

To Whistleblow or Not to Whistleblow: Affective and Cognitive Differences in Reporting Peers and Advisors

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Abstract Traditional whistleblowing theories have purported that whistleblowers engage in a rational process in determining whether or not to blow the whistle on misconduct. However, stressors inherent to whistleblowing often impede rational thinking and act as a barrier to effective whistleblowing. The negative impact of these stressors on whistleblowing may be made worse depending on who engages in the misconduct: a peer or advisor. In the present study, participants are presented with an ethical scenario where either a peer or advisor engages in misconduct, and positive and the negative consequences of whistleblowing are either directed to the wrongdoer, department, or university. Participant responses to case questions were evaluated for whistleblowing intentions, moral intensity, metacognitive reasoning strategies, and positive and negative, active and passive emotions. Findings indicate that participants were less likely to report the observed misconduct of an advisor compared to a peer. Furthermore, the findings also suggest that when an advisor is the source of misconduct, greater negative affect results. Post-hoc analyses were also conducted examining the differences between those who did and did not intend to blow the whistle under the circumstances of either having to report an advisor or peer. The implications of these findings for understanding the complexities involved in whistleblowing are discussed.

Keywords Whistleblowing · Ethical decision making · Ethics · Misconduct

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Introduction

Harassment, threats, and vandalism are often poignant and disruptive consequences of reporting ethical misconduct, and even the anticipation of less severe consequences can cause a considerable amount of emotional distress on the part of a whistleblower. For example, Billie Garde, a former temporary employee working for the U.S. Census Bureau, was faced with these consequences after deciding to report her boss who had been pressuring her to falsify test scores of job applicants (Ettorre 1994; Palmer 1986). Garde's refusal to comply with her advisor's request was met with brusque intimidation, involving Garde's personal life. Fearful of losing her job, family, and reputation, Garde debated reporting the misconduct. Amidst attempting to cope with these stressors and process the series of events, Garde ultimately decided to blow the whistle on her boss. While Garde's approach to whistleblowing was successful and resulted in reprimanding of her boss, in many cases, the stressors inherent to whistleblowing, including pressure from an authority figure, often impede rational thinking and act as a barrier to effective whistleblowing.

The above example illustrates the cognitive and affective complexity inherent to whistleblowing. Disclosing observed unethical behavior to entities that may be able to take effective action in response to these unethical behaviors (Near and Miceli 1985) at first may seem like a straightforward and sensible process. Traditional theories of whistleblowing have purported that whistleblowers engage in a rational process where costs and benefits are analyzed in determining whether or not to report misconduct (Miceli and Near 1985). Yet, the processes of making the decision to whistleblow has been shown to induce both cognition and affect on the part of the whistleblower (Henik 2008; Watts and Buckley 2015). This cognition is an intended, effortful deliberation which requires focused attention, whereas the affect induced by making the decision to blow the whistle is a more automatic response to the situation. Deciding to blow the whistle is a complex and emotional decision (Jones et al. 2014). Specifically, different emotions, both positive and negative, influence how individuals perceive their environment and respond to certain situations (Smith and Ellsworth 1985). For example, emotions such as anger and outrage may occur as a result of witnessing an ethical violation (Westin 1981), and experiencing these emotions may lead an individual to take control of the situation and blow the whistle on the wrongdoer. In contrast, emotions, such as fear, may occur from anticipating negative outcomes of whistleblowing such as retaliation, and result in uncertainty and loss of control in a given situation (Henik 2008). Consequently, this uncertainty may result in passive observation of misconduct instead of reporting the misconduct.

Along related lines, engaging in whistleblowing, or intending to engage in whistleblowing, can also influence cognitive processes and strategies used to navigate ethical situations. Specifically, Mumford et al. (2008) delimit seven cognitive processes shown to be involved with effectively handling situations involving ethical misconduct: (1) recognizing one's circumstances, (2) seeking help, (3) questioning one's judgment, (4) anticipating consequences, (5) dealing with

emotions, (6) analysis of personal motivations, and (7) considering others' perspectives. These cognitive processes require effortful deliberation and focused attention on the ethical situation, and they aid in information processing when applied effectively. However, the involuntary affect experienced when faced with situations involving whistleblowing may be disruptive and hamper the cognitive resources needed to properly navigate a situation involving whistleblowing.

Bearing in mind the risks and affective and cognitive complications inherent to whistleblowing, interaction with peers and advisors can either support or inhibit whistleblowing intentions and behaviors (Bhal and Dadhich 2011). Depending on who is the source of wrongdoing, individuals who witness this wrongdoing may differ in terms of affective and cognitive responses to the situation. Numerous negative consequences are associated with reporting observed unethical behavior of an advisor. Examples of potential negative consequences include damaged relationships that affect future opportunities for training, promotions, and raises, potential termination, poor performance reviews, and ruined reputations (Bhal and Dadhich 2011; Brown et al. 2005). By the same token, negative consequences are also associated with reporting unethical peer behavior (e.g., ostracizing of the individual, harassment), and the difficulty in deciding to report unethical advisor or peer behavior is likely exacerbated by the prospect of these severe consequences for whistleblowers (Greenberger et al. 1987; Trevino and Victor 1992; Victor et al. 1993). Regardless of the source of misconduct, both lateral (i.e., peer) and hierarchical (i.e., advisor) whistleblowing should be attended to because the cognitive and affective reactions to whistleblowing on peers versus advisors may differ. Understanding these differences may shed light on how to approach whistleblowing interventions and how to create an environment conducive to effective whistleblowing.

Similarly, cognitive and affective differences may also exist between individuals who do and do not choose to report observed ethical misconduct. That is, there may be differences in how individuals perceive, process, and respond to information bearing on observed ethical misconduct. Stated another way, those who choose to report observed misconduct may engage in the aforementioned cognitive processes and apply cognitive strategies differently than those who choose not to report misconduct. Identifying these differences may also provide insight on the nuances of whistleblowing and how to most effectively structure and frame whistleblowing interventions. Thus, the intent of the present effort is to investigate the differences in behavioral, cognitive, and affective outcomes of those faced with the decision to report the observed misconduct of a peer or advisor.

Source of Unethical Behavior

While several factors may contribute to an individual's intent to blow the whistle on observed ethical misconduct, the source of the unethical behavior may be an important, yet often overlooked, contributing factor. Moreover, differences in the power structure between peers (i.e., lateral) and advisors (i.e., hierarchical), suggest that there may be different outcomes of and reactions to whistleblowing depending

on the source of the wrongdoing. Put somewhat differently, the affective and cognitive responses of individuals who are faced with the decision to blow the whistle on misconduct may manifest themselves differently depending on the source of unethical behavior. Specifically, when reporting the observed unethical behavior of an advisor, prospective whistleblowers have to contend with the prospect of advisor retaliation and the potential implications for the whistleblower's life at work post-whistleblowing and the long-term impact this might have on their career (Rehg et al. 2008). When reporting an individual or individuals in a peer group, whistleblowers grapple with the possibility of the retaliation of their peers and how these tarnished relationships might impact their work life (Rehg et al. 2008). However, little is known about how differences in the power structure between the whistleblower and the individual engaging in unethical behavior influence an individual's intent to blow the whistle.

