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Abhijeet K. VADERA
Singapore Management University, abhijeetv@smu.edu.sg

Ann E. TENBRUNSEL
University of Notre Dame

Kristina A. DIEKMANN
University of Utah

Citation

Bridging the chasm between intentions and behaviors: Developing and testing a construal level theory of internal whistle-blowing

Abhijeet K. Vadera,[a,*] Ann E. Tenbrunsel,[b] Kristina A. Diekmann[c]

[a] Lee Kong Chian School of Business, Singapore Management University, Singapore 177889; [b] Mendoza College of Business, University of Notre Dame, Notre Dame, Indiana 46556; [c] David Eccles School of Business, University of Utah, Salt Lake City, Utah 84112

*Corresponding author. Contact: abhijeetv@smu.edu.sg

Abstract: The recent wave of corporate scandals has necessitated a more systematic investigation of internal whistle-blowing as a potential way to prevent wrongdoing. Our understanding of whistle-blowing, however, has been hampered by a deep chasm that exists between employees' intent to blow the whistle and their whistle-blowing behaviors. We argue that to fully bridge this gap, we need to consider employees' cognitive states at the time of whistle-blowing intentions versus behaviors and to link these cognitive states to the ethical systems within the organization's ethical infrastructure to understand which systems are more effective in cultivating whistle-blowing intentions and which systems help translate those intentions into behaviors. Across one multisource field study and one multiwave experiment, we found support for our arguments that top management values-based communication systems, which are more high construal (abstract), affect whistleblowing intentions whereas ethical accountability systems and ethical retaliatory systems, which are more low construal (concrete), moderate the relationship between whistleblowing intentions and behaviors. By linking ethical systems within the organization's ethical infrastructure to the two stages (intentions and behaviors) of the whistle-blowing process and the accompanying cognitive states, we develop and empirically test a construal level theory of internal whistle-blowing.

Keywords: whistle-blowing intentions, whistle-blowing behaviors, ethical infrastructure, construal fit, construal level theory

1. Introduction

The past decade has witnessed a plethora of corporate scandals, from Volkswagen to Wells Fargo to Theranos to FTX to name a few. Observed misconduct and employee pressure to compromise ethical standards are at an all-time high (https://www.ethics.org/gbes-2023/). Almost two-thirds of employees surveyed by the Ethics and Compliance Initiative reported observing at least one act of misconduct at work in the past year (Ethics and Compliance Initiative 2023). The Association of Certified Fraud Examiners (2020) estimates that misconduct and fraud cost organizations approximately $4.7 trillion globally each year, with organizations losing up to 5% of their revenues to employee fraud. This proliferation of workplace misconduct and its associated costs make it imperative to more deeply understand how to minimize, if not eliminate, wrongdoing at work.

Workplace wrongdoing can be detected through multiple governance mechanisms, including management reviews, internal audits, and external audits (KPMG 2012, Association of Certified Fraud Examiners 2020). However, encouraging observers of wrongdoing to "blow the whistle" and report wrongdoing to those in authority within the organization—termed internal whistle-blowing—may be the most effective linchpin in an organization's governance toolbox for detecting and reducing fraud. The Association of Certified Fraud Examiners (2020) found that "tips," especially from employees, were "consistently and by far the most common detection method," with more than 42% of all cases being detected by an employee tip, "which is nearly 3x as many cases as the next most common method" (p. 4). Furthermore, nearly all whistle-blowers report transgressions via internal channels in lieu of (or before) using external channels (Miceli and Near 1992, Rothschild and Miethe 1999, Miceli et al. 2008, Mayer et al. 2013). Given that internal whistle-blowing may be the most effective and robust method of deterring wrongdoing, organizational leaders need to better understand how it can be encouraged[1] so that organizational

systems can be better designed, developed, and implemented to promote internal whistle-blowing.

Previous whistle-blowing scholars (Mesmer-Magnus and Visweswaran 2005, Zhang et al. 2009, Culiberg and Mihelič 2017), building off of Rest's (1986) model of ethical decision making, have argued that internal whistle-blowing is a multistage process with whistle-blowing intentions preceding whistle-blowing behaviors. This perspective suggests that on witnessing a wrongdoing, the employee first develops the intention to report the wrongdoing to someone in authority and then follows through on this intention with action. As such, intentions "are assumed to capture the motivational factors that influence a behavior" and are "indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior" (Ajzen 1991, p. 181). The stronger the intention to engage in whistle-blowing, the more likely the employee should engage in the action. Past research has, however, noted a chasm between employees' whistle-blowing intentions and behavior (Mesmer-Magnus and Visweswaran 2005). When employees are asked whether they intended to report unethical conduct observed at work, most respond in the affirmative. However, when the time comes to act, few actually engage in whistle-blowing (Victor et al. 1993).

Why, then, do employees with whistle-blowing intentions often not blow the whistle? One important but previously unexplored reason, we argue, is that employees experience different cognitive states when forming intentions about whistle-blowing than when engaging in whistle-blowing behaviors. When forming whistle-blowing intentions, employees view whistle-blowing as an abstract, distant, "celestial" act. Desirability concerns or why they should engage in whistle-blowing dominate at this stage, leading employees to focus on ethical values and ideals (e.g., "doing the right thing"). By contrast, at the time of engaging in the act of whistle-blowing, blowing the whistle is viewed as a concrete, proximal act. Employees' self-interested and practical considerations dominate at this stage, leading them to focus on feasibility concerns, including how they would blow the whistle and what the consequences might be.

Furthermore, the impact of these cognitive states may be driven in part by external cues and organizational factors. For example, the content of a message, how it is framed, and by whom it is communicated have all been argued to influence employees differently depending on their cognitive states at the time they receive the message (Berson and Halevy 2014, Carter et al. 2020). Similarly, in a whistle-blowing context, the impact of organizational elements on employees' reactions may depend on their cognitive states and mental representations of whistle-blowing. Therefore, to reach a better understanding of how to promote internal whistle-blowing, we need to consider the role of organizational

facilitators of whistle-blowing along with employees' different cognitive states at the separate stages of intentions and behaviors in the whistle-blowing process.

The various theories and conceptual models used to explain whistle-blowing thus far fail to encapsulate these considerations. For instance, the theory of planned behavior (TPB) (Ajzen 1991), often applied to understand whistle-blowing (Chiu 2003, Park and Blenkinsopp 2009, Trongmateerut and Sweeney 2013), separates intentions from behaviors. However, unlike other theories and conceptual models used to explain whistle-blowing, TPB provides insights into how people's *beliefs* affect whistle-blowing and postulates that engagement in whistle-blowing is largely a function of salient normative beliefs about whether important others would approve or disapprove of the behavior (subjective norms), subjective beliefs about how easy or difficult it will be to engage in the behavior (behavioral control), as well as people's attitudes toward the act (positive or negative). Ignored is the role that external cues (Zhang and Li 2014, Zhang and Liu 2022), including organizational factors, play in promoting and explaining whistle-blowing intentions and behaviors. By contrast, other conceptual frameworks, such as the prosocial organizational behavior (POB) model of whistle-blowing and the model of discretionary reporting (MDR), consider the role of organizational factors (e.g., an organization's anti-retaliatory policies) in the whistle-blowing process (Dozier and Miceli 1985, Schultz et al. 1993, Miceli et al. 2008); however, these models do not consider the two different phases (intentions versus behaviors) of the whistle-blowing process or the different cognitive states associated with them.

The lack of theory linking organizational factors to the two stages (intentions and behaviors) of the whistle-blowing process and the accompanying cognitive states means that our current knowledge of what promotes whistle-blowing at work may be incomplete, inadequate, and at worst, inaccurate. It is therefore not surprising that past research in management and accounting suggests that the effects of various external factors, such as procedural safeguards, anti-retaliatory policies, and rewards for ethical behavior and punishment for unethical behavior, on the whistle-blowing process are mixed (Miceli et al. 2008, Vadera et al. 2009, Culiberg and Mihelič 2017, Lee and Xiao 2018, Chen 2019). In a similar vein, a meta-analysis of research on whistle-blowing revealed that several factors (e.g., supervisor support, threat of retaliation) that influenced whistle-blowing intentions were less likely to influence whistle-blowing behaviors, and vice versa (Mesmer-Magnus and Visweswaran 2005).

To deepen our understanding of employees' decision to blow the whistle internally, we integrate construal level theory (CLT) and the notion of construal fit (Trope

and Liberman 2003, Lee and Aaker 2004, Kim et al. 2008, Wiesenfeld et al. 2017) with research on ethical infrastructure (Tenbrunsel et al. 2003). CLT and the notion of construal fit offer a systematic, conceptually rigorous framework for (a) understanding important differences in cognitive mindsets at the time of whistle-blowing intentions versus behaviors, (b) linking these cognitive mindsets to organizational factors to help determine which are influential at the intention stage and which are influential at the time of action, and (c) providing an informed understanding of why this is the case.

To determine which organizational cues to focus on, we turn to the business ethics literature, which describes how ethical aspects of organizations (e.g., ethical culture, ethical climate, ethical leadership, and ethics and compliance programs, among others) influence members' behaviors. Tenbrunsel et al. (2003) assimilate these different constructs into a parsimonious framework of "ethical infrastructure," which refers to "the organizational elements that contribute to an organization's ethical effectiveness" (p. 286) and consists of four ethical systems—communication, surveillance, accountability, and retaliatory systems—and the organizational climate that supports the infrastructure. In this paper, we focus on ethical systems within organizations, which tend to be more under the control of organizational leaders than organizational climates and therefore easier to change (Gagliardi 1986) and because ethical systems and climates are highly correlated (Martin et al. 2014) and tend to heavily influence one another (Tenbrunsel et al. 2003). Furthermore, although these systems could promote ethical or unethical conduct within the organization ("ethical" systems versus "unethical" systems), in line with the focus on organizational ethical effectiveness as depicted by Tenbrunsel et al. (2003) and our interest in further advancing our understanding of how to promote internal whistle-blowing (an ethical behavior), we focus on ethical systems, that is, systems that promote ethical behavior.

Integrating the framework of ethical infrastructure with insights from CLT and construal fit, we argue that at the time employees form whistle-blowing intentions, they are focused on whistle-blowing in the abstract (e.g., their ethical values and ideals, their desire to blow the whistle, and the "why" of whistle-blowing). At this stage, top management values-based communication systems, which provide high-level, abstract information and focus on desirability and the "why" of whistle-blowing, are likely to be more influential because there is a "fit" between employees' cognitive states and communication systems. Conversely, at the time whistle-blowing intentions are translated into behaviors, employees focus more on concrete, low-level, practical aspects of whistle-blowing, such as its feasibility (including consequences) and how they would go about blowing the whistle. At this stage, surveillance, accountability, and retaliatory systems, which provide low-level, concrete information on feasibility and the "how" of whistle-blowing, fit best with employees' cognitive mindset and therefore are likely to be most influential.

We also argue that the strength of these systems (strong versus weak) will further contribute to the experience of "fit" between those systems and employees' cognitive states and therefore influence how these factors affect both intentions and behavior. Notably, strong communication systems (e.g., those that intensely and consistently convey ethical values such as integrity, dignity, and trust and also demonstrate a consistency between those values and leaders' behaviors) will be more likely to affect whistle-blowing intentions than weak communication systems (e.g., those that weakly and inconsistently convey such values), whereas strong surveillance (e.g., procedures for monitoring and reporting ethical violations are multiple and clear), strong accountability (e.g., perpetrators are consistently disciplined), and weak retaliatory systems (e.g., whistle-blowers are consistently not retaliated against) will be more likely to strengthen the relationship between whistle-blowing intentions and behaviors compared with weak surveillance (e.g., little monitoring and reporting procedures), weak accountability (e.g., inconsistent or lack of discipline of perpetrators), and strong retaliatory (e.g., people are punished for making any complaints or reporting misconduct to authorities) systems. Furthermore, given that processing fluency, or the ease with which any information is processed, is an indicator of "fit" (Lee and Aaker 2004, Lee et al. 2010, Zhang 2014, Hernandez et al. 2015), we propose that processing fluency mediates these relationships, even after accounting for alternative theoretical perspectives and models previously examined in the whistle-blowing literature.

This paper makes several contributions. Our research presents CLT, and construal fit in particular, as a unique, parsimonious theoretical framework to improve our understanding of when, why, and how ethical systems affect the two stages (intentions and behaviors) of the whistle-blowing process. Our proposed theory thus offers a socio-cognitive lens, a perspective currently limited in the whistle-blowing literature, that bridges between constructs at the individual (e.g., construal) and organizational (e.g., ethical infrastructure) levels. In doing so, this framework helps reconcile mixed findings in the whistle-blowing literature and sheds new light on the link between ethical systems and whistle-blowing intentions and behaviors. We also introduce processing fluency as an important and novel mechanism that explains why different ethical systems influence whistle-blowing intentions and behaviors differentially, and, further, we empirically distinguish the influence of processing fluency from alternative models and theoretical explanations previously examined in the whistle-blowing

literature. Additionally, by investigating the different components of the ethical infrastructure simultaneously to examine whistle-blowing, we address the call made by Treviño et al. (2014) to consider "what parts of it [ethical infrastructure] matter most–separately and together?" (p. 642) and further add "and at what points in the whistle-blowing process and why?"

