .01$). The interaction pattern is depicted in Figure 4. Tests of simple slopes (at ± 1 SD of hostile attribution) indicated that subordinate performance was significantly negatively related to supervisor hostility towards the subordinate when supervisor hostile attribution was high (simple slope = -0.26 , $SE = .09$, $p < .01$), but was not significant when supervisor hostile attribution was low (simple slope = $.06$, $SE = .08$, *n.s.*). These results provided support for Hypothesis 3.

Hypothesis 4 predicted that supervisor mindfulness moderates the relationship between supervisor hostility towards the subordinate and abusive supervision, such that the relationship is stronger for supervisors low in mindfulness. As seen in Figure 3, the interaction of supervisor mindfulness and supervisor hostility towards the subordinate on abusive supervision was significant ($\gamma = -.87, SE = .36, p < .05$). The interaction pattern is depicted in Figure 5. Tests of simple slopes (at $\pm 1 SD$ of mindfulness) indicated that supervisor hostility towards the subordinate was significantly positively related to abusive supervision when supervisor mindfulness was low (simple slope = $.50, SE = .21, p < .01$), but was not significant when supervisor mindfulness was high (simple slope = $-.32, SE = .29, n.s.$), supporting Hypothesis 4.

Figure 4. The Moderating Effect of Supervisor Hostile Attribution on Subordinate Performance and Supervisor Hostility towards the Subordinate (Essay 1 Study 3)

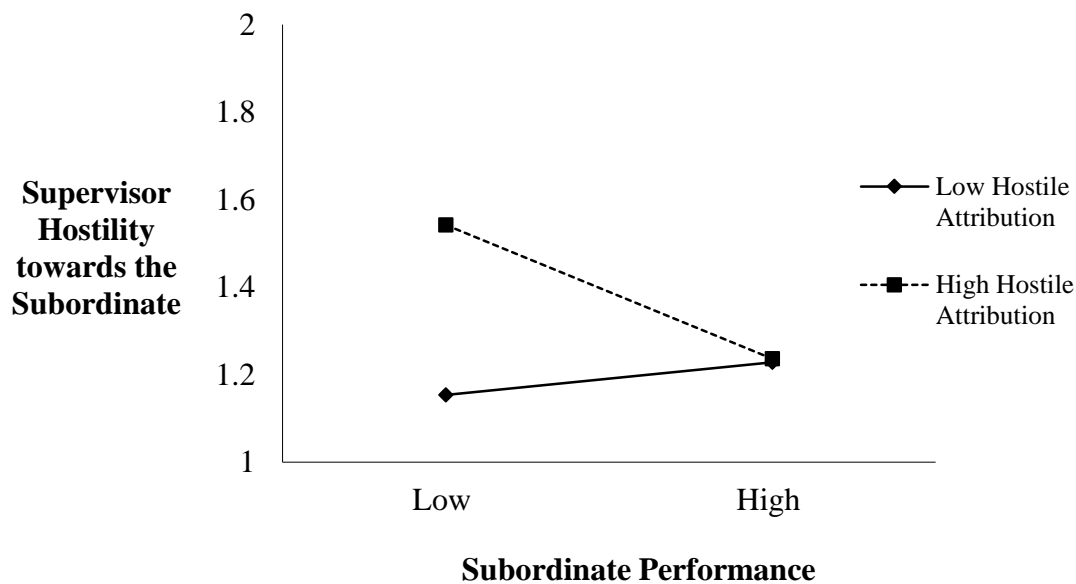


Figure 5. The Moderating Effect of Supervisor Mindfulness on Supervisor Hostility towards the Subordinate and Abusive Supervision (Essay 1 Study 3)

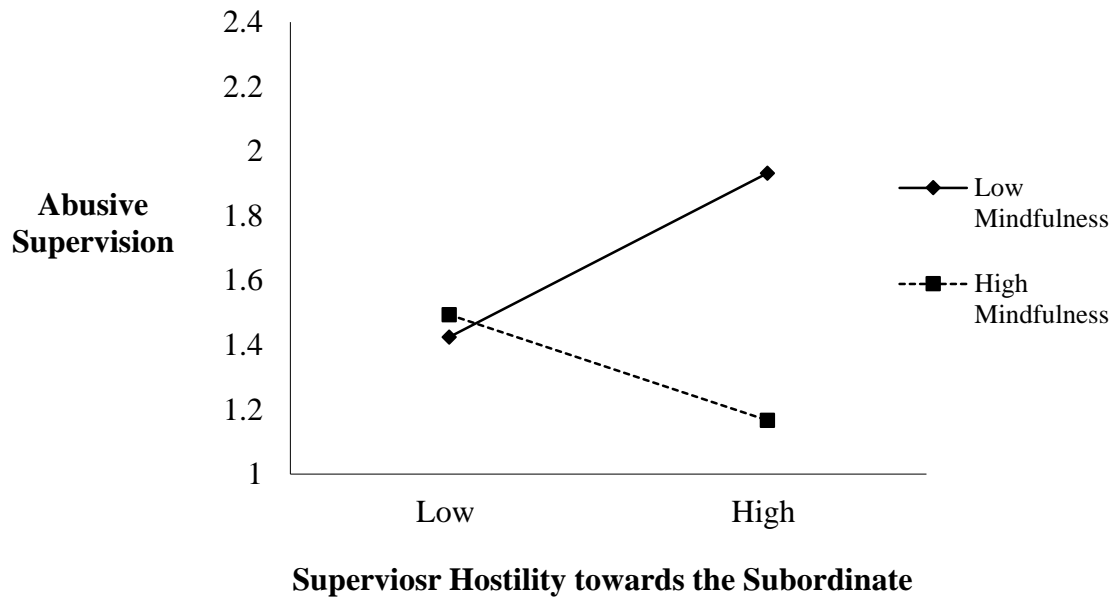


Table 3. Summary of Indirect Effects of Subordinate Performance on Abusive Supervision via Supervisor Hostility towards Subordinate (Essay 1 Study 3)

Moderator Variables ^b	Subordinate Performance (X) → Supervisor Hostility towards the Subordinate (M) → Abusive supervision (Y)		
	First Stage	Second Stage	Indirect Effect
	P _{MX}	P _{YM}	P _{MX x PYM}
(1) High Hostile Attribution, High Mindfulness	-.26*	-.32	.08
(2) High Hostile Attribution, Low Mindfulness	-.26*	.50*	-.13*
(3) Low Hostile Attribution, High Mindfulness	.06	-.32	-.02
(4) Low Hostile Attribution, Low Mindfulness	.06	.50*	.03
(1) and (2) Differences	.00	-.82*	.21*
(1) and (3) Differences	-.33*	.00	.10
(1) and (4) Differences	-.33*	-.82*	.05
(2) and (3) Differences	-.33*	.82*	-.11 [†]
(2) and (4) Differences	-.33*	.00	-.16*
(3) and (4) Differences	.00	.00	-.05

Note. $n = 206$ at the individual level, $n = 50$ at the team level.

All estimates were tested for significance using bias-corrected confidence intervals from 100,000 parametric re-samples.

* 95% CI does not include zero

[†] 90% CI does not include zero

“Low” moderator variable refers to -1 *SD* value of the moderator; “high” moderator variable refers to +1 *SD* value of the moderator.

Table 3 presents the MSEM results of the first stage, second stage, and indirect effects. Hypothesis 5 predicted that the indirect effect of subordinate performance on abusive supervision as mediated by supervisor hostility towards the subordinate is the strongest when supervisor hostile attribution bias is high and supervisor mindfulness is low. As seen in Table 3, the indirect effect of subordinate performance on abusive supervision via supervisor hostility towards the subordinate was only significant for supervisors under the condition of high hostile attribution bias and low mindfulness ($\rho = -.13$, 95% CI [-.29, -.02]), but not significant for those under the other three conditions ($\rho = .08, -.02, .03$ respectively, 95% CI [-.06, .25], [-.12, .04], and [-.05, .13] respectively). Moreover, the indirect effect under the condition of high hostile attribution bias and low mindfulness was also significantly stronger than that under the condition of high hostile attribution bias and high mindfulness (difference between conditional indirect effects [*diff*] = .21, 95% CI [.03, .46]), and low hostile attribution and low mindfulness (*diff* = -.16, 95% CI [-.36, -.02]), while the indirect effect was marginally significantly than that under the condition low hostile attribution bias and high mindfulness (*diff* = -.11, 90% CI [-.24, -.02]). Additionally, the indirect effects for the latter three conditions were not significantly different from each other (*diff* = .10 between the condition of high hostile attribution and high mindfulness and the condition of low hostile attribution and high mindfulness; *diff* = .05 between the condition of high hostile attribution and high mindfulness and the condition of low hostile attribution and low mindfulness; *diff* = -.05 between the condition of low hostile attribution and high mindfulness and low hostile attribution and low mindfulness, 95% CI [-.07, .32], [-.12, .24], [-.23, .08], respectively). These results provided support for Hypothesis 5.

Supplementary Analyses

In line with prior research using a victimization theory perspective (Tepper et al., 2006),

we repeated our analyses controlling for subordinate trait negative affect. Controlling for subordinate trait negative affect did not change our results or the support for our hypotheses.

We also sought to rule out alternative explanations by testing alternate models with different combinations of moderating effects. In particular, we tested a model with mindfulness moderating the first stage and hostile attribution moderating the second stage; a model with both hostile attribution and mindfulness moderating the first stage; a model with both hostile attribution and mindfulness moderating the second stage; as well as a model where both hostile attribution and mindfulness moderate both the first stage and the second stage. Given that mindfulness does not imply decreased emotional reactivity to negative situations but rather a greater awareness of and acceptance of emotions (see, e.g., Erisman & Roemer, 2010) while hostile attribution bias does not imply increased behavioral reactivity to negative emotions but rather increased emotional reactivity to negative situations (Wilkowski & Robinson, 2010), we did not expect mindfulness to moderate the first stage of our model or expect hostile attribution bias to moderate the second stage of our model. Consistent with this expectation, across the various models tested, the only significant results observed were those consistent with Hypothesis 3 and 4: hostile attribution bias moderated the first stage, and mindfulness moderated the second stage. We also explored whether either hostile attribution or mindfulness moderated the effects of our control variables, interpersonal justice or psychological contract violation on abusive supervision. None of these interactions were significant. These results provide additional support for our hypothesized model. More detailed results of these supplementary analyses are available from the first author.

General Discussion

In our paper, we develop and test a dual-system self-control model to examine the

occurrence of abusive supervision as a function of supervisors' reactive aggression towards a poor performing subordinate. More precisely, we examine the mechanism—supervisor hostility towards the subordinate—through which poor subordinate performance relates to abusive supervision, as well as the roles supervisor hostile attribution bias and supervisor mindfulness play in strengthening and mitigating the supervisors' experienced of and response to that hostility. Across two experimental studies and one field study, we found strong support for our dual-system self-control model of abusive supervision; these findings and our model itself hold a number of implications for management research and practice.

Implications for Abusive Supervision Antecedents: An Elaborated View

Our findings extend the abusive supervision literature in several ways. First and foremost, our dual-system self-control model provides a new theoretical perspective on why abusive supervision occurs. In particular, our work suggests that abusive supervision represents a form of supervisors' self-control failure. This framework builds on previous victimization research demonstrating that an employee's poor performance can lead to abusive supervision (e.g., Tepper et al., 2011) and is different from a trickle-down perspective which suggests that abusive supervision trickles down from mistreated supervisors to subordinates (e.g., Hoobler & Brass, 2006). Trickle-down models are at odds with research suggesting supervisory abuse is not equally distributed across all team members (Mawritz et al., 2012) where the “trickle-down” of abuse seems to fall on the heads of some subordinates more so than others (Tepper et al., 2011). Such findings are more in line with victimization models (Aquino & Thau, 2009) whereby subordinates can attract abuse based on their behaviors (Lian, Ferris et al., 2014; Tepper et al., 2011). Using these victimization models as a starting point, our dual system self-control model suggests abuse is a function of both subordinate behavior (i.e., poor performance) and supervisor

characteristics (i.e., hostile attribution biases and mindfulness), and highlights when and why poor performers are likely to be abused.

Our intent here is not to suggest trickle-down models are wrong, but rather that they cannot represent the antecedents of abusive supervision solely in and of themselves. Indeed, our results suggest that both trickle-down effects (particularly, the lack of interpersonal justice a supervisor experiences himself/herself) and our self-control model contribute to abusive supervision—although the effect of interpersonal justice seems primarily to be that it renders supervisors more prone to experiencing hostility. In demonstrating these joint effects, we provide an enriched account of the antecedents of abusive supervision in which trickle-down models, victimization models, and characteristics of the supervisor play a role in influencing the emergence of abusive supervision.

By building on and extending past victimization research involving abusive supervision (e.g., Tepper et al., 2011), our work simultaneously contributes to the broader workplace victimization literature as a whole. Consistent with victimization models suggesting that subordinate behaviors can provoke abuse (Aquino & Thau, 2009), previous work has shown that subordinate poor performance is directly related to abusive supervision (e.g., Tepper et al., 2011). However, the victimization literature lacks theoretical specification regarding why certain subordinates elicit abuse (Aquino & Thau, 2009). As a result, we know little about why supervisors lash out at poor performing subordinates. Our paper addresses these outstanding issues, and is flexible enough to extend beyond the abusive supervision literature to any victimization situation where provocative behaviors (e.g., poor performance) are thought to provoke aggressive responses (e.g., abusive supervision). Moreover, by outlining the existence of dual-systems—one which relates to the impelling desire, the other which relates to constraints

on that desire—our model also readily lends itself to the investigation of boundary conditions that relate to the two systems (e.g., hostile attribution biases and mindfulness). In so doing, our model enriches the victimization literature by viewing abuse as a function of not only victims' provocative behaviors but also perpetrators' characteristics.

