

How Does Mindfulness Reduce Unethical Behavior? A Dual-System Theory Perspective Post-print

Authors: Ming Xiaodong, Fu Jingyu, Bai Xinwen, Yang Jianfeng

Date: 2023-10-09T00:00:00+00:00

Abstract

Workplace unethical behavior poses significant harm to organizations, making the exploration of intervention strategies for such behavior critically important. Previous research has predominantly examined intervention methods for unethical behavior from a rational moral decision-making perspective, while studies investigating these interventions from an intuitive moral decision-making perspective remain relatively scarce. This project proposes that mindfulness can simultaneously influence both rational and intuitive moral decision-making systems, thereby reducing unethical behavior. Theoretically, this research aims to investigate the impact of mindfulness on unethical behavior from the dual-system perspective of moral decision-making, thereby expanding the research approach to the intersection and integration of mindfulness and unethical behavior. In terms of practical application, it is proposed that mindfulness, as an important factor that simultaneously influences both rational and intuitive moral decision-making systems, can provide insights for reducing unethical behavior in management practice.

Full Text

Preamble

How Does Mindfulness Reduce Unethical Behavior? Insights from Dual-System Theory

MING Xiaodong¹, FU Jingyu², BAI Xinwen^{3,4}, YANG Jianfeng¹

(¹ School of Business Administration, Jiangxi University of Finance and Economics, Nanchang 330013, China)

(² Business School, University of International Business and Economics, Beijing 100029, China)

(³ CAS Key Laboratory of Behavioral Science, Institute of Psychology, Chinese

Academy of Sciences, Beijing 100101, China)

(⁴ Department of Psychology, University of Chinese Academy of Sciences, Beijing 100049, China)

Abstract: Workplace unethical behavior poses severe harm to organizations, making the exploration of intervention strategies critically important for management practice. Previous research has primarily examined interventions for unethical behavior from the perspective of rational ethical decision-making, with relatively few studies investigating such interventions from the intuitive ethical decision-making perspective. This project proposes that mindfulness can simultaneously influence both the rational and intuitive ethical decision-making systems, thereby reducing unethical behavior. Theoretically, this research aims to examine the effect of mindfulness on unethical behavior through the lens of dual-system theory, expanding the interdisciplinary integration of mindfulness and behavioral ethics research. Practically, by identifying mindfulness as an important factor that influences both rational and intuitive ethical decision-making systems, this project offers insights for reducing unethical behavior in management practice.

Keywords: unethical behavior, mindfulness, dual-system theory, intervention, ethical decision-making

Classification Number: B849: C93

1. Problem Statement

Workplace unethical behavior causes tremendous harm to organizations, and exploring measures to reduce such behavior holds significant practical value. Some studies suggest that mindfulness may reduce individuals' unethical behavior (e.g., Orazi et al., 2021; Small & Lew, 2021). Mindfulness refers to non-judgmental attention to and awareness of present-moment events and experiences (Brown & Ryan, 2003; Kabat-Zinn, 2005). Traditional Chinese Confucian, Buddhist, and Taoist cultures all contain mindfulness training traditions, with Buddhist meditation being the most well-known (Lin & Xia, 2019). In modern society, this ancient technique has gained renewed vitality. For instance, mindfulness has become fashionable in Silicon Valley (Zhang et al., 2017), and many high-tech companies have even introduced mindfulness programs internally (such as Google's "Search Inside Yourself" course) to help employees develop their potential (Schaufenbuel, 2015). In the modern scientific domain, psychological research has delved deeper into the efficacy of mindfulness, revealing its important influence on various cognitive and emotional functions (Shen & Liao, 2023; Wang & Liu, 2017; Zhang et al., 2017; Zheng & Ni, 2018). Additionally, mindfulness affects specific behaviors. For example, research suggests mindfulness may reduce unethical behavior (Orazi et al., 2021; Small & Lew, 2021).

Unethical behavior refers to actions that harm others and are either illegal or socially unacceptable (Jones, 1991). Previous research on the mechanisms underlying individual unethical behavior can be divided into two major perspec-

tives. The long-standing mainstream view holds that individual moral decision-making is primarily based on rational moral reasoning (Jones, 1991; Kohlberg, 1976; Rest, 1986; Treviño, 1986). An emerging alternative perspective argues that moral decision-making is primarily an intuitive judgment process (Greene & Haidt, 2002; Haidt, 2001). These two perspectives have been further synthesized as the dual-system theory of moral decision-making (Xu & Chi, 2007; Greene, 2009). From these two different perspectives, previous research has explored two distinct categories of factors influencing unethical behavior: cognitive factors such as ethical imagination, moral disengagement, and moral awareness, and emotional factors such as guilt, disgust, and empathy (de Cremer & Moore, 2020). These factors may either inhibit or facilitate unethical behavior.

Notably, the vast majority of behavioral ethics research has been conducted from the rational moral decision-making perspective (Kish-Gephart et al., 2010; Reynolds, 2006; Treviño et al., 2014), leading most interventions for unethical behavior to target rational cognitive factors. Examples include establishing ethical codes, punishing unethical behavior, building strong ethical cultures, and providing ethics training (Kish-Gephart et al., 2010; Treviño et al., 2014). These measures assume individuals are rational actors who can deliberate on the consequences of unethical behavior. However, many unethical behaviors may be impulsive, with individuals sometimes making no rational cost-benefit calculation at all (Reynolds, 2006). Therefore, interventions targeting only rational factors may be insufficient to effectively reduce unethical behavior. For instance, a meta-analysis by Kish-Gephart et al. (2010) found that the presence or absence of ethical codes did not affect individuals' unethical behavior. Consequently, simultaneous intervention in both rational and intuitive factors may be necessary to reduce unethical behavior. Unfortunately, previous research has not empirically examined this topic, possibly for two reasons: first, the rational perspective still dominates behavioral ethics, with the intuitive perspective receiving less attention; second, it is difficult to identify a factor that influences unethical behavior through both rational and intuitive processes.

This project proposes that mindfulness may be an important factor that simultaneously influences unethical behavior through both rational and intuitive processes. Because mindfulness can affect both cognitive and emotional functions (Wang & Liu, 2017; Zhang et al., 2017; Zheng & Ni, 2018), it may simultaneously intervene in both the rational and intuitive processes of individuals' moral decision-making systems, thereby reducing unethical behavior. In recent years, mindfulness has gradually gained attention in organizational management research (Liu & Xin, 2019; Zhu et al., 2020). Organizational research on mindfulness and ethics has focused on the relationship between mindfulness and rational moral decision-making, following two main approaches. One approach suggests that because mindfulness emphasizes awareness, it can enhance moral awareness, thereby facilitating subsequent moral decision-making (Ruedy & Schweitzer, 2010; Shapiro et al., 2012). Another approach argues that mindfulness helps cultivate virtues such as moral responsibility, which may facilitate moral decision-making (Orazi et al., 2021; Small & Lew, 2021). These studies

on mindfulness and rational moral decision-making provide valuable insights into how mindfulness may intervene in unethical behavior, offering preliminary understanding of the connection between mindfulness and morality. However, these studies have several unresolved issues. First, previous research has primarily examined mindfulness from the rational moral decision-making perspective, using moral judgment or moral intention as dependent variables, with few studies exploring whether mindfulness can reduce actual unethical behavior in the workplace. Second, current research on mindfulness and moral decision-making lacks a mature theoretical framework. Existing studies start from the connotation of mindfulness, suggesting that both mindfulness and moral decision-making emphasize the role of “awareness,” or that mindfulness helps cultivate “virtue.” However, without theoretical guidance, these studies cannot explain why mindfulness influences unethical behavior.