Ethical Systems Within an Ethical Infrastructure

To understand how CLT, construal fit, and processing fluency impact whistle-blowing intentions versus behaviors, it is important to first overview the ethical systems within an organization's ethical infrastructure that influence whistle-blowing. According to Tenbrunsel et al. (2003), ethical systems need to accomplish three goals. First, they need to convey the organization's ethical values and principles to its employees. Second, they need to monitor employees' adherence to those principles. Third, they need to reward employees who comply with those principles and punish violators. These three goals are foundational to management theory. From theories of individual cognition such as reinforcement theory (Skinner 1953) to theories of the firm such as agency theory (Jensen and Meckling 1976, Fama 1980) to theories on organizational learning (March 1991), these goals—specifying and communicating objectives, monitoring performance on these objectives, and linking outcomes to achieving these objectives—are key features of a firm's regulatory systems and are portrayed as important components of firm success. Tenbrunsel et al. (2003) suggest that the four ethical systems of an organization's ethical infrastructure—communication systems, surveillance systems, accountability systems, and retaliatory systems—help to achieve these goals. We elaborate on these systems here.

Communication Systems

To produce desirable behaviors and reduce undesirable behaviors, organizations need to first communicate the importance of those behaviors to employees. Top management values-based communication systems[2] (henceforth, communication systems) communicate top management's ethical vision of the organization through ethical values and principles. For the purpose of our demonstration, we focus on the "tone at the top," as it is often referred to, because it is central to organizations' overall ethical environment (Schwartz et al. 2005) in conveying general expectations and standards for ethical conduct. According to research on corporate leadership through language, communication systems, such as the CEO's annual letter, are seen as symbolic and emblematic, providing an "opportunity to establish perspectives on the CEO's espoused vision, strategy, and ideology" (Craig and Amernic 2011, p. 567) with the language deployed

serving an important influence on ethical conduct (Amernic and Craig 2013). These communication systems tend to be relatively broad and high level, and they direct employees to think more globally about the importance of ethical conduct and whistle-blowing.

Examples of communication systems include the establishment of code of ethics or code of conduct, formal training programs in the organization, as well as verbal and nonverbal behaviors of top management that may informally communicate ethical values and principles (Ferrell et al. 2005). In organizations with strong communication systems, organizational leaders not only intensely and consistently convey ethical values such as integrity, dignity, and trust, but also demonstrate consistency between those values and leaders' behaviors.

Surveillance Systems

To produce desirable behaviors and reduce undesirable behaviors, organizations need to monitor those behaviors. Surveillance systems in the ethical infrastructure focus on monitoring and detecting ethical and unethical behavior. Although surveillance systems can take multiple forms in organizations (e.g., personal data gathering, internet and email monitoring), those focused on whistle-blowing are primarily carried out through officially approved policies, routines, and procedures for reporting unethical actions (Greenberger et al. 1987, Nielsen 1987). Examples include reporting helplines and the presence of ethical ombudspersons in an organization. Organizations with strong surveillance systems have multiple clear channels for detecting and reporting unethical behavior.

Accountability and Retaliatory Systems

Once organizations have monitored employees' engagement in desirable or undesirable behaviors, they have to decide whether such behaviors should be rewarded or punished. In the whistle-blowing domain, accountability and retaliatory systems primarily focus on the punishment of two targets (Dozier and Miceli 1985, Near and Miceli 1985, Miceli et al. 2008, Morrison 2011): respectively, the transgressor and the whistle-blower. For instance, much of the research on whistle-blowing (Dozier and Miceli 1985, Mesmer-Magnus and Viswesvaran 2005, Miceli et al. 2008) has suggested that when engaging in whistle-blowing brings about the desired result and the perpetrator is punished (example of strong accountability), and it does not result in any negative consequences for the self or one's relationship with others (example of weak retaliation wherein the whistle-blower is not punished), employees are encouraged to blow the whistle.

Accountability Systems. Accountability systems within an organization primarily focus on whether the perpetrators of wrongdoing are punished and held accountable for their actions. Accountability systems can be formal—that is, formally documented or standardized in an organization—or informal and signaled outside of official channels. When an organization has a strong accountability system, employees are assured that those who violate its ethical standards, fail to abide by policies, or do not conform to ethical standards will be held accountable and disciplined. Organizations with a strong ethical infrastructure tend to have strong accountability systems, which include higher levels of (formal or informal) punishment for the transgressor(s).

Retaliatory Systems. Although accountability systems include punishment of unethical behaviors by the perpetrator, retaliatory systems include punishment of and retaliation against the whistle-blower. The following quote from a nurse provides an illustration of a strong retaliatory system for whistle-blowing (Jackson et al. 2010, p. 2194): "Nobody speaks out, because they've seen that you can lose your job … Nobody says anything, because they've seen what can happen." Retaliation can include being reassigned, detailed, or transferred against one's wishes, or simply socially excluded by coworkers. Similar to strong accountability systems, which indicate higher levels of punishment for the perpetrator(s), strong retaliatory systems represent higher levels of (formal or informal) punishment for the whistle-blower. In organizations with strong ethical infrastructures, retaliatory systems tend to be weak,[3] such that punishment for whistle-blowers is low.

In summary, an organization's ethical infrastructure comprises four systems: communication, surveillance, accountability, and retaliatory systems. Communication systems are focused on the desirability and importance of ethical behaviors, such as whistle-blowing, in more global terms. By comparison, surveillance, accountability, and retaliatory systems focus more on the feasibility of behaviors such as whistle-blowing, through detection and punishment of (un)ethical behaviors.

Extant Research on Ethical Infrastructure and Whistle-Blowing
An assumption in the behavioral ethics literature is that when the ethical infrastructure of an organization is strong (versus weak), whistle-blowing is likely to be high. However, empirical findings on the relationship between ethical infrastructure and whistle-blowing are mixed, suggesting that this relationship is more nuanced than this assumption would suggest. For example, although there is some indirect evidence to suggest that communication systems positively affect whistle-blowing intentions (Bhal and Dadhich 2011, Wen and Chen 2016, Malik and Nawaz 2018, Cheng

et al. 2019), other studies (Vadera 2010, Chordiya et al. 2020) have found that communication systems do not encourage whistle-blowing. Research on the role of surveillance and retaliatory systems also reveals inconsistent results. Although Johansson and Carey (2016) found that the presence of strong surveillance systems in organizations increased reported fraud, Kaplan et al. (2015) did not find any statistically significant relationship between surveillance systems and internal reporting intentions of professional accountants and managers. Similarly, although Keenan (1990, 1995) and Near and Miceli (1996) showed that weak retaliatory systems encouraged observers of wrongdoing to blow the whistle, Lee et al. (2020) found that whistle-blowing intentions for German accountants were not statistically different in the presence or absence of anti-retaliatory protection.

We argue that these inconsistent results are due in part to a blurring of the distinction between intentions and behaviors, driven by an inherent assumption that employees' cognitive mindsets and experience of whistle-blowing at these stages are the same. Consequently, the external influences exerted by the ethical infrastructure systems are also presumed to be the same at these two stages. Below, we address these mixed findings by proposing that of the four systems of an organization's ethical infrastructure, communication systems are likely to affect whistle-blowing intentions, whereas surveillance, accountability, and retaliatory systems will help translate intentions into behaviors. We make these predictions based on CLT, in particular research on construal fit (Berson and Halevy 2014, Wiesenfeld et al. 2017). In doing so, we develop a construal level theory of internal whistle-blowing.

A Construal Level Theory of Internal Whistle-Blowing
CLT (Liberman and Trope 1998, Wiesenfeld et al. 2017) rests on the notion that any object, event, or action can be mentally represented in different ways and that these mental representations can be characterized on a continuum ranging from high to low construal level.[4] High-level construals refer to thinking more abstractly and using mental representations that are relatively broad, general, and decontextualized. High-level construals focus on the essential, central, and important characteristics of an object. Low-level construals refer to thinking more concretely and using mental representations that tend to be more specific, detailed, and contextualized. Low-level construals focus on the secondary and tangible aspects of the object. For example, a high-level construal of whistle-blowing would represent it as "doing the right thing," "following ethical principles and values," or "being responsible." A low-level construal of the same action might include details such as "send email with details of the transgression," "call helpline,"

or "schedule an appointment with supervisor." Furthermore, high-level construals of an action draw decision makers' attention to the desirability of engaging in that action, which involves the value of the action's end-state (i.e., the "why" behind whistle-blowing), and low-level construals trigger consideration of feasibility concerns, which involve the consequences and means used to reach the end-state (i.e., the "how" of blowing the whistle) (Liberman and Trope 1998, Liberman et al. 2002).

Trope and Liberman (2003) propose that people construct different mental representations of the same target (i.e., actions or events) depending on whether the target is temporally distant or near. Targets that are temporally distant are construed at a higher construal level than those that are temporally near. Given that (a) theoretically, the constructs of intentions and behaviors are independent stages in models of ethical decision-making (Rest 1986), and (b) intentions and behaviors are separated temporally with intentions necessarily preceding behaviors in the decision-making process (Rest 1986, Ajzen 1991, Zhang et al. 2009, Culiberg and Mihelič 2017),[5] CLT can aid understanding of the whistle-blowing process by characterizing and differentiating employees' cognitive mindsets at these two stages of the whistle-blowing process.

CLT suggests that because whistle-blowing intentions are more temporally distant from the act of whistle-blowing, when employees think about what they intend to do if they witness a wrongdoing, their construal level is relatively high. Because they are conceptualizing whistle-blowing as happening in a distant, potentially uncertain future, detailed, concrete, and context-relevant specifics of the whistle-blowing act (such as alternative courses of action available, or potential consequences) are often less salient, not clear, or likely to change. Instead, the stable, invariant, essential features of the whistle-blowing act, such as desirability concerns (e.g., the ethical principles and values behind whistle-blowing), are more salient and dominant than feasibility concerns (Eyal et al. 2008, Agerstrom and Bjorklund 2009). Therefore, employees are likely to focus on why they should blow the whistle. As the whistle-blowing act becomes more proximal, employees' attention shifts to the practical, contextualized aspects of the immediate situation. As such, they are influenced less by desirability concerns and more by feasibility concerns, such as the possibility of retaliation (Liberman and Trope 1998, Tenbrunsel et al. 2010).

Building on these arguments, we propose that because employees are at a high level of construal when setting whistle-blowing intentions and thus focused on ethical values and ideals, as well as the desirability of and reasons for blowing the whistle, ethical systems that are also at a high (versus low) construal level and that inform employees of the desirability and "why" of whistle-blowing are likely to be most influential in

helping them form whistle-blowing intentions. Similarly, because employees are at a low level of construal when whistle-blowing intentions need to be translated into behaviors, and thus are focused on pragmatic concerns, ethical systems that are also at a low construal and inform employees of the feasibility and "how" of whistle-blowing are likely to be most influential in their decision to blow the whistle. Research on construal fit (Lee and Aaker 2004, Berson and Halevy 2014) is fundamental to these assertions. This literature claims that external stimuli exert the greatest influence when they fit the receiver's mindset (Higgins 2000, Cesario et al. 2004). More specifically, the literature argues that the fit between an employee's construal level and the inherent construal level (or abstractness/concreteness) of external stimuli enhances the likelihood and degree of the stimuli's influence, thereby making the information from the stimuli easier to process (Lee and Aaker 2004, Labroo and Lee 2006) and enhancing the persuasiveness of the information. For instance, Thompson and Hamilton (2006) showed that a fit between an advertisement's format and an observer's construal level facilitated their information processing and made the advertisement's message more persuasive.

The notion of construal fit is consistent with other forms of experienced fit in organizational research (e.g., person-organization fit (O'Reilly et al. 1991), regulatory fit (Lee and Aaker 2004)). For example, regulatory fit, which occurs when people pursue a goal in a manner consistent with their regulatory orientation (e.g., engaging in activities likely to achieve growth and accomplishment when one is promotion-focused and in activities that are likely to achieve safety and security when one is prevention-focused) (Higgins 2000, 2006), has been related to the effectiveness of persuasive appeals. A similar notion of fit is seen in research on persuasion, demonstrating that when the arguments of a persuasive message fit the regulatory orientation of the message recipient, the message will be more effective and lead to more positive outcomes than when there is a misfit (Cesario et al. 2004). Although these examples have a different type of "fit" than what we examine (regulatory fit versus construal fit), the basic argument is the same: namely, that when fit is high, processing fluency is greater, and impact is greater. Indeed, research demonstrates the benefits of a fit between the construal/abstractness of the message on the one hand and construal or construal-related aspects on the other hand, including the construal level of the audience (Ledgerwood et al. 2010, White et al. 2011, Goldsmith et al. 2016, Carter et al. 2020), psychological distance from the communicator (Berson and Halevy 2014, van Houwelingen et al. 2015, Vanderstukken et al. 2019), and psychological distance from the stimulus or event (Fujita et al. 2008, Kim et al. 2008).