Research Question 1: How does the source of unethical behavior influence whistleblowing intentions?

While the majority of studies examining ethical decision making and misconduct reporting focus primarily on the actual decision to blow the whistle, few have examined the affective and cognitive processes involved in the whistleblowing process (Blenkinsopp and Edwards 2008; Jones et al. 2014). As mentioned previously, the personal consequences of whistleblowing have the potential to be severe (Bjorkelo 2013). Not only must whistleblowers weigh the costs and benefits to their own jobs and careers, but they must do so for others who will be impacted by the act of blowing the whistle (Miceli and Near 1985). This suggests that, while blowing the whistle may result in positive outcomes for some individuals, it may also be extremely costly to others (Near and Miceli 1985). Thus, when determining whether or not observed ethical misconduct should be reported, individuals must attend to various threats posed by advisors and peers, including intimidation or retaliation (Greenberger et al. 1987; Henik 2008; King and Hermodson 2000; Near and Jensen 1983). The emotions resulting from these threats may then influence the whistleblower's assessment of the situation, and ultimately, their decision making.

For instance, anger and fear, two emotions commonly experienced in whistleblowing situations, have been shown to influence judgment such that fearful individuals have more pessimistic appraisals of future events while angry individuals have more optimistic appraisals (Henik 2008; Lerner and Keltner 2000, 2001). Similarly, in a study examining students' decisions to blow the whistle on faculty member misconduct, it was found that anger and perceptions of unfairness play a key role in the process of deciding whether or not to blow the whistle (Jones et al. 2014). While these studies provide insight into the impact that certain negative emotions, such as anger, may have on whistleblowing intentions, findings fail to consider the potential impact of other emotions on whistleblowing. Myriad emotions may occur as a function of being faced with the daunting choice of whether or not to blow the whistle, including positive passive (e.g., content, satisfied, relieved), positive active (e.g., excited, confident, dominant), negative passive (e.g., disappointed, uncertain, concerned), and negative active (e.g., angry,

afraid, panicked), emotions (Frijda 1986, 2005). This classification of emotion appraisal indicates that experiencing certain emotions leads to more active or passive responses (Connelly et al. 2004). That is, activating responses tend to compel individuals to engage with and respond to the environment or situation, whereas deactivating responses tend to compel individuals to withdraw from the situation (Cacioppo et al. 1999). Prior research suggests that emotion appraisal has a differential impact on the ethical decision making process (Connelly et al. 2004; Kligyte et al. 2013; Lee and Allen 2002). Specifically, experiencing active or passive emotions may prompt individuals to take action in response to an event or withdraw from the situation. Given the impact emotions have on decision making processes, examining which of these types of emotions occur as a result of facing the choice to blow the whistle on an advisor or peer seems warranted.

Bearing this in mind, emotions are not the only factor influencing an individual's intent to blow the whistle on observed misconduct. The stressors involved in the whistleblowing process and subsequent affect may also influence the cognitive processes (e.g., dealing with emotions, considering others' perspectives, seeking help) of those faced with the decision to blow the whistle. Little is known about the cognitive processes individuals undergo before making the decision to blow the whistle. However, it is likely that these cognitive processes explain a portion of how people process information in situations involving whistleblowing (Watts and Buckley 2015). Furthermore, emotions, especially those involved in whistleblowing, have been shown to provoke certain cognitive processes (Schwarz and Clore 1983). These cognitive processes tend to lead individuals to seek out additional, new information. This new information, in turn, may serve to inform whistleblowing decisions.

The characteristics of the moral issue itself may also play a role in how one might arrive at the decision to blow the whistle. More specifically, moral intensity (Jones 1991) has been shown to play a significant role in ethical decision making (May and Pauli 2002) which suggests that, when making a decision to blow the whistle, recognition of the moral issue and subsequent reasoning through that issue may influence how the decision is made. For example, in a study conducted by Singer et al. (1998), using an ethical scenario involving food production, they found that judgments of the event's overall ethicality were highly contingent upon the different moral characteristics considered. It was also found that whistleblowing behavior related positively to the perceived moral intensity of the issue, in particular, proximity to the entities involved in the situation.

Similarly, Bhal and Dadhich (2011) found that, while ethical leadership and leader-member exchange, the dyadic relationship between a leader and follower, exert influence on the whistleblowing process, the relationship between these variables was moderated by the perceived moral intensity of the issue. Indeed, these findings seem to indicate that recognition of a moral issue not only affects the way individuals go about making the decision to blow the whistle but can also influence whether they actually intend blow the whistle or not. Considering the impact moral intensity may have on intentions to blow the whistle, it would seem appropriate to examine this phenomenon in the context of differing levels of proximity, such as when the ethical issue involves a peer, advisor, department, or a university.

Research Question 2: How does the source of unethical behavior influence perceptions of moral intensity and the affective and cognitive processes of the whistleblower?

Consequences of Whistleblowing

People value social relationships and group memberships (i.e., with colleagues, departments, universities, organizations, etc.), and when these entities are threatened and the consequences of the whistleblower's actions that are targeted at these entities are salient, individuals become concerned with preserving these relationships (Steele et al. 2002; van Knippenberg 1984). Moreover, emphasizing the recipient of consequences has been shown to impact cognitive processes and overall ethicality (Ness and Connelly 2017). That is, individuals may respond emotionally to perceived threats to the individuals or entities with whom they identify and may engage in more effortful cognitive processes (e.g., asking for help, considering others' perspectives, anticipating consequences) when the stakeholders involved with the issue are important to them (Petty and Cacioppo 1986; Sumanth et al. 2011). In the context of whistleblowing, these various entities may be affected by the large, impactful consequences of whistleblowing. For example, the demise of Enron was largely brought on by unethical conduct demonstrated by top management, creating a culture of unethical behavior throughout the organization. When it became clear that Enron was on its downfall, anonymous whistleblowers brought attention to the organization and its unethical practices, thus creating the legal and ethical firestorm characteristic of this scandal (Sims and Brinkmann 2003). Specific examples of negative consequences of whistleblowing include costly investigations, loss of jobs and funding sources, and negative public perceptions of an institution or other entity.

Individuals with the opportunity to blow the whistle who are members of the aforementioned entities (e.g., faculty member of a department, manager in an organization) may be more or less likely to choose to blow the whistle depending on the salience and breadth of consequences directed toward the entity. That is, these consequences may "trickle down" to impact a large number of individuals depending on the entity receiving the consequences. Moreover, threats to these entities can trigger emotions on the part of the whistleblower, which may, in turn, influence how information bearing on a given situation is processed (Basch and Fisher 2000; Connelly et al. 2004). These emotions may result from the salience of the scope of these consequences. However, little is known about how the recipient of negative outcomes of whistleblowing influences the whistleblower and his or her decision-making processes.