Implications for the Leadership Literature

Our research also contributes to the broad leadership literature. Much of research on leadership has focused exclusively on how leader traits and behaviors impact followers, but has generally ignored how followers can also play an active role in influencing leader behaviors; as such, the “follower remains an underexplored source of variance in understanding leadership processes” (Lord, Brown, & Freiberg, 1999: 167). More recently, scholars have criticized this imbalanced, one-way approach to leadership noting that leadership is a relationship that involves bi-directional influences. By examining subordinate performance as an antecedent of supervisor abusive behaviors towards subordinates, our research furthers the understanding of how follower behaviors can influence leader behaviors, and answers calls for leadership scholars to identify the antecedents of leader behaviors (Lord et al., 1999).

By identifying how specific leader traits associated with leader information processing styles (i.e., hostile attribution bias and mindfulness) interact with the context to influence leader abusive behaviors towards subordinates, our research also provides a better understanding of the dynamic interplay between leader traits and leader behaviors, and answers several recent calls for research to integrate leader traits and behaviors (Avolio, 2007). In addition, by examining supervisor hostility towards a subordinate as a mediator, our work provides an empirical test of the effect of leader affect on leader outcomes, which is an emerging domain in the leadership literature (see Gooty, Connelly, Griffith, and Gupta, 2010).

Implications for Self-Control

Our study also contributes to self-control research by addressing a notable deficit in our understanding of self-control failure. Although dual-system self-control models suggest self-control failure is the result of either a strong desire that drives behaviors (i.e., the first system), or the lack of capacity and motivation to override the behavior (i.e., the second system), self-control researchers have typically emphasized the importance of overriding behaviors but have largely overlooked the role of desires in driving such behaviors in the first place (Hofmann et al., 2009). For instance, self-control research has shown that subordinates are more likely to respond to abusive supervision with deviant behaviors when self-control capacity is depleted (Thau & Mitchell, 2010) and/or they are not motivated to self-control (Lian, Brown et al., 2014). In the current paper, we provide a more balanced view of self-control failure by taking into account the role of desires and distinguishing two phases in the self-control process in which supervisors must regulate: the experience of hostility, and behavioral enactment of the hostility. Thus, we highlight factors that lead to self-control success/failure by strengthening or mitigating experienced hostility or the transition of hostility to hostile abusive behaviors.

By identifying factors which influence the extent to which desires are experienced (i.e., hostile attributions) or translated into behaviors (i.e., mindfulness), our work contributes to the understanding of how hostile attributions and mindfulness operate within the context of self-control, and contributes to the research on attribution and mindfulness, respectively. With regard to hostile attribution bias, the attribution literature has devoted considerable attention to the understanding of leader attribution processes in influencing leader and follower relationships (Maher, 1995). In our paper, we extend this line of thinking by examining supervisor hostile attribution bias in strengthening supervisors' experience of hostility towards a poor performing

subordinate. As such, we integrate the attribution literature with the self-control literature to better understand the role attribution plays in the self-control process.

Our work also contributes to research on workplace mindfulness by illustrating how leader mindfulness influences workplace outcomes. Moreover, by placing mindfulness within a self-control framework, we particularly highlight an important difference between mindfulness and other forms of emotional self-control that focus on suppressing emotion. In particular, rather than suppressing emotion, mindful individuals “embrace” their emotions by paying attention to and accepting their emotions. The difference is important, as chronic suppression and inhibition of acting upon a desire may make the desire more accessible (Wegner & Zanakos, 1994) and result in depletion. Consequently, mindfulness may represent a more sustainable approach to exerting self-control versus approaches that focus on the suppression of emotions.

Limitations and Directions for Future Research

One potential limitation of our work is that although we have controlled for antecedents pertaining to trickle-down models of abusive supervision antecedents, we did not examine all the possible antecedents of abusive supervision in existing literature. We focused on trickle-down model antecedents given such models seem to be the most popular framework of abusive supervision antecedents (e.g., Aryee et al., 2007; Hoobler & Brass, 2006), and allow us to examine the incremental predictive validity of our model versus the most popular alternate framework. An interesting direction for future research would be to examine the comparative utility of self-control and trickle-down frameworks vis-à-vis other frameworks in the literature.

A potentially interesting direction for future research lies in relaxing our assumption that abusive supervision behavior represents a form of self-control failure. While we view aggressive behaviors as failures of self-control, abusive supervision may also be effortful and intentional

behavior intended to motivate employees to work harder (Tepper, 2007). In such a situation, successful self-regulation would involve engaging in abusive behaviors. In our own sample this did not appear to be the case, given that those who were high in mindfulness reduced their abusive behaviors; however, the belief that abuse can be motivating certainly exists (Tedeschi & Felson, 1994). Assessing supervisory beliefs regarding the instrumental value of aggression and whether those who hold such beliefs exhibit self-control by engaging in abusive behavior would provide an interesting extension to our work.

Another avenue for future research is to operationalize the disparate moderators of workplace victimization using the dual-system self-control framework. In particular, researchers can identify various factors that might potentiate the first system (or influence the strength of the hostile desire experienced), or potentiate the second system (or influence the behavioral enactment of the desire experienced). For example, many other factors may mitigate or intensify the experienced desire such as reappraisal tendencies, a history of negative relations with the provocateur, and sensitivity to negative stimuli, among others. Alternately, trait variables relating to one's dispositional capacity to engage in self-control (e.g., self-control capacity), situational variables that facilitate or impede self-control (e.g., sleep deprivation), or variables relating to the motivation to engage in self-control (e.g., the presence of social norms) should affect the translation of hostile desires into actual aggressive behaviors.

Practical Implications

Given we have theorized and shown that abusive supervision is driven by desires that are too strong to be restrained, organizations may reduce abusive supervision by providing training in cognitive reappraisal tactics to reduce hostile interpretations of the situation. Our research similarly suggests that mindfulness training that places emphasis on the awareness and

acceptance of one's experiences (see Brown & Ryan, 2003) may also reduce abusive supervision, as our findings suggest being aware of and accepting of hostility prevents supervisors from acting on their hostile desires. Finally, from a selection standpoint our work suggests organizations may be advised to select both supervisors and subordinates who are better able to regulate their behaviors. Subordinates who are better at self-regulation should be less likely to exhibit the poor work performance that provokes supervisor hostility (e.g., Lian, Ferris et al., 2014), while supervisors who are better at regulating their behaviors—be it due to their ability to limit hostile attributions or due to their mindful nature—should be less likely to act on their hostility when faced with any provocation from their subordinates.

CHAPTER 3: RIGHTING A WRONG: RETALIATION FOLLOWING ABUSIVE SUPERVISION PROTECTS SUBORDINATE WELL-BEING (ESSAY 2)

The following work is currently under review in *Organizational Behavior and Human Decision Processes* (Liang, Brown, Lian, Hanig, Ferris, & Keeping, under review).

Literature Review

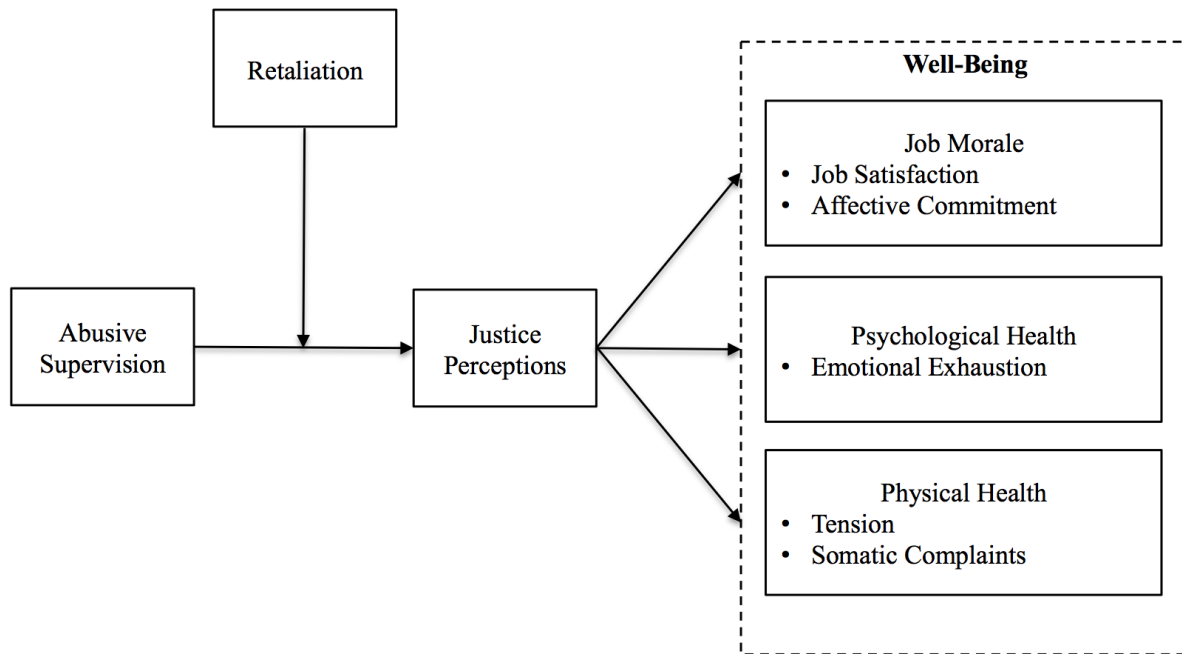
When a subordinate is subjected to abusive supervision such as public ridicule, yelling, scapegoating, or other forms of supervisor mistreatment, a natural response for the subordinate is to retaliate (Bies & Tripp, 1996). Indeed, a growing body of studies (e.g., Lian, Brown, Ferris, Liang, Keeping, & Morrison, 2014; Mitchell & Ambrose, 2007) and meta-analyses (Hershcovis & Barling, 2010; Mackey, Frieder, Brees, & Martinko, in press; Schyns & Schilling, 2013) indicate that a robust relation exists between abusive supervision and subsequent subordinate retaliation. Unfortunately, retaliation—or actions “in response to some perceived harm or wrongdoing by another party that is intended to inflict damage” (Aquino, Tripp, & Bies, 2001, p. 53)—would seem to have destructive consequences for all parties involved. For instance, retaliation is detrimental to supervisor-subordinate relationships (Aryee, Chen, Sun, & Debrah, 2007; Tepper, Henle, Lambert, Giacalone, & Duffy, 2008; Zellars, Tepper, & Duffy, 2002) and can escalate the conflict, resulting in further acts of supervisory abuse (Aquino, Tripp, & Bies, 2001; Pruitt & Rubin, 1986; Tepper, Carr, Breaux, Geider, Hu, & Hua, 2009). Moreover, retaliation can result in expensive lawsuits (Perry, 2000) as well as undermine employee job performance (Robinson & Greenberg, 1998). Given these negative effects, various researchers have argued that retaliation should be avoided (e.g., Lian et al., 2014; Folger & Baron, 1996).

Although we do not dispute the dominant narrative that retaliation should be avoided, we believe the field has overly focused on the negative consequences of retaliation without

considering that it may have positive aspects (for an exception, see Tepper, Mitchell, Haggard, Kwan, & Park, 2015). In fact, numerous perspectives would argue that retaliation exists as a phenomenon precisely because benefits should exist. For example, a social functionalist perspective of behavior would argue that retaliation exists because it serves an adaptive response (Keltner & Gross, 1999); a rational actor perspective would argue that retaliation occurs because actors conclude it serves a beneficial purpose (Vroom, 1964); and a social exchange perspective would argue that retaliation occurs because it helps restore balance in a relationship (Cropanzano & Mitchell, 2005). Nevertheless, empirical evidence demonstrating the adaptive or beneficial nature of retaliation for the retaliator is scant.

Drawing inspiration from these perspectives—as well as frameworks which regard abusive supervision as undermining justice perceptions (Tepper, 2000) and retaliation as a reaction to injustice (Skarlicki & Folger, 1997)—we argue that retaliation ameliorates the negative effect that being abused has on well-being by restoring the retaliator’s sense of justice. More specifically, we propose a functional theory of retaliation whereby engaging in retaliation reaffirms one’s sense of justice, therefore mitigating the negative effect of abusive supervision on subordinate well-being (see Figure 6). In this framework, abusive supervision acts as an external stressor (Restubog, Scott, & Zagenczyk, 2011) that violates people’s expectations for fair treatment (e.g., Adams, 1965; Lerner, 1980), while well-being refers to the global experience of how well an individual likes the life that he or she leads (Diener, Suh, Lucas, & Smith, 1999), reflected across various domains such as job morale, psychological health, and physical health (Elovainio, Heponiemi, JokelaHakulinen, Pesseau, Aalto, & Kivimäki, 2015; Koopman, Lanaj, & Scott, in press).

Figure 6. Heuristic Model and Summary of Hypotheses (Essay 2)



In presenting our functional theory of retaliation, our work makes several important contributions to the literature. First, our work contributes to the pre-existing literature on justice frameworks of the consequences of abusive supervision, and the literature on retaliation in the workplace. Though it has been posited that abusive supervision is unfair (Tepper, 2000), and that retaliation in response to being wronged can serve as a means for individuals to restore justice (e.g., Bies & Tripp, 1998; Bies & Tripp, 2002; Greenberg, 1990; Schyns & Schilling, 2013; Tepper et al., 2009), prior abusive supervision research has typically only considered subordinate retaliation as an outcome of abusive supervision (for an exception, see Tepper et al., 2015). In the current research, we directly test retaliation as a means of restoring justice rather than simply as a response to perceived injustice, by considering the interactive effect of abusive supervision and supervisor-directed deviance on perceptions of justice.