Of the four systems of an organization's ethical infrastructure, communication systems are inherently higher

in construal (more abstract), whereas surveillance, accountability, and retaliatory systems are lower in construal (more concrete). As mentioned previously, communication systems inform employees of the ethical vision, ethical values, and principles held by the organization; as such, they tend to be relatively broad and higher level (Herron and Gilbertson 2004). Berson and Halevy (2014) argue that communication of top management's vision is typically high level because visions "tend to consider hypothetical end-states, refer to the distant future, and be formulated in highly abstract terms" (p. 234; also see Magee et al. 2010). By communicating the organization's ethical values and emphasizing desirability concerns, communication systems are likely to direct employees' focus to thinking globally about the importance of ethical conduct and whistle-blowing, leading them to answer the question "What should I do and why?" but not necessarily "How should I do it?" Communication systems are therefore likely to be more abstract and at a high construal level.

In contrast, surveillance, accountability, and retaliatory systems "directly associate ethical and unethical behavior with rewards and punishments" (Tenbrunsel et al. 2003, p. 292). In the context of whistle-blowing, these systems trigger a decision process driven primarily by punishment, answering questions such as "Will the transgressor be caught?" (in case of surveillance systems), "Will the transgressor be punished?" (in case of accountability systems), and "Will I be retaliated against?" (in case of retaliatory systems) (Miceli et al. 2008). These questions are focused more on the concrete, specific aspects of whistle-blowing and its feasibility rather than on more global assessments of whistle-blowing's importance. In addition, they are geared toward assessing the punishments directed at the transgressor and the self. Punishments are seen as context-dependent incidental costs imposed by the situation (Liberman and Trope 1998, Trope and Liberman 2003). They are also tangible and probable (Baumeister et al. 2001) and therefore likely to be more concrete and at a low construal level.

Accordingly, based on construal fit, we posit that because employees are at a high level of construal at the time of whistle-blowing intentions, communication systems (compared with surveillance, accountability, or retaliatory systems) are more likely to influence their intentions to blow the whistle because there is construal fit between their cognitive mindset and the construal level of communication systems. In a similar vein, at the time intentions need to be translated into whistle-blowing behaviors, because employees are at a low level of construal, surveillance, accountability, and retaliatory systems (compared with communication systems) are more likely to be influential.

Processing fluency is instrumental in understanding the role that construal fit plays in the whistle-blowing process. Indeed, in much of the empirical research on construal fit, processing fluency (Lee and Aaker 2004, Lee et al. 2010, Zhang 2014, Hernandez et al. 2015) has been adopted to provide an explanatory mechanism of why construal fit improves the effectiveness and persuasiveness of a message (Kim et al. 2008, White et al. 2011). Our proposed relationships are driven by three interrelated effects, which all influence processing fluency. First, because of the construal fit, potential whistle-blowers will "feel right" about the systems with which there is a fit (Kim et al. 2008). That is, potential whistle-blowers will have more positive attitudes toward communication systems at the time of intentions and more positive attitudes toward surveillance, accountability, and retaliatory systems at the time those intentions are translated into behaviors, and they will behave in line with the recommendations of the system. Second, construal fit will enhance the perceived credibility of information about the relevant system (Hansen and Wänke 2010). Third, and relatedly, construal fit will increase psychological engagement in the processing of the information communicated by the ethical infrastructure system (Berson and Halevy 2014). In sum, when there is construal fit between the construal level of the system and the construal of the potential whistle-blower, the whistle-blower will experience greater processing fluency because they will be more likely to "feel right," experience increased psychological engagement, and perceive the information as more credible (Higgins 2000, Cesario et al. 2004, Lee et al. 2010).

Research on construal fit not only suggests which systems are likely to be influential at the different stages of the whistle-blowing process but also implies that the strength of the system (strong versus weak) matters as well (Kim et al. 2008, Spassova and Lee 2013). This research suggests that when there is construal fit, the strong systems (i.e., those that intensely and consistently convey information characteristic of the systems) will be more fluently processed than those that are weak. This is because strong systems are more likely to be associated with "feeling right," increased psychological engagement, and enhanced perceived credibility of provided information than weak systems. Referring to these effects as "fit-driven enhancement in persuasion," Kim et al. (2008) suggest that when there is construal fit and stimuli are strong rather than weak, processing fluency will be greater; thus, the stimuli will be more persuasive and have a more significant effect. Building on this research, Spassova and Lee (2013) found that when arguments presented in an advertisement were strong versus weak, a construal fit (versus misfit) was more likely to lead to favorable attitudes toward the advertisement and the brand.

Thus, at the time of whistle-blowing intentions, communication systems, which we have argued are in alignment with the employee's construal level at the time,

will be more influential when they are strong rather than weak because the information they provide will be more easily processed and thus will lead to stronger intentions of whistle-blowing. Indeed, Mayer and colleagues (2013) found that when organizational leaders intensely emphasize ethics and the importance of ethical conduct, employees are more likely to express an intention to engage in whistle-blowing in the future compared with when organizational leaders weakly or do not emphasize ethics. Similarly, strong surveillance systems, strong accountability systems, and weak retaliatory systems will be more influential in converting whistle-blowing intentions into behaviors than will weak surveillance systems, weak accountability systems, and strong retaliatory systems because of increased processing fluency. To our knowledge, no previous research has examined the proposed moderating effects of surveillance, accountability, or retaliatory systems on the relationship between whistle-blowing intentions and behaviors, although research has shown that when the organization is perceived to be responsive to complaints, employees are more likely to report that they have engaged in whistle-blowing (Miceli and Near 1988), and when retaliation from senior management is perceived to be low (or weak), employees are likely to blow the whistle (Near and Miceli 1996).

Taken together, we predict that when communication systems are strong, observers of wrongdoing are likely to have greater intentions to blow the whistle than when communication systems are weak. We also predict that surveillance systems, accountability systems, and retaliatory systems will moderate the relationship between observers' prior intentions to engage in whistle-blowing and their engagement in the behavior, such that this relationship is stronger when surveillance systems are strong (versus weak), accountability systems are strong (versus weak), and retaliatory systems are weak (versus strong). Finally, we predict that processing fluency will mediate both the main effects of communication systems on whistle-blowing intentions as well as the moderating effects of surveillance systems, accountability systems, and retaliatory systems on the whistle-blowing intentions-behaviors relationship. Our theoretical model is depicted in Figure 1.

We tested our hypotheses in one multisource field study (Study 1) and one multiwave experiment (Study 2). Study 1 provided ecological validity to our model. In Study 2, we focused on assessing whether processing fluency mediates the effects of the ethical infrastructure systems on whistle-blowing. In both studies, we also attempted to rule out alternative explanations (based on POB model, MDR, and TPB) that could potentially explain our effects. Specifically, the POB model (Miceli et al. 2008) proposes that once employees who have witnessed a wrongdoing determine that it is their responsibility to act, they will do so if the expected benefits relative to costs of whistle-blowing outweigh those of alternative actions (or doing nothing). The costs include potential alienation and punishment from the organization and their coworkers, whereas benefits include the likelihood that the whistle-blowing will actually stop the transgression (Dozier and Miceli 1985). The MDR model suggests that internal whistle-blowing is influenced by three factors: perceived seriousness of the wrongdoing (or severity of the wrongdoing), perceived personal cost of reporting (i.e., perceived harm or discomfort resulting from reporting the transgression), and perceived personal responsibility for reporting (i.e., the potential whistle-blowers' sense of duty) (Schultz et al. 1993). Finally, TPB (Ajzen 1991) states that attitudes toward whistle-blowing, subjective norms about whistle-blowing, and perceived behavioral control are likely to affect whistle-blowing intentions and perceived behavioral control along with intentions will affect whistle-blowing behaviors. Based on these alternative theories and models, we accounted for perceived personal responsibility for reporting, judgments of benefits of reporting, perceived seriousness of the wrongdoing, judgments of costs of reporting, attitude toward whistle-blowing, subjective norms about whistle-blowing, and perceived behavioral control in our studies. Study 1 was not preregistered, but we registered all materials with Open Science Framework (OSF). Study 2 was preregistered (see https://aspredicted.org/gg5mb.pdf). Following Bliese and Wang (2020), we calculated post hoc observed power for the estimated parameters in our hypothesized model for Studies 1 and 2. Overall, our studies demonstrated substantial power (greater than 0.8) to detect effects. Data, survey items, sample analyses syntax for both studies, and preregistered protocol for Study 2 are available via the OSF website: https://tinyurl.com/CLTofInternalWB.

Study 1

We collected data from 495 full-time employees and their supervisors working in 99 teams of 99 different organizations across various industries in India.[6] To collect the data, we recruited a market research firm, Knowledge Intercept.[7] Respondents were paid approximately U.S. $5 for participating in the study. The firm initially contacted 1,000 of its panel members for participation in the study. The panel members were given the description of the study and were asked to provide the contact information of four members of their team and their supervisors after getting their permission to share their contact information with the research team. The market research firm independently verified the identities and employment status of all respondents; it also provided us with a list of team members who were not on their panel, their phone numbers, employing organization, and official title after getting their

Figure 1. (Color online) Theoretical Model
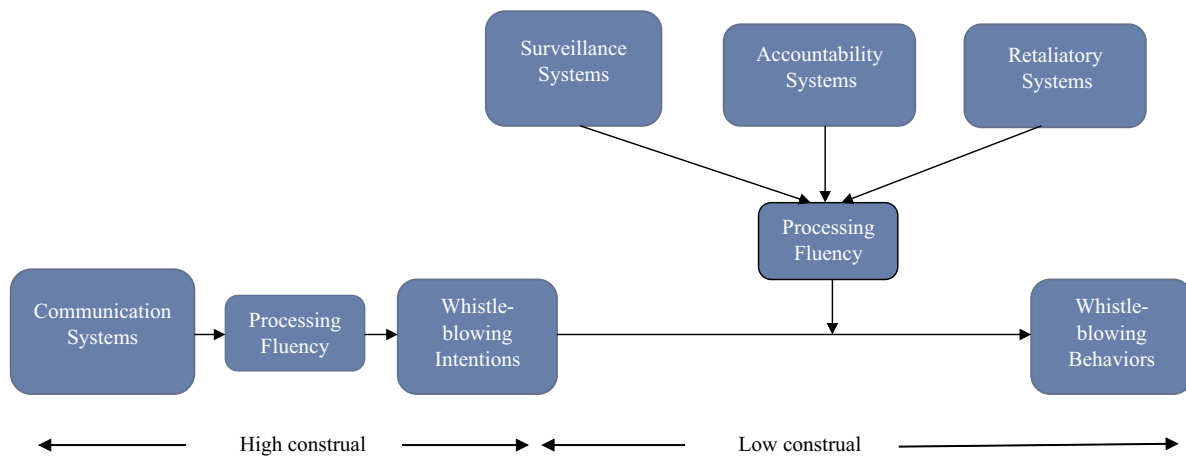
approval. This list was sent separately from the data file to maintain anonymity. We recruited five research assistants to double-check information for one member of each team randomly selected by first calling them to check if they had participated in the study and then by checking their LinkedIn profile, if available. We conducted this check two to three weeks after the data were collected. All respondents who were contacted recalled participating in the study and verified their employing organization and job title.

We used data from the entire sample of employees to aggregate the different ethical infrastructure systems to the organizational level. In testing our hypotheses, we excluded employees (97 of 495 employees, 19.6%) who answered "never" when we asked them the frequency (1 = never, 5 = always) with which they had witnessed one or more of 27 unethical acts (e.g., company resource abuse, email or Internet abuse, falsifying time or expenses, sexual harassment, bribing public officials) in their organization. The final sample of employees was 90% male[8] with a mean age of 34.56 years (standard deviation (SD) = 8.55) and an average organizational tenure of 4.99 years (SD = 4.20). The final sample of supervisors was 91% male with a mean age of 41.14 years (SD = 9.64) and an average organizational tenure of 9.02 years (SD = 6.36). Sample members were employed in various organizations and industries, including IT and telecommunications, hospitality, banking, finance, consultancy, etc. and engaged in a variety of work and held job titles such as team leader, accountant, software developer, manager, administrator, technical engineer, and sales executive.