By the same token, individuals may approach the whistleblowing process differently when the positive outcomes of whistleblowing are emphasized. Whistleblowing has been argued to be a prosocial behavior, indicating that, while individuals may make the decision to whistleblow to stop the wrongdoing itself, the act of whistleblowing generally benefits the individuals and broader organization

around them (Dozier and Miceli 1985). This includes salvaging the jobs and reputations of their peers, as well as preventing future occurrences of the unethical behavior within the organization. Not only does this signal a shift in ethicality standards throughout the organization, but it also serves to set an example for others within the industry. These positive outcomes have the potential to impact several individuals, depending on the entity who is the recipient of the positive consequences of whistleblowing. However, the whistleblowers themselves may also experience benefits from exposing the problem, either through intrinsic means such as improving the workplace climate, or through direct means, such as cash rewards granted from the government (Keil et al. 2010). As with negative consequences, little is known about how the recipient of the positive outcomes of whistleblowing influences the individual faced with the decision to blow the whistle. It may be that prospective whistleblowers respond to these consequences differently depending on the breadth of the impact of the consequences and may be more responsive in taking action depending on the recipient of the consequences of whistleblowing.

Research Question 3a: When the consequences of whistleblowing are expected to be negative, how does the level of the entity impacted by these consequences influence the intent to report unethical behavior?

Research Question 3b: When the consequences of whistleblowing are expected to be positive, how does the level of the entity impacted by these consequences influence the intent to report unethical behavior?

Research Question 4a: When the consequences of whistleblowing are expected to be negative, how does the level of the entity impacted by these consequences influence the affective and cognitive responses of the whistleblower?

Research Question 4b: When the consequences of whistleblowing are expected to be positive, how does the level of the entity impacted by these consequences influence the affective and cognitive responses of the whistleblower?

Whistleblowers and Non-whistleblowers

While much research has been conducted on individual-level and organizational antecedents of whistleblowing (Miceli and Near 1988; Rehg et al. 2008; Vadera et al. 2009), less is known about the cognitive and affective differences between individuals who do and do not intend to blow the whistle on observed ethical misconduct. Individuals who ultimately decide to whistleblow may differ considerably with regard to their affect and cognition compared to individuals who decide to forgo reporting misconduct. Understanding the differences in cognitive processes and affective responses between individuals who do and do not choose to whistleblow will contribute to our understanding of the antecedents of whistleblowing.

Research Question 5: How do perceptions of moral intensity, cognitive processes, and affective responses differ between individuals who intend to whistleblow and those who do not intend to blow the whistle?

Methods

Sample

534 graduate students, 53% male, who took part in a Responsible Conduct of Research ethics training program at large southwestern university took part in this study. Participants came from a variety of backgrounds including engineering (35.5%), social sciences (33.9%), accounting (13.5%), biological sciences (8.9%), scholarship (4.4%), and health sciences (3.6%).

Procedures

Over the course of 2 days, all newly admitted, funded graduate students were required to take part in a university sponsored ethics training program. The present study took place on the second day of training and lasted approximately 60 min. Participants were randomly assigned to one of eighteen conditions and were given the handout containing the case, experimental manipulations, and case questions. Conditions were designated via a 2 (the source of the ethical issue: peer vs advisor) \times 3 (the recipient of negative consequences of whistleblowing: wrongdoer, department, or university) \times 3 (the recipient of positive consequences of whistleblowing: wrongdoer, department, or university) between-subjects design. Participants were informed that they may opt out of having their responses used for research purposes during the final block of training later that day, and were instructed to begin working through the case and its accompanying questions. Once completed, all handouts were collected by training administrators and regular training resumed. Subsequently, at the end of training, consent was obtained and participants finished the ethics training.

A case involving an ethical issue was presented to trainees for use in the study. This low fidelity simulation presented participants with an ethically charged situation in which a graduate student has discovered conflicting results between what their advisor or peer has published and what their data demonstrates after re-analysis. While case content slightly varied across conditions, case length remained consistent at 2.5 pages and maintained realistic complexity throughout. Similarly, various ethical issues were embedded across conditions within the case including data fabrication and falsification, conflicts of interest, and data management issues. After reading through the case, participants were asked to provide written responses to a series of follow-up questions, including what issues they considered prior to making the decision to blow the whistle, how they felt about their decision to or not to blow the whistle, and the actions they would take following their decision to or not to blow the whistle. All participants were asked the same set of case questions.

Manipulations

Source of the Ethical Issue

The source of the ethical issue was manipulated within each case to place ethical concerns on either a peer (the former data manager) or an advisor (the faculty member behind the research project). For instance, after analyzing the data multiple times, the character becomes increasingly concerned that the data from thirteen previously published articles is not correct. They bring their concerns to their advisor and are quickly dismissed and chided for questioning the theory driving the research project. The interaction leaves the character feeling extremely concerned because the certainty of falsified data appears likely. The peer manipulation remains the same, but has the former data manager substituted for the advisor in the scenario.

Recipient of Negative Consequences

The recipient of negative consequences was manipulated by providing a short description of how blowing the whistle on the misconduct might have a negative impact on either the individual (the data manager or advisor), the department, or the university. For instance, the character considers the negative consequences for the university, citing a tainted reputation that will come from this event and the inevitable loss of time, resources, and prospective students. Manipulations for the individual and the department resulted in different consequences for the respective party involved.

Recipient of Positive Consequences

The recipient of positive consequences was manipulated in a similar way as negative consequences, providing a short description of how blowing the whistle may have a positive impact on either the individual (the data manager or advisor), the department, or the university. For instance, the character considers the positive consequences for the university, detailing how bringing the issue to light and how the university responds to the issue would not only send a message that such behaviors will not be tolerated by the university, but also foster a more ethical culture where future occurrences of misconduct will be more readily reported. Manipulations for the individual and the department resulted in different, yet equally positive, consequences for the respective party involved.

Dependent Variables

The written responses provided by participants were appraised with respect to five sets of variables: whistleblowing intentions, intent to leave the lab, moral intensity, metacognitive reasoning strategies, and positive and negative, active and passive emotions. Responses were appraised using benchmark rating scales, which results in appraisals of greater reliability and better validity when rating complex material

(Redmond et al. 1993). Three judges familiar with the ethical decision making and whistleblowing literature, were asked to rate a subset of sample responses, on a 5-point scale, using the below definitions of each set of variables. These ratings were used to identify participant responses characterized by high, medium, and low levels of each variable. These responses were then used to form anchors.

Three judges, doctoral students in industrial and organizational psychology with expertise in the ethical decision making and whistleblowing literatures, applied these rating scales in evaluating participant responses. Prior to making these ratings, judges underwent a 30-h training program where they were familiarized with the definitions of each variable and the subsequent rating scales and had the opportunity to practice applying the rating scales to a small sample of participant responses. Judges later met to discuss their ratings and resolve discrepancies. After reaching a consensus, the judges rated the remainder of participant responses. Table 1 presents the correlations among all variables.

Whistleblowing Intentions

The first item assessed whether the participant would report the ethical issue in this scenario. Participants circled either “yes” or “no” in response to a question asking whether or not they would blow the whistle on the misconduct. The interrater agreement coefficient (r_{WG}) obtained for whistleblowing intentions was 0.97.

Leave the Lab

One item assessed whether the participant would seek to leave the lab given the scenario. Responses were rated by judges on a 3-point scale ranging from 1 (no mention of leaving lab) to 3 (mentioning directly that they would leave the lab). The interrater agreement coefficient (r_{WG}) obtained for leaving the lab was 0.71.

Moral Intensity

Moral intensity refers to the perceived criticality of a moral situation by an individual (Jones 1991). The six components of moral intensity were rated on a 5-point scale ranging from 1 (participant did not consider the variable at all) to 5 (participant considered the variable to a great extent).