To address these issues, this project examines the relationship between mindfulness and unethical behavior based on dual-system theory of moral decision-making. Dual-system theory posits that individuals process information through two distinct systems: System 1 operates through impulsive, automatic, intuition-based, and rapid information processing, while System 2 operates through comprehensive, deliberate, rational, and relatively slow information processing (Evans, 2008; Evans & Stanovich, 2013). In the moral decision-making domain, evidence suggests that individuals’ moral decisions align with dual-system theory descriptions (e.g., Greene et al., 2001; Greene et al., 2008; Greene et al., 2009; Haidt et al., 1993). The dual-system theory of moral decision-making primarily represents the intuitive decision-making system characterized by emotional mechanisms and the rational decision-making system represented by moral reasoning (Cummins & Cummins, 2012). Based on this theory, this project proposes that mindfulness can influence both rational and intuitive moral decision-making systems, thereby reducing unethical behavior. Regarding the rational moral decision-making system, because mindfulness can enhance multiple aspects of cognitive function (Wang & Huang, 2011; Good et al., 2016), it helps individuals engage in comprehensive, deliberate reasoning about moral dilemmas, thus reducing unethical behavior. Regarding the intuitive moral decision-making system, mindfulness can enhance emotional regulation capabilities (Chen et al., 2011), cultivate moral emotions (Bellosta-Batalla et al., 2020), and may help reduce unethical behavior.

Through this project, we aim to provide new theoretical and methodological insights for intervening in unethical behavior. Previous research has primarily explored intervention methods from the rational moral decision-making perspective. This project proposes mindfulness as a novel intervention that can reduce unethical behavior through both rational and intuitive moral decision-making systems, contributing to both organizational management theory and practice.

2. Dual-System Theory of Ethical Decision-Making

2.1 Rational Ethical Decision-Making Perspective

Early research in behavioral ethics was significantly influenced by Kohlberg's (1969) theory of cognitive moral development. This theory divides individual moral cognitive development into pre-conventional, conventional, and post-conventional levels, with each level further divided into two stages, totaling six stages. Individuals at higher moral cognitive development stages are more likely to make ethical decisions and reduce unethical behavior. The theory assumes that moral decision-making involves a series of moral reasoning processes, making it a rational moral decision-making theory (Haidt et al., 1993). Many early studies on unethical behavior in organizations were guided by this theory (e.g., Abdolmohammadi et al., 2003; Treviño & Youngblood, 1990).

Another influential theory in behavioral ethics is Rest's (1986) four-component model of moral decision-making. This theory inherits the moral reasoning concept from cognitive moral development theory and also views moral decision-making as a rational reasoning process. The model divides moral decision-making into four stages: moral awareness, moral judgment, moral intention, and moral behavior, with each stage influencing the next and ultimately affecting moral behavior. For example, if individuals fail to recognize the existence of a moral dilemma, they may engage in more unethical behavior (Gino et al., 2011).

Subsequent theoretical models in behavioral ethics have been influenced by moral reasoning. For instance, Treviño's (1986) person-situation interactionist model suggests that the influence of moral cognitive development on organizational (un)ethical behavior is moderated by other individual and situational factors. Jones (1991) introduced the concept of moral intensity into Rest's four-component model, proposing the issue-contingent model of ethical decision-making. Additionally, social cognitive theory is an important framework for explaining unethical behavior in organizations, positing that individuals engage in unethical behavior because certain cognitive processes weaken the constraining effect of moral standards on behavior (Bandura, 1991). Accordingly, the theory proposes moral disengagement as an important moral regulation mechanism (Bandura, 1999). Moral disengagement is essentially a cognitive process through which individuals justify their unethical behavior—a rational process of defending one's unethical actions.

2.2 Intuitive Ethical Decision-Making Perspective

Social cognitive theory has noted the influence of some moral emotions on unethical behavior; for example, guilt may reduce unethical behavior (Bandura, 1991). Haidt et al. (1993) more directly challenged Kohlberg's (1969) concept of moral reasoning, arguing that moral judgment is more influenced by culturally shaped moral emotions. For instance, is it ethical to eat one's pet dog? According to traditional definitions of unethical behavior, a key condition for

violating morality is whether the behavior harms others (Jones, 1991). Clearly, eating one's pet dog does not harm others, yet most participants considered it unethical (Haidt et al., 1993). Haidt et al. (1993) argued that when individuals judge eating their pet dog as unethical, they do not go through a "moral reasoning" process. Instead, they are triggered by an emotion and intuitively deem it unethical—a very rapid process. When asked why they made such moral judgments, they may engage in a post-hoc justification process.

Based on these findings, Haidt (2001) proposed the social intuitionist model of moral judgment, which posits that most moral decisions are intuitive judgments triggered by emotions, with moral reasoning merely serving as a post-hoc self-persuasion process. Functional magnetic resonance imaging studies further support this view, finding that moral judgment involves heightened activation in brain regions associated with emotions (Greene et al., 2001).

Under the influence of the intuitive ethical decision-making perspective, Reynolds (2006) proposed a neurocognitive model of ethical decision-making. This model suggests that two interrelated yet distinct processes exist in moral decision-making: an intuitive decision-making process and a moral reasoning process as described by traditional rational models. Reynolds (2006) argues that both intuitive judgment and moral reasoning may exist in moral decision-making, with their relative involvement varying when resolving different moral dilemmas.

Overall, previous research has examined the question of why individuals engage in unethical behavior from both rational and intuitive ethical decision-making perspectives. In recent years, behavioral ethics research has increasingly emphasized the role of emotional factors in influencing unethical behavior (de Cremer & Moore, 2020), with rational and intuitive theories showing signs of convergence. This integrated perspective combining rational and intuitive moral decision-making constitutes the dual-system theory of moral decision-making (Greene, 2009).

3. Connotation and Mechanism of Mindfulness

Modern psychology offers various definitions of mindfulness, which can be categorized as state, (quasi-)trait, skill, or cognitive process perspectives (Duan, 2014; Zheng & Ni, 2018). Kabat-Zinn (2005) defines mindfulness as "the awareness that arises from paying attention, on purpose, in the present moment, and non-judgmentally." This definition emphasizes mindfulness as a method or skill. Mindfulness can also be viewed as a series of cognitive processes, such as maintaining present-moment awareness, self-regulation, meta-cognition, and acceptance (Bishop et al., 2004). Through mindfulness practice, individuals can temporarily change their perception, cognition, and self-referential awareness, achieving a mindful state (Wang & Huang, 2011). With long-term mindfulness training, these psychological characteristics may undergo lasting changes, forming a mindfulness trait (Davidson, 2010). Additionally, even individuals

without mindfulness practice experience may exhibit differences in mindfulness traits (Brown & Ryan, 2003).

Mindfulness primarily influences individuals through cognitive and emotional functions (see Figure 1 [Figure 1: see original paper]). Cognitively, mindfulness enhances attention, cognitive flexibility, working memory capacity, and self-control. Previous research has found that mindfulness affects various attentional capacities, including sustained attention, selective attention, and attentional efficiency (He & Wang, 2020; Good et al., 2016). Regarding sustained attention, mindfulness interventions can effectively reduce mind-wandering and concentrate attention on present-moment experiences (Smallwood & Schooler, 2015). Studies have also found that mindfulness reduces habitual attention allocation and distraction from interfering information, thereby improving selective attention (Wadlinger & Isaacowitz, 2011). In terms of attentional efficiency, highly mindful individuals require less effort in attention tasks (Tang et al., 2015), and brain regions related to executive function consume fewer resources (Kozasa et al., 2012). Cognitive flexibility is an important cognitive process for generating novel ideas and forms the foundation of creative thinking. Research has found that individuals who regularly practice mindfulness exhibit higher cognitive flexibility than those without such experience, and self-reported mindfulness levels positively correlate with cognitive flexibility (Moore & Malinowski, 2009). Working memory is a limited-capacity system for temporarily processing and storing information, representing an important aspect of cognitive ability (Baddeley, 1992). Studies have found that two weeks of mindfulness training can improve working memory capacity in individuals prone to mind-wandering, with this improvement resulting from reduced mind-wandering (Mrazek et al., 2013). Self-control is an important ability in daily life that helps individuals resist immediate temptations and achieve long-term goals (Lian et al., 2017). Tang et al. (2013) found that a two-week mindfulness intervention reduced smoking by 60% in the experimental group; resting-state fMRI results showed that individuals who received mindfulness intervention exhibited increased activity in the anterior cingulate cortex and prefrontal cortex, both regions associated with self-control. Therefore, mindfulness can enhance individuals' self-control abilities.