Measures[9]

Unless otherwise indicated, all measures used a scale anchored at 1 ("strongly disagree") and 7 ("strongly agree").

Communication Systems. We used five items to measure the communication systems in organizations. Two items captured the presence or absence of official policies related to communication systems (yes = 1, no = 0) and three items were adapted from the ethical leadership scale of Brown et al. (2005), which captures how ethical leaders not only talk about but also model ethical conduct (two aspects that contribute to an organization's communication systems), and the scale developed by Fritz et al. (1999), which focuses on how managers communicate commitment to organizational standards. Sample item is "Top management in my organization talks about the importance of ethics and doing the right thing in the work we do." Given that the five items were measured using different scales, we first standardized each item such that the mean of each item was zero and standard deviation was one. We then averaged across the five items to form our scale (α = 0.76). We then aggregated this score to the organization level. Results showed that $ICC(1)$ = 0.29, $ICC(2)$ = 0.67, F = 3.03, $p < 0.001$, and mean r_{wg} = 0.96, suggesting that aggregation was justified. Higher scores are indicative of a stronger communication system.

Surveillance Systems. We measured surveillance systems using three items (yes = 1, no = 0). Sample item is "Does your organization have a separate ethics (or ombuds) department?" Responses were summed and then aggregated to the organization level. Results showed that $ICC(1)$ = 0.81, $ICC(2)$ = 0.95, F = 21.63, $p < 0.001$, and mean r_{wg} = 0.91, suggesting that aggregation was justified. Higher scores are indicative of a stronger surveillance system.

Accountability Systems. Accountability systems were measured using three items from Treviño et al. (1998). Sample item is "In my organization, employees

violating ethics expectations are disciplined." Responses were averaged ($\alpha = 0.83$) and aggregated to the organization-level. Results showed that $ICC(1) = 0.78$, $ICC(2) = 0.95$, $F = 19.14$, $p < 0.001$, and median $r_{wg} = 0.86$, suggesting that aggregation was justified. Higher scores are indicative of a stronger accountability system.

Retaliatory Systems. Retaliatory systems were also measured using three items adapted from Treviño et al. (1998). Sample item is "In my organization, people are retaliated against for making any complaints or reporting misconduct to authorities." Responses were averaged ($\alpha = 0.89$) and aggregated to the organization level. Results showed that $ICC(1) = 0.87$, $ICC(2) = 0.97$, $F = 35.77$, $p < 0.001$, and median $r_{wg} = 0.85$, suggesting that aggregation was justified. Higher scores are indicative of a stronger retaliatory system.

Whistle-Blowing Intentions. As we previously noted, whistle-blowing intentions can be generalized or specific. Our measure of whistle-blowing intentions comprised three items. Sample item is "In my organization, I intend to inform the management about unethical and immoral practices within the organization." We then averaged responses ($\alpha = 0.77$) to form our scale. The higher the score, the higher the intentions to blow the whistle.

Whistle-Blowing Behaviors. To capture whistle-blowing behaviors, we asked the participants' supervisors about the participants' whistle-blowing behaviors using three items that were averaged ($\alpha = 0.78$) to form our scale. Sample item is "This person reports unethical behaviors that he or she observes in the organization." We asked supervisors to evaluate the whistle-blowing behaviors of respondents as several studies have shown that observers of wrongdoing are most likely to report unethical acts to their supervisors (Mayer et al. 2013). According to the National Business Ethics Survey (Ethics Resource Center 2013), of the organizational members who blew the whistle on witnessing a wrongdoing, 82% first turned to their supervisor.

Alternative Explanations. In this study, we wanted to rule out two alternative explanations suggested by MDR. More specifically, we included moral identity of the respondent (a proxy for perceived personal responsibility for blowing the whistle) and frequency with which respondents witnessed wrongdoings in their organizations (a proxy for perceived seriousness of wrongdoings) as antecedents of whistle-blowing intentions and as moderators of the intentions-behaviors relationship. We measured moral identity using the five items of the internalization subscale of the moral identity scale developed by Aquino and Reed (2002). Respondents were asked to think about a list of moral characteristics such as caring,

compassionate, and generous. They were then asked to respond to statements such as "It would make me feel good to be a person who has these characteristics." We then averaged responses to the five items ($\alpha = 0.88$) to form our scale. We measured frequency of wrongdoings by providing participants with a list of 27 unethical acts that one is likely to witness in an organization (see above discussion) and asking them to rate the frequency with which they observed these behaviors in the workplace (1 = never, 5 = always). We averaged across these items to form our scale ($\alpha = 0.98$).

Analysis Strategy

Our data set is hierarchical in nature. That is, employees (within-level 1) are nested within organizations (between-level 2). We therefore used multilevel path-analytical modeling in MPlus 7.31 (Muthén and Muthén 1998–2015) to test our hypotheses. Before conducting our analyses, we grand-mean centered all key variables to alleviate potential problems relating to multicollinearity (Hofmann and Gavin 1998, Enders and Tofighi 2007). To capture cross-level interactions (such as those of whistle-blowing intentions and surveillance, accountability, or retaliatory systems on whistle-blowing behaviors), Aguinis et al. (2013) have argued that when "a particular conceptualization may address raw differences between L1 (level 1) entities rather than differences relative to a group average", it "may be more appropriate to use grand-mean centering with across-group variance controlled" (p. 1512). Because we are interested in explaining the differences between whistle-blowing behaviors of individuals rather than explaining any differences relative to the average of the organization, we followed recommendations by Aguinis et al. (2013) and included group mean of whistle-blowing intentions and its interaction with surveillance, accountability, and retaliatory systems as level 2 predictors in our analysis (Snijders and Bosker 1999).

After we fitted an unconditional (intercepts only) model, we tested whether the slopes of whistle-blowing intentions–behaviors relationship varied across organizations and found insufficient variability, indicating that whistle-blowing intentions do not seem to affect behaviors differently across organizations. However, LaHuis and Ferguson (2009) have argued that slope variance is not the only criteria for conducting cross-level interaction analysis and recommend proceeding with a cross-level interaction test when it is theoretically justified; Aguinis et al. (2013) and Snijders and Bosker (2012) concur particularly because of the insufficient statistical power of the random variance significance tests. Our theory strongly suggests that the relationship between an employee's intentions to blow the whistle and his or her actual whistle-blowing behaviors should depend on the surveillance, accountability, and retaliatory systems of the organization. We thus tested the cross-level

Table 1. Means, Standard Deviations, and Correlations, Study 1

	Mean	Standard deviation	1	2	3	4	5	6	7	8
Whistle-blowing Behaviors (1)	4.83	1.45	(0.78)							
Whistle-blowing Intentions (2)	5.47	0.94	0.43**	(0.77)						
Communication Systems (organization-level) (3)	0.00	0.60	0.36**	0.69**	(0.76)					
Surveillance Systems (organization-level) (4)	1.93	0.80	0.10	0.40**	0.60**					
Accountability Systems (organization-level) (5)	3.32	1.26	−0.01	21**	0.33**	0.63**	(0.83)			
Retaliatory Systems (organization-level) (6)	3.02	0.91	−0.13**	−0.41**	−0.51**	−0.65**	0.76**	(0.89)		
Employee Moral Identity (7)	5.37	0.97	0.34**	0.66**	0.71**	0.62**	−0.45**	−0.58**	(0.88)	
Frequency of Wrongdoing (8)	1.48	0.34	0.06	−0.24**	−0.31**	0.11**	−0.02	0.10	−0.08	(0.98)

Note. Coefficient alphas are on the diagonal in parentheses.
  **$p < 0.01$; *$p < 0.05$.

moderation effect as planned (see Farmer et al. 2015 for similar arguments).

Results

Means, standard deviations, and correlations are displayed in Table 1.[10] Table 2 presents the results of the multilevel path model. As shown, strength of communication systems was positively and significantly related to whistle-blowing intentions ($\gamma = 0.50$, $p < 0.05$). That is, when communication systems were strong (versus weak), observers of wrongdoing were likely to have stronger intentions to blow the whistle. Further supporting our arguments, the other systems were *not* related to whistle-blowing intentions ($ps > 0.05$). We also found that the interaction of whistle-blowing intentions and surveillance systems on whistle-blowing behaviors was

not statistically significant ($\gamma = 0.04$, $p = 0.64$). However, the interaction of whistle-blowing intentions and accountability systems on whistle-blowing behaviors was significant, $\gamma = 0.22$, $p = 0.03$. The simple slope test was positive for strong accountability systems (1 SD above the mean, $\gamma = 0.31$, $p = 0.06$) but negative and statistically significant for weak accountability systems (1 SD below the mean, $\gamma = -0.21$, $p = 0.01$). We also found that the interaction of whistle-blowing intentions and retaliatory systems on whistle-blowing behaviors was significant, $\gamma = -0.31$, $p = 0.02$. The simple slope test was positive and significant for weak retaliatory systems (1 SD below the mean, $\gamma = 0.31$, $p = 0.03$) and was negative for strong retaliatory systems (1 SD above the mean, $\gamma = -0.21$, $p = 0.02$). Taken together, these results show that intentions to blow the whistle are more likely to translate into

Table 2. Multilevel Path Analysis Results, Study 1

	Dependent variable: Whistle-blowing intentions		Dependent variable: Whistle-blowing behaviors	
Variable	γ	Standard error	γ	Standard error
Main effects				
Employee moral identity	0.32**	0.09	0.03	0.06
Frequency of wrongdoing	−0.26*	0.11	0.21*	0.10
Communication systems	0.50*	0.20	1.15	0.81
Surveillance systems	0.02	0.20	−0.67	0.35
Accountability systems	0.26	0.21	0.32	0.47
Retaliatory Systems	−0.34	0.29	−0.29	0.63
Whistle-blowing intentions			0.02	0.16
Group mean of whistle-blowing intentions			−0.23	0.71
Interactions				
Whistle-blowing intention × Moral Identity			−0.03	0.06
Whistle-blowing intention × Frequency of wrongdoing			0.02	0.09
Whistle-blowing intention × Communication systems			−0.03	0.13
Whistle-blowing intention × Surveillance systems			0.04	0.08
Whistle-blowing intention × Accountability systems			0.22*	0.10
Whistle-blowing intention × Retaliatory systems			−0.31*	0.13
Group mean of whistle-blowing intentions × Communication systems			0.58	0.38
Group mean of whistle-blowing intentions × Surveillance systems			−0.45*	0.24
Group mean of whistle-blowing intentions × Accountability systems			0.76*	0.32
Group mean of whistle-blowing intentions × Retaliatory systems			−0.28	0.37

Note. Coefficients are unstandardized.
  **$p < 0.01$; *$p < 0.05$.