Second, our work contributes to the retributive justice literature by examining the benefit of retaliation on victim outcomes. The dominant perspective of the retaliation literature is that retaliation is principally destructive, and therefore places victims of mistreatment who retaliate in the wrong. However, our work puts forth a functional view that retaliation buffers the detrimental impact of abusive supervision by directly restoring the justice perceptions of victims and by indirectly maintaining victims' well-being. As such, our research "gives back" (Whetten, Felin, & King, 2009) to the retributive justice literature in which it is grounded and enriches the literature by providing a more nuanced understanding of the outcomes of victim retaliation.

Third, our work extends social exchange frameworks of retaliatory responses to abusive supervision (Mitchell & Ambrose, 2007; Thau & Mitchell, 2010). In particular, prior social exchange research has primarily focused on how supervisor behaviors lead to subordinate outcomes—presenting what is essentially a stimulus-response perspective of social exchange whereby subordinate outcomes are determined by supervisor inputs (as noted by Tepper et al., 2015). In contrast, our paper adopts a relational perspective (Aquino & Lamertz, 2009) where subordinates actively engage in actions affecting the overall exchange, with such actions also impacting subordinates' own outcomes (in particular, their sense of justice and well-being). In so doing, we respond to the call of Tepper and colleagues (2015) to consider both sides of the exchange relationship when examining social exchange outcomes.

Justice Frameworks of Abusive Supervision

People care about justice and have a fundamental need to believe that we live in a world that is a fair and orderly place where individuals get what they deserve (Lerner, 1980). The concern for justice is universal and serves the evolutionary function of promoting long-term cooperation, which is critical to the survival of the human species (Brosnan & de Waal, 2003).

Justice is also hedonically valued by human beings, as evidenced by functional magnetic resonance imaging studies showing that people's brain regions associated with reward processes are activated when receiving fair rather than unfair monetary offers (Tabibnia, Satpute, Matthew, & Lieberman, 2008).

This fundamental concern for justice is central to early theories of distributive and procedural justice (Leventhal, 1980; Thibaut & Walker, 1975), which suggest that people care about the fair allocation of resources and the use of fair procedures because these outcomes serve instrumental purposes (Tyler, 1987). When fair reward distributions and procedures are in place people believe that they will be rewarded and punished proportionately to their actions, and as a result are encouraged to work hard towards their goals and refrain from harming others (Hafer, 2000; Hafer, Bègue, Choma, & Dempsey, 2005). In addition to instrumental reasons, people also care about justice because it communicates relational information, as being treated fairly carries implications about people's social standing in their group (Lind & Tyler, 1998). People infer their social standing in a group from the treatment they receive, with fair outcomes and procedures conveying positive social identity-relevant information for individuals and signifying that they are valued members of the group (Lind & Tyler, 1988; Tyler & Blader, 2003). On the other hand, being treated without dignity and respect is not only perceived to hurt a victim's standing within the group (Mitchell, Vogel, & Folger, 2015; Tyler & Lind, 1992), but also damages the victim's self-worth (Ferris, Spence, Brown, & Heller, 2012; Tepper, 2000). All of the above suggests that concern for justice is a powerful motivational force that drives behaviors (Cropanzano, Byrne, Bobocel, & Rupp, 2001), and that people are motivated to see justice prevail and be reaffirmed in their belief that people get what they deserve (Colquitt, Greenberg, & Zapata-Phelan, 2005).

Drawing on the central role justice plays in our everyday lives, abusive supervision research has used justice frameworks to explain the detrimental effects of being abused (Tepper, 2000). Abusive supervision represents supervisory behaviors that are non-physical in nature but nonetheless convey a sense of hostility towards subordinates. Such behaviors typically include ridiculing and humiliating subordinates in public, refusing to speak with subordinates, or otherwise debasing subordinates (Tepper, 2000). Extensive research has linked these behaviors to the deteriorated well-being of subordinates (Tepper, 2000; Tepper et al., 2008; Duffy, Ganster, & Pagon, 2002).

In part these consequences can be explained by the ability of abusive supervision to negatively impact subordinates' justice perceptions (Aryee et al., 2007; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Tepper, 2000). In particular, a justice violation is highly aversive to individuals as it creates unpleasant tension, feelings of insecurity, vulnerability, and a diminished sense of control (Adams, 1965; Lerner, 1998). As such, by violating perceptions of justice, abusive supervision undermines individuals' well-being. Corroborating this line of thought, research has shown that perceptions of injustice are associated with indicators of worsened well-being such as decreased job satisfaction and affective commitment, greater emotional exhaustion, depletion, anxiety, and stress (Tepper, 2000; Tepper, 2001), depression (Elovainio, Kivimaki, & Helkama, 2001; Tepper, 2001), insomnia (Greenberg, 2006), the release of the stress hormone cortisol (Yang, Bauer, Johnson, Groer, & Salomon, 2014), and health problems such as high blood pressure (Wager, Fieldman, & Hussey, 2003) and heart problems (Chandola, Brunner, & Marmot, 2006).

Justice Restoration: The Function of Retaliation

One way to alleviate the aversive feelings of unfair treatment is by engaging in actions to

get even, which can safeguard perceptions that the world is a just place. In particular, though unfair treatment thwarts people's sense of justice (Bobocel & Hafer, 2007), retaliating against the harm-doer restores a sense of justice and thus affirms people's perceptions that bad people get what they deserve (Lerner, 1998). Retaliation following a transgression is a widespread social expectation that is at once primitive, culturally universal, and an organizing principle in human affairs (Hogan & Emler, 1981; Tyler & Boeckmann, 1997). To elaborate, if a person violates the norm of respect and mistreats another party, these actions may thwart the receiving party's belief in a non-random and just world (e.g., Kay, Whitson, Gaucher, & Galinsky, 2009; Lerner, 1980). Consequently the receiving party will seek to bring order to the situation by engaging in retaliatory behaviors intended to make the harm-doer pay (Skarlicki & Folger, 1997). This idea echoes Adams' (1965) equity theory, which describes feelings of injustice as similar in nature to aversive dissonance and psychological tension; the individual experiencing injustice is motivated to take action to restore justice, in order to reduce the aversive state (Colquitt et al., 2005). Research has shown that delinquent acts of retaliation allow for a sense of justice in individuals' social interactions to be maintained (Brezina, 1996), which dovetails with the argument that employees retaliate with the purpose of restoring justice perceptions (Bies & Tripp, 1998; Scott, Colquitt, & Paddock, 2009; Tripp, Bies, & Aquino, 2002). Thus, retaliating against an offender in proportion to the harm done to the victim can be seen as restoring justice for the victim (Okimoto, Wenzel, & Feather, 2012).

The Moderating Role of Retaliation

Conceptualizing supervisor-directed deviance as subordinates' retaliation in response to abusive supervision, we suggest that supervisor-directed deviance should mitigate the negative impact of abusive supervision on subordinates' justice perceptions. When a supervisor belittles

and insults a subordinate, it violates the subordinate's need to maintain justice (Bobocel & Hafer, 2007; Lerner, 1980). This violation will create an unpleasant tension accompanied by the desire to reaffirm justice (Lerner, 1980), and the desire to reaffirm justice will remain activated until it is fulfilled (Denzler, Forster, & Liberman, 2009; Zeigarnik, 1938; Marsh, Hicks, & Bryan, 1999). The opportunity to act deviantly toward an abusive supervisor can serve as a means to fulfill the desire to reaffirm violated justice. Once justice has been restored through retaliation, subordinates should be less likely to perceive injustice (Denzler et al., 2009).

However, not all subordinates retaliate following abusive supervision. Some subordinates may withhold retaliation because direct retaliation against their supervisor may not always be possible (Dollard, Doob, Miller, Mowrer, & Sears, 1939), or there may be formal organizational mechanisms in place to prevent subordinates from engaging in deviance (Bies & Tripp, 1998). When subordinates are unable to retaliate against an abusive supervisor, the desire to reaffirm justice will remain activated and subordinates should be more likely to perceive injustice (Denzler et al., 2009). In line with this argument, it has been suggested that thwarted retaliation may leave subordinates ruminating about the unfair event (Bies & Tripp, 1996; Bies & Tripp, 1998), while maintaining the sentiment that justice has not been fulfilled (Carlsmith, Darley, & Robinson, 2002). In the context of abusive supervision, we suggest that engaging in supervisor-directed deviance will mitigate the negative effect of abusive supervision on subordinates' justice perceptions.

Hypothesis 1: Supervisor-directed deviance moderates the relation between abusive supervision and subordinate justice perceptions, such that the relation is weaker when supervisor-directed deviance is high rather than low.

As noted above, previous work suggests that justice perceptions play an important role in mediating the effect of abusive supervision on subordinate well-being (Aryee et al., 2007;

Tepper, 2000). Given our prediction regarding the role of supervisor-directed deviance in the relation between abusive supervision and justice perceptions, we expect that the indirect effect of abusive supervision on subordinate well-being via the mediating effect of justice perceptions will vary as a function of supervisor-directed deviance. In other words, employees who retaliate following abusive supervision should be able to protect their well-being from being harmed by restoring a sense of justice. In summary, we propose a moderated mediation model, in which the indirect effect of abusive supervision on subordinate well-being is moderated by supervisor-directed deviance, such that the indirect effect via perceptions of justice will be weaker when supervisor-directed deviance is high rather than low. Given that well-being is a broad construct encompassing a wide range of domains (Danna & Griffin, 1999; Diener et al., 1999), we focus on domains that are relevant within the work context (i.e., Koopman et al., in press). More specifically, we assert that well-being is reflected in job morale (characterized as job satisfaction and affective commitment)⁵, psychological health (characterized as emotional exhaustion), and physical health (characterized as tension and somatic complaints) in our study.

Hypothesis 2: Subordinate justice perceptions mediate the moderating effect of supervisor-directed deviance on the relation between abusive supervision and subordinate well-being [specifically a) job satisfaction, b) affective commitment, c) emotional exhaustion, d) tension, and e) somatic complaints], such that the indirect effect of abusive supervision on subordinate well-being through justice perceptions is weaker when deviance is high rather than low.

Overview of Studies

A fundamental mechanism underlying our model is that retaliation restores justice for victims; once justice has been restored, injustice should be less salient and subordinate justice perceptions should be less impacted by abusive supervision. Prior to testing our full model, we

⁵Job satisfaction and affective commitment are suggested to be specific reflections of job morale (Rosen, Levy, & Hall, 2006).

first conducted a proof of concept study to accumulate evidence for this fundamental mechanism. In an experimental vignette design (Study 1), we used various operationalizations of the relevant constructs to demonstrate that performance of supervisor-directed deviance (vs. thwarted supervisor-directed deviance) serves the function of restoring people's justice perceptions following abusive supervision.

Further, we test Hypothesis 1 in two experimental studies (Study 2A and 2B) where we manipulated abusive supervision and supervisor-directed deviance, and assessed participants' justice perceptions implicitly. Finally, in a multi-wave field study (Study 3) with two independent samples of full-time employees, we tested the moderating effect of supervisor-directed deviance on abusive supervision and justice perceptions (Hypothesis 1), as well as the overall moderated mediation model on the relation between abusive supervision on subordinate well-being (Hypothesis 2a – 2e).

Study 1 Method

Study 1 used an experimental vignette methodology (EVM; Aguinis & Bradley, 2014) with a within-subjects design to test the role of supervisor-directed deviance (vs. thwarted supervisor-directed deviance) in restoring justice for victims. The use of carefully constructed vignettes allows us to exert experimental realism and rigid experimental control of the variables that we are manipulating, while avoiding ethical dilemmas inherent in the overt behavioral manipulation of such variables (Aguinis & Bradley, 2014). Following the suggestion of Highhouse (2009) to design experiments that generalize to the appropriate operationalization of constructs, such that the experimental manipulations adequately represent the constructs of interest, we used eight vignettes. By creating eight interchangeable vignettes with items drawn directly from the scales that assess the constructs that we are manipulating (i.e., supervisor-

directed deviance vs. thwarted supervisor-directed deviance), we ensure that our manipulations are valid and representative of the relevant constructs, and that our manipulations can be generalized across a variety of contexts. In addition, in utilizing a within-subjects design whereby the same participants read both supervisor-directed deviance and thwarted supervisor-directed deviance vignettes, Study 1 aims to remove the bias of any individual differences that might influence the extent to which retaliation can restore justice.

Participants and Procedure

We recruited our participants from Amazon's Mechanical Turk (Mturk). This method was employed because participants recruited via Mturk are more representative of the working population compared to student samples (Buhrmester, Kwang, & Gosling, 2011). In addition, participants recruited from Mturk tend to yield high quality data, tend to be motivated to complete tasks even without any financial incentives (Buhrmester et al., 2011), and tend to be more attentive than participants drawn from undergraduate student subject pools (Hauser & Schwartz, 2015). A total of 116 interested participants living in the USA or Canada were invited to participate in our study in exchange for \$0.50 USD. Excluding participants with unusable data (i.e., with missing dependent variables) left a final sample of 109 participants (47.6% male). Participants had a mean age of 36 years ($SD = 12.90$), had been employed in their current organization for an average of 46 months ($SD = 64.42$), had worked in their current position for an average of 35 months ($SD = 56.31$), and had worked with their supervisor for an average of 29 months ($SD = 31.61$).