Magnitude of the Consequences. Magnitude of the consequences refers to the total amount of harm that results from the act or behavior, such that moral intensity increases as the amount of harm increases. The interrater agreement coefficient (r_{WG}) obtained for the magnitude of consequences was 0.71.

Concentration of Effect. Concentration of effect refers to the impact of a given amount of harm and benefit relative to the number of people affected. Stated another way, it is the relationship between the number of people affected and the magnitude of harm. The interrater agreement coefficient (r_{WG}) obtained for the concentration of effect was 0.75.

Temporal Immediacy. Temporal immediacy refers to the time differential between the act or behavior and the onset of consequences. The shorter the length of

Table 1 Correlation matrix for all variables

	Negative passive	Negative_Active	Source	Neg Con	Pos Con	Yes/No	Leave Lab	Recog_Circ	Ask Help	Quest. Judg.	Emotions
Negative Passive	1										
Negative Active	0.522**	1									
Source	0.080	0.110*	1								
Neg Con	0.039	- 0.006	0.009	1							
Pos Con	0.010	- 0.053	0.032	- 0.006	1						
Yes/No	0.001	0.032	- 0.128**	0.022	0.057	1					
Leave Lab	0.125**	0.104*	0.117**	- 0.014	- 0.021	0.044	1				
Recog	0.214**	0.226**	0.016	0.055	0.056	- 0.034	- 0.010	1			
Circ	0.124**	0.113**	0.102*	0.035	0.081	- 0.174**	- 0.115**	0.515**	1		
Ask Help	0.180**	0.086*	0.075	0.095*	- 0.011	- 0.383**	- 0.071	0.475**	0.490**	1	
Question_Judgment	0.098*	0.064	- 0.001	0.031	0.025	- 0.237**	- 0.162**	0.635**	0.601**	0.634**	1
Emotions	0.229**	0.227**	0.008	0.014	0.017	- 0.046	0.086*	0.586**	0.091*	0.184**	0.205**
Conseq	0.161**	0.053	0.017	0.074	- 0.006	- 0.180**	- 0.019	0.495**	0.382**	0.634**	0.629**
Look Within	0.150**	0.123**	- 0.033	0.069	- 0.033	- 0.087*	- 0.085	0.624**	0.390**	0.409**	0.511**
Consider_Others	0.134**	0.178**	0.026	- 0.023	- 0.013	0.203**	0.073	0.415**	0.040	- 0.043	0.041
Mag_Cons	0.118**	0.090*	- 0.031	- 0.002	0.004	0.236**	0.046	0.394**	0.016	- 0.067	0.045
Conc											
Effect											

Table 1 continued

	Negative passive	Negative_Active	Source	Neg Con	Pos Con	Yes/No	Leave Lab	Recog_Circ	Ask Help	Quest. Judg.	Emotions
Temp Immed.	0.041	0.054	- 0.012	- 0.020	0.008	0.194**	0.070	0.130**	- 0.016	- 0.105*	- 0.081
Soc Consens.	0.1117**	0.1113**	0.126**	0.039	0.082	- 0.148**	- 0.090*	0.451**	0.773**	0.433**	0.479**
Prob Effect	0.111*	0.146**	- 0.041	0.006	0.028	0.485**	0.086*	0.279**	- 0.051	- 0.177**	- 0.026
Proximity	0.131**	0.115**	0.016	0.102*	0.004	0.008	- 0.002	0.363**	0.069	0.064	0.124**
Positive Passive	- 0.410**	- 0.343**	- 0.001	0.005	0.008	0.170**	0.002	- 0.050	- 0.097*	- 0.134**	- 0.025
Positive Active	- 0.351**	- 0.247**	- 0.024	- 0.011	- 0.017	0.127**	- 0.023	0.066	- 0.021	- 0.062	0.085*
	Conseq	Look Within	Cons. Others	Mag. Cons.	Conc. Effect	Temp Immed.	Soc. Consens	Prob. Effect	Proximity	Positive_Passive	Positive_Active
Negative Passive											
Negative Active											
Source											
Neg											
Con											
Pos											
Con											
Yes/No											
Leave											
Lab											

Table 1 continued

	Conseq	Look Within	Cons. Others	Mag. Cons.	Conc. Effect	Temp Immed.	Soc. Consens	Prob. Effect	Proximity	Positive_Passive	Positive_Active
Recog											
Circ											
Ask											
Help											
Question_Judgment											
Emotions											
Conseq	1										
Look	0.202**	1									
Within											
Consider_Others	0.506**	0.395**	1								
Mag_Cons	0.623**	0.063	0.339**	1							
Conc	0.573**	0.063	0.333**	0.806**	1						
Effect											
Temp	0.246**	- 0.054	0.074	0.426**	0.392**	1					
Immed.											
Soc	0.124**	0.338**	0.395**	0.070	0.042	0.012	1				
Consens.											
Prob	0.361**	- 0.033	0.160**	0.613**	0.612**	0.397**	- 0.003	1			
Effect											
Proximity	0.526**	0.095*	0.438**	0.415**	0.438**	0.200**	0.155**	0.2143**	1		
Positive	- 0.037	- 0.032	- 0.056	0.051	0.063	0.118**	- 0.048	0.082	0.023	1	
Passive											

Table 1 continued

	Conseq	Look Within	Cons. Others	Mag. Cons.	Conc. Effect	Temp Immed.	Soc. Consens	Prob. Effect	Proximity	Positive_Passive	Positive_Active
Positive Active	0.030	0.084	0.051	0.020	0.084	0.054	- 0.020	0.073	0.020	0.364**	1

** Correlation is significant at the 0.001 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

time between the act and the resultant consequences, the greater the moral intensity. The interrater agreement coefficient (r_{WG}) obtained for temporal immediacy was 0.84.

Social Consensus. Social consensus refers to the extent of social agreement regarding ethicality of the act in question, such that the greater the agreement that an act is wrong, the greater the moral intensity. The interrater agreement coefficient (r_{WG}) obtained for social consensus was 0.73.

Probability of Effect. Probability of effect refers to the likelihood that the act will take place and result in either harm or benefit. The greater the likelihood of the act taking place and causing harm, the greater the moral intensity. The interrater agreement coefficient (r_{WG}) obtained for probability of effect was 0.75.

Proximity. Proximity is the cultural, physical, psychological, or social closeness of the moral agent to the victim or beneficiary. Moral intensity increases as closeness increases. The interrater agreement coefficient (r_{WG}) obtained for proximity was 0.76.

Metacognitive Reasoning Strategies

Sensemaking is a form of complex cognition that occurs when individuals need to make sense of ambiguous or ill-defined events, and metacognitive reasoning strategies are used in sensemaking (Mumford et al. 2008). Seven metacognitive reasoning strategies were rated on a 5-point scale ranging from 1 (participant did not consider the variable in their decision making at all) to 5 (participant considered the variable in their decision making to a great extent).

Recognizing Circumstances. This strategy is demonstrated through showing knowledge of the current organizational, political and social climate, knowing what threats and opportunities the situation poses to them and others, and demonstrating the anticipation of personal and organizational outcomes. The interrater agreement coefficient (r_{WG}) obtained for recognizing circumstances was 0.75.