Figure 2. Interaction of Whistle-Blowing Intentions and Accountability Systems and Retaliatory Systems, Study 1
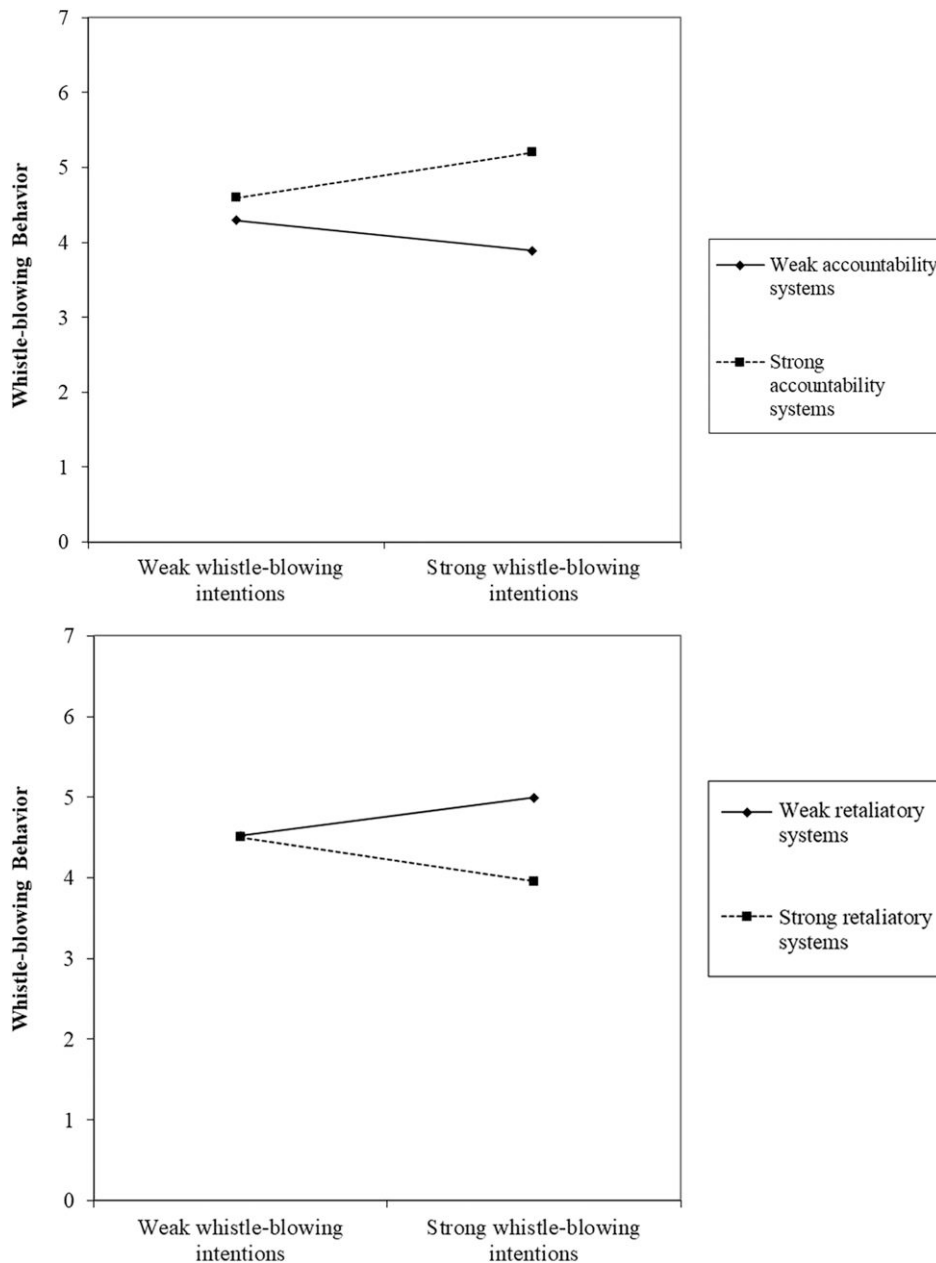
behaviors when accountability systems are strong and when retaliatory systems are weak. Conversely, these results also suggest that intentions are negatively related to whistle-blowing behaviors when accountability is low (versus high), and retaliation is high (versus low). The plot of these interactions is shown in Figure 2. Also, consistent with our theory, we found that communication systems did *not* moderate the relationship between whistle-blowing intentions and behaviors ($\gamma = -0.03$, $p = 0.85$). Interestingly, with regard to alternative explanations, employee's moral identity and frequency of observed wrongdoing were related to whistle-blowing

intentions, but they did not moderate the whistle-blowing intentions-behaviors relationship.[11]

Discussion

This study found support for our arguments that strong (versus weak) communication systems are more likely to encourage whistle-blowing intentions and accountability systems and retaliatory systems (but not surveillance systems) are more likely to moderate the whistle-blowing intentions–behaviors relationship such that when accountability systems are strong (versus weak) and retaliatory systems are weak (versus

strong), whistle-blowing intentions are more likely to be translated into whistle-blowing behaviors. Importantly, surveillance, accountability, and retaliatory systems did *not* influence whistle-blowing intentions and communication systems did *not* moderate the whistle-blowing intentions–behaviors relationship. This study provides ecological validity for our findings; however, because it is difficult in the field to isolate the exact moment when people have intentions to blow the whistle or actually engage in whistle-blowing, we could not measure processing fluency in this study. Therefore, in the next study, we explored the mediating role of processing fluency.

In addition, at its core, our theory argues that the effects of communication systems are different from those of other systems on whistle-blowing intentions and behaviors. To test this idea more directly, and for sake of simplicity, we focus on strong ethical infrastructure systems only in Study 2. More specifically, we investigate the main effects of strong communication systems (versus strong surveillance systems, strong accountability systems, and weak retaliatory systems) on whistle-blowing intentions and test whether processing fluency mediates these effects. Furthermore, we investigate the moderating effects of strong surveillance, strong accountability, and weak retaliatory systems (versus strong communication systems) on the whistle-blowing intentions-behaviors relationship and test whether processing fluency mediates these effects. As before, we also attempted to rule out alternative explanations based on other theoretical models used to explain whistle-blowing. Specifically, in addition to processing fluency, we included elements of POB and MDR models, including efficacy and psychological safety, as well as elements of TPB including attitude toward whistle-blowing, subjective norms, and perceived behavioral control as exploratory mediators.

Study 2
Methods
We used a 2 (whistle-blowing: intentions versus behaviors) × 4 (strong ethical infrastructure: strong communication systems versus strong surveillance systems versus strong accountability systems versus weak retaliatory systems) mixed design with whistle-blowing as a within-subject factor and ethical infrastructure as a between-subjects factor. A total of 430 working adults (49.3% male; $M_{age} = 42.15$, $SD = 13.37$) from the United States participated in the study via Prolific. We invited 500 participants[12] to complete the study and followed the exclusion criteria preregistered for the study that resulted in 70 participants being excluded (see preregistration for exclusion criteria). We collected data in two waves, four weeks apart. Participants were paid U.S. $6 after the experiment.

In wave 1, participants were informed that the study was being conducted by ATB Corp. and that they were working as members of ATB's staff. To make it more likely that participants believed that ATB was a real organization (Leavitt et al. 2021), participants were informed that one of the founders of ATB was the principal investigator of the study. They were then provided with a brief description of ATB and the guidelines that ATB follows to pursue its mission. Specifically, to reduce demand effects, we provided participants in all conditions with three guidelines. The first two guidelines underscored ATB's endeavors to be effective and efficient and were identical across all conditions. The third guideline was focused on ethics and formed the basis of our manipulation of strong ethical infrastructure systems. Specifically, we presented participants with a brief description of one of these elements:

[*Communication systems condition*:] ATB Corp believes in the importance of ethics and doing the right thing in the work we do. Overall, the leaders of ATB Corp set a good example of ethical behavior and can be seen as models of ethical behavior. Further, these guidelines are the direct result of ATB Corp's efforts to develop a code of conduct that conveys the importance of following ethical principles at ATB.

[*Surveillance systems condition*:] ATB Corp believes in the importance of ethics and has a separate ethics department. It also has a standardized procedure for following up on reports of ethical violations. Staff members can raise ethics and compliance complaints and queries at Corp.ATB@gmail.com.

[*Accountability systems condition*:] ATB Corp believes in the importance of ethics. In ATB, staff members violating ethics expectations and those not conforming to ethical standards are disciplined and reprimanded. For example, staff members found violating the ATB guidelines have been removed from the research study and are unable to participate in any future studies conducted by ATB.

[*Retaliatory systems condition*:] ATB Corp believes in the importance of ethics. In ATB, staff members are encouraged to report unethical conduct to higher authorities. They are not retaliated against for making any complaints or reporting misconduct to authorities. Anyone who reports violations is guaranteed anonymity. No one has ever found out the identity of staff members who have reported violation of ATB guidelines in this or other studies.

Participants were then asked to reflect on these guidelines and state, in three or more sentences, what they thought of these guidelines. After they had completed this task, we captured their whistle-blowing intentions. We provided participants with five scenarios they could face while working for ATB Corp. on Prolific and asked them "If you were faced with this situation, to what extent do you intend to engage in the behavior described?" Only

one of the five scenarios described a situation where participants observed a wrongdoing and blew the whistle:

> You have been assigned to a study conducted by ATB on virtual teams with other participants and have the opportunity to earn a bonus for you and your team based on your team's performance on problem solving tasks. At the end of the task, you are asked to evaluate your own work and that of your team members. While you are evaluating the work of your team members, you find that one team member has overstated the number of problems he/she/they solved correctly. You inform ATB about this team member's overstating the number of correctly solved problems.

To minimize hypothesis guessing, the four other scenarios were unrelated to whistle-blowing (e.g., one scenario highlighted how the participant was the team leader and needed to encourage other members of the team to contribute to the project). After presenting participants with the one item that captured whistle-blowing intentions, we measured processing fluency and demographics.

Four weeks later (wave 2), we invited the same participants to capture their whistle-blowing behaviors. We first reminded participants that they were still members of ATB Corp. and then shared with them the same three guidelines (effectiveness, efficiency, and the strong ethical infrastructure system) they had received in wave 1. As in wave 1, we again asked participants to reflect on these guidelines and state, in three or more sentences, what they thought of these guidelines. They were then informed that they would be working in virtual teams with five other people who were also participating in this study on Prolific and were therefore also staff members of ATB. However, in reality, participants were exposed to scripted protocol embedded into Qualtrics. Participants were then informed that a search for their teammates was being conducted. To increase believability, participants waited for 41 seconds during this search. Once all electronic confederates were assigned to a team, participants were informed that they would be working on anagrams. Specifically, they were told that each teammate needed to solve 20 different anagrams independently in three minutes, that each anagram was worth one point, that the team score would be determined by aggregating the score of each team member, and that the team with the highest score would receive an additional \$120 (\$20 per team member) after the completion of the study. Participants were also told that after completing the task, they needed to correct their own work and that of their team members, whereas the other team members would do the same.

Participants were then provided with the anagrams. After the time was up, participants corrected their own work using anagram-solver.net and reported the number of anagrams they had solved correctly. Participants were then provided with the supposed responses of their teammates and the number of anagrams the team member said he/she/they had solved and asked to inform if the team member had accurately reported the number of anagrams solved. They were again asked to use anagram-solver.net to correct their teammates' solutions. Participants were provided with the team members' solutions one at a time. These anagram solutions were not actually from the participants but rather were configured so that one of the five sets they received represented over-reporting the number of anagrams that were solved. To increase believability, we shared the first team member's responses 28 seconds later because it is likely that some team members may take longer to correct their own work. We also formatted the pages with the team members' responses such that the pages looked similar to the format of the page when the participants corrected their own work. Finally, we made some minor typos (such as capitalizing a random letter in the response) that any person could potentially make under time pressure. Of the five supposed team members' responses, only one team member (the fourth of five) over-reported the number of anagrams he/she/they solved by two. After they completed this task, we provided participants with three items that measured whistle-blowing behaviors along with some filler questions (e.g., "I will recommend that ATB hire this team member on a permanent basis") to avoid hypotheses guessing. Once they had corrected others' solutions, we measured processing fluency, variables capturing alternative explanations (see below), and demographics.

Measures

Whistle-Blowing Intentions. We measured whistle-blowing intentions in wave 1 using one item. After they had read the whistle-blowing scenario, participants were asked: "If you were faced with this situation, to what extent do you intend to engage in the behavior described?" (1 = not at all to 7 = to a large extent).

Whistle-Blowing Behaviors. We measured whistle-blowing in wave 2 using three items. The first item was dichotomous. Specifically, participants were asked if the team member had accurately reported the number of anagrams he/she/they solved correctly (yes/no; we coded yes = 0 and no = 1). In addition, we captured whistle-blowing with two items measured on a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree): "I would like to report this team member to ATB for misreporting the number of anagrams correctly solved during the study" and "I think that this team member broke the rules of the exercise." We combined these two items to form our second measure of whistle-blowing behaviors ($\alpha = 0.81$).

Processing Fluency. We measured processing fluency using four items adapted from Graf et al. (2018). In

both waves, we provided participants with the information on ATB that they were given at the beginning of the study and then asked to rate the information on four bipolar items: 1 = difficult to understand, effortful, unclear, incomprehensible; 10 = easy to understand, effortless, clear, comprehensible ($\alpha_{\text{wave 1}} = 0.80$; $\alpha_{\text{wave 2}} = 0.79$).

Alternative Explanations. We examined potential alternative explanations for our findings based on POB model, MDR, and TPB by examining the mediating roles of efficacy, psychological safety, attitudes toward whistle-blowing, subjective norms, and perceived behavioral control. We measured efficacy by adapting five items (1 = strongly disagree and 7 = strongly agree; $\alpha = 0.96$) used by Saunders et al. (1992). A sample item is "I feel I can take concerns to the top management of ATB because they will deal with them effectively." We measured psychological safety by adapting four items (1 = strongly disagree and 7 = strongly agree; $\alpha = 0.91$) used by Liang et al. (2012). A sample item is "In ATB, I feel I can freely express my thoughts." To capture one's attitude toward whistle-blowing, subjective norms, and perceived behavioral control, we adapted the items used by Hrubes et al. (2001) in their TPB study by reframing them to refer to whistle-blowing. To measure attitude toward whistle-blowing, participants assessed whether "Reporting unethical behaviors that one observes in the organization to its management is … " (1 = extremely unpleasant to 7 = extremely pleasant); subjective norms were measured by the item "Most people important to me think that we should report unethical behaviors that we observe in the organization to the management" (1 = strongly disagree to 7 = strongly agree); and perceived behavioral control was assessed by the item, "It is difficult to report unethical behaviors that I may observe in the organization to the management" (1 = definitely false to 7 = definitely true).

Results

We ran the first set of analyses using SPSS Version 28.[13] Means, standard deviations, and correlations are displayed in Table 3.