Emotionally, mindfulness influences the emotional life cycle, emotional reactivity, and emotional tone (Good et al., 2016). The emotional life cycle refers to the entire process from when emotion reaches peak arousal to when it returns to baseline (Davidson, 1998). Research has found that mindfulness training enables patients with social anxiety to reach peak emotional arousal more quickly, meaning mindfulness can shorten the time window for emotions to reach maximum intensity (Goldin & Gross, 2010). Other studies have found that after negative emotions are elicited, highly mindful individuals can return from peak negative arousal to baseline more quickly (Keng et al., 2013). Emotional reactivity refers to sensitivity to emotional stimuli (Davidson, 1998). Mindfulness training can reduce amygdala gray matter density and activation at the physiological level (Chen et al., 2011; Kral et al., 2018). Since the amygdala is a crucial

organ for processing negative emotions, mindfulness may reduce emotional reactivity. Emotional tone refers to whether emotions are positive or negative (Davidson, 1998). Mindfulness helps individuals focus on present-moment experiences rather than ruminating on past events or worrying about future risks (Parmentier et al., 2019). Therefore, mindfulness can reduce negative emotions such as anxiety, worry, and distress (Parmentier et al., 2019). Meta-analyses have also found that mindfulness not only reduces negative emotions but also enhances positive emotional experiences (Eberth & Sedlmeier, 2012).

The above discussion clearly shows that mindfulness significantly impacts both cognitive and emotional functions. The core of dual-system theory of moral decision-making is the rational moral decision-making system represented by cognitive regulation and the intuitive moral decision-making system represented by emotional regulation. Therefore, mindfulness may have important effects on both moral decision-making systems. As previously mentioned, the core of the rational moral decision-making system is moral reasoning—that is, individuals rationally and deliberately consider moral dilemmas during decision-making (Rest, 1986). According to the four-component model (Rest, 1986), individuals must first recognize the existence of a moral issue (moral awareness), then make accurate judgments about the moral dilemma (moral judgment), develop behavioral tendencies (moral intention), and finally act according to these intentions (moral behavior). Since mindfulness enhances attention, it may help individuals recognize moral dilemmas (Ruedy & Schweitzer, 2010; Shapiro et al., 2012). Improved cognitive functions such as cognitive flexibility and working memory may help individuals process information more thoroughly (Baddeley, 1992; Murray et al., 1990), leading to more accurate moral judgments. Finally, enhanced self-control from mindfulness may serve as an important guarantee for converting moral intention into moral behavior (Ajzen, 1991). Therefore, the cognitive benefits of mindfulness may help improve individuals' rational moral decision-making capabilities. On the other hand, as previously mentioned, the core of the intuitive moral decision-making system is emotional response. Mindfulness can affect emotional functions; highly mindful individuals have shorter emotional life cycles and reach peak emotional arousal more quickly (Goldin & Gross, 2010). Therefore, when facing moral dilemmas, mindfulness may help individuals more rapidly experience specific moral emotions. Additionally, since mindfulness emphasizes sincerely accepting present-moment states (Kabat-Zinn, 2005), highly mindful individuals are less likely to suppress their experienced moral emotions. Thus, mindfulness may also enhance the functioning of individuals' intuitive moral decision-making system.

4. Review of Previous Research

As evident from the preceding discussion, existing research has made valuable contributions to both mindfulness and unethical behavior as independent topics. Mindfulness research has examined its important effects on cognitive and emotional functions, including attention, cognitive flexibility, working memory,

self-control, emotional life cycle, emotional reactivity, and emotional tone. Research on unethical behavior has developed theoretical perspectives and identified influencing factors, exploring moral dilemma characteristics, individual factors, interpersonal factors, and organizational factors (de Cremer & Moore, 2020; Kish-Gephart et al., 2010). However, existing research has several limitations regarding both unethical behavior and the integration of mindfulness with unethical behavior.

First, from a theoretical perspective on unethical behavior, although previous research has identified two systems in moral decision-making—rational and intuitive—behavioral ethics research in organizational management has continued to operate primarily under the rational moral decision-making perspective. As reviewed earlier, organizational management research has explored the mechanisms of unethical behavior by directly borrowing from Kohlberg's (1976) six-stage theory of cognitive moral development or Rest's (1986) four-component model, and by proposing person-situation interaction models (Treviño, 1986) and issue-contingent models (Jones, 1991). The core assumption of these theories is that individuals make moral decisions consciously through moral reasoning processes. However, as previously noted, many studies have found that moral decisions often rely on intuition without undergoing moral reasoning (Greene & Haidt, 2002; Greene, 2009; Greene et al., 2001). Therefore, adopting the comprehensive perspective of dual-system theory to guide behavioral ethics research in organizational management is necessary.

Second, research combining mindfulness and unethical behavior has also been largely neglected. On one hand, existing research has paid insufficient attention to the integration of mindfulness and unethical behavior. As mentioned earlier, some studies have examined the combination of mindfulness and morality (e.g., Ruedy & Schweitzer, 2010; Shapiro et al., 2012). However, overall, research on this topic is lacking, and these studies often remain at the level of mindfulness's impact on moral cognition without extending to moral behavior. On the other hand, research on mindfulness and unethical behavior lacks an integrative theoretical framework. As noted previously, existing research on mindfulness and morality has primarily operated within the rational moral decision-making system perspective, with few studies exploring it from the intuitive moral decision-making perspective, and even fewer from the comprehensive dual-system theory perspective. Therefore, it is necessary to strengthen research on the integration of mindfulness and unethical behavior while adopting the integrative dual-system theory perspective to guide such research.

5. Research Design

This project proposes two studies to examine the effect of mindfulness on unethical behavior from the perspectives of rational and intuitive moral decision-making systems, respectively. Subsequently, an integrative framework will be constructed from the dual-system perspective. The details of each research proposal are introduced below.

5.1 Study 1: Mindfulness Influences Unethical Behavior Through the Rational Moral Decision-Making System

The core task of Study 1 is to examine how mindfulness affects unethical behavior from the rational moral decision-making system perspective. Additionally, Study 1 must address two crucial questions for the entire project: (1) how to measure and manipulate individuals' mindfulness traits/states, and (2) how individual and situational factors moderate the effect of mindfulness on the rational moral decision-making system. The framework for Study 1 is shown in Figure 2 [Figure 2: see original paper].

In the operation of the rational decision-making system, both the processing and outcomes of decision-making can be consciously perceived; this process requires individuals to allocate attention to resource-consuming brain activities (Sun et al., 2007). Researchers adopting the rational moral decision-making perspective believe that the core of moral decision-making is moral reasoning; individuals engage in conscious reasoning processes based on their moral beliefs when making moral decisions (Reynolds, 2006). Mindfulness enhances many cognitive abilities, including attention (Smallwood & Schooler, 2015), working memory (Mrazek et al., 2013), cognitive flexibility (Moore & Malinowski, 2009), self-control (Tang et al., 2013), and meta-cognition (Vickery & Dorjee, 2016). These enhanced cognitive abilities are highly beneficial for individuals' rational moral decision-making systems. In this study, ethical imagination and moral disengagement are selected as representative variables for cross-validation of mindfulness' s effect on the rational moral decision-making system. Ethical imagination is the cognitive process through which individuals actively resolve moral dilemmas (Ji & Yang, 2013), while moral disengagement is the cognitive process through which individuals justify their unethical behavior (Yan et al., 2021). Ethical imagination is a factor that reduces unethical behavior, whereas moral disengagement is a factor that promotes it; these two variables represent opposing cognitive processes in the rational moral decision-making system that inhibit and promote unethical behavior, respectively.