Seeking Help. Asking for help is characterized by talking to an advisor, peers, trusted colleagues, and others about advice, researching what others have done in similar situations to learn from past behaviors, and seeking outside information. The interrater agreement coefficient (r_{WG}) obtained for seeking help was 0.73.

Questioning Judgment. Questioning judgment is characterized by considering the situation from different angles and perspectives, considering multiple processes and solutions to achieve an outcome, and considering if the decision is consistent with beliefs and values. The interrater agreement coefficient (r_{WG}) obtained for questioning judgment was 0.74.

Dealing with Emotions. Markers for this strategy include using “gut” feelings as a guide to tell when something is wrong, remaining objective, and taking time to calm down before taking action. The interrater agreement coefficient (r_{WG}) obtained for dealing with emotions was 0.72.

Anticipating Consequences. Anticipating consequences is marked by thinking about the consequences for oneself and others, considering the benefits and the consequences of potential outcomes, and considering the long- and short-term

consequences that may result. The interrater agreement coefficient (r_{WG}) obtained for anticipating the consequences was 0.75.

Looking Within. Looking within involves considering one's own biases, considering the effects of one's values and goals, and questioning one's ability to make an ethical decision in a given situation. The interrater agreement coefficient (r_{WG}) obtained for looking within was 0.73.

Considering Others' Perspectives. This strategy involves being mindful of how others will perceive your actions, thinking about the effects of your actions on others involved, and considering the problem from others' points of view. The interrater agreement coefficient (r_{WG}) obtained for considering others' perspectives was 0.73.

Emotions

Participant responses were also rated on a scale of 1 (response had no affective tone) to 5 (response has a highly affective tone) for the presence of emotions within their responses to the case questions (Connelly et al. 2000).

Positive Passive Emotions. Positive passive emotions include feeling happy, content, relaxed, satisfied, sympathetic, and relieved. The interrater agreement coefficient (r_{WG}) obtained for positive passive emotions was 0.80.

Positive Active Emotions. Positive active emotions include feeling excited, confident, dominant, and unwavering. The interrater agreement coefficient (r_{WG}) obtained for positive active emotions was 0.71.

Negative Passive Emotions. Negative passive emotions include feeling despair, meaninglessness, disappointment, anxiety, conflicted, concerned, and unsure. The interrater agreement coefficient (r_{WG}) obtained for negative passive emotions was 0.79.

Negative Active Emotions. Negative active emotions include feeling distressed, guilty, angry panicked, and afraid. The interrater agreement coefficient (r_{WG}) obtained for negative active emotions was 0.77.

Analyses

A logistic regression was conducted to assess the effects of the three manipulations on whistleblowing intentions. Then, a series of analysis of variance tests were used to assess the effects of the three manipulations on intent to leave the lab, moral intensity, metacognitive reasoning strategies, and discreet emotions. To further examine the differences between those who indicated they would blow the whistle and those who indicated they would not blow the whistle, post hoc analyses were conducted. Specifically, a series of logistic regressions were conducted to assess the influence of moral intensity, metacognitive reasoning strategies, and emotions on the intent to blow the whistle. Regressions were conducted separately for those participants faced with the choice to report observed peer misconduct and those faced with the choice to report observed advisor misconduct. Descriptive statistics for each subset of reporters (reporters; non-reporters) were then calculated for

participants in each source manipulation (peer; advisor) to identify the directionality of differences in moral intensity, metacognitive reasoning strategies, and emotions.

Results

Whistleblowing Outcomes

A logistic regression was calculated to predict whether or not an individual would intend to blow the whistle based on the source of misconduct and the recipient of both positive and negative consequences of whistleblowing. Table 2 presents the results of the logistic regression, which indicates that the source of misconduct predicted whistleblowing intentions ($\beta = 2.03$, $p < 0.05$), explaining approximately 3.8 percent of the variance in whistleblowing intentions. However, the recipient of positive and negative consequences was not predictive of reporting behavior. Table 3 presents the effects of manipulations on intent to leave the lab. Results indicate that a significant ($F(1,516) = 7.24$, $p \leq 0.05$) main effect exists for the source manipulation. Moreover, participants were more likely to intend to leave the lab when the source of the ethical violation was their advisor ($M = 1.43$, $SE = 0.04$) compared to their peer ($M = 1.27$, $SE = 0.04$).

Moral intensity

Tables 4, 5, 6, 7, 8 and 9 present the effects of the manipulations on the dimensions of moral intensity: magnitude of consequences, social consensus, probability of effect, temporal immediacy, proximity, and concentration of effect. A significant ($F(1,516) = 8.48$, $p \leq 0.05$) main effect was obtained for the source manipulation for social consensus. Inspection of the cell means indicated that when the advisor

Table 2 Logistic regression analyses for reporting: Yes/No

Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Source(1)	0.71	0.24	8.90	1	0.00	2.03	1.27	3.22
Neg_Con			0.67	2	0.71			
Neg_Con(1)	- 0.15	0.28	0.29	1	0.59	0.86	0.50	1.49
Neg_Con(2)	0.08	0.29	0.07	1	0.79	1.08	0.61	1.90
Pos_Con			2.84	2	0.24			
Pos_Con(1)	- 0.39	0.28	1.94	1	0.16	0.68	0.39	1.17
Pos_Con(2)	0.02	0.30	0.01	1	0.94	1.02	0.57	1.83
Constant	1.40	0.28	24.73	1	0.00	4.05		

Pseudo $R^2 = 0.038$. Number of participants reporting 'yes' = 440. Number of participants reporting 'no' = 93

Table 3 ANOVA results for Leave Lab

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	7.24	0.01	0.01
Negative consequences	2	2.43	0.09	0.01
Positive consequences	2	0.16	0.85	0.00
<i>Interactions</i>				
Source * negative consequences	2	0.97	0.38	0.00
Source * positive consequences	2	0.70	0.50	0.00
Negative consequences * positive consequences	4	0.99	0.41	0.01
Source * negative consequences * positive consequences	4	1.07	0.37	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 4 ANOVA results for magnitude of consequences

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.36	0.55	0.00
Negative consequences	2	0.17	0.85	0.00
Positive consequences	2	0.53	0.59	0.00
<i>Interactions</i>				
Source * negative consequences	2	1.03	0.36	0.00
Source * positive consequences	2	2.42	0.09	0.01
Negative consequences * positive consequences	4	2.27	0.06	0.02
Source * negative consequences * positive consequences	4	0.63	0.64	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

was the source of observed unethical behavior, individuals had a tendency to seek more social consensus ($M = 2.18$, $SE = 0.06$), than when peers were the source of observed unethical behavior ($M = 1.93$, $SE = 0.06$). A significant ($F(4, 516) = 2.43$, $p \leq 0.05$) two-way interaction was obtained between negative consequences and positive consequences for social consensus. Generally, participants tended to seek more social consensus when the positive consequences of whistleblowing impacted more individuals (i.e., a university contains more individuals compared to a department) with two exceptions. Table cell means indicate that when the university was the recipient of negative consequences and the individual was the recipient of positive consequences, individuals tended to seek more social consensus ($M = 2.31$, $SE = 0.13$). However, when the department was