Each participant was presented with eight vignettes. Prior to reading the vignettes, we asked participants to imagine themselves as the employee described in the vignettes, and to imagine how they would feel physically and emotionally following the events described in each

vignette. In accordance with the within-person design of the study, four of the vignettes described an episode of abusive supervision followed by supervisor-directed deviance, and four of the episodes described an episode of abusive supervision followed by thwarted supervisor-directed deviance (see Appendix A for examples of the vignettes). After reading each of the eight vignettes, participants answered questions about their perceptions of justice restoration. The presentation order of the vignettes was randomized for each participant by the survey program. Furthermore, different combinations of abusive supervision episodes followed by supervisor-directed deviance and thwarted supervisor-directed deviance episodes were also randomly generated.

Vignettes. In constructing the vignettes, we drew upon Tepper's (2000) abusive supervision scale and generated eight interchangeable abuse episodes. To manipulate employee retaliation, we drew upon Mitchell and Ambrose's (2007) supervisor-directed deviance scale. More specifically, we generated descriptions that described an employee either engaging in supervisor-directed deviance, or being thwarted from engaging in supervisor-directed deviance. As an example of a supervisor-directed deviance episode is: "Later that day, you make fun of your supervisor to your colleagues at work." In the thwarted supervisor-directed deviance condition, we modified the descriptions to reflect the employee wanting to engage in deviance directed at the supervisor but not engaging in it. An example of thwarted supervisor-directed deviance descriptions is: "Later that day, you feel the urge to make fun of your supervisor to your colleagues at work, but you restrain yourself."

Measures

We assessed our dependent variable justice restoration with the three-item scale by Okimoto and Wenzel (2009). After reading each of the eight vignettes, participants rated how

much they agreed that their sense of justice had been restored on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*). The items include “Fairness has been re-established,” “My sense of fairness has been satisfied,” and “My sense of justice has been restored” (average $\alpha = .96$). We created composite scores for each participant’s ratings of the dependent variable across the four vignettes describing supervisor-directed deviance following abusive supervision, and across the four vignettes describing thwarted supervisor-directed deviance following abusive supervision⁶.

Study 1 Results

To test the premise that supervisor-directed deviance (vs. thwarted supervisor-directed deviance) following abusive supervision restores participants’ justice perceptions, we conducted a paired-samples *t*-test with supervisor-directed deviance and thwarted supervisor-directed deviance as paired variables. Supporting the central premise that engaging in supervisor-directed deviance following abusive supervision restores a sense of justice for the victim, the results show that on average, participants reported significantly greater restored justice in the supervisor-directed deviance condition ($M = 3.56, SD = 1.44$) than in the thwarted supervisor-directed deviance condition [$M = 2.70, SD = 1.18$], $t(109) = 5.61, p < .01, r = .47$]⁷.

⁶ Given that each participant read four vignettes depicting abusive supervision followed by supervisor-directed deviance (i.e., supervisor-directed deviance condition), and four vignettes depicting abusive supervision followed by thwarted supervisor-directed deviance (i.e., thwarted supervisor-directed deviance condition), we computed intraclass correlations (*ICCs*) to assess whether collapsing across the four vignettes for each condition is appropriate (see Bliese, 2000; LeBreton & Senter, 2008). Supervisor-directed deviance vignettes had *ICC*(1) value of .54 [$F(103, 309) = 6.83, p < .01$], whereas thwarted supervisor-directed deviance vignettes had *ICC*(1) value of .64 [$F(103, 312) = 6.03, p < .01$]. These results attest to the high agreement within the participant on ratings of the dependent variable across the four supervisor-directed deviance vignettes, and across the four thwarted supervisor-directed deviance vignettes.

⁷ We replicated the findings with three additional independent datasets ($n = 118, n = 120, \text{ and } n = 118$) where we presented participants with different descriptions of supervisor-directed deviance and thwarted supervisor-directed deviance. For the sake of parsimony, we are not reporting the results from these three additional datasets. More detailed results can be obtained from the first author.

Study 1 Discussion

The results of Study 1 support the premise of Hypothesis 1 that retaliation restores the victim's sense of justice. Further, the use of multiple interchangeable vignettes in the current study allowed us to achieve experimental control, while maintaining the validity of the relevant constructs, which affords both internal validity and strong external validity in comparison to vignette studies that do not carefully capture the underlying constructs (Aguinis & Bradley, 2014; Highhouse, 2009). In fact, the usage of vignettes has been found to be a reliable and valid way to assess leader abusive treatment (e.g., Farh & Chen, 2014).

Despite the validity of vignettes for investigating abusive supervisory treatment, vignettes remain limited because they lack realism and run the risk of demand characteristics (Greenberg & Eskew, 1993; Orne, 1962). To address this limitation and to more directly test Hypothesis 1, we conducted two experimental studies (Study 2A and 2B). The purpose of Study 2 is twofold. First, to reduce any risk of demand characteristics in the experimental design, we used an implicit measure, which allows us to assess injustice perceptions without participants being aware of what was being assessed (Uhlman, Leavitt, Menges, Koopman, Howe, & Russell, 2012). Second, since the abusive supervision literature has relied almost exclusively on field studies (for an exception, see Mitchell & Ambrose, 2012), we sought to establish greater causal confidence in our predicted model by experimentally manipulating abusive supervision and retaliation.

Study 2A Method

Participants and Procedure

We advertised our study on Mturk to 229 full time employees who had experience working with a supervisor. In exchange, we deposited \$1.00 payment to participants' Mturk

accounts. Following the recommendations by Meade and Craig (2011), we excluded 2 participants who reported post-experiment that they did not wish to have their data included in the study, and 24 participants who reported that they did not engage in the experimental manipulations used in this study (one of the participants also reported that they did not wish to have their data used). This left us with a final sample of 204 participants (44% male; Age: $M = 35$ years, $SD = 10.04$).

In a between-subjects design, participants were randomly assigned into three conditions: abusive supervision/no supervisor-directed deviance, abusive supervision/supervisor-directed deviance, and a control condition. In the experimental conditions (i.e., abusive supervision/supervisor-directed deviance, and abusive supervision/no supervisor-directed deviance), participants were first asked to recall and visualize a workplace interaction, which was used to induce abusive supervision. Following this task, participants were asked to work on another task that involved the use of an online voodoo doll for one minute, which we used to manipulate retaliation against the supervisor. Participants were then asked to work on another ostensibly unrelated task that involved completing five word fragments, which was used to assess participants' implicit injustice perceptions. In the control condition, participants were simply asked to solve the word fragments. Finally, participants in all conditions completed a brief demographics survey.

Inducing abusive supervision. To induce abusive supervision, participants were given a definition of a supervisor: "A supervisor is the individual that you report directly to, or who is responsible for assessments of your work" and were asked to visualize their supervisor. Consistent with the construct of abusive supervision (Tepper, 2000), participants were asked to recall and visualize a particular incident in which their supervisor treated them with hostile

verbal and/or nonverbal behaviours, such as being rude to them, making negative comments about them, and failing to acknowledge their hard work.

Manipulating retaliation. We used a voodoo doll task (VDT) paradigm to manipulate retaliation. The VDT is a validated task that has been used for measuring harming behaviors (DeWall et al., 2013; Finkel et al., 2012; Slotter et al., 2012). This task usually involves participants stabbing a doll that represents a specific person (e.g., spouse, offspring, or someone who has offended them; Bushman, DeWall, Pond Jr., & Hanus, 2014; McCarthy, Crouch, Basham, Milner, & Skowronski, 2016; Denzler et al., 2009), and the goal of the task is to symbolically harm the doll that represents the specific person. The underlying mechanism of the VDT is based on the law of similarity (Rozin, Millman, & Nemeroff, 1986) whereby people project characteristics of the person onto the voodoo doll; thus, the process of harming the voodoo doll bears psychological similarities to the process of causing harm to the person that the voodoo doll symbolically represents (DeWall et al., 2013).

In our study, we manipulated retaliation by instructing participants to harm a voodoo doll that represents their supervisor. In particular, in the abusive supervision/supervisor-directed deviance condition, we instructed participants to first go to a website (<http://www.dumb.com/voodoooll>) where they encountered an online voodoo doll. They were then asked to label the voodoo doll with their supervisor's initials. Next, we asked the participants to use the materials provided (e.g., pins, pliers, fire) on the doll over the next minute. In the abusive supervision/no supervisor-directed deviance condition, participants were shown a screenshot of the voodoo doll from the website, they were asked to label the doll as "Nobody", and trace the outline of the doll with a cursor over the next minute.

Measures

We used a word fragment measure to assess implicit injustice perceptions. Implicit perceptions of injustice involve the unconscious activation of injustice related concepts in the minds of individuals (Smith & DeCoster, 2000; Strack & Deutsch, 2004), which enhances the extent to which these injustice related concepts are accessible to individuals (Kunda & Thagard, 1996; Johnson & Saboe, 2010; Smith, 1996; Uhlmann et al., 2012). Such a word fragment approach is a reliable and valid method for assessing implicit cognitive processes (Vargas, Sekaquaptewa, & von Hippel, 2007), and past studies have developed and used the word fragment method to assess implicit activation of various constructs, ranging from aggression to self-concept (e.g., Anderson, Carnagey, & Eubanks, 2003; Johnson & Lord, 2010). Participants were provided with five word fragments and were asked to complete the fragments with the first word coming to their mind that would both complete the fragments and form a meaningful word. Each of the five word fragments can be completed to form either an injustice related word or a neutral word. For example, the fragment un__ual can be completed as “unusual” (i.e., neutral word), or “unequal” (i.e., injustice word). The ratio of injustice to total words that participants completed provides a measure of implicit injustice perceptions (see Gilbert & Hixon, 1991; Johnson & Saboe, 2011). We developed and pilot tested these word fragments with the procedures described below.

Pilot study: Word fragment development. We first identified five injustice-related target words (wrong, unfair, unequal, unjust, and violated) from a published study that measured implicit justice (Hafer, 2000). Next, we developed word fragments for each target word using the English Lexicon Project database (Washington University, 2009), such that each word fragment can be completed as either a target (i.e., injustice-related) word, or a neutral word.

Specific word fragments were chosen to ensure that the word frequency of the target word was approximately equal to the word frequency of the neutral word. Because multiple variations of word fragments exist (e.g., the target word “unequal” can have a fragment “__e__ual,” which yields a matching word frequency neutral word “asexual,” or a fragment “un__ual,” which yields a matching word frequency neutral word “unusual”), we pilot tested our implicit injustice measure before the main study to ensure we chose the fragments that (1) yield an optimal target/neutral words balance (i.e., the fragments were not biased towards a target or neutral words in the absence of an experimental manipulation); (2) yield the least amount of blanks (i.e., the fragment is not too difficult to complete); and (3) the neutral words were indeed neutral and not perceived as being related to justice.

For the pilot study, we recruited 204 native English speakers (40% male; Age: $M = 35.14$, $SD = 12.16$) from Mturk who were compensated \$0.25 in exchange for their participation. Following the procedure by Johnson and Saboe (2011), participants were administered an online survey that contained all implicit word fragments, and were instructed to complete the fragments as quickly as possible and skip any word fragments if no word came to mind immediately. Based on pilot test results, we retained the final five word fragments that are considered to have adequate variance in responses (i.e., at least 5% and no more than 80% of the entries were the target word), and are relatively easy to complete (i.e., over 60% of participants did not leave the fragment blank). Finally, to assess whether any of the neutral words represent the construct of injustice, we provide a definition of the construct injustice for participants and asked them to rate the extent to which the neutral words represent injustice on a scale of 1 (*not at all representative*) to 7 (*extremely representative*). None of the neutral words for the final retained word fragments are especially representative of the construct injustice (Range: 2.01 – 2.67; $M = 2.32$, $SD = .24$).

The final five word fragments used in this study are included in Appendix B.

Study 2A Results

Manipulation Checks

Abusive supervision manipulation check. Prior to collecting Sample A and Sample B data, we pilot tested the abusive supervision manipulation with an independent sample of 352 students from a mid-sized university. We used the 5-item short abusive supervision measure (Mitchell & Ambrose, 2007; Tepper, 2000) to check for our abusive supervision manipulation. Following the abusive supervision manipulation, participants rated the extent to which they agree with each statement based on their thoughts and feelings about their visualized supervisor on a 5-point Likert scale (1 = *I can't remember him/her ever using this behavior with me*; 5 = *he/she uses this behavior very often with me*). Sample items include “My visualized supervisor ridicules me,” and “My visualized supervisor tells me my thoughts or feelings are stupid” ($\alpha = .95$). There was a significant effect of the abusive supervision manipulation on participants' ratings of perceived abusive supervision of the visualized supervisor [$t(350) = -8.92, p < .01, d = -.95$], such that participants in the abusive supervision condition perceived greater abusive supervision of the visualized supervisor ($M = 2.77, SD = 1.19$) compared to those in the neutral interaction condition ($M = 1.73, SD = 1.00$). This indicates that our manipulation of abusive supervision was successful.