Ethical imagination helps reduce unethical behavior (Ji & Yang, 2013). It is a cognitive process through which decision-makers break through mental model limitations to make decisions that serve organizational interests while adhering to ethical rules (Ji & Yang, 2013). Moberg and Caldwell (2007) propose that ethical imagination comprises three dimensions: moral awareness, perspective-taking, and creative imagination. Mindfulness enhances cognitive abilities that benefit all three dimensions. First, mindfulness improves attention (Wang & Huang, 2011), thus enhancing moral awareness. Second, perspective-taking is also a cognitive process, and research has found that mindfulness can improve perspective-taking ability (Edwards et al., 2017). Finally, since mindfulness enhances cognitive flexibility (Moore & Malinowski, 2009), it also benefits creative imagination (Cheung et al., 2020). Therefore, mindfulness may enhance individuals' ethical imagination. Additionally, moral identity may strengthen the positive relationship between mindfulness and ethical imagination. Indi-

viduals with high moral identity view morality as an important component of the self, striving to ensure their words and actions align with moral standards (Aquino & Reed, 2002). Mindfulness enhances cognitive abilities, but these abilities themselves lack moral attributes; high moral identity individuals can apply these enhanced cognitive abilities to resolving moral dilemmas, thereby increasing ethical imagination and reducing unethical behavior. In contrast, low moral identity individuals are less likely to apply mindfulness-enhanced cognitive abilities to moral dilemmas, resulting in minimal improvement in ethical imagination. Therefore, moral identity can strengthen the positive effect of mindfulness on ethical imagination, further reducing unethical behavior.

Moral disengagement leads to unethical behavior (Yan et al., 2021). It is a process through which individuals find reasons to rationalize their unethical behavior, during which their moral standards are lowered (Bandura, 1999). Mindfulness can effectively prevent this process: on one hand, mindfulness enhances self-control (Tang et al., 2013), making individuals less likely to lower their moral standards; on the other hand, mindfulness improves meta-cognitive ability, enabling individuals to better monitor and regulate their cognitive activities and gain clearer awareness of their cognitive processes (Vickery & Dorjee, 2016). When individuals become aware of their process of justifying unethical behavior, they can more easily recognize it as self-deception, thereby reducing moral disengagement. Therefore, mindfulness can reduce moral disengagement and consequently reduce unethical behavior.

Additionally, ethical climate may strengthen the negative effect of mindfulness on moral disengagement. In environments that value morality, numerous moral cues exist (Liu et al., 2017). In high ethical climate situations, mindful individuals can more easily recognize moral cues, thereby constraining the lowering of moral standards and reducing justifications for unethical behavior. In low ethical climate situations, mindful individuals lack external cues; even if they notice their moral disengagement process, they may be unable to effectively inhibit it due to weak moral climate signals. Therefore, ethical climate can strengthen the negative effect of mindfulness on moral disengagement, further reducing unethical behavior.

In summary, this study cross-validates the effect of mindfulness on unethical behavior through two rational cognitive processes—ethical imagination and moral disengagement—providing evidence that mindfulness influences unethical behavior via the rational moral decision-making system. Study 1 hypothesizes that mindfulness' s enhancement of cognitive abilities ultimately manifests in individuals' rational moral decision-making systems, making them less likely to engage in unethical behavior. Ethical imagination and moral disengagement serve as mediating variables between mindfulness and unethical behavior, while moral identity and ethical climate moderate the mediating effects of ethical imagination and moral disengagement, respectively.

Study 1 will conduct two sub-studies: Study 1a will use laboratory experiments, and Study 1b will use field survey research. These two studies will examine

how state mindfulness and trait mindfulness affect the rational moral decision-making system and subsequently influence unethical behavior, while also examining the moderating effects of individual and situational factors.

5.2 Study 2: Mindfulness Influences Unethical Behavior Through the Intuitive Moral Decision-Making System

If Study 1 confirms that mindfulness can reduce unethical behavior by influencing the rational moral decision-making system, Study 2 further examines this relationship from the intuitive moral decision-making system perspective. An important issue Study 2 must address is how to measure individuals' moral emotions in the workplace. The framework for Study 2 is shown in Figure 3 [Figure 3: see original paper].

The intuitive decision-making system operates unconsciously and rapidly without consuming many cognitive resources; individuals have no awareness and remain in autonomous control throughout the process (Sun et al., 2007). Researchers adopting the intuitive moral decision-making perspective believe that emotional factors are key influences on moral decision-making; individuals are often triggered by various emotional factors (e.g., disgust, guilt, empathy) to make moral decisions (Haidt, 2001). This process does not involve moral reasoning but rather represents an intuitive reaction (Xu & Chi, 2007). Mindfulness has multiple effects on emotions, including increasing and preserving emotional resources (Borders et al., 2010; Hülshager et al., 2013) and cultivating moral emotions (Bellosta-Batalla et al., 2020). These effects can be reflected in the intuitive moral decision-making system. In this study, emotional exhaustion and moral emotions are selected as variables to cross-validate mindfulness' s effect on the intuitive moral decision-making system. Emotional exhaustion is a state of excessive depletion of emotional and physical resources (Maslach et al., 2001), during which individuals may impulsively engage in unethical behavior (Hunter & Penney, 2014). Moral emotions are primary factors that heuristically inhibit unethical behavior (Ren & Gao, 2011; Haidt, 2001). Both emotional exhaustion and moral emotions influence unethical behavior by causing moral decision-making to bypass moral reasoning and directly affect behavior, primarily through emotion regulation. Previous research has found that individuals in a state of emotional exhaustion experience emotion regulation failure and impulsively engage in unethical behavior (Hunter & Penney, 2014). For example, emotionally exhausted restaurant servers may spit in customers' soup (Hunter & Penney, 2014). In such states, individuals may not even be aware of the moral implications of their actions (Gino et al., 2011; Lawrence & Kacmar, 2018), making moral reasoning impossible. Moral emotions (e.g., disgust, empathy, guilt) are heuristic influences on moral decision-making (Xu & Chi, 2007). Under the influence of moral emotions, individuals can also skip moral reasoning and directly make moral judgments that subsequently influence behavior (Haidt et al., 1993). Therefore, we selected emotional exhaustion and moral emotions as representative variables of intuitive moral decision-making.

Emotional exhaustion is a factor that promotes unethical behavior, while moral emotions are a factor that inhibits it; these two variables represent opposing emotion regulation processes in the intuitive moral decision-making system.