Whistle-Blowing Intentions. A one-way analysis of variance (ANOVA) showed a significant difference of ethical infrastructure on whistle-blowing intentions, $F(3, 426) = 2.91$, $p < 0.05$. Planned contrasts revealed that participants in the communication systems condition ($M = 5.56$, $SD = 1.34$) had intentions to blow the whistle to a larger extent than those in the surveillance systems ($M = 5.19$, $SD = 1.61$; $t(210) = 1.84$, $p = 0.067$, $d = 0.25$), accountability systems ($M = 5.04$, $SD = 1.75$; $t(212) = 2.45$, $p < 0.05$, $d = 0.34$), and retaliatory systems ($M = 4.96$, $SD = 1.70$; $t(212) = 2.85$, $p < 0.001$, $d = 0.39$) conditions. There was no difference in whistle-blowing intentions across

Table 3. Means, Standard Deviations, and Correlations, Study 2

	Mean	Standard deviation	1	2	3	4	5	6	7	8	9	10	11	12	13
X1 (surveillance systems = 1, else = 0) (1)	0.25	0.43													
X2 (accountability systems = 1, else = 0) (2)	0.25	0.44	−0.34**												
X3 (retaliatory systems = 1, else = 0) (3)	0.25	0.44	−0.34**	−0.34**											
Processing Fluency at Intentions, Wave 1 (4)	8.22	1.63	−0.01	−0.11*	−0.04	(0.80)									
Processing Fluency at Behaviors, Wave 2 (5)	8.40	1.50	0.04	0.05	0.06	0.27**	(0.79)								
Efficacy (6)	5.37	1.17	0.03	−0.13**	0.10*	0.22**	0.16**	(0.96)							
Psychological Safety (7)	5.11	1.31	0.01	−0.19**	0.12*	0.27**	0.21**	0.71**	(0.91)						
Attitude toward Whistle-blowing (8)	4.20	0.72	0.10*	−0.11*	−0.01	0.09	0.07	0.36**	0.38**						
Subjective Norms (9)	4.12	0.78	0.06	−0.06	−0.03	0.12*	0.09	0.33**	0.32**	0.54**					
Perceived Behavioral Control (10)	2.94	1.13	0.04	0.04	−0.02	−0.06	0.11*	0.21**	0.22**	0.20**	0.26**				
Whistle-blowing Intentions (11)	5.18	1.62	0.00	−0.05	−0.08	0.18**	0.15**	0.17**	0.13**	0.20**	0.19**	−0.12*			
Binary Measure of Whistle-blowing (12)	0.69	0.46	0.03	0.05	0.06	−0.03	0.12*	−0.05	−0.03	0.02	0.00	0.16**	0.04		
Continuous Measure of Whistle-blowing (13)	3.43	1.86	0.00	0.01	0.04	−0.03	0.05	−0.07	−0.09	0.00	−0.03	0.08	0.58**	0.58**	(0.81)

Notes. $N = 430$. Coefficient alphas are on the diagonal in parentheses.
**$p < 0.01$; *$p < 0.05$.

surveillance systems and accountability systems conditions, surveillance systems and retaliatory systems conditions, or accountability systems and retaliatory systems conditions ($ps > 0.05$).

Processing Fluency Measured in Wave 1. A one-way ANOVA showed a significant difference of ethical infrastructure on processing fluency measured in wave 1 ($F(3, 426) = 4.02$, $p < 0.01$). Planned contrasts revealed that participants in the communication systems condition ($M = 8.67$, $SD = 1.30$) processed the information more fluently in wave 1 than those in the surveillance systems ($M = 8.19$, $SD = 1.52$; $t(210) = 2.50$, $p < 0.05$, $d = 0.34$), accountability systems ($M = 7.94$, $SD = 1.88$; $t(212) = 3.32$, $p < 0.01$, $d = 0.45$), and retaliatory systems ($M = 8.11$, $SD = 1.70$; $t(212) = 2.69$, $p < 0.01$, $d = 0.37$) conditions. There was no difference in processing fluency measured in wave 1 across surveillance systems and accountability systems conditions, surveillance systems and retaliatory systems conditions, or accountability systems and retaliatory systems conditions ($ps > 0.05$).

Whistle-Blowing Behaviors. A one-way ANOVA using the continuous measure of whistle-blowing behaviors[14] did not reveal any statistically significant effects ($F(3, 426) = 0.50$, $p = 0.66$). We then exploratorily ran our analyses using the binary measure of whistle-blowing behaviors. A chi-square analysis revealed that participants in the communication systems condition (57.1%) were less likely to engage in whistle-blowing behaviors compared with those in the surveillance systems (72.0%; χ^2 ($df = 1$, $n = 212$) = 5.09, $p = 0.02$, odds ratio = 1.93, 95% confidence interval (CI) = [1.09, 3.41]), accountability systems (73.4%; χ^2 ($df = 1$, $n = 214$) = 6.24, $p = 0.01$, odds ratio = 2.07, 95% CI = [1.17, 3.67]), and retaliatory systems conditions (74.3%; χ^2 ($df = 1$, $n = 214$) = 7.01, $p < 0.01$, odds ratio = 2.17, 95% CI = [1.22, 3.87]). There was no difference in whistle-blowing behaviors across surveillance systems and accountability systems conditions (odds ratio = 1.06, 95% CI = [0.59, 1.96]), surveillance systems and retaliatory systems conditions (odds ratio = 1.13, 95% CI = [0.62, 2.06]), or accountability systems and retaliatory systems conditions (odds ratio = 1.05, 95% CI = [0.57, 1.92]).

Processing Fluency Measured in Wave 2. A one-way ANOVA showed a significant difference of ethical infrastructure on processing fluency measured in wave 2: $F(3, 426) = 3.35$, $p < 0.05$. Planned contrasts revealed that participants in the communication systems condition ($M = 8.00$, $SD = 1.78$) processed the information less fluently in wave 2 than those in the surveillance systems ($M = 8.51$, $SD = 1.31$; $t(210) = -2.37$, $p < 0.05$, $d = -0.33$), accountability systems ($M = 8.53$, $SD = 1.55$; $t(212) = -2.32$, $p < 0.05$, $d = -0.32$), and retaliatory systems ($M = 8.55$, $SD = 1.26$; $t(212) = -2.60$, $p = 0.01$, $d =$

-0.36) conditions. There was no difference in processing fluency measured in wave 2 across surveillance systems and accountability systems conditions, surveillance systems and retaliatory systems conditions, or accountability systems and retaliatory systems conditions ($ps > 0.05$).

Overall Model. Our theoretical framework proposes that communication systems affect whistle-blowing intentions, whereas surveillance, accountability, and retaliatory systems will moderate the relationship between whistle-blowing intentions and behaviors and that processing fluency mediates these effects. Our experimental design gives us the opportunity to conduct path analyses to test our overall model (Edwards and Lambert 2007) as preregistered using MPlus 7.31 (Muthén and Muthén 1998–2015). We followed the steps outlined by Cortina et al. (2023) for partial mediation endogenous moderation models with direct moderation. To test our model, we specified paths from ethical infrastructure systems to processing fluency collected in wave 1 to whistle-blowing intentions. We also specified paths from ethical infrastructure systems to processing fluency collected in wave 2 as well as the interaction of intentions and processing fluency in wave 2 to whistle-blowing behaviors. We included attitude toward whistle-blowing, subjective norms, perceived behavioral control, efficacy, and psychological safety as additional mediators in the regression equations. Given that we primarily compare the role of communication systems with the other systems, we coded ethical infrastructure into three dummy codes with communication systems as the baseline (i.e., referent group; Hayes and Preacher 2014, Hayes 2017): X1 in which surveillance systems are coded as one, others as zero; X2 in which accountability systems are coded as one, others as zero; X3 in which retaliatory systems are coded as one, others as zero. We ran separate analyses for the binary measure of whistle-blowing and the two-item continuous measure of whistle-blowing. For the binary measure of whistle-blowing behaviors, we specified this variable as categorical and estimated a model using the Bayesian estimator with a probit link function (Muthén and Muthén 1998–2015). Before conducting our analyses, we centered our variables of processing fluency measured in wave 2 and whistle-blowing intentions as recommended by Cohen et al. (2003).

We first ran our analyses for the continuous measure of whistle-blowing behaviors but did not find any statistically significant effects. We then exploratorily ran our analyses for the binary measure of whistle-blowing behaviors. As can be seen in Table 4, the results revealed that X1 (surveillance systems = 1, else = 0), X2 (accountability systems = 1, else = 0), and X3 (retaliatory systems = 1, else = 0) had negative effects on processing fluency in wave 1 (Estimate = -0.49, 95% CI = [-0.92, -0.05] for X1; Estimate = -0.73, 95% CI = [-1.15, -0.03] for X2,

Table 4. Path Analyses, Study 2

Variable	Dependent variable: Processing Fluency, Wave 1		Dependent variable: Efficacy		Dependent variable: Psychological Safety		Dependent variable: Attitudes toward Whistle-blowing		Dependent variable: Subjective Norms		Dependent variable: Perceived Behavioral Control		Dependent variable: Whistle-blowing Intentions		Dependent variable: Processing Fluency, Wave 2		Dependent variable: Whistle-blowing Behaviors	
	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation	Estimate	Posterior standard deviation
Communication systems as the baseline																		
Main effects																		
X1 (surveillance systems = 1; else = 0)	−0.49*	0.22	−0.03	0.16	−0.10	0.17	0.09	0.10	0.05	0.11	0.21	0.16	−0.34	0.22	0.51*	0.21	0.28	0.19
X2 (accountability systems = 1; else = 0)	−0.73*	0.22	−0.29	0.16	−0.54*	0.18	−0.16	0.10	−0.11	0.11	0.22	0.16	−0.37	0.22	0.53*	0.20	0.35	0.20
X3 (retaliatory systems = 1; else = 0)	−0.56*	0.22	0.18	0.16	0.14	0.18	−0.05	0.10	−0.08	0.11	0.10	0.16	−0.52*	0.22	0.55*	0.21	0.46*	0.20
Processing fluency, wave 1 (at intentions)													0.13*	0.05			0.11	0.05
Efficacy													0.21	0.11			−0.11	0.10
Psychological safety													−0.13	0.10			0.04	0.09
Attitudes toward whistle-blowing													0.25	0.13			0.10	0.11
Subjective norms													0.17	0.12			0.05	0.10
Perceived behavioral control													−0.08	0.07			0.21*	0.06
Whistle-blowing intention																	−0.23	0.35
Processing fluency, wave 2 (at behaviors)																	0.11*	0.05
Interactions																		
Whistle-blowing intention × X1																	0.04	0.13
Whistle-blowing intention × X2																	0.02	0.13
Whistle-blowing intention × X3																	0.24	0.13
Whistle-blowing intention × Efficacy																	0.05	0.06
Whistle-blowing intention × Psychological safety																	−0.04	0.06
Whistle-blowing intention × Attitudes toward whistle-blowing																	−0.06	0.07
Whistle-blowing intention × Subjective norms																	0.11	0.07
Whistle-blowing intention × Perceived behavioral control																	−0.01	0.04
Whistle-blowing intention × Processing fluency, wave 2 at behaviors																	−0.05*	0.02

*$p < 0.05$.

Estimate = −0.56, 95% CI = [−0.99, −0.12] for X3). Second, fluency in wave 1 was positively related to whistle-blowing intentions (Estimate = 0.13, 95% CI = [0.03, 0.23]). Next, we examined the indirect effect of ethical infrastructure on whistle-blowing intentions via processing fluency in wave 1 after accounting for efficacy, psychology safety, attitudes toward whistle-blowing, subjective norms, and perceived behavioral control. Using bias-corrected 95% confidence intervals (CIs) with 5,000 resamples, processing fluency in wave 1 was found to mediate the indirect effect of X1, X2, and X3 on whistle-blowing intentions (Estimate = −0.06, 95% CI = [−0.16, −0.01] for X1; Estimate = −0.10, 95% CI = [−0.20, −0.02] for X2, Estimate = −0.07, 95% CI = [−0.17, −0.01] for X3). We also found that the variables of efficacy, psychological safety, attitudes toward whistle-blowing, subjective norms, and perceived behavioral control did not mediate the effects of ethical infrastructure (X1, X2, or X3) on whistle-blowing intentions. Table 5 shows the indirect effects of processing fluency in wave 1 and of the alternative mechanisms on the relationship between ethical infrastructure and whistle-blowing intentions.