Table 5 ANOVA results for social consensus

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	8.48	0.00	0.02
Negative consequences	2	1.13	0.32	0.00
Positive consequences	2	2.14	0.12	0.01
<i>Interactions</i>				
Source * negative consequences	2	0.80	0.45	0.00
Source * positive consequences	2	0.02	0.98	0.00
Negative consequences * positive consequences	4	2.43	0.05	0.02
Source * negative consequences * positive consequences	4	2.62	0.03	0.02

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 6 ANOVA results for probability of effect

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.95	0.33	0.00
Negative consequences	2	0.36	0.70	0.00
Positive consequences	2	0.58	0.56	0.00
<i>Interactions</i>				
Source * negative consequences	2	0.63	0.53	0.00
Source * positive consequences	2	0.88	0.41	0.00
Negative consequences * positive consequences	4	0.95	0.44	0.01
Source * negative consequences * positive consequences	4	1.76	0.14	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

the recipient of negative consequences and the individual was the recipient of positive consequences, individuals sought less social consensus ($M = 1.77$, $SE = 0.12$). A significant three-way interaction ($F(4, 516) = 2.62$, $p \leq 0.05$) was also obtained between source, negative consequences, and positive consequences. Specifically, when the source of the ethical violation was their advisor, participants, on average, tended to seek more social consensus when there were positive consequences and negative consequences for the department. However, social consensus was considered the most when the advisor was the source of unethical conduct, when there were negative consequences for the department, and when there were positive consequences for the university ($M = 2.56$, $SE = 0.17$). Social consensus was considered the least when the peer was the source of unethical

Table 7 ANOVA results for temporal immediacy

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.05	0.82	0.00
Negative consequences	2	0.16	0.85	0.00
Positive consequences	2	0.64	0.53	0.00
<i>Interactions</i>				
Source * negative consequences	2	1.10	0.33	0.00
Source * positive consequences	2	1.82	0.16	0.01
Negative consequences * positive consequences	4	1.10	0.35	0.01
Source * negative consequences * positive consequences	4	1.08	0.37	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 8 ANOVA results for proximity

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.09	0.76	0.00
Negative consequences	2	6.06	0.00	0.02
Positive consequences	2	0.32	0.73	0.00
<i>Interactions</i>				
Source * negative consequences	2	2.18	0.11	0.01
Source * positive consequences	2	3.13	0.04	0.01
Negative consequences * positive consequences	4	1.35	0.25	0.01
Source * negative consequences * positive consequences	4	0.19	0.94	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

conduct, when there were negative consequences for the individual and positive consequences for the department ($M = 1.74$, $SE = 0.18$).

A significant ($F(1,516) = 8.48$, $p \leq 0.05$) main effect was obtained for negative consequences on proximity. Cell means indicate that proximity was considered more when there were negative consequences for the department ($M = 1.84$, $SE = 0.06$) and university ($M = 1.75$, $SE = 0.06$), as opposed to the individual who engaged in the misconduct ($M = 1.55$, $SE = 0.06$). A significant interaction ($F(2, 516) = 3.13$, $p \leq 0.05$) was also obtained between source and positive consequences. When the source of the ethical violation was a peer and there were positive consequences for the department, proximity was considered the least ($M = 1.62$, $SE = 0.08$), whereas when the source of the ethical violation was the

Table 9 ANOVA results for concentration of effect

variable	<i>df</i>	<i>f</i>	<i>p</i>	partial η^2
<i>Main effects</i>				
Source	1	0.51	0.47	0.00
Negative consequences	2	0.57	0.57	0.00
Positive consequences	2	1.65	0.19	0.01
<i>Interactions</i>				
Source * negative consequences	2	0.88	0.41	0.00
Source * positive consequences	2	0.57	0.57	0.00
Negative consequences * positive consequences	4	2.34	0.05	0.02
Source * negative consequences * positive consequences	4	0.53	0.72	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

advisor and there were positive consequences for the department, proximity was considered the most ($M = 1.88$, $SE = 0.08$).

Metacognitive Reasoning Strategies

Tables 10, 11, 12, 13, 14, 15 and 16 present the effects of manipulations on the seven metacognitive reasoning strategies: recognizing your circumstances, asking for help, questioning your judgment, dealing with your emotions, anticipating consequences, looking within, and considering others' perspectives. A significant ($F(1,516) = 5.50$, $p \leq 0.05$) main effect was found for the source manipulation. Specifically, participants were more likely to ask for help when the source was their

Table 10 ANOVA results for recognize circumstances

	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.13	0.72	0.00
Negative consequences	2	1.55	0.21	0.01
Positive consequences	2	0.81	0.45	0.00
<i>Interactions</i>				
Source * negative consequences	2	0.90	0.41	0.00
Source * positive consequences	2	0.14	0.87	0.00
Negative consequences * positive consequences	4	1.30	0.27	0.01
Source * negative consequences * positive consequences	4	0.27	0.90	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 11 ANOVA results for ask for help

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	5.50	0.02	0.01
Negative consequences	2	1.82	0.16	0.01
Positive consequences	2	1.79	0.17	0.01
<i>Interactions</i>				
Source * negative consequences	2	0.37	0.69	0.00
Source * positive consequences	2	0.00	1.00	0.00
Negative consequences * positive consequences	4	2.56	0.04	0.02
Source * negative consequences * positive consequences	4	0.59	0.67	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 12 ANOVA results for question your judgment

	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	3.03	0.08	0.01
Negative consequences	2	2.34	0.10	0.01
Positive consequences	2	0.09	0.91	0.00
<i>Interactions</i>				
Source * negative consequences	2	1.61	0.20	0.01
Source * positive consequences	2	0.13	0.88	0.00
Negative consequences * positive consequences	4	1.58	0.18	0.01
Source * negative consequences * positive consequences	4	0.53	0.72	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

advisor ($M = 2.81$, $SE = 0.08$) as opposed to their peer ($M = 2.55$, $SE = 0.08$). A significant ($F(4,516) = 2.56$, $p \leq 0.05$) interaction effect was found between negative consequences and positive consequences. Generally, participants tended to ask for more help when the positive consequences affected more individuals (e.g., individual vs university). However, when there were negative consequences for the department and positive consequences for the individual, help was sought the least ($M = 2.17$, $SE = 0.16$). When there were negative consequences for the university and positive consequences for the individual, help was sought the most ($M = 3.01$, $SE = 0.16$). A significant ($F(2,516) = 3.20$, $p \leq 0.05$) main effect was also obtained when the effect of negative consequences on dealing with emotions was examined. Cell means indicated that individuals managed their emotions more when

Table 13 ANOVA results for deal with your emotions

	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.00	0.99	0.00
Negative consequences	2	3.20	0.04	0.01
Positive consequences	2	0.19	0.83	0.00
<i>Interactions</i>				
Source * negative consequences	2	0.84	0.43	0.00
Source * positive consequences	2	0.02	0.98	0.00
Negative consequences * positive consequences	4	2.05	0.09	0.02
Source * negative consequences * positive consequences	4	0.59	0.67	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 14 ANOVA results for anticipating consequences

	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.03	0.86	0.00
Negative consequences	2	0.17	0.85	0.00
Positive consequences	2	1.13	0.32	0.00
<i>Interactions</i>				
Source * negative consequences	2	0.57	0.57	0.00
Source * positive consequences	2	0.71	0.49	0.00
Negative consequences * positive consequences	4	1.04	0.39	0.01
Source * negative consequences * positive consequences	4	0.73	0.57	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

there were negative consequences for the individual who engaged in unethical behavior ($M = 2.59$, $SE = 0.08$) and the university ($M = 2.67$, $SE = 0.08$), as opposed to the department ($M = 2.39$, $SE = 0.08$).