Emotional exhaustion makes individuals prone to engage in unethical behavior impulsively without thinking (Hunter & Penney, 2014). In a state of emotional exhaustion, self-control declines, and individuals exhibit an avoidance state to protect limited resources (Hobfoll et al., 2018). Emotionally exhausted individuals tend to adopt habitual behaviors to conserve limited resources rather than acting deliberately (Banker et al., 2017; Neal et al., 2013). Haidt et al. (1993) argue that many moral decisions are habitual behaviors influenced by social conventions—behaviors that are faster than moral reasoning and represent intuitive moral decision-making. Therefore, emotional exhaustion may increase habitual behaviors in moral decision-making, leading to more intuitive moral decisions that bypass moral reasoning. Additionally, individuals facing moral dilemmas who are emotionally exhausted lack resources to attend to moral issues and may fail to recognize the moral implications of dilemmas (Gino et al., 2011; Lawrence & Kacmar, 2018), making moral reasoning impossible. This also makes emotionally exhausted individuals susceptible to irrational emotions and prone to impulsively engage in unethical behavior (Lawrence & Kacmar, 2018). In summary, emotional exhaustion increases habitual behavior and reduces moral awareness, making individuals more likely to bypass moral reasoning and rely on irrational emotional cues for intuitive decision-making in moral situations. Mindfulness can effectively reduce emotional exhaustion (Reb et al., 2017). Mindfulness emphasizes maintaining awareness of present-moment experiences and non-judgmentally accepting them (Kabat-Zinn, 2005). This approach shares many similarities with exposure therapy, as both emphasize not avoiding stressful events but confronting them directly (Pang et al., 2010). This approach can reduce avoidance responses and promote better adaptation to the environment (Pang et al., 2010). Additionally, mindfulness helps individuals detach from negative present-moment experiences, reducing the threat of negative stress to the self (Shen et al., 2020). Therefore, mindfulness may reduce emotional exhaustion and consequently reduce unethical behavior.

Moral attentiveness may moderate the effect of mindfulness on emotional exhaustion. Moral attentiveness refers to the extent to which people chronically attend to and notice moral aspects in their daily experiences (Reynolds, 2008). As mentioned earlier, mindfulness helps individuals better cope with daily stressors, thereby reducing emotional exhaustion. When facing stressors, some individuals tend to elevate their sense of frustration to the moral level, believing what they morally should do and labeling themselves as moral failures if they fail to do so (Burns, 1999, p. 179; Pulcu et al., 2013). These cognitive distortions increase rumination and lead to emotional exhaustion. Mindfulness reduces emotional exhaustion by decreasing such rumination. Moral attentiveness may weaken mindfulness' s effect on reducing emotional exhaustion. For individuals high in moral attentiveness who assign greater importance to morality (van Gils et al., 2015), mindfulness may be less effective in blocking their sense of moral

failure when experiencing stressors, thus being less able to reduce rumination. Consequently, mindfulness' s effect on reducing emotional exhaustion may be weaker among high moral attentiveness individuals. For low moral attentiveness individuals who do not particularly attend to moral principles and elements (van Gils et al., 2015), mindfulness can effectively block their thinking about moral implications of stressors and reduce their rumination. Therefore, mindfulness' s effect on reducing emotional exhaustion may be stronger among low moral attentiveness individuals.

Moral emotions can inhibit unethical behavior (Ren & Gao, 2011; Haidt, 2001). Moral emotions include disgust, empathy, guilt, pride, shame, embarrassment, etc. (Ren & Gao, 2011). Experiencing these moral emotions when facing temptation can effectively inhibit unethical behavior (Kavussanu et al., 2015; Smith et al., 2002). Mindfulness emphasizes maintaining awareness and acceptance of present-moment experiences; mindful individuals direct more awareness and attention to current experiences rather than focusing on the future or past, resulting in more authentic responses to present-moment experiences (Kabat-Zinn, 2005). When facing unethical temptations, mindful individuals are more likely to notice the temptation and experience the resulting moral emotions, thereby inhibiting unethical behavior. Additionally, as mentioned earlier, mindfulness can help individuals reach emotional peaks more quickly (Goldin & Gross, 2010). When facing temptation, mindful individuals' corresponding moral emotional experiences rapidly reach peak intensity, and they make moral decisions based on these strong moral emotional experiences, which helps inhibit unethical behavior. Therefore, mindfulness can enhance individuals' moral emotional experiences, thereby reducing unethical behavior. Ethical climate can moderate the relationship between mindfulness and moral emotions. Ethical climate provides default environmental moral cues (Victor & Cullen, 1988). In high ethical climate environments, mindful individuals can more easily detect moral cues, generating moral emotional experiences heuristically when facing temptation. In low ethical climate environments lacking corresponding moral cues, mindful individuals are less likely to generate moral emotional experiences. Therefore, ethical climate can strengthen the positive effect of mindfulness on moral emotions, thereby reducing unethical behavior.

In summary, this study cross-validates the effect of mindfulness on unethical behavior through two intuitive moral decision-making factors—emotional exhaustion and moral emotions—providing evidence that mindfulness influences unethical behavior via the intuitive moral decision-making system. Study 2 hypothesizes that mindfulness' s enhancement of emotional regulation capabilities ultimately manifests in individuals' intuitive moral decision-making systems, making them less likely to engage in unethical behavior. Emotional exhaustion and moral emotions serve as mediating variables between mindfulness and unethical behavior, while moral attentiveness and ethical climate moderate the mediating effects of emotional exhaustion and moral emotions, respectively.

Study 2 will conduct two sub-studies: Study 2a will use laboratory experiments,

and Study 2b will use field survey research. These two studies will examine how state mindfulness and trait mindfulness affect the intuitive moral decision-making system and subsequently influence unethical behavior, while also examining the moderating effects of individual and situational factors.

6. Overall Theoretical Framework

Previous mindfulness research has identified many benefits of mindfulness. This project focuses specifically on mindfulness' s role in reducing workplace unethical behavior. Existing workplace unethical behavior research has primarily examined influencing factors from the rational moral decision-making perspective. However, as discussed earlier, moral decision-making often occurs in non-rational contexts. Therefore, this project explores how and under what conditions mindfulness influences unethical behavior based on dual-system theory.

Drawing on dual-system theory, this project constructs a dual-system theoretical model of mindfulness' s effect on unethical behavior, with the overall framework shown in Figure 4 [Figure 4: see original paper]. Mindfulness influences unethical behavior by affecting both rational and intuitive moral decision-making systems. The project selects factors that promote and inhibit unethical behavior as proxy variables within each system. Specifically, ethical imagination (inhibiting factor) and moral disengagement (promoting factor) serve as proxy variables for the rational moral decision-making system, while emotional exhaustion (promoting factor) and moral emotions (inhibiting factor) serve as proxy variables for the intuitive moral decision-making system. Additionally, the effects of mindfulness on both moral decision-making systems are moderated by certain individual and situational factors, thereby moderating mindfulness' s overall effect on unethical behavior.

This project addresses three key scientific questions. First, is mindfulness an important factor influencing workplace unethical behavior? Previous research has explored various antecedents of unethical behavior but has overlooked mindfulness' s potential role in reducing such behavior. This project explores whether mindfulness is an important factor influencing workplace unethical behavior by examining its psychological mechanisms. Second, what is the internal mechanism through which mindfulness influences unethical behavior? Mindfulness affects many psychological processes, and rational and intuitive moral decision-making systems may be the primary mechanisms through which mindfulness influences unethical behavior. Third, how do personal and situational factors moderate mindfulness' s effect on unethical behavior? Clinical research has found that mindfulness does not have identical effects on all individuals (Segal et al., 2010). Therefore, this project also explores the boundary conditions of mindfulness' s effect on unethical behavior.

The innovation of this project' s dual-system theoretical model of mindfulness reducing unethical behavior is reflected in several aspects. First, this project examines mindfulness' s effect on reducing unethical behavior from the dual-

system perspective, facilitating interdisciplinary integration. As reviewed earlier, mindfulness significantly affects both cognitive and emotional functions, influencing numerous psychological processes including attention, working memory, cognitive flexibility, self-control, emotional life cycle, emotional reactivity, and emotional tone. In other words, mindfulness importantly affects both systems of human information processing. Additionally, our discussion of the internal mechanisms of unethical behavior reveals that dual-system theory provides an integrative framework for explaining its occurrence. Since both mindfulness and unethical behavior are closely related to dual-system theory, we organically combine them in our theoretical construction and propose mechanisms through which mindfulness reduces unethical behavior in both rational and intuitive moral decision-making systems. This interdisciplinary integration contributes to both research fields. On one hand, it helps test whether mindfulness' s contribution indeed lies in affecting individuals' dual information processing systems. On the other hand, it expands theoretical approaches to unethical behavior research.