Retaliation manipulation check. To ensure participants in the supervisor-directed deviance condition actually harmed the voodoo doll representing their supervisor, immediately following the VDT, we asked the participants in the supervisor-directed deviance condition: “In the previous task, did you use any of the materials (pins, pliers, or fire) on the doll?” Participants

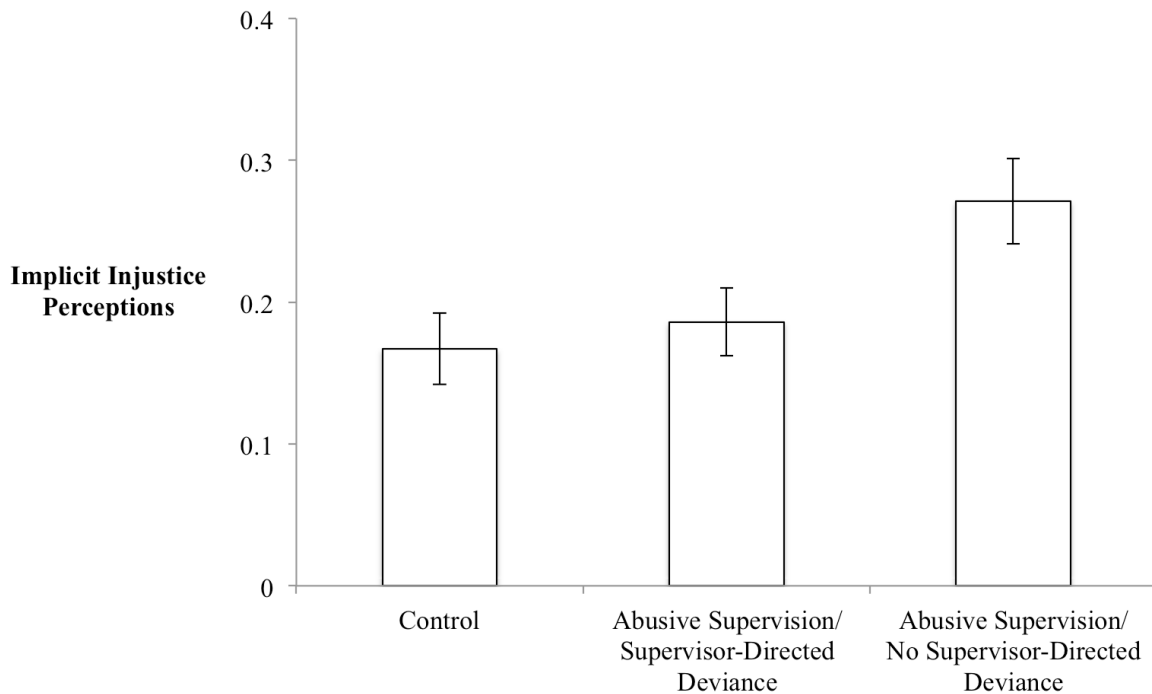
who self-reported that they did not harm the doll ($n = 24$) were excluded from the analyses⁸.

Hypothesis Testing

To test the hypothesis that not engaging in supervisor-directed deviance following abusive supervision engenders greater perceptions of injustice compared to having the opportunity to engage in supervisor-directed deviance (Hypothesis 1), we conducted a One-Way Analysis of Variance (ANOVA). In support of Hypothesis 1, there was a significant effect of condition (i.e., control condition, abusive supervision/supervisor-directed deviance, and abusive supervision/no supervisor-directed deviance) on participants' implicit injustice perceptions [$F(2, 201) = 3.81, p < .01, \eta^2 = .04$]. As illustrated in Figure 7, planned contrasts revealed that participants who did not engage in supervisor-directed deviance ($M = .27, SD = .24$) experienced significantly higher injustice perceptions compared to participants who engaged in supervisor-directed deviance [$M = .19, SD = .22, t(201) = -2.21, p < .05, r = .15$], and compared to participants in the control condition [$M = .17, SD = .19, t(201) = -2.64, p < .01, r = .18$]. Moreover, participants in the abusive supervision/supervisor-directed deviance condition did not significantly differ from participants in the control condition in terms of their implicit injustice perceptions [$t(201) = -.54, n.s., r = .04$].

⁸ Recoding those participants as “abusive supervision/no supervisor-directed deviance” did not change the pattern of the results.

Figure 7. Condition in Predicting Implicit Injustice Perceptions (Essay 2 Study 2A)



The above results indicate that, following abusive supervision, injustice perceptions are mitigated when participants engage in supervisor-directed deviance (i.e., individuals in this condition did not differ from those who were in the control condition). In an effort to constructively replicate (Lykken, 1968) Study 2A, in Study 2B, we implemented a 2 x 2 experimental design whereby we manipulated levels of supervisory treatment (i.e., abusive supervision vs. neutral interaction) and levels of retaliation (i.e., no supervisor-directed vs. supervisor-directed deviance). By experimentally manipulating both the independent and moderator variables, we provide a more fine-grained test of the justice-restoration model and thus gain greater confidence in the validity of the hypothesis (Lykken, 1968).

Study 2B Method

Participants and Procedure

We advertised our study to 206 business school students from a mid-sized university who previously had experience working with a supervisor. In exchange, participants were given 0.5 course credit towards their classes. Following the recommendations by Meade & Craig (2011), we excluded 32 participants who reported post-experiment that they did not wish to have their data included in the study, and 24 participants who reported that they failed to visualize supervisory treatment and/or failed to engage in the retaliation manipulation. This left us with a final sample of 150 students (57% male; Age: $M = 19$ years, $SD = 1.11$).

The procedure was largely similar to Study 2A, except that we used a 2 (supervisory treatment: abusive supervision vs. neutral interaction) x 2 (retaliation: no supervisor-directed deviance vs. supervisor-directed deviance) between-subjects study design.

Manipulating supervisory treatment. We followed the same procedure as Study 2A to manipulate abusive supervision. In this study, a neutral interaction condition was included where participants were asked to recall and visualize a neutral interaction with their supervisor.

Study 2B Results

Manipulation Checks

Retaliation manipulation check. As in Study 2A, we asked the participants in the supervisor-directed deviance condition: “In the previous task, did you use any of the materials (pins, pliers, or fire) on the doll?” Participants who self-reported that they did not harm the doll ($n = 24$) were excluded from the analyses⁹.

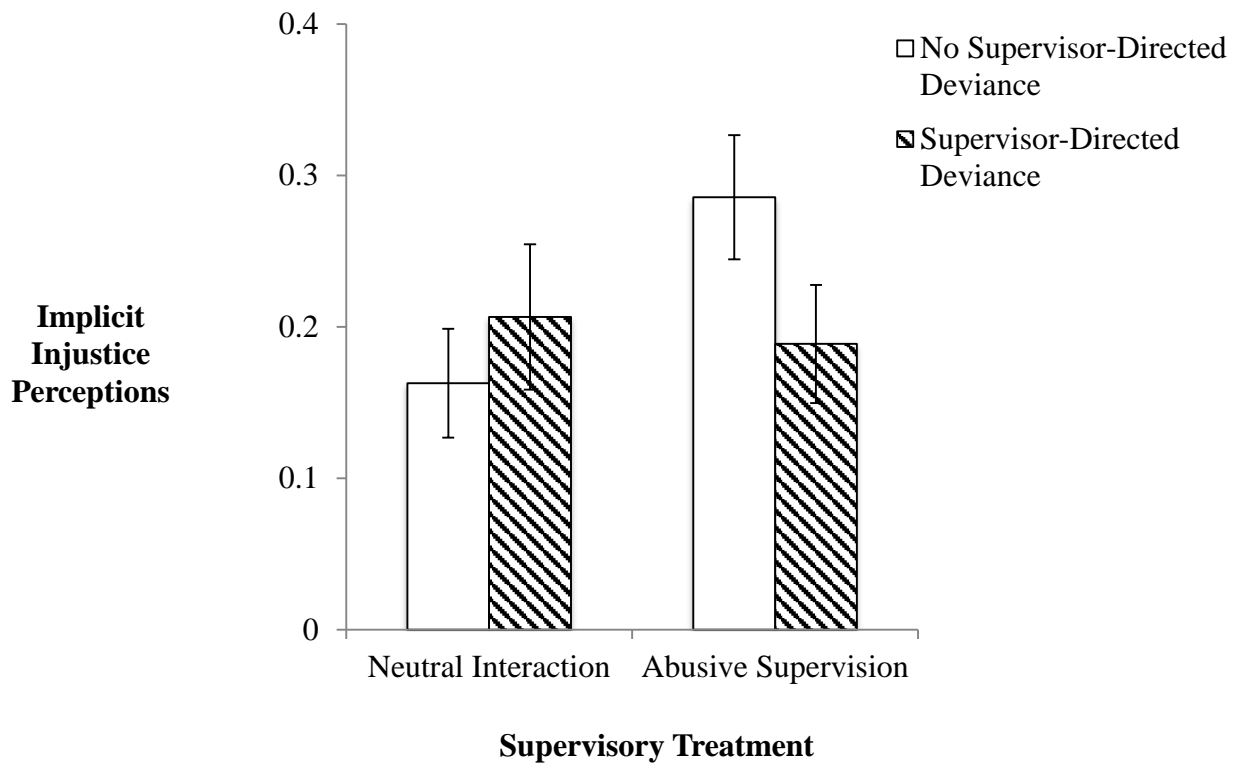
Hypothesis Testing

To test the hypothesis that supervisor-directed deviance mitigates the effects of abusive

⁹ Recoding those participants as “no supervisor-directed deviance” did not change the pattern of the results.

supervision on injustice perceptions (Hypothesis 1), we conducted a 2 (supervisory treatment: abusive supervision vs. neutral interaction) x 2 (retaliation: no supervisor-directed deviance vs. supervisor-directed deviance) factorial ANOVA. Results revealed that there was a marginally significant Supervisory Treatment x Retaliation interaction in predicting implicit injustice perceptions, [$F(1, 146) = 2.90, p = .09, \text{partial } \eta^2 = .02$]. As illustrated in Figure 8, simple effect analysis revealed that under the abusive supervision condition, participants in the no supervisor-directed deviance condition had greater implicit injustice perceptions ($M = .29, SD = .28$) compared to participants who were in the supervisor-directed deviance condition [$(M = .19, SD = .25)$], and this difference was marginally significant [$F(1, 146) = 2.99, p = .09, \text{partial } \eta^2 = .02$]. However, under the neutral interaction condition, the difference between the no supervisor-directed deviance condition ($M = .16, SD = .23$) and the supervisor-directed deviance condition ($M = .21, SD = .23$) in predicting implicit injustice perceptions was not significant [$(F(1, 146) = .03, n.s.)$].

Figure 8. Abusive Supervision x Supervisor-Directed Deviance in Predicting Implicit Injustice Perceptions (Essay 2 Study 2B)



Supplementary Analyses

As shown in Figure 8, our test of the two-way interactive effect yielded evidence of an ordinal interaction (i.e., only one cell appears to differ from the others). It has been well-documented that such ordinal interactions are extremely difficult to detect (Bobko, 1986; Elias, 2004); as such, when testing ordinal interactions, previous work (e.g., Oldham, Kulik, & Stepina, 1991; Spence & Rupp, 2007) has typically followed the procedures outlined by Bobko (1986) to probe for ordinal interactions. Given the nature of our results, we opted to follow Bobko's (1986) advice and probed the relationship between our four cells by conducting two contrasts: (1) assessing whether the three similar cell means are significantly different from each other; and

(2) assessing whether the one different cell mean (i.e., abusive supervision/no supervisor-directed deviance) is significantly different from the average of other three cell means.

To test the first contrast, we conducted a One-Way ANOVA, which directly compared the neutral interaction/no supervisor-directed deviance, neutral interaction/supervisor-directed deviance, and abusive supervision/supervisor-directed deviance cells. As expected, the results of this contrast indicated no significant effect [$F(3, 146) = 1.81, n.s., \eta^2 = .04$]. Furthermore, subsequent follow-up tests in which we directly contrasted each possible pair of cells indicates no significant differences between the cells: neutral interaction/no supervisor-directed deviance ($M = .16, SD = .23$) was not significantly different from neutral interaction/supervisor-directed deviance [$M = .26, SD = .23; t(146) = .72, n.s., r = .06$], neutral interaction/no supervisor-directed deviance was not significantly different from abusive supervision/supervisor-directed deviance [$M = .19, SD = .25; t(146) = .29, n.s., r = .02$], and neutral/supervisor-directed deviance was not significantly different from abusive supervision/supervisor-directed deviance [$t(146) = -.49, n.s., r = .04$]. Importantly, these results suggest that participants who were able to retaliate directly against their abusive supervisor did not report implicit injustice perceptions that differed significantly from participants in the two neutral interaction cells.

Next, we directly contrasted the abusive supervision/no supervisor-directed deviance cell against the average of the other three cell-means (i.e., neutral interaction/no supervisor-directed deviance, neutral interaction/supervisor-directed deviance, and abusive supervision/supervisor-directed deviance). The results of this contrast indicated that the participants in the abusive supervision/no-supervisor directed deviance condition had implicit injustice perceptions that were significantly higher than the average of the other three cells [$t(146) = -2.11, p < .05, r = .17$]. The overall pattern of findings provides support for Hypothesis 1, in that implicit injustice

perceptions were highest when an individual was unable to engage in supervisor-directed deviance and were mitigated following acts of supervisor-directed deviance (i.e., these individuals did not differ from those who visualized a neutral interaction with their supervisor).