Emotions

Tables 17, 18, 19 and 20 present the effects of the manipulations on the four classifications of emotions measured: positive passive emotions, positive active emotions, negative passive emotions, and negative active emotions. A significant ($F(4,516) = 2.40$, $p \leq 0.05$) three-way interaction between source, negative consequences, and positive consequences was obtained when positive passive

Table 15 ANOVA results for looking within

	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.14	0.71	0.00
Negative consequences	2	1.76	0.17	0.01
Positive consequences	2	0.08	0.92	0.00
<i>Interactions</i>				
Source * negative consequences	2	1.44	0.24	0.01
Source * positive consequences	2	0.20	0.82	0.00
Negative consequences * positive consequences	4	0.66	0.62	0.01
Source * negative consequences * positive consequences	4	0.57	0.69	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 16 ANOVA results for consider others' perspectives

	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.58	0.45	0.00
Negative consequences	2	1.25	0.29	0.01
Positive consequences	2	0.31	0.73	0.00
<i>Interactions</i>				
Source * negative consequences	2	1.14	0.32	0.00
Source * positive consequences	2	0.02	0.98	0.00
Negative consequences * positive consequences	4	2.02	0.09	0.02
Source * negative consequences * positive consequences	4	0.29	0.88	0.00

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

emotions were examined. When the source of observed unethical behavior was a peer, participants responded with positive passive emotions when there were both positive and negative consequences of whistleblowing for the entity involved. When the source of observed unethical behavior was the advisor, the opposite pattern occurred. That is, participants responded with less positive passive emotion when there were both positive and negative consequences for the entity involved.

A significant ($F(1,516) = 5.50, p \leq 0.05$) main effect was found for the source manipulation when negative active emotions were examined. Cell means indicate that more negative active emotions occurred when the source of the ethical violation was the advisor ($M = 1.88, SE = 0.05$) as opposed to a peer ($M = 1.69, SE = 0.05$). A significant ($F(4,516) = 2.43, p \leq 0.05$) two-way interaction

Table 17 ANOVA results for positive passive emotions

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.01	0.92	0.00
Negative consequences	2	0.35	0.71	0.00
Positive consequences	2	0.92	0.40	0.00
<i>Interactions</i>				
Source * negative consequences	2	0.53	0.59	0.00
Source * positive consequences	2	0.47	0.62	0.00
Negative consequences * positive consequences	4	0.15	0.96	0.00
Source * negative consequences * positive consequences	4	2.40	0.05	0.02

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 18 ANOVA results for positive active emotions

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	0.27	0.60	0.00
Negative consequences	2	0.07	0.94	0.00
Positive consequences	2	0.12	0.89	0.00
<i>Interactions</i>				
Source * negative consequences	2	0.30	0.74	0.00
Source * positive consequences	2	0.85	0.43	0.00
Negative consequences * positive consequences	4	1.62	0.17	0.01
Source * negative consequences * positive consequences	4	1.26	0.28	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

between negative and positive consequences was also found. When there were positive consequences for the individual engaging in unethical behavior, more negative active emotions occurred when there were also negative consequences for the individual engaging in unethical behavior ($M = 1.96$, $SE = 0.11$) and negative consequences for the university ($M = 2.03$, $SE = 0.11$), as opposed to negative consequences for the department ($M = 1.56$, $SE = 0.11$).

Within-Group Predictors

Post-hoc analyses were conducted to compare differences between those who did and did not intend to blow the whistle under the circumstances of either having to

Table 19 ANOVA results for negative passive emotions

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	3.61	0.06	0.01
negative consequences	2	1.15	0.32	0.00
Positive consequences	2	1.80	0.17	0.01
<i>Interactions</i>				
Source * negative consequences	2	1.01	0.36	0.00
Source * positive consequences	2	0.30	0.74	0.00
Negative consequences * positive consequences	4	0.78	0.54	0.01
Source * negative consequences * positive consequences	4	1.63	0.17	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

Table 20 ANOVA results for negative active emotions

Variable	<i>df</i>	<i>F</i>	<i>p</i>	Partial η^2
<i>Main effects</i>				
Source	1	7.42	0.01	0.01
Negative consequences	2	1.45	0.23	0.01
Positive consequences	2	1.04	0.35	0.00
<i>Interactions</i>				
Source * negative consequences	2	1.18	0.31	0.00
Source * positive consequences	2	0.26	0.77	0.00
Negative consequences * positive consequences	4	2.43	0.05	0.02
Source * negative consequences * positive consequences	4	1.45	0.22	0.01

Cell means are available upon request

df, degrees of freedom; *F*, F-ratio; *p*, significance level; partial η^2 , effect size estimate

report a peer or an advisor. Specifically, a series of logistic regressions were conducted for variables contributing to reporting behaviors for observed peer misconduct, and another series of logistic regressions were conducted for variables contributing to reporting behaviors for observed advisor misconduct. Following the logistic regressions, means and standard deviations were calculated, comparing differences between reporters and non-reporters, for each significant variable. This was done to explore the differences in moral intensity, metacognitive reasoning strategies, and discreet emotions between reporters and non-reporters when the misconduct was on the part of a peer or an advisor. A total of 34 participants indicated they would report the misconduct of their peer, and 235 participants indicated they would not report the misconduct of their peer. A total of 59

participants indicated they would report the misconduct of their advisor, and 205 participants indicated they would not report the misconduct of their advisor.

Moral Intensity

Table 21 presents the results of the logistic regressions conducted for those in conditions involving peer reporting. Results suggest that the magnitude of consequences ($\beta = 3.15, p < 0.05, \text{pseudo } R^2 = 0.14$), the concentration of effect ($\beta = 3.27, p < 0.05, \text{pseudo } R^2 = 0.18$), the temporal immediacy ($\beta = 9.32, p < 0.05, \text{pseudo } R^2 = 0.08$), and the probability effect ($\beta = 7.23, p < 0.05, \text{pseudo } R^2 = 0.39$), are the four moral intensity variables that predict intended whistleblowing of observed peer misconduct. Individuals who chose to report their peer evidenced greater attention to the magnitude of consequences ($M = 2.71, SD = 0.82$), the concentration of effect ($M = 2.45, SD = 1.00$), the temporal immediacy ($M = 1.34, SD = 0.43$), and the probability of effect ($M = 3.05, SD = 0.80$) when making the decision to blow the whistle, compared to those who chose not to report their peer ($M = 2.04, SD = 0.65; M = 1.57, SD = 0.70; M = 1.13, SD = 0.28; M = 1.83, SD = 0.60$, respectively).