Table 5. Indirect Effects of the Mediator and Alternative Explanations for Ethical Infrastructure–Whistle-Blowing Intentions Relationship, Study 2

Variable	Indirect effect for whistle-blowing intentions			
	Effect	Boot standard error	95% confidence interval: Lower bound	95% confidence interval: Upper bound
Mediator: Processing fluency in wave 1				
X1 (Surveillance systems = 1, else = 0)	−0.06	0.04	−0.16	−0.01
X2 (Accountability systems = 1, else = 0)	−0.10	0.05	−0.20	−0.02
X3 (Retaliatory systems = 1, else = 0)	−0.07	0.04	−0.17	−0.01
Alternative explanation: Efficacy				
X1 (Surveillance systems = 1, else = 0)	0.01	0.04	−0.07	0.08
X2 (Accountability systems = 1, else = 0)	−0.06	0.05	−0.19	0.01
X3 (Retaliatory systems = 1, else = 0)	0.04	0.04	−0.03	0.14
Alternative explanation: Psychological safety				
X1 (Surveillance systems = 1, else = 0)	0.01	0.03	−0.04	0.08
X2 (Accountability systems = 1, else = 0)	0.07	0.06	−0.03	0.20
X3 (Retaliatory systems = 1, else = 0)	−0.02	0.03	−0.09	0.03
Alternative explanation: Attitude toward whistle-blowing				
X1 (Surveillance systems = 1, else = 0)	0.02	0.03	−0.03	0.10
X2 (Accountability systems = 1, else = 0)	−0.04	0.04	−0.13	0.01
X3 (Retaliatory systems = 1, else = 0)	−0.01	0.03	−0.09	0.04
Alternative explanation: Subjective norms				
X1 (Surveillance systems = 1, else = 0)	0.01	0.02	−0.04	0.06
X2 (Accountability systems = 1, else = 0)	−0.02	0.03	−0.09	0.02
X3 (Retaliatory systems = 1, else = 0)	−0.02	0.03	−0.08	0.03
Alternative explanation: Perceived behavioral control				
X1 (Surveillance systems = 1, else = 0)	−0.02	0.02	−0.07	0.02
X2 (Accountability systems = 1, else = 0)	−0.02	0.02	−0.07	0.02
X3 (Retaliatory systems = 1, else = 0)	−0.01	0.02	−0.05	0.02

Notes. N = 430. Coefficients are unstandardized.

Table 4 also shows that X1, X2, and X3 had positive effects on fluency in wave 2 (Estimate = 0.51, 95% CI = [0.10, 0.92] for X1; Estimate = 0.53, 95% CI = [0.14, 0.93] for X2, Estimate = 0.55, 95% CI = [0.15, 0.95] for X3). We also found that the moderating effects of processing fluency in wave 2 on whistle-blowing intentions-behaviors relationship were statistically significant (Estimate = -0.05; 95% CI = [-0.11, -0.01]). When processing fluency was high, whistle-blowing intentions had a positive effect on whistle-blowing behaviors (Estimate = 1.61; 95% CI = [0.43, 2.81]); however, when processing fluency was low, whistle-blowing intentions did not influence whistle-blowing behaviors (Estimate = 0.77; 95% CI = [-1.10, 2.68]). The conditional indirect effect of ethical infrastructure on the relationship between whistle-blowing intentions and behaviors through processing fluency in wave 2 was also significant for X1, X2, and X3 when processing fluency was high (Estimate= 0.75; 95% CI = [0.08, 1.87] for X1, Estimate= 0.78; 95% CI = [0.10, 1.92] for X2, Estimate= 0.81; 95% CI = [0.13, 1.98] for X3), but not low (Estimate= 0.34; 95% CI = [-0.59, 1.66] for X1, Estimate= 0.35; 95% CI = [-0.59, 1.68] for X2, Estimate= 0.37; 95% CI = [-0.61, 1.73] for X3).[15]

General Discussion

In this paper, we proposed a construal level theory of internal whistle-blowing and found support for our arguments. Employees who witness wrongdoing are at a high level of construal at the time of whistle-blowing intentions and therefore elements of the ethical infrastructure (e.g., communication systems) that are also high construal (abstract) are processed more fluently and have a relatively stronger influence on whistle-blowing intentions; however, at the time of whistle-blowing behaviors, employees are at a low level of construal and therefore elements of the ethical infrastructure (e.g., accountability systems and retaliatory systems, but not surveillance systems) that are low construal (concrete) are processed more fluently and thus help translate whistle-blowing intentions into actual behaviors. In addition, the strength of the ethical infrastructure systems also plays a role driven by the increase in processing fluency for stronger (versus weaker) systems. In other words, because of greater processing fluency (construal fit), when organizations have strong communication systems, employees are likely to express a desire to blow the whistle, but these intentions will be more likely to be converted into actual whistle-blowing behaviors when there are strong accountability systems and weak retaliatory systems in the organization.

Theoretical Contributions

Our research makes several important theoretical contributions. First, we develop our construal level theory of internal whistle-blowing by integrating construal level theory and the notion of construal fit with the research on ethical infrastructure. This novel perspective helps us not only understand why there can be a deep gulf between employees' intentions to blow the whistle and their actual whistle-blowing behaviors but also explore how organizational factors (in our case, systems within the organization's ethical infrastructure) can bridge the chasm by affecting whistle-blowing intentions as well as converting those intentions into behaviors. Our research therefore adds to the extant theoretical perspectives on whistle-blowing which have thus far neglected to encapsulate the direct role of organizational facilitators of whistle-blowing with employee's different cognitive states at the intentions and the behaviors stages of the whistle-blowing process.

Second, our proposed theory also helps reconcile some of the conflicting findings in the literature. As an example, in their meta-analysis of research on whistle-blowing, Mesmer-Magnus and Viswesvaran (2005) found that organizational climate for whistle-blowing was positively related to whistle-blowing *actions* but not to whistle-blowing *intentions*. In the studies included in their meta-analysis, organizational climate for whistle-blowing is a multidimensional construct that includes a belief that management would protect whistle-blowers from retaliation and that respondents knew where to report the wrongdoing within the organization (Miceli and Near 1985, Near et al. 1993). In their research, included in the meta-analysis, Miceli and Near (1985) measured climate for whistle-blowing by asking "whether respondents would expect to encounter retaliation from their supervisors or from someone above their supervisors if they blew the whistle and how adequate they believed the current protection was" (p. 532). We posit that organizational climate for whistle-blowing as operationalized in these studies is geared toward ensuring that tangible costs such as retaliation are not incurred and is thus focused on the concrete aspects, rather than global, more abstract assessments of whistle-blowing. We have argued that at the time of whistle-blowing behaviors, people are more psychologically proximate to the act of whistle-blowing and experience low construal and therefore factors that are concrete are likely to be more influential. The converse is true at the time of whistle-blowing intentions. It is thus not surprising that Mesmer-Magnus and Viswesvaran (2005) found that organizational climates for whistle-blowing that are focused on more detailed, concrete aspects of whistle-blowing were more strongly related to whistle-blowing actions rather than whistle-blowing intentions.

Third, our proposed construal level theory of whistle-blowing provides a single, novel mechanism, namely, processing fluency, to link a wide array of organizational facilitators of whistle-blowing to whistle-blowing intentions and behaviors, providing a theoretically

parsimonious explanation, and empirically, explaining variance beyond mechanisms articulated by other dominant theories of whistle-blowing. Specifically, in Study 1, we found that even after accounting for personal responsibility and perceived seriousness as antecedents of whistle-blowing intentions and moderators of intentions–behaviors relationship, our theoretical model was supported. In Study 2, we found that the factors of TPB (attitudes toward whistle-blowing, subjective norms, and perceived behavioral control) and the decision calculus in the POB model and MDR (efficacy and psychological safety) did not mediate the differential effects of the elements of the ethical infrastructure on whistle-blowing, but construal fit (via processing fluency) did. These results together suggest that our theoretical arguments of construal level and construal fit do provide unique and additional theoretical advancement in the domain of whistle-blowing.

Fourth, we also contribute to research on construal level theory. Research on construal level theory has primarily shown that when one is more distant from a stimulus (in terms of time, space, hypotheticality, etc.) one experiences a high-level construal, whereas when one is more proximate, one experiences a low-level construal (Trope and Liberman 2003, 2010; Liberman et al. 2007; Trope et al. 2007). We extend this perspective by showing that as individuals move from intentions to action and their construal changes from abstract (at the time of intentions) to concrete (at the time of behaviors), they start paying more attention to the concrete aspects of the organizational facilitators and less attention to its abstract elements. Our research therefore contributes to the extant work by highlighting the importance of dynamic within-person changes over time (versus between-person differences) in construal fit. We also identify an additional type of construal fit beyond that which has already been identified in the CLT literature (Berson and Halevy 2014, Berson et al. 2015, Carter et al. 2020, Herhausen et al. 2020, Kim and Duhachek 2020): the construal fit between the organizational facilitators of whistle-blowing and the individual's construal level given their psychological distance to the act of whistle-blowing. Moreover, as noted in a review of construal level theory in organizational research, much of the previous research on construal level theory has been conducted in the fields of psychology and consumer behavior, which has provided "a rigorous and systematic way of understanding cognition, abstraction, and distance" (Wiesenfeld et al. 2017, p. 394). However, as these authors also note, organizational scholars have only just started to leverage construal level theory to understand organizational issues, necessitating a call for more research "linking construal level to organizationally important and tangible outcomes" (p. 392). Our current research helps address this call.

Finally, with regard to ethical infrastructure, our findings regarding the moderating effect of accountability and retaliatory systems on the intentions–behaviors relationship add to the limited research that examines the boundary conditions of this relationship. Although TPB has been adopted to primarily examine the precursors of whistle-blowing intentions (Park and Blenkinsopp 2009), to our knowledge, very limited research has been conducted on understanding the organizational factors that help individuals with the intent to blow the whistle to actually blow the whistle. In addition, our results show the importance of considering the stage of the whistle-blowing process—that is, intentions or behavior—when examining the influence of systems of the ethical infrastructure, a finding we believe enriches the ethical infrastructure literature.

Practical Contributions

Leveraging construal level theory to develop practical implications has been called for in the construal literature (Wiesenfeld et al. 2017). Previous suggestions made in that literature have focused on raising people's construal level to increase voice (Wiesenfeld et al. 2017). Rather than focusing on changing construal levels, our research suggests the importance of understanding the role that high construal, abstract organizational factors have when employees are at a psychological distance, such as when they are cultivating intentions to blow the whistle, and the similarly important role that low construal, concrete organizational factors have when employees are psychologically proximate, such as when they are deciding whether to convert those intentions into whistle-blowing behaviors. Such knowledge is important for organizations in designing interventions to encourage whistle-blowing, including developing strong communication systems to cultivate whistle-blowing intentions, but strong accountability and retaliatory systems to convert those intentions into behaviors.

Our research provides several practical recommendations. It is clear that all systems of the ethical infrastructure of an organization are important in encouraging whistle-blowing and that organizations should direct their energies toward both encouraging whistle-blowing intentions as well as facilitating the conversion of those intentions into behaviors. Organizations, however, seem to focus on some systems over others (Hess 2007, Lee and Fargher 2013). Our results suggest that focusing on just a single element of the ethical infrastructure may be a waste of time and money. Furthermore, used in isolation, these systems can be problematic. Surveillance, accountability, and retaliatory systems, for example, may be perceived by employees as forms of control, which employees may resist (Brehm 1966) and engage in maneuvers to trick and bypass them (Cialdini 1996), thus diminishing their effectiveness. This could be particularly damaging, as our results (Study 1) suggest that

weak accountability and strong retaliatory systems can, in some situations, reduce whistle-blowing, thus further demonstrating that organizational leaders and managers should be cognizant of how they manage these systems in their organizations. Conversely, high construal, abstract communication systems without the accompanying low construal, concrete surveillance, accountability, and retaliatory systems may signal to employees that appeals to whistle-blowing are symbolic only and decrease the likelihood that whistle-blowing intentions are converted into behaviors. Our research thus reduces the confusion and uncertainty about the effectiveness of organizational elements in encouraging whistle-blowing and demonstrates that organizational leaders should recognize the differential role that the systems of the organization's ethical infrastructure play in the whistle-blowing process.

Furthermore, our results suggest that to achieve maximum effectiveness from the organization's ethical infrastructure, organizations and leaders would benefit from a temporal perspective. Such a perspective would be informed by an understanding of when unethical behavior may be at a peak, including when there is an increase in performance targets (Schweitzer et al. 2004), when time pressure (Bellé and Cantarelli 2017) and anxiety (Kouchaki and Desai 2015) are high, and when the firm is undergoing a merger (Mansfield 2004). We found that communication systems had a significant influence on intentions, thus supporting previous assertions that prior to a suspected increase in unethical behavior, leaders need to focus their attention on the processes that communicate ethical conduct in their organizations (Treviño 1986). Accountability and retaliatory systems were important in translating those intentions into actions and should be focused on when unethical behavior is expected to be at a peak, and it is critical to convert whistle-blowing intentions into behaviors.