Study 2 Discussion

In two experimental studies where we manipulated supervisory treatment and retaliation, we found preliminary support for Hypothesis 1. Our results demonstrate that participants who recalled abusive supervisory treatment and were not given the opportunity to symbolically retaliate against the supervisor in question exhibited significantly higher implicit injustice perceptions compared to participants in the other conditions. In contrast, engaging in symbolic supervisor-directed deviance reduced the extent to which recalling abusive supervision led to implicit injustice perceptions. However, these studies are not without limitations. Notably, despite the fact that these studies have strong internal validity, their external validity is limited, since they involve a recall paradigm of abusive supervision and symbolic retaliation (though it was been suggested that strong experiments should “sacrifice real-world authenticity for internal validity [Highhouse, 2009]). To address this concern, we conducted a field study with full-time employees in Study 3. Moreover, in Study 3 we sought to test the full moderated mediation model wherein justice perceptions mediate the moderating effect of supervisor-directed deviance on the relation between abusive supervision and various indicators of subordinate well-being (Hypothesis 2a – 2e).

Study 3 Method

Sample A Participants and Procedure

We recruited our Sample A participants from Mturk. After learning about the opportunity to complete three online surveys and remuneration (\$7.50), interested individuals

living in USA or Canada were directed to complete an online pre-screen questionnaire, where we collected participants' demographic information. A multi-wave design was used to minimize common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). At Time 1, we assessed abusive supervision and supervisor-directed deviance. At Time 2, approximately one week after the completion of the Time 1 survey, we assessed justice perceptions, and emotional exhaustion. At Time 3, approximately one week after the completion of the Time 2 survey, we assessed job satisfaction, affective commitment, tension, and somatic complaints.

We obtained 1402 individuals who completed our pre-screen questionnaire. Of them, 725 met our pre-screen requirements (i.e., full-time employees who interacted regularly with their supervisors and coworkers) and were invited to complete our online surveys. A total of 245 individuals completed the first survey (34% response rate); 201 individuals completed the second survey (82% retention rate) and 198 individuals completed the third survey (99% retention rate). Excluding participants with unusable data points, the final sample consists of 192 participants (51% male). Participants had a mean age of 36 years ($SD = 9.68$), and had been employed in their current organization an average of 71 months ($SD = 56.54$), having worked in their present position for an average of 54 months ($SD = 51.64$), and with their current supervisor for an average of 41 months ($SD = 39.36$).

Sample B Participants and Procedure

Participants from Sample B were drawn from a large participant pool maintained by university researchers. Participants in the pool are from a wide variety of professions and industries in North America, and they were recruited via advertisements posted locally and on the Internet, word of mouth, and by sending invitations to university alumni. As with Sample A, we used a multi-wave design to minimize common method bias (Podsakoff et al., 2003). After

learning about the participation requirements (e.g., completing three online surveys) and remuneration (\$10), interested individuals were directed to complete an online pre-screening questionnaire, where we assessed their demographic information. Participants who qualified for our study (i.e., full-time employees who interacted regularly with their supervisors and coworkers) were invited to participate. At Time 1, we assessed abusive supervision. At Time 2, approximately one week after the completion of the Time 1 survey, we assessed supervisor-directed deviance, justice perceptions, affective commitment, and emotional exhaustion. At Time 3, approximately one week following the completion of the Time 2 survey, we assessed job satisfaction, tension, and somatic complaints.

A total of 341 people fulfilled our study requirements (i.e., full-time employees who had regular interactions with others at work) and were invited to participate in our study. Two hundred fifty-three individuals responded to our invitation to the first survey (74% response rate), 238 individuals responded the second survey (94% retention rate), and 218 individuals responded the third survey (92% retention rate). After excluding careless responders (Meade & Craig, 2012) and participants missing key variables, we obtained a total of 204 participants (48.5% male). Participants had a mean age of 37 years ($SD = 9.15$), had been employed in their current organization an average of 73 months ($SD = 73.81$), had worked in their current position for an average of 42 months ($SD = 39.89$), and with their current supervisor for an average of 36 months ($SD = 31.35$).

Measures

Abusive supervision. In Sample A, we assessed abusive supervision using Mitchell and Ambrose's (2007) 5-item abusive supervision scale. In Sample B, we assessed abusive supervision using Tepper's (2000) 15-item abusive supervision scale. Participants were

instructed to indicate the frequency with which their supervisors performed behaviors such as “Ridicules me” and “Puts me down in front of others” on a 5-point Likert scale (1 = *I can't remember him/her ever using this behavior with me*; 5 = *he/she uses this behavior very often with me*).

Justice perceptions. In Sample A, we assessed participants' justice perceptions with Colquitt, Long, Rodell, and Halvorsen-Ganepola's (2015) 8-item full-range interpersonal justice measure, and in Sample B, we assessed participants' justice perceptions with Colquitt's (2001) 4-item measure of interpersonal justice scale. Interpersonal justice is a dimension of justice which refers to the extent to which employees perceive being treated with politeness, dignity, and respect by those involved in workplace procedures and outcomes (Bies & Moag, 1986; Colquitt et al., 2001). Given abusive supervision represents hostile interpersonal treatment, interpersonal justice should be the most relevant dimension of justice. Participants were asked to rate the extent to which their immediate supervisor engaged in behaviors such as “Treated you in a polite manner” (item in both Sample A and B) and “Treated you in a rude manner” (reverse coded, item in Sample A only). In Sample A, participants responded to each statement on a 7-point Likert scale (1 = *to a small extent*; 7 = *to a larger extent*). In Sample B, participants responded to each statement on a 5-point Likert scale (1 = *to a small extent*; 5 = *to a larger extent*).

Supervisor-directed deviance. In both Sample A and Sample B, we assessed supervisor-directed deviance with Mitchell and Ambrose's (2007) ten-item scale. Participants indicated the frequency with which they had engaged in each behavior over the past year (1 = *never*; 7 = *daily*). Sample items include “Made fun of my supervisor at work” and “Acted rudely toward my supervisor.”

Job satisfaction. In both Sample A and Sample B, we assessed job satisfaction with an eight-item subscale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979). Participants were asked to indicate their agreement with statements such as “In general, I like working here,” and “All in all, I am satisfied with my job” (1 = *strongly disagree*; 7 = *strongly agree*).

Affective commitment. In both Sample A and Sample B, we assessed affective commitment with Meyer, Allen, and Smith’s (1993) six-item scale. Participants indicated their agreement with statements such as “I would be happy to spend the rest of my career with this organization,” and “I really feel as if this organization’s problems are my own” (1 = *strongly disagree*; 7 = *strongly agree*).

Emotional exhaustion. In both Sample A and Sample B, we assessed emotional exhaustion with the 6-item scale from the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996). Participants were asked to indicate their agreement with statements such as “I feel emotionally drained from my work,” and “I feel burned out from my work.” In Sample A, participants responded on a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*), whereas in Sample B, participants responded on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*).

Tension. In Sample B, we assessed tension using House and Rizzo’s (1972) seven-item measure of job-induced tension and anxiety. Participants were asked to indicate their agreement with statements such as “My job tends to directly affect my health,” and “I work under a great deal of tension” (1 = *strongly disagree*; 7 = *strongly agree*).

Somatic complaints. In both Sample A and B, we measured subordinate somatic complaints with a 14-item somatic complaints scale (Ganster, Fusilier, & Mayes, 1986).

Participants rated how much they had been bothered by problems such as “stomach pain,” “headaches,” and “trouble sleeping” over the past four months on a 3-point Likert scale (1 = *not bothered at all*, 3 = *bothered a lot*).

Analytic Strategy

We tested Hypothesis 1 with hierarchical multiple regression. In the first step, we entered the main effects (abusive supervision and supervisor-directed deviance). The two-way interaction of abusive supervision and supervisor-directed deviance was entered in the second step. To reduce nonessential multicollinearity, all lower-order terms used in interactions were centered. To test the moderated mediation models (Hypothesis 2a – 2e), we followed Edwards and Lambert’s (2007) path analytic approach, and used the bootstrapping approach to derive the significance of the indirect effects, and bootstrapped 1,000 samples to obtain bias-corrected confidence intervals.

Study 3 Results

Tables 4 and 5 present the means, standard deviations, alphas, and correlations of the measured variables for Sample A and Sample B, respectively.

Table 4. Descriptive Statistics, Zero-Order Correlations, and Alpha Reliability Coefficients (Essay 2 Study 3 Sample A)

Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1. Abusive supervision	1.24	.53	.91							
2. Interpersonal justice	6.13	1.03	-.63**	.91						
3. Supervisor-directed deviance	1.39	.62	.42**	-.40**	.85					
4. Job satisfaction	5.16	1.50	-.35**	.52**	-.18*	.97				
5. Affective commitment	4.43	1.66	-.38**	.38**	-.22*	.79**	.94			
6. Emotional exhaustion	2.54	1.25	.38**	-.49**	.33**	-.70**	-.62**	.95		
7. Tension	3.43	1.38	.27**	-.40**	.26**	-.46**	-.34**	.72**	.89	
8. Somatic complaints	1.37	.37	.32**	-.26**	.23**	-.33**	-.29**	.49**	.52**	.89

Note. $n = 192$. The numbers in bold on the diagonal are alpha reliability coefficients.

* $p < .05$

** $p < .01$

Two tailed tests.

Table 5. Descriptive Statistics, Zero-Order Correlations, and Alpha Reliability Coefficients (Essay 2 Study 3 Sample B)

Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1. Abusive supervision	1.55	.74	.96							
2. Interpersonal justice	4.13	.90	-.61**	.94						
3. Supervisor-directed deviance	1.57	1.02	.65**	-.40**	.95					
4. Job satisfaction	4.93	1.33	-.44**	.51**	-.27**	.93				
5. Affective commitment	4.44	1.44	-.32**	.51**	-.14*	.69**	.89			
6. Emotional exhaustion	3.73	1.60	.44**	-.46**	.30**	-.62**	-.54**	.94		
7. Tension	3.70	1.45	.39**	-.38**	.28**	-.44**	-.28**	.62**	.91	
8. Somatic complaints	1.42	.37	.37**	-.25**	.42**	-.31**	-.23**	.39**	.45**	.87

Note. $n = 204$. The numbers in bold on the diagonal are alpha reliability coefficients.

* $p < .05$

** $p < .01$

Two tailed tests.

Hypotheses Testing

Table 6 presents the results of regression analyses testing Hypothesis 1 in Sample A. Hypothesis 1 predicts that supervisor-directed deviance moderates the relation between abusive supervision and subordinate justice perceptions, such that the relation is stronger when individuals report having engaged low levels of supervisor-directed deviance. Consistent with Hypothesis 1, the interaction term for abusive supervision and supervisor-directed deviance in predicting interpersonal justice was significant ($b = .56, p < .01; \Delta R^2 = .05, p < .01$). The interaction is presented in Figure 9. Tests of simple slopes at high (+1 *SD*) and low (-1 *SD*) levels of supervisor-directed deviance indicated that the relation between abusive supervision and interpersonal justice was stronger when supervisor-directed deviance was low ($t = -10.48, p < .01$) than when supervisor-directed deviance was high ($t = -7.20, p < .01$). These results provided support for Hypothesis 1.

Table 6. Two-Way Interaction Between Abusive Supervision and Supervisor-Directed Deviance in Predicting Interpersonal Justice (Essay 2 Study 3 Sample A)

Variable	Step 1	Step 2
Intercept	6.10** (.06)	6.02** (.06)
Abusive supervision	-1.16** (.12)	-1.27** (.12)
Supervisor-directed deviance	-.26** (.10)	-.53** (.11)
Abusive supervision x supervisor-directed deviance		.56** (.13)
ΔR^2	.42**	.05**

Note. $n = 192$. Values are unstandardized regression coefficients; standard error estimates are in parentheses. All lower-order terms used in interactions were centered prior to analysis.

* $p < .05$

** $p < .01$

Two tailed tests.

Figure 9. Abusive Supervision x Supervisor-Directed Deviance in Predicting Full-Range Interpersonal Justice (Essay 2 Study 3 Sample A)

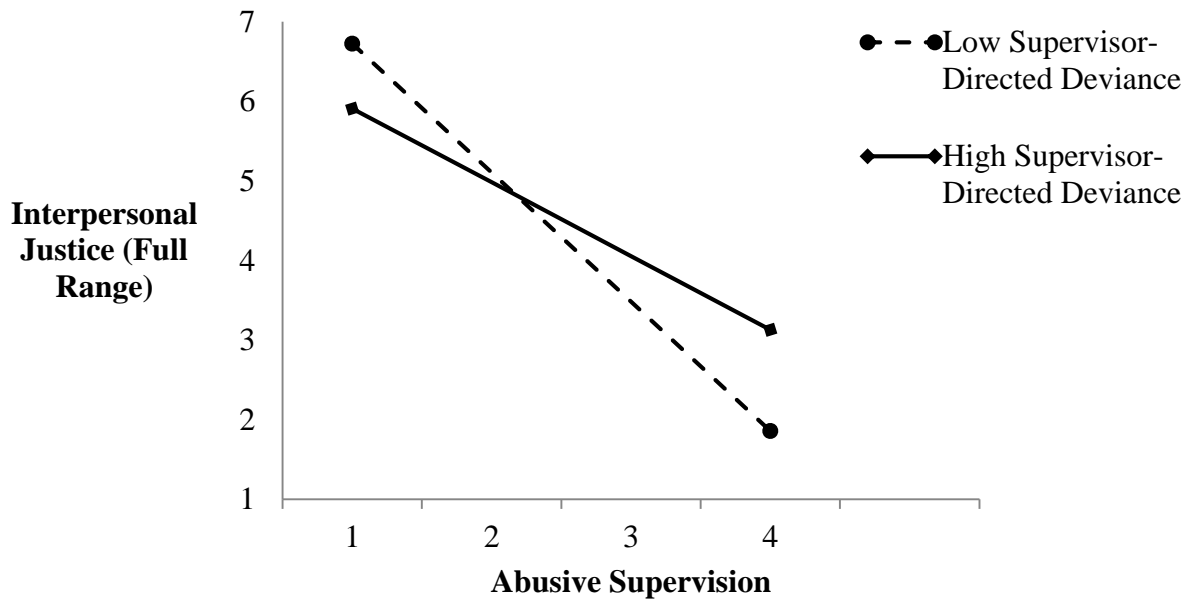


Table 7 presents the results of regression analyses testing Hypothesis 1 in Sample B. Consistent with Hypothesis 1, the interaction term for abusive supervision and supervisor-directed deviance in predicting interpersonal justice was significant ($b = .25, p < .01; \Delta R^2 = .07, p < .01$). The interaction is presented in Figure 10. Tests of simple slopes at high (+1 *SD*) and low (-1 *SD*) levels of supervisor-directed deviance indicated that the relation between abusive supervision and interpersonal justice was stronger when supervisor-directed deviance was low ($t = -9.24, p < .01$) than when supervisor-directed deviance was high ($t = -7.48, p < .01$). These results provided support for Hypothesis 1.