Second, this project provides a new perspective for intervening in unethical behavior. Previous intervention methods have primarily been based on the rational moral decision-making perspective (Kish-Gephart et al., 2010; Reynolds, 2006; Treviño et al., 2014), assuming individuals consciously engage in rational moral reasoning before committing unethical behavior. However, many studies challenge this assumption, suggesting that individuals often act impulsively when engaging in unethical behavior (Haidt, 2001). Therefore, examining interventions from the intuitive moral decision-making perspective is necessary. Mindfulness techniques provide an intervention approach that addresses both rational and intuitive moral decision-making, offering comprehensive intervention for unethical behavior.

Third, this project applies dual-system theory of moral decision-making to explain the mechanism through which mindfulness influences unethical behavior. Much previous mindfulness research lacks an overarching theoretical perspective (Zheng & Ni, 2018), leaving us knowing that mindfulness has effects but not understanding why, which hinders the dissemination of mindfulness research. This project proposes that mindfulness affects individuals' rational and intuitive systems separately, thereby reducing unethical behavior. This provides implications for future mindfulness research, encouraging more theoretically grounded examinations of mindfulness effects.

Finally, this project examines the boundary conditions of mindfulness' s effects from both individual and situational perspectives, deepening our understanding of when mindfulness works. Although previous research has found that individuals respond differently to mindfulness training (Segal et al., 2010), few studies have examined the boundary conditions of mindfulness effects (Liu & Xin, 2019). Neglecting these boundary conditions can lead to biased understanding of mindfulness' s role. For instance, after becoming popular in Western society, mindfulness has faced criticism, with many practitioners complaining that it

does not produce the miraculous effects reported in research (Halliwell, 2014). Neglecting boundary conditions may partially explain this phenomenon. This project examines boundary conditions from both individual and situational perspectives, providing insights for related topics. In this project, we propose that situational factors (ethical climate) and personal factors (moral identity, moral attentiveness) moderate the effects. Examining how these factors moderate the dual-system pathways through which mindfulness influences unethical behavior helps us understand why mindfulness affects rational system variables (moral disengagement and ethical imagination) and intuitive system variables (emotional exhaustion and moral emotions). This provides a deeper understanding of the boundary conditions of mindfulness' s effects in the context of ethical behavior.

This project also has practical implications for reducing unethical behavior in organizational management. On one hand, since the mechanisms underlying unethical behavior may be influenced by both rational and intuitive moral decision-making systems, organizations need to change their intervention approaches and consider methods for reducing unethical behavior from the dual-system perspective. This project proposes that mindfulness may be an intervention that simultaneously affects both rational and intuitive moral decision-making systems. Given that mindfulness interventions are relatively low-cost, organizations could consider implementing mindfulness training programs to help reduce unethical behavior. On the other hand, this project proposes that mindfulness' s effect on unethical behavior has boundary conditions; for example, situational factors (ethical climate) and personal factors (moral identity, moral attentiveness) may moderate mindfulness' s influence on moral decision-making systems. This suggests that while introducing mindfulness interventions may help reduce employee unethical behavior, managers should also emphasize building an ethical climate and selecting employees with higher moral identity levels to make mindfulness interventions more effective. Notably, although moral attentiveness itself may reduce unethical behavior (Reynolds, 2008), it may undermine mindfulness' s effect on reducing emotional exhaustion, a factor that requires attention in management practice.

References

- Chen, Y., Zhao, X., Huang, J., Chen, S., & Zhou, R. (2011). The emotion regulation effect of mindfulness meditation: Theory and neural mechanisms. *Advances in Psychological Science*, 19(10), 1502–1510.
- Duan, W. (2014). Divergences in mindfulness research: Concept and measurement. *Advances in Psychological Science*, 22(10), 1616–1627.
- He, Q., & Wang, H. (2020). The effect of meditation on attentional ability. *Advances in Psychological Science*, 28(2), 284–293.
- Ji, H., & Yang, J. (2013). An analysis of the current state and future prospects of Western ethical imagination research. *Foreign Economics and Management*,

35(4), 13–21.

Lin, Z., & Xia, Y. (2019). From Confucianism, Buddhism, and Taoism to self-cultivation through quiet awareness: Rethinking mindfulness. *Indigenous Psychological Research*, 52, 69–114.

Liu, B., Qi, L., & Xu, L. (2017). Does sparing the rod spoil the child? A study on employee workplace deviant behavior. *Nankai Business Review*, 20(3), 182–192.

Liu, S., & Xin, H. (2019). Mindfulness research in organizational management: A multi-level perspective. *Human Resources Development of China*, 36(7), 37–53.

Pang, J., Bai, Y., Tang, X., & Luo, J. (2010). Application of mindfulness-based stress reduction in nurse burnout intervention. *Advances in Psychological Science*, 18(10), 1529–1536.

Ren, J., & Gao, X. (2011). Moral emotions: Mediating and moderating moral behavior. *Advances in Psychological Science*, 19(8), 1224–1232.

Shen, C., Yang, J., Hu, S., He, P., & Li, X. (2020). Abusive management: The self-regulatory role of mindfulness. *Advances in Psychological Science*, 28(2), 220–229.

Shen, L., & Liao, J. (2023). How does entrepreneurs' mindfulness stimulate re-entrepreneurial intention? The roles of learning from failure and risk avoidance. *Human Resources Development of China*, 40(1), 34–46.

Sun, Y., Li, S., & Yin, X. (2007). Dual systems of decision-making and reasoning: Heuristic and analytic systems. *Advances in Psychological Science*, 15(5), 721–726.

Wang, F., & Huang, Y. (2011). The psychological and brain mechanisms of mindfulness. *Advances in Psychological Science*, 19(11), 1635–1644.

Wang, H., & Liu, X. (2017). Specific effects of open monitoring meditation. *Advances in Psychological Science*, 25(8), 1337–1348.

Xu, P., & Chi, Y. (2007). A review of the social intuitionist model of moral judgment. *Psychological Science*, 30(2), 403–405.

Yan, Q., Sui, Y., & Hao, X. (2021). The explanatory mechanism and theoretical model of unethical pro-organizational behavior. *Advances in Psychological Science*, 29(2), 338–352.

Yang, J., & Ming, X. (2017). The process and influencing factors of team ethical decision-making in the Chinese context. *Advances in Psychological Science*, 25(4), 542–552.

Zhang, J., Song, J., & Wang, Y. (2017). Workplace mindfulness: A literature review and prospects. *Foreign Economics and Management*, 39(8), 56–70+84.

- Zheng, X., & Ni, D. (2018). A review of mindfulness research in organizational management. *Management Review*, 30(10), 153–168.
- Zhu, Y., Chen, G., & Xu, J. (2020). Mindfulness in organizations: A dynamic derivative process and intervention based on cognition. *Advances in Psychological Science*, 28(3), 510–522.
- Abdolmohammadi, M. J., Read, W. J., & Scarbrough, D. P. (2003). Does selection-socialization help to explain accountants' weak ethical reasoning? *Journal of Business Ethics*, 42(1), 71–81.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Aquino, K., & Reed, A., II. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology*, 83(6), 1423–1440.
- Baddeley, A. (1992). Working memory. *Science*, 255(5044), 556–559.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248–287.
- Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, 3(3), 193–209.
- Banker, S., Ainsworth, S. E., Baumeister, R. F., Ariely, D., & Vohs, K. D. (2017). The sticky anchor hypothesis: Ego depletion increases susceptibility to situational cues. *Journal of Behavioral Decision Making*, 30(5), 1027–1043.
- Bellosta-Batalla, M., Blanco-Gandía, M. C., Rodríguez-Arias, M., Cebolla, A., Pérez-Blasco, J., & Moya-Albiol, L. (2020). Increased salivary oxytocin and empathy in students of clinical and health psychology after a mindfulness and compassion-based intervention. *Mindfulness*, 11(4), 1006–1017.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Specia, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230–241.
- Borders, A., Earleywine, M., & Jajodia, A. (2010). Could mindfulness decrease anger, hostility, and aggression by decreasing rumination? *Aggressive Behavior*, 36(1), 28–44.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822–848.
- Burns, D. D. (1999). *The feeling good handbook*. New York: Plume.
- Cheung, S. Y., Huang, E. G., Chang, S., & Wei, L. (2020). Does being mindful make people more creative at work? The role of creative process engagement and perceived leader humility. *Organizational Behavior and Human Decision Processes*, 159, 39–48.