We suggest that organizational leaders and managers need to ensure that their focus on the different systems is not only at the appropriate time, but also consistent with the construal experienced by observers of wrongdoing (van Houwelingen et al. 2015). At the time of developing intentions, for example, (strong) communications systems could be emphasized by using words and language highlighting traits, as they are more abstract, to encourage the cultivation of intentions whereas, at the time of behaviors, (strong) accountability systems and (weak) retaliatory systems should be emphasized through attention to metrics, using pictures, and language that involves more actions and verbs (Semin and Smith 1999, Amit et al. 2009) as they are more concrete, which will be more influential in converting employees' whistle-blowing intentions into actual behaviors. Furthermore, Berson et al. (2021) suggest that "messages delivered by top management may prove to be more effective during equilibrium-breaking change activities, whereas those delivered by lower-level managers may be more effective when institutionalizing change is the priority." (p. 11). In line with this argument, we suggest that in addition to the hierarchical level of the communicator, it is important to pay attention to the content of the message. More specifically, organizational leaders and higher-level managers can emphasize strong communication systems when it is important to promote whistle-blowing intentions whereas lower-level managers can emphasize strong accountability and weak retaliation systems when those intentions need to be translated into actual behaviors.

Our findings also qualify the criticism that prediction-based communication systems—that is, training that emphasizes hypothetical scenarios and imagining how one would behave—are ineffective because they produce predictions about how one would behave that are inaccurate when compared with actual behaviors (Tenbrunsel and Messick 2004). Such communication systems may in fact be very important for forming intentions, which are an important precursor for behaviors; however, they are not enough to translate those intentions into behaviors. In other words, these communication systems may be a necessary, but not sufficient system.

Limitations and Avenues for Future Research

Despite the contributions noted previously, there are some limitations in our studies. First, across the two studies, the measurement of whistle-blowing intentions varied. In Study 1, we assessed general intentions. In Study 2, intentions were focused on a specific observed wrongdoing. It could be argued that these are at very different levels of abstraction and construal, but we are equating them. As we mentioned previously, however, we believe that whistle-blowing intentions can be generalized or specific and finding empirical support for our theoretical model despite intentions that vary in terms of construal level across multiple studies is, we believe, a strength of our research. Second, in Study 2, it is possible that some participants were suspicious about the purpose of the study without articulating this and may also be affected by social desirability bias. At the end of each wave of the study, we asked participants if they had any questions or concerns about the Study. We did not want to explicitly ask them about the purpose of the study because we did not want them to get suspicious and possibly share information with other participants. We did exclude those who guessed the true nature of the study (e.g., that there were no real team members) as preregistered, though there may have been participants who were suspicious but who did not state that they were. Moreover, almost 31% of the participants in the behavior conditions did not blow the whistle, suggesting that social desirability bias may not be an issue here; however, its possibility cannot be ruled out. Third,

we did not measure participant's construal fit (i.e., processing fluency) at the time of intentions or behaviors in Study 1, and we did so for a number of reasons. First, we did not want the measurement of construal fit to influence participant's stated intentions and their behaviors. Second, in this field study, whistle-blowing behaviors were measured by the supervisor rather than the participant, so we could not capture participant's construal fit. Finally, it would be methodologically challenging to measure construal and processing fluency at the exact moment participants had the intention to blow the whistle and when they actually spoke up to the supervisor. Future research should attempt to capture construal and processing fluency at both stages of whistle-blowing in the field to provide an additional test of our framework.

Noteworthy was the finding that surveillance systems did not moderate the relationship between whistle-blowing intentions and behaviors (in Study 1), a finding which may confirm previous assertions that most surveillance systems are weak (Tenbrunsel and Messick 1999). It is possible that organizations establish surveillance systems as part of their ethics and compliance programs merely as "window-dressing" (McKendall et al. 2002) and to "reduce fines and stave off prosecution" (Laufer and Robertson 1997; Warren et al. 2014, p. 86). The low mean for surveillance systems in Study 1 supports the notion that these systems were perceived as weak. We urge scholars to further study this relationship, especially since the 1991 Uniform Sentencing Guidelines and the 2002 Sarbanes Oxley Act mandated adoption of such systems by U.S. firms. Also, in Study 2, although the dichotomous measure of whistle-blowing did support our hypotheses, we did not find any statistically significant effects when we conducted our analyses using the continuous measure of whistle-blowing behaviors. One potential reason may have been the way in which we captured whistle-blowing behavior, which entailed first asking participants whether their team member had accurately reported the number of anagrams he/she/they solved correctly. We postulate that this action, reporting or not, could be seen as a dichotomous response by participants and any continuous measure of behavior that followed could have led to confusion and ambiguity.

An additional limitation in Study 1 is the high correlation of the measures of the four ethical infrastructure systems. One possible reason is that the systems were aggregated to the organizational level and aggregating tends to increase the magnitude of correlation between constructs (Kozlowski and Klein 2000). For example, the individual-level correlations between communication systems and surveillance systems ($r = 0.54$), communication systems and accountability systems ($r = 0.30$), and communication systems and retaliatory systems ($r = -0.45$) are still high but lower than the organization-level correlations. The high correlations in the present

research are also likely because the four systems represent part (but not the whole) of an organization's ethical infrastructure. In addition, the moral identity measure and the four ethical infrastructure measures were highly correlated as well. One possible reason could be that those with strong moral identities are likely to be attracted to organizations with stronger ethical infrastructure (May et al. 2015) due to the perception of oneness or belongingness that is associated with organizations that exhibit ethical traits ("moral identification").

In addition, for Study 1, data were collected in the field in India and data for Study 2 was collected from U.S. participants. Although this responds to criticisms that most of the research in the field relies on data from Western-based cultures (Henrich et al. 2010, Moran et al. 2014) and demonstrates the generalizability of our propositions and findings, it also similarly limits our ability to extrapolate these findings to cultures beyond that which we studied. In addition, the sample for Study 1 was largely male. Even though the Indian workforce is predominantly male with female workers comprising only 20.3% of the workforce, this sample limits the generalizability of our findings. We thus encourage researchers to investigate the effects of an organization's ethical infrastructure on whistle-blowing intentions and behaviors in cultural contexts that were not studied. Furthermore, in our field study, we were able to obtain whistle-blowing behaviors as reported by one's supervisor and not actual whistle-blowing acts, a common problem in this field due to its confidential nature and low base rate (Miceli et al. 2008). However, the ability to obtain supervisor ratings of whistle-blowing behaviors should help to mitigate the social desirability problems associated with self-reporting of such data (Podsakoff et al. 2003) and provide a conservative test of our theory.

Finally, in Study 1, we collected all data at the same time enhancing the possibility of common method variance (CMV). However, CMV bias may not be of concern here. First, CMV bias should barely affect the moderating effect of accountability and retaliatory systems on the whistle-blowing intentions–behaviors relationship found in our study because, as noted by Podsakoff et al. (2012), "simulation findings of Evans (1985) and a proof by Siemsen et al. (2010) demonstrate that although method bias can inflate (or deflate) bivariate linear relationships, it cannot inflate (but does deflate) quadratic and interaction effects" (p. 564). Furthermore, Lai et al. (2013) conducted a Monte Carlo study of the effects of CMV in hierarchical linear modeling. They found that it is extremely unlikely for CMV to generate significant cross-level interactions and if a true cross-level interaction exists, CMV tends to lower the likelihood of its identification. Regarding cross-level main effect, they found that CMV could lead to a false significant main effect. However, to reduce the probability of Type I

error, they suggest raising the significance level to 0.01. Given that we collected supervisor ratings of focal employee's whistle-blowing behaviors, we found support for cross-level interaction effects, and the significance level for the cross-level main effect is less than 0.001, we do not believe that CMV bias is a concern.

Conclusion

Understanding how to bridge the chasm between whistle-blowing intentions and whistle-blowing actions is an important step in identifying ways to prevent unethical behavior in organizations so that the epidemic of corporate scandals is controlled, and, ideally, completely eliminated. We demonstrate that a consideration of the different cognitive states of the potential whistle-blower at the time of whistle-blowing intentions and behaviors, the construal (abstractness/concreteness) of the organizational facilitators of whistle-blowing, and the fit between the two is essential in providing this understanding. Our proposed construal level theory of internal whistle-blowing therefore provides insights for organizational leaders on how to effectively encourage employees not to "keep their head down" but rather to sound the alarm.

Acknowledgments

Endnotes

[1] Wrongdoing does not need to be particularly severe or morally intense for its reporting to be considered whistle-blowing; whistle-blowing represents disclosing any behavior that violates some standard of conduct, such as falsifying expense reports, incivility and bullying, cheating/lying, aggression, and favoritism/discrimination (Bergemann and Aven 2023).

[2] Given a focus on "Tone at the Top" (Schwartz et al. 2005) in discussions of ethical culture, we focus on top management values-based communication systems. These systems have been contrasted with more "local" communication systems by direct supervisors, such as feedback mechanisms, which may have different effects on the proposed relationships.

[3] Although some organizations do have formal anti-retaliatory policies, our conceptualization, in line with Tenbrunsel et al. (2003), includes formally approved policies and informal signals of whether whistle-blowers are retaliated against or not.

[4] Following convention in the CLT literature, we primarily use the terms "high construal" and "low construal," although recognize that construal can range on a continuum from high to low.

[5] Although it is possible that some employees may engage in whistle-blowing behaviors immediately after witnessing wrongdoing, even in such cases of "impulsive" whistle-blowing, intentions to blow the whistle are theorized to be formed before behaviors, even if mere moments before. Whistle-blowing intentions might also be generalized (beliefs about what one would do if faced with a vaguely defined hypothetical situation) or specific (deciding what one would do when actually faced with a wrongdoing). Irrespective of their timing or nature, we contend that whistle-blowing intentions are a necessary condition for whistle-blowing behaviors and are, in fact, temporally distant to the actual act of whistle-blowing.

[6] The limited research on whistle-blowing in India suggests that factors promoting whistle-blowing in India tend to be the same as those in the WEIRD countries (Henrich et al. 2010), except that the laws in India are weakly enforced relative to these countries (Dhawan and Mokha 2017), thus providing a conservative test of our hypotheses. Also, in 2011, India passed the Whistle Blowers Protection Act; however, the act excludes the private sector and focuses exclusively on public servants.

[7] See this project's OSF page for more information on this firm.

[8] The largely male samples are common across studies that have collected data in India (Hussain et al. 2019, Taylor et al. 2019). We acknowledge the gender composition of the sample as a limitation in the General Discussion section.

[9] We conducted another study with an independent sample of adults to confirm that the items used here to measure ethical infrastructure were content-valid indicators of their respective constructs. Please see Supplement I on this project's OSF page.

[10] Prior to testing our hypotheses, we conducted confirmatory factor analysis to assess the factor structure of our key variables. Please see this project's OSF page.

[11] We ran all analyses without including moral identity and frequency of witnessed wrongdoing and the results remained the same. We also conducted all analyses with previously identified variables that affect whistle-blowing (e.g., employee gender, employee tenure, employee job satisfaction, supervisor gender, and supervisor tenure) as controls. The results remained the same. Please see Supplement III on this project's OSF page for these analyses.

[12] In our preregistration, we had proposed inviting 1,000 participants in wave 1 with the aim of having a final sample size of around 500. However, because of a miscommunication error with the research assistants, and in contrast to what we state in the preregistration, only 500 participants were invited to complete the study with 430 remaining after exclusions.

[13] We did not preregister these initial set of analyses (ANOVAs) but present them following the review team's recommendations.

[14] We also ran our analyses on the two continuous items which capture direct and indirect whistle-blowing separately. The results of these two analyses are similarly non-significant as those using the combined continuous items. Please see Supplement IV on this project's OSF page.

[15] We ran all analyses without including efficacy, psychological safety, attitudes toward whistle-blowing, subjective norms, and perceived behavioral control as mediators and the results remained similar to those presented here. Please see Supplement V on this project's OSF page.

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Abhijeet K. Vadera is an Associate Professor of Organisational Behaviour and Human Resources at the Lee Kong Chian School of Business, Singapore Management University. He received his PhD from the University of Illinois, Urbana Champaign, his PGP in management from the Indian School of Business, and his BE (Civil) from VJTI, Mumbai. His research centers on understanding when, why, and how people do not follow the rules and norms of the organizations to which they belong.

Ann E. Tenbrunsel is the David E. Gallo Professor of Business Ethics in the College of Business Administration at the University of Notre Dame. She received her PhD and MBA from the Kellogg

Graduate School of Management at Northwestern University and her BS from the University of Michigan. Her research interests focus on the psychology of ethical decision making, examining why employees, leaders, and students behave unethically, despite their best intentions to behave to the contrary.

Kristina A. Diekmann is the Angus T. Shearer Professor of Ethics and Professor of Management at the David Eccles School of Business, University of Utah. She received her PhD from the Kellogg Graduate School of Management at Northwestern University. Her research focuses on issues of fairness, ethics, and victimization in the workplace.