Table 7. Two-Way Interaction Between Abusive Supervision and Supervisor-Directed Deviance in Predicting Interpersonal Justice (Essay 2 Study 3 Sample B)

Variable	Step 1	Step 2
Intercept	4.13** (.05)	4.02** (.05)
Abusive supervision	-.73** (.09)	-.88** (.09)
Supervisor-directed deviance	-.01 (.07)	-.20** (.07)
Abusive supervision x supervisor-directed deviance		.25** (.05)
ΔR^2	.37**	.07**

Note. $n = 204$. Values are unstandardized regression coefficients; standard error estimates are in parentheses. All lower-order terms used in interactions were centered prior to analysis.

* $p < .05$

** $p < .01$

Two tailed tests.

Figure 10. Abusive Supervision x Supervisor-Directed Deviance in Predicting Interpersonal Justice (Essay 2 Study 3 Sample B)

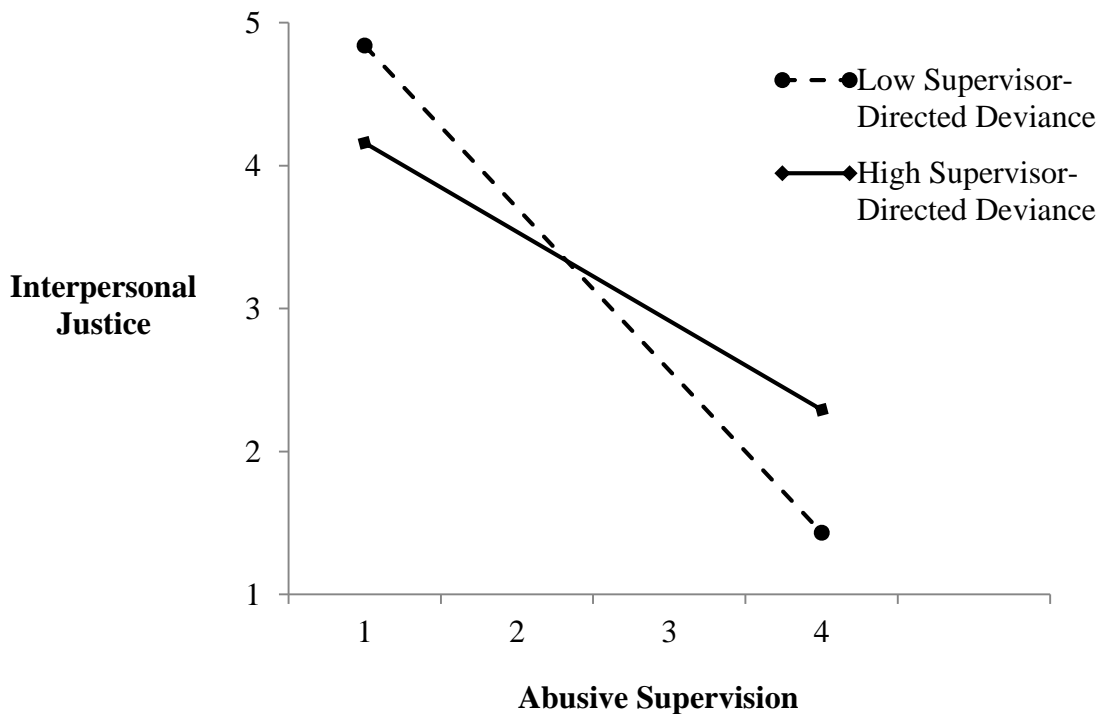


Table 8 provides the results of our moderated mediation analysis (Hypotheses 2a – 2e) in Sample A. As shown in Table 8, supporting Hypothesis 2a, the indirect effect of abusive supervision on job satisfaction through interpersonal justice perceptions was stronger for those who were low in supervisor-directed deviance ($P = -1.16, p < .01$) than those who were high in supervisor-directed deviance ($P = -.66, p < .01$; Difference = $[-.66] - [-1.16] = .50$, 95% CI $[-.194, .954]$). Supporting Hypothesis 2b, the indirect effect of abusive supervision on affective commitment through interpersonal justice perceptions was stronger for individuals who were low in supervisor-directed deviance ($P = -.73, p < .01$) than those who were high in supervisor-directed deviance ($P = -.42, p < .05$; Difference = $[-.418] - [-.733] = .32$, 95% CI $[-.096, .681]$).

Supporting Hypothesis 2c, the indirect effect of abusive supervision on emotional exhaustion was stronger for individuals who were low in supervisor-directed deviance ($P = .68, p < .01$) than those who were high in supervisor-directed deviance ($P = .39, p < .01$; Difference = $[.390] - [.684] = -.29$, 95% CI $[-.591, -.109]$). Supporting Hypothesis 2d, the indirect effect of abusive supervision on tension through interpersonal justice perceptions was stronger for those who were low in supervisor-directed deviance ($P = .73, p < .01$) than for those who were high in supervisor-directed deviance ($P = .41, p < .01$; Difference = $[.413] - [.725] = -.31$, 95% CI $[-.624, -.121]$). However, failing to support Hypothesis 2e, the indirect effect of abusive supervision on somatic complaints was not significantly different between those who were low in supervisor-directed deviance ($P = .02, n.s.$) and those who were high in supervisor-directed deviance ($P = .01, n.s.$; Difference = $[.009] - [.016] = -.007$, 95% CI $[-.077, .048]$).

Table 9 provides the results of our moderated mediation analyses (Hypotheses 2a – 2e) in Sample B. As shown in Table 9, supporting Hypothesis 2a, the indirect effect of abusive supervision on job satisfaction through interpersonal justice perceptions was stronger for those

who were low in supervisor-directed deviance ($P = -.52, p < .01$) than those who were high in supervisor-directed deviance ($P = -.28, p < .01$; Difference = $[-.284] - [-.518] = .24$, 95% CI $[.110, .436]$). Supporting Hypothesis 2b, the indirect effect of abusive supervision on affective commitment through interpersonal justice perceptions was stronger for individuals who were low supervisor-directed deviance ($P = -.83, p < .01$) than for those who were high in supervisor-directed deviance ($P = -.46, p < .01$; Difference = $[-.455] - [-.830] = .38$, 95% CI $[.193, .610]$).

Supporting Hypothesis 2c, the indirect effect of abusive supervision on emotional exhaustion through interpersonal justice perceptions was stronger for individuals who were low supervisor-directed deviance ($P = .53, p < .01$) than for those who were high in supervisor-directed deviance ($P = .29, p < .01$; Difference = $[.291] - [.531] = -.24$, 95% CI $[-.476, -.068]$).

Supporting Hypothesis 2d, the indirect effect of abusive supervision on tension through interpersonal justice perceptions was significant for those who were low in supervisor-directed deviance ($P = .41, p < .05$) than those who were high in supervisor-directed deviance ($P = .23, p < .0$; Difference = $[.225] - [.410] = -.19$, 95% CI $[-.406, -.046]$). However, failing to support Hypothesis 2e, the indirect effect of abusive supervision on somatic complaints was not significantly different between those who were low in supervisor-directed deviance ($P = .04$, n.s.) and those who were high in supervisor-directed deviance ($P = .02$, n.s.; Difference = $[.023] - [.042] = -.019$, 95% CI $[-.056, .011]$).

Taken as a whole, Sample A and Sample B results provide support for the moderated mediation hypotheses (Hypothesis 2a – 2d), with interpersonal justice mediating the moderating effect of supervisor-directed deviance on the relation between abusive supervision and job satisfaction, affective commitment, emotional exhaustion, and tension, respectively.

Table 8. Analysis of Simple Effects (Essay 2 Study 3 Sample A)

Dependent Variables	Moderator Values	First Stage	Second Stage	Direct Effects	Indirect effects	Total effects
		(P_{MX})	(P_{YM})	(P_{YX})	($P_{YM}P_{MX}$)	($P_{YX} + P_{YM}P_{MX}$)
Job satisfaction	Low SDD	-1.62**	.71**	-.36	-1.16**	-1.51**
	High SDD	-.92**	.71**	-.06	-.66**	-.72
	Difference	.70**	.00	.30	.50*	.80**
Affective commitment	Low SDD	-1.62**	.45**	-.58	-.73**	-1.32**
	High SDD	-.92**	.45**	-.03	-.42*	-.44
	Difference	.70**	.00	.56	.32*	.87*
Emotional exhaustion	Low SDD	-1.62**	-.42**	.55	.68**	1.23**
	High SDD	-.92**	-.42**	-.10	.39**	.30
	Difference	.70**	.00	-.64**	-.29**	-.93**
Tension	Low SDD	-1.62**	-.45**	.28	.73**	1.00*
	High SDD	-.92**	-.45**	-.10	.41**	.32
	Difference	.70**	.00	-.38	-.31*	-.69
Somatic complaints	Low SDD	-1.62**	-.01	.25	.02	.26
	High SDD	-.92**	-.01	.16	.01	.17
	Difference	.70**	.00	-.09	-.01	-.09

Note. $n = 192$.

SDD = supervisor-directed deviance; P_{MX} = path from abusive supervision to mediator (i.e., interpersonal justice); P_{YM} = path from mediator (i.e., interpersonal justice) to dependent variables (i.e., job satisfaction, affective commitment, emotional exhaustion, tension, and somatic complaints); P_{YX} = path from abusive supervision to dependent variables (i.e., job satisfaction, affective commitment, emotional exhaustion, tension, and somatic complaints).

* $p < .05$

** $p < .01$

Table 9. Analysis of Simple Effects (Essay 2 Study 3 Sample B)

Dependent Variables	Moderator Values	First Stage	Second Stage	Direct Effects	Indirect effects	Total effects
		(P_{MX})	(P_{YM})	(P_{YX})	($P_{YM}P_{MX}$)	($P_{YX} + P_{YM}P_{MX}$)
Job satisfaction	Low SDD	-1.14**	.46**	-.87**	-.52**	-1.39**
	High SDD	-.62**	.46**	-.40**	-.28**	-.68**
	Difference	.52**	.00	.47**	.24**	.71**
Affective commitment	Low SDD	-1.14**	.73**	-.51	-.83**	-1.34**
	High SDD	-.62**	.73**	-.18	-.45**	-.64**
	Difference	.52**	.00	.33	.38**	.70**
Emotional exhaustion	Low SDD	-1.14**	-.47**	.88**	.53**	1.41**
	High SDD	-.62**	-.47**	.52*	.29**	.81**
	Difference	.52**	.00	-.36	-.24*	-.60**
Tension	Low SDD	-1.14**	-.36**	.47	.41*	.88**
	High SDD	-.62**	-.36**	.41	.22*	.64**
	Difference	.52**	.00	-.06	-.19*	-.24
Somatic complaints	Low SDD	-1.14**	-.04	-.03	.04	.01
	High SDD	-.62**	-.04	.09	.02	.11
	Difference	.52**	.00	.12	-.02	.10

Note. $n = 204$.

SDD = supervisor-directed deviance; P_{MX} = path from abusive supervision to mediator (i.e., interpersonal justice); P_{YM} = path from mediator (i.e., interpersonal justice) to dependent variables (i.e., job satisfaction, affective commitment, emotional exhaustion, tension, and somatic complaints); P_{YX} = path from abusive supervision to dependent variables (i.e., job satisfaction, affective commitment, emotional exhaustion, tension, and somatic complaints).

* $p < .05$

** $p < .01$

Supplementary Analyses

Victims of abusive supervision can directly retaliate against their supervisor by engaging in deviance directed at the supervisor, but oftentimes they also displace their aggression by engaging in deviance directed at the organization as a whole (Lian, Ferris, & Brown, 2012). Displaced aggression refers to a re-directing one's harmful actions away from the primary source of one's frustration to a secondary or even an innocent target (Bushman, Baumeister, & Phillips, 2001; Tedeschi & Norman, 1985). One may argue that it is possible that when victims of abusive supervision displace their aggression in the form of deviance directed at the organization, it could also restore subordinates' sense of justice. In particular, subordinates may view their supervisor as an embodiment of the organization (Shoss, Eisenberger, Restubog, & Zagenczyk, 2012), thus retaliating against the organization may bear a similar justice restoring effect as retaliating against the supervisor. However, it is also possible that a punishment administered to the transgressor through direct retaliation rather than displaced aggression is the only course that will sufficiently restore a sense of justice for victims (Okimoto et al., 2012). Given these contradictory possibilities, we repeated the above analyses with the inclusion of organizational deviance and the interaction term of abusive supervision and organizational deviance. In both Sample A and Sample B, we measured organizational deviance with a 12-item organizational deviance scale (Bennett & Robinson, 2000) at Time 3.