- Chen, Y., Zhao, X., Huang, J., Chen, S., & Zhou, R. (2011). The emotion regulation effect of mindfulness meditation: Theory and neural mechanisms. *Advances in Psychological Science*, 19(10), 1502–1510.
- Cummins, D., & Cummins, R. (2012). Emotion and deliberative reasoning in moral judgment. *Frontiers in Psychology*, 3, 328.
- Davidson, R. J. (1998). Affective style and affective disorders: Perspectives from affective neuroscience. *Cognition and Emotion*, 12(3), 307–330.
- Davidson, R. J. (2010). Empirical explorations of mindfulness: Conceptual and methodological conundrums. *Emotion*, 10(1), 8–11.
- de Cremer, D., & Moore, C. (2020). Toward a better understanding of behavioral ethics in the workplace. *Annual Review of Organizational Psychology and Organizational Behavior*, 7(1), 369–393.
- Duan, W. (2014). Divergences in mindfulness research: Concept and measurement. *Advances in Psychological Science*, 22(10), 1616–1627.
- Eberth, J., & Sedlmeier, P. (2012). The effects of mindfulness meditation: A meta-analysis. *Mindfulness*, 3(3), 174–189.
- Edwards, D. J., McEntegart, C., Barnes-Holmes, Y., Lowe, R., Evans, N., & Vilardaga, R. (2017). The impact of mindfulness and perspective-taking on implicit associations toward the elderly: A relational frame theory account. *Mindfulness*, 8(6), 1615–1622.
- Evans, J. S. B. T. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology*, 59(1), 255–278.
- Evans, J. S. B. T., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, 8(3), 223–241.
- Gino, F., Schweitzer, M. E., Mead, N. L., & Ariely, D. (2011). Unable to resist temptation: How self-control depletion promotes unethical behavior. *Organizational Behavior and Human Decision Processes*, 115(2), 191–203.
- Goldin, P. R., & Gross, J. J. (2010). Effects of mindfulness-based stress reduction (MBSR) on emotion regulation in social anxiety disorder. *Emotion*, 10(1), 83–91.
- Good, D. J., Lyddy, C. J., Glomb, T. M., Bono, J. E., Brown, K. W., Duffy, M. K., Baer, R. A., Brewer, J. A., & Lazar, S. W. (2016). Contemplating mindfulness at work: An integrative review. *Journal of Management*, 42(1), 114–142.
- Greene, J., & Haidt, J. (2002). How (and where) does moral judgment work? *Trends in Cognitive Sciences*, 6(12), 517–523.
- Greene, J. D. (2009). Dual-process morality and the personal/impersonal distinction: A reply to McGuire, Langdon, Coltheart, and Mackenzie. *Journal of*

Experimental Social Psychology, 45(3), 581–584.

Greene, J. D., Cushman, F. A., Stewart, L. E., Lowenberg, K., Nystrom, L. E., & Cohen, J. D. (2009). Pushing moral buttons: The interaction between personal force and intention in moral judgment. *Cognition*, 111(3), 364–371.

Greene, J. D., Morelli, S. A., Lowenberg, K., Nystrom, L. E., & Cohen, J. D. (2008). Cognitive load selectively interferes with utilitarian moral judgment. *Cognition*, 107(3), 1144–1154.

Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science*, 293(5537), 2105–2108.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108(4), 814–834.

Haidt, J., Koller, S., & Dias, M. (1993). Affect, culture, and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology*, 65(4), 613–628.

Halliwell, E. (2014). Getting over the mindfulness hype. Retrieved from <https://www.mindful.org/getting-over-the-mindfulness-hype/>

He, Q., & Wang, H. (2020). The effect of meditation on attentional ability. *Advances in Psychological Science*, 28(2), 284–293.

Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, 5(1), 103–128.

Hülshager, U. R., Alberts, H. J. E. M., Feinholdt, A., & Lang, J. W. B. (2013). Benefits of mindfulness at work: The role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of Applied Psychology*, 98(2), 310–325.

Hunter, E. M., & Penney, L. M. (2014). The waiter spit in my soup! Antecedents of customer-directed counterproductive work behavior. *Human Performance*, 27(3), 262–281.

Ji, H., & Yang, J. (2013). An analysis of the current state and future prospects of Western ethical imagination research. *Foreign Economics and Management*, 35(4), 13–21.

Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review*, 16(2), 366–395.

Kabat-Zinn, J. (2005). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness* (15th anniversary ed.). New York: Bantam Books.

- Kavussanu, M., Stanger, N., & Ring, C. (2015). The effects of moral identity on moral emotion and antisocial behavior in sport. *Sport, Exercise, and Performance Psychology*, 4(4), 268–279.
- Keng, S.-L., Robins, C. J., Smoski, M. J., Dagenbach, J., & Leary, M. R. (2013). Reappraisal and mindfulness: A comparison of subjective effects and cognitive costs. *Behaviour Research and Therapy*, 51(12), 899–904.
- Kish-Gephart, J. J., Harrison, D. A., & Treviño, L. K. (2010). Bad apples, bad cases, and bad barrels: Meta-analytic evidence about sources of unethical decisions at work. *Journal of Applied Psychology*, 95(1), 1–31.
- Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 347-480). Chicago, IL: Rand McNally.
- Kohlberg, L. (1976). Moral stages and moralization: The cognitive developmental approach. In T. Lickona (Ed.), *Moral Development and Behavior: Theory and Research and Social Issues* (pp. 31-35). New York, NY: Holt, Rinehart, and Winston.
- Kozasa, E. H., Sato, J. R., Lacerda, S. S., Barreiros, M. A. M., Radvany, J., Russell, T. A., Sanches, L. G., Mello, L. E. A. M., & Amaro, E. (2012). Meditation training increases brain efficiency in an attention task. *Neuroimage*, 59(1), 745–749.
- Kral, T. R. A., Schuyler, B. S., Mumford, J. A., Rosenkranz, M. A., Lutz, A., & Davidson, R. J. (2018). Impact of short- and long-term mindfulness meditation training on amygdala reactivity to emotional stimuli. *Neuroimage*, 181, 301–313.
- Lawrence, E. R., & Kacmar, K. M. (2018). Exploring the impact of job insecurity on employees' unethical behavior. *Business Ethics Quarterly*, 27(1), 39–70.
- Lian, H., Yam, K. C., Ferris, D. L., & Brown, D. (2017). Self-control at work. *Academy of Management Annals*, 11(2), 703–732.
- Lin, Z., & Xia, Y. (2019). From Confucianism, Buddhism, and Taoism to self-cultivation through quiet awareness: Rethinking mindfulness. *Indigenous Psychological Research*, 52, 69–114.
- Liu, B., Qi, L., & Xu, L. (2017). Does sparing the rod spoil the child? A study on employee workplace deviant behavior. *Nankai Business Review*, 20(3), 182–192.
- Liu, S., & Xin, H. (2019). Mindfulness research in organizational management: A multi-level perspective. *Human Resources Development of China*, 36(7), 37–53.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397–422.