In the first step, we entered the main effects (i.e., abusive supervision, supervisor-directed deviance, and organizational deviance); in the second step, we simultaneously entered the two-way interactions (i.e., abusive supervision x supervisor-directed deviance, abusive supervision x organizational deviance). In Sample A, regression results revealed that the abusive supervision x supervisor-directed deviance interaction was significant in predicting interpersonal justice ($b =$

.31, $SE = .10$, $p < .01$), while the abusive supervision x organizational deviance interaction was not significant in predicting interpersonal justice ($b = .06$, $SE = .10$, $n.s.$). Similarly, in Sample B, regression results revealed that the abusive supervision x supervisor-directed deviance interaction was significant in predicting interpersonal justice ($b = .32$, $SE = .07$, $p < .01$), while the abusive supervision x organizational deviance interaction was not significant in predicting interpersonal justice ($b = -.10$, $SE = .07$, $n.s.$).

Including organizational deviance and the interaction term of abusive supervision x organizational deviance did not affect the significance and direction of the moderated mediation analyses in either Sample A or Sample B. As such, the above results indicate that following abusive supervision, only direct retaliation against the supervisor but not indirect retaliation against the organization, mitigates the effect of abusive supervision on subordinate well-being via subordinates' justice perceptions.

General Discussion

Although the abusive supervision literature has typically presented subordinate retaliation as dysfunctional reactions that should be discouraged, in the current paper we offer a counter narrative by outlining a beneficial side of retaliation. In particular, we develop and test a functional theory of retaliation in response to abusive supervision that involves protecting victims' well-being through the restoration of justice perceptions. Across three studies with multiple samples and different research designs, we found strong empirical support for our functional theory of retaliation. Moreover, the results from Study 3, where our full model was tested, indicate that justice perceptions serve as a mediating mechanism that explains how supervisor-directed retaliation mitigates the damaging effects of abusive supervision on subordinates' well-being.

Theoretical Implications

The extant literature largely tends to regard supervisor-directed deviance in response to abusive supervision as dysfunctional and self-defeating. Specifically, researchers have suggested that aversive outcomes such as lost rewards, punishment, or escalation of abuse may follow if subordinates directly confront an abusive supervisor (Aquino et al., 2006; Tepper et al., 2009). Given the possibility of such aversive outcomes, engagement in supervisor-directed deviance to retaliate against an abusive supervisor has been explained as an irrational behavior that results from a lack of self-control among abused subordinates (Lian et al., 2014; Thau & Mitchell, 2010). However, the justice literature suggests that individuals have a fundamental motivation to maintain a sense of justice and thus often use retaliation as a way to restore justice when experiencing unfair treatment such as abusive supervision (Bies & Tripp, 1998). Building on this perspective, our work examines the psychological and health benefits of supervisor-directed deviance for employees. Hence, our work adds to the current understanding of supervisor-directed deviance and suggests that it may not always be a self-defeating response to abusive supervision; rather, by restoring perceptions of justice it serves to protect the well-being of employees. Additionally, in the supplementary analyses of Study 3, we have shown that the justice restoration effect can only be achieved through means of direct retaliation rather than displacing aggression through indirect means. Thus, our results are consistent with the body of literature that shows aggression towards a target that is not the direct source of one's frustration is an ineffective strategy (Bushman, 2002; Bushman et al., 2001).

Our work contributes to the justice literature by directly and comprehensively testing the frequently posited assumption that retaliation functions to restore justice (Bies & Tripp, 1998), which has mainly been investigated in qualitative studies (see Bies & Tripp, 1996; Tripp & Bies,

1997). With evidence from both experimental and field studies, our research provides compelling evidence for the justice restoration view of retaliation and highlights the largely overlooked benefit of retaliation from a victim's perspective. Moreover, we extend the justice restoration perspective by shedding light on how restored justice can account for the beneficial effects of retaliation on victims' well-being.

Our work also extends the growing body of research on abusive supervision by adopting a relational perspective in understanding how subordinates react to abusive supervision. Past work examining subordinate outcomes of abusive supervision tends to regard subordinates as passive recipients of their supervisors' mistreatment. However, recent research suggests that subordinates can actively affect the treatment that they receive rather than purely being passive recipients (Lian, Ferris, Morrison, & Brown, 2014). In line with the notion that harmful workplace behaviors such as abusive supervision should be understood within the context of a dyadic relationship (Aquino & Lamertz, 2004; Hershcovis & Barling, 2007; Hershcovis & Rafferty, 2012), our work takes into account both supervisor and subordinate behavior in determining the consequences of abusive supervision. In taking this approach, our work suggests that subordinates' outcomes are not solely determined by their supervisors' treatment. Instead, the impact of supervisor treatment on the psychological variables of subordinates is affected by subordinates' own behavior.

Limitations and Directions for Future Research

As with all research, there are limitations to our work that need to be acknowledged and addressed in future studies. First, as theorized previously, abusive supervision represents a violation of the goal to maintain justice and subordinates who experience abusive supervision are motivated to engage in actions to satisfy this goal. Given the equifinality property of goals,

which refers to the idea that a goal can be achieved through multiple means (Austin & Vancouver, 1996), there should be multiple ways through which subordinates pursue justice. Retaliation is only one of the many means available. As a follow-up to the current study, a next step would be to simultaneously investigate the multiple means by which justice can be restored. For example, it has been suggested that, following a transgression, the act of forgiving the transgressor can “free people from the inner turmoil that comes from harboring grudges and helps them to let go of any emotional injury that they have sustained (Richards, 1988; as cited in Adams, Zou, Inesi, & Pilluta, 2015: 131). Moreover, it has been suggested that acts of forgiveness rather than bearing grudges following a transgression can provide victims with important physiological as well as psychological benefits (Witvliet, Ludwig, & Vander Laan, 2001; for a review, see Fehr, Gelfand, & Nag, 2010). Thus, it is possible that forgiving is an alternative option that can bring closure and restore justice for the victim. Future studies could be designed to compare and contrast retaliation with this alternative.

Second, in the current paper we have only examined one function of retaliation, which is restoring justice for victims of abusive supervision. Yet, besides restoring justice, it has been proposed that retaliation serves a multitude of functions, which include reducing a sense of victim identity (Tepper et al., 2015), deterring offenders from future mistreatment (Aquino et al., 2001; Tepper et al., 2009), serving a moral educative function by teaching the offender a lesson (Baumeister, 1997; Heider, 1958), and saving face for the victim (Heider, 1958; McCullough, Bellah, Kilpatrick, & Johnson, 2001). In this sense, our findings are limited in the extent to which they speak to the different theorized functions of retaliation, and future research could be directed to examine these functions.

Third, it has been suggested that acts of retaliation may be psychologically harmful to victims (McCullough et al., 2001). While the current research supports a functional theory of retaliation, it is possible that in the long run, retaliation is harmful to the retaliation-seeker. Moreover, there may be individual differences that influence the extent to which retaliation is harmful or beneficial to the retaliation-seeker. For example, people who are high in moral identity (Aquino & Reed, 2002) may feel that retaliation is inconsistent with their values and feel worse following retaliation, whereas people who are high in just world belief may feel a strong sense of vindication upon punishing an offender that is perceived to be deserving (Kaiser, Vick, & Major, 2004). Future research should aim to examine such boundary conditions that may influence whether retaliation is psychologically beneficial or harmful to the actor in question.

Finally, although the current study addresses the beneficial effect of retaliation on victim well-being by restoring justice for victims, we have yet to address potential side effects of retaliation and justice restoration. In particular, while retaliation can help a victim of abusive supervision restore justice perceptions, it may also desensitize this individual's justice perceptions. Thus the suffering of other victims may be viewed with little sympathy, and may not impel a desire to help (Bushman & Anderson, 2009). As such, future research could be directed at examining the unintended negative consequence of retaliation and justice restoration on third party reactions of witnessing abusive supervision.

Practical Implications

Although it is difficult to offer direct practical implications from our study, given that abusive supervision has a number of well-documented negative consequences (Tepper, 2007), our findings provide several indirect organizational implications for how some of these consequences may be alleviated. In particular, we have proposed and found that subordinate

retaliation can indirectly influence subordinate well-being. These findings suggest that retaliation not only benefits individual victims but may also benefit the organization as a whole, since well-being is important for employee performance (Wright, Cropanzano, & Bonett, 2007; Wright & Cropanzano, 1998). Despite this, we do not mean to advise organizations to encourage subordinate retaliation, which can have significant organizational costs (Robinson & Greenberg, 1998). Rather, efforts should be advanced to foster subordinate justice perceptions. This can be achieved through implementing a zero-tolerance policy with regard to abusive supervision (e.g., Tepper, Duffy, Henle, & Lambert, 2006), thus preventing subordinates from experiencing violated justice perceptions in the first place. Moreover, since we found in Study 2 that simply retaliating by stabbing a voodoo doll that represents one's supervisor can deactivate injustice perceptions associated with abusive supervision, subordinates who receive perpetual mistreatment from their supervisor may benefit from harmless acts of symbolic retaliation against their supervisor.

More importantly, our studies suggest that organizations may want to take a new perspective on the deviant behavior of subordinates. In particular, rather than regarding subordinate deviance as subordinates engaging in counterproductive behaviors that should be suppressed, organizations may want to look further into these behaviors and see whether they reflect larger organizational problems such as unfair practices committed by management. Given that subordinates are likely to engage in deviance as a way to restore their sense of justice and protect their well-being, taking a draconian stance in the policing and punishment of deviant employees may amount to treating the symptoms rather than the cause. Instead, organizations may want to examine whether subordinate deviance is reflective of injustice issues and make attempts to reduce subordinate deviance by addressing these issues.

CHAPTER 4: CONCLUDING REMARKS

Abusive supervision is a serious organizational problem that merits attention from scholars to advance understanding of its causes and consequences, and when and how such behaviors and its consequences can be reduced. In two essays, I sought to answer these questions. In Essay 1, I provided a dual-system self-control framework to better understand the antecedents of abusive supervision. In Essay 2, I drew upon the justice explanation of abusive supervision to better understand under what circumstances and why the detrimental effect of abusive supervision and subordinate well-being can be mitigated. All together, the findings from Essay 1 and Essay 2 provide a basis for practical interventions to reduce or eliminate abusive supervision from happening in the workplace, as well as insights into ways in which the well-being of abused subordinates can be protected.

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APPENDIX A: Examples of Vignettes (Essay 2 Study 1)

1. [Abusive supervision] It is early afternoon and you are sitting at your office desk working on a report. Your supervisor walks into your office without knocking. Your supervisor walks towards your desk and tells you that your thoughts and feelings are stupid.
[Supervisor-directed deviance] Later in the day, you make fun of your supervisor to your colleagues at work.
2. [Abusive supervision] You are the last person to arrive at a meeting because you were training a new employee like your supervisor asked you to. Then, your supervisor puts you down in front of the other coworkers, makes negative comments about you to them, and gives you the silent treatment.
[Supervisor-directed deviance] Afterwards, you play a mean prank on your supervisor by hiding some important mail that he/she was expecting.
3. [Abusive supervision] You are given unclear instructions on a work assignment, but you try your best and submit it to your supervisor. Your supervisor tells you that you are incompetent, and that reminds you of your past mistakes and failures.
[Supervisor-directed deviance] Later, you make an obscene comment or gesture toward your supervisor.
4. [Abusive supervision] You are a computer programmer. After you spent hours and hours and countless effort on writing a complicated code, your supervisor not only did not give you credit for your hard work, but also didn't fulfill his/her promise to give you the promotion for a job well-done.
[Supervisor-directed deviance] Soon after that, you publicly embarrass your supervisor at a team meeting.
5. [Abusive supervision] You proofread a report for your supervisor, who submitted it to his/her boss, the department manager. The manager disapproves of your supervisor's submission, and your supervisor blames and gets angry at you for not checking the report carefully enough.
[Thwarted supervisor-directed deviance] Later in the day, you feel the urge to make fun of your supervisor to your colleagues at work, but you restrain yourself.
6. [Abusive supervision] While at your office to discuss work tasks, your supervisor tries to read your emails on your computer and then stays around to listen while you take a phone call.
[Thwarted supervisor-directed deviance] Afterwards, you want to play a mean prank on your supervisor by hiding some important mail that he/she was expecting, but you control yourself.

7. [Abusive supervision] While you are very busy, your supervisor lies to you by assigning you some work that he/she says will take fifteen minutes, but which will obviously take at least two hours.
[Thwarted supervisor-directed deviance] Later, you feel like you want to make an obscene comment or gesture toward your supervisor, but you decide against it.

8. [Abusive supervision] One morning, while you try to interact with your coworkers about important work matters or even during your break, your supervisor demands that you stop chatting and wasting time.
[Thwarted supervisor-directed deviance] Soon after that, you have an urge to publicly embarrass your supervisor at a team meeting, but you don't go through with it.

APPENDIX B: Word Fragment Measure for Implicit Injustice (Essay 2 Study 2)

Word Fragment	Target Word	Neutral Word
UN__UAL	Unequal	Unusual
__OLATED	Violated	Isolated
RON	Wrong	Front
		Drone
		Crone
		Irony
		Irons
		Prong
		Prone
UN__ST	Unjust	Unrest
UN_AI_	Unfair	Unpaid
		Unsaid