- Moberg, D., & Caldwell, D. F. (2007). An exploratory investigation of the effect of ethical culture in activating moral imagination. *Journal of Business Ethics*, 73(2), 193–204.
- Moore, A., & Malinowski, P. (2009). Meditation, mindfulness and cognitive flexibility. *Consciousness and Cognition: An International Journal*, 18(1), 176–186.
- Mrazek, M. D., Franklin, M. S., Phillips, D. T., Baird, B., & Schooler, J. W. (2013). Mindfulness training improves working memory capacity and GRE performance while reducing mind wandering. *Psychological Science*, 24(5), 776–781.
- Murray, N., Sujan, H., Hirt, E. R., & Sujan, M. (1990). The influence of mood on categorization: A cognitive flexibility interpretation. *Journal of Personality and Social Psychology*, 59(3), 411–425.
- Neal, D. T., Wood, W., & Drolet, A. (2013). How do people adhere to goals when willpower is low? The profits (and pitfalls) of strong habits. *Journal of Personality and Social Psychology*, 104(6), 959–975.
- Orazi, D. C., Chen, J., & Chan, E. Y. (2021). To erect temples to virtue: Effects of state mindfulness on other-focused ethical behaviors. *Journal of Business Ethics*, 169, 785–798.
- Pang, J., Bai, Y., Tang, X., & Luo, J. (2010). Application of mindfulness-based stress reduction in nurse burnout intervention. *Advances in Psychological Science*, 18(10), 1529–1536.
- Parmentier, F. B. R., García-Toro, M., García-Campayo, J., Yañez, A. M., Andrés, P., & Gili, M. (2019). Mindfulness and symptoms of depression and anxiety in the general population: The mediating roles of worry, rumination, reappraisal and suppression. *Frontiers in Psychology*, 10, 506.
- Pulcu, E., Zahn, R., & Elliott, R. (2013). The role of self-blaming moral emotions in major depression and their impact on social-economical decision making. *Frontiers in Psychology*, 4, 310.
- Reb, J., Narayanan, J., Chaturvedi, S., & Ekkirala, S. (2017). The mediating role of emotional exhaustion in the relationship of mindfulness with turnover intentions and job performance. *Mindfulness*, 8(3), 707–716.
- Ren, J., & Gao, X. (2011). Moral emotions: Mediating and moderating moral behavior. *Advances in Psychological Science*, 19(8), 1224–1232.
- Rest, J. R. (1986). *Moral development: Advances in research and theory*. New York: Praeger.
- Reynolds, S. J. (2006). A neurocognitive model of the ethical decision-making process: Implications for study and practice. *Journal of Applied Psychology*, 91(4), 737–748.

- Reynolds, S. J. (2008). Moral attentiveness: Who pays attention to the moral aspects of life? *Journal of Applied Psychology*, 93(5), 1027–1041.
- Ruedy, N. E., & Schweitzer, M. E. (2010). In the moment: The effect of mindfulness on ethical decision making. *Journal of Business Ethics*, 95(1), 73–87.
- Schaufenbuel, K. (2015). Why Google, Target, and General Mills are investing in mindfulness. *Harvard Business Review*. Digital article, Dec 28. <https://hbr.org/2015/12/why-google-target-and-general-mills-are-investing-in-mindfulness>
- Segal, Z. V., Bieling, P., Young, T., MacQueen, G., Cooke, R., Martin, L., Bloch, R., & Levitan, R. D. (2010). Antidepressant monotherapy vs sequential pharmacotherapy and mindfulness-based cognitive therapy, or placebo, for relapse prophylaxis in recurrent depression. *Archives of General Psychiatry*, 67(12), 1256–1264.
- Shen, C., Yang, J., Hu, S., He, P., & Li, X. (2020). Abusive management: The self-regulatory role of mindfulness. *Advances in Psychological Science*, 28(2), 220–229.
- Shapiro, S. L., Jazaieri, H., & Goldin, P. R. (2012). Mindfulness-based stress reduction effects on moral reasoning and decision making. *Journal of Positive Psychology*, 7(6), 504–515.
- Small, C., & Lew, C. (2021). Mindfulness, moral reasoning and responsibility: Towards virtue in ethical decision-making. *Journal of Business Ethics*, 169, 103–117.
- Smallwood, J., & Schooler, J. W. (2015). The science of mind wandering: Empirically navigating the stream of consciousness. *Annual Review of Psychology*, 66(1), 487–518.
- Smith, R. H., Webster, J. M., Parrott, W. G., & Eyre, H. L. (2002). The role of public exposure in moral and nonmoral shame and guilt. *Journal of Personality and Social Psychology*, 83(1), 138–159.
- Sun, Y., Li, S., & Yin, X. (2007). Dual systems of decision-making and reasoning: Heuristic and analytic systems. *Advances in Psychological Science*, 15(5), 721–726.
- Tang, Y.-Y., Hölzel, B. K., & Posner, M. I. (2015). The neuroscience of mindfulness meditation. *Nature Reviews Neuroscience*, 16, 213–225.
- Tang, Y.-Y., Tang, R., & Posner, M. I. (2013). Brief meditation training induces smoking reduction. *Proceedings of the National Academy of Sciences*, 110(34), 13971–13975.
- Treviño, L. K. (1986). Ethical decision making in organizations: A person-situation interactionist model. *Academy of Management Review*, 11(3), 601–617.

- Treviño, L. K., den Nieuwenboer, N. A., & Kish-Gephart, J. J. (2014). (Un)ethical behavior in organizations. *Annual Review of Psychology*, 65, 635–660.
- Treviño, L. K., & Youngblood, S. A. (1990). Bad apples in bad barrels: A causal analysis of ethical decision-making behavior. *Journal of Applied Psychology*, 75(4), 378–385.
- van Gils, S., Van Quaquebeke, N., van Knippenberg, D., van Dijke, M., & De Cremer, D. (2015). Ethical leadership and follower organizational deviance: The moderating role of follower moral attentiveness. *The Leadership Quarterly*, 26(2), 190–203.
- Victor, B., & Cullen, J. B. (1988). The organizational bases of ethical work climates. *Administrative Science Quarterly*, 33(1), 101–125.
- Vickery, C. E., & Dorjee, D. (2016). Mindfulness training in primary schools decreases negative affect and increases meta-cognition in children. *Frontiers in Psychology*, 6, 2025.
- Wadlinger, H. A., & Isaacowitz, D. M. (2011). Fixing our focus: Training attention to regulate emotion. *Personality and Social Psychology Review*, 15(1), 75–102.
- Wang, F., & Huang, Y. (2011). The psychological and brain mechanisms of mindfulness. *Advances in Psychological Science*, 19(11), 1635–1644.
- Wang, H., & Liu, X. (2017). Specific effects of open monitoring meditation. *Advances in Psychological Science*, 25(8), 1337–1348.
- Xu, P., & Chi, Y. (2007). A review of the social intuitionist model of moral judgment. *Psychological Science*, 30(2), 403–405.
- Yan, Q., Sui, Y., & Hao, X. (2021). The explanatory mechanism and theoretical model of unethical pro-organizational behavior. *Advances in Psychological Science*, 29(2), 338–352.
- Yang, J., & Ming, X. (2017). The process and influencing factors of team ethical decision-making in the Chinese context. *Advances in Psychological Science*, 25(4), 542–552.
- Zhang, J., Song, J., & Wang, Y. (2017). Workplace mindfulness: A literature review and prospects. *Foreign Economics and Management*, 39(8), 56–70+84.
- Zheng, X., & Ni, D. (2018). A review of mindfulness research in organizational management. *Management Review*, 30(10), 153–168.
- Zhu, Y., Chen, G., & Xu, J. (2020). Mindfulness in organizations: A dynamic derivative process and intervention based on cognition. *Advances in Psychological Science*, 28(3), 510–522.

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv –Machine translation. Verify with original.