Table 22 presents the results of the logistic regression conducted for those in conditions involving advisor misconduct reporting. Results suggest that the magnitude of consequences ($\beta = 1.57, p < 0.05, \text{pseudo } R^2 = 0.04$), the concentration of effect ($\beta = 1.63, p < 0.05, \text{pseudo } R^2 = 0.06$), the temporal immediacy ($\beta = 7.30, p < 0.05, \text{pseudo } R^2 = 0.09$), the social consensus ($\beta = 0.69, p < 0.05, \text{pseudo } R^2 = 0.04$), and the probability of effect ($\beta = 5.61, p < 0.05, \text{pseudo } R^2 = 0.38$), are the five moral intensity variables that predict intended whistleblowing of observed advisor misconduct. Those who chose to report their advisor evidenced greater attention to the magnitude of consequences ($M = 2.75, SD = 0.88$), the concentration of effect ($M = 2.38, SD = 1.03$), the temporal immediacy ($M = 1.35, SD = 0.45$), and the probability of effect ($M = 3.06, SD = 0.78$), when making the decision to blow the whistle, compared to those who chose not to report their advisor ($M = 2.40, SD = 0.95; M = 1.92, SD = 0.89; M = 1.13, SD = 0.30; M = 1.96, SD = 0.77$). In contrast, those who chose not to report their advisor evidenced greater attention to social consensus ($M = 2.49, SD = 1.11$) compared to those who did chose to report their advisor ($M = 2.09, SD = 1.00$).

Metacognitive Reasoning Strategies

Table 21 presents the results of the logistic regressions conducted for those in the peer misconduct reporting conditions. Results suggest that questioning one's judgment ($\beta = 0.47, p < 0.05, \text{pseudo } R^2 = 0.08$), and dealing with emotions ($\beta = 0.51, p < 0.05, \text{pseudo } R^2 = 0.06$), are the two metacognitive variables that predict intended whistleblowing of observed peer misconduct. Those who decided to not report their peer evidenced greater use of questioning judgment ($M = 2.86, SD = 1.27$) and dealing with emotions ($M = 3.22, SD = 1.08$), compared to those

Table 21 Peer only: logistic regression for reporting

Variable	Report?	<i>M</i>	<i>SD</i>	Pseudo <i>R</i> ²	<i>B</i>	<i>SE</i>	<i>df</i>	Sig.	Exp(<i>B</i>)	95% C.I. for EXP(<i>B</i>)	
										Lower	Upper
Recognize circumstances	No	3.15	0.85	0.00	-0.06	0.22	1	0.78	0.94	0.61	1.45
	Yes	3.10	0.83								
Ask for help	No	2.91	1.28	0.03	-0.30	0.16	1	0.06	0.74	0.55	1.01
	Yes	2.50	1.17								
Question your judgment	No	2.86	1.27	0.13	-0.76	0.18	1	0.00	0.47	0.33	0.66
	Yes	2.01	0.92								
Deal with emotions	No	3.22	1.08	0.10	-0.68	0.18	1	0.00	0.51	0.35	0.72
	Yes	2.45	1.03								
Consequences	No	3.04	0.78	0.00	-0.15	0.21	1	0.48	0.86	0.57	1.30
	Yes	2.92	0.91								
Look within	No	2.18	0.97	0.01	-0.27	0.19	1	0.15	0.76	0.53	1.11
	Yes	1.93	0.91								
Consider others perspectives	No	2.90	0.97	0.01	-0.28	0.21	1	0.18	0.76	0.51	1.13
	Yes	2.68	0.90								
Magnitude of consequences	No	2.04	0.65	0.14	1.15	0.27	1	0.00	3.15	1.85	5.38
	Yes	2.71	0.82								
Concentration of effect	No	1.57	0.70	0.18	1.19	0.27	1	0.00	3.27	1.92	5.59
	Yes	2.45	1.00								
Temporal immediacy	No	1.13	0.28	0.08	2.23	0.82	1	0.01	9.32	1.88	46.22
	Yes	1.34	0.43								
Social consensus	No	2.16	1.01	0.02	-0.29	0.19	1	0.12	0.75	0.52	1.08
	Yes	1.90	0.89								

Table 21 continued

Variable	Report?	M	SD	Pseudo R ²	B	SE	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
										Lower	Upper
Probability of effect	No	1.83	0.60	0.39	1.98	0.31	1	0.00	7.23	3.90	13.38
	Yes	3.05	0.80								
Proximity	No	1.68	0.79	0.00	0.04	0.24	1	0.85	1.05	0.66	1.66
	Yes	1.70	0.79								
Positive passive	No	2.12	0.76	0.01	0.26	0.24	1	0.28	1.29	0.81	2.07
	Yes	2.27	0.78								
Positive active	No	1.96	0.77	0.01	0.23	0.24	1	0.35	1.26	0.78	2.03
	Yes	2.10	0.79								
Negative passive	No	1.86	0.80	0.01	0.28	0.23	1	0.22	1.33	0.85	2.08
	Yes	2.05	0.85								
Negative active	No	1.45	0.62	0.03	0.54	0.29	1	0.06	1.72	0.97	3.03
	Yes	1.73	0.81								

Report?, did the participant report misconduct; M, mean; SD, standard deviation; B, beta; SE, standard error; df, degrees of freedom; sig, significance level; Exp(B), odds ratio; CI, confidence interval

Table 22 Advisor only: logistic regression for reporting (Y/N)

Variable	Report?	M	SD	Pseudo R^2	B	SE	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
										Lower	Upper
Recognize circumstances	No	3.21	0.78	0.00	-0.13	0.18	1	0.47	0.88	0.62	1.25
	Yes	3.12	0.84								
Ask for help	No	3.29	1.36	0.06	-0.38	0.12	1	0.00	0.68	0.54	0.86
	Yes	2.66	1.28								
Question your judgment	No	3.18	1.13	0.28	-1.07	0.16	1	0.00	0.34	0.25	0.47
	Yes	2.02	0.89								
Deal with emotions	No	3.03	1.07	0.08	-0.53	0.14	1	0.00	0.59	0.45	0.78
	Yes	2.40	1.06								
Consequences	No	3.03	0.87	0.00	-0.13	0.17	1	0.44	0.88	0.63	1.22
	Yes	2.93	0.90								
Look within	No	2.44	1.05	0.09	-0.60	0.15	1	0.00	0.55	0.41	0.74
	Yes	1.87	0.87								
Consider others perspectives	No	2.82	0.90	0.02	-0.26	0.16	1	0.11	0.77	0.56	1.06
	Yes	2.60	0.92								
Magnitude of consequences	No	2.40	0.95	0.04	0.45	0.17	1	0.01	1.57	1.12	2.20
	Yes	2.75	0.88								
Concentration of effect	No	1.92	0.89	0.06	0.49	0.16	1	0.00	1.63	1.19	2.24
	Yes	2.38	1.03								
Temporal immediacy	No	1.13	0.30	0.09	1.99	0.60	1	0.00	7.30	2.26	23.54
	Yes	1.35	0.45								
Social consensus	No	2.49	1.11	0.04	-0.37	0.14	1	0.01	0.69	0.53	0.91
	Yes	2.09	1.00								

Table 22 continued

Variable	Report?	M	SD	Pseudo R ²	B	SE	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
										Lower	Upper
Probability of effect	No	1.96	0.77	0.38	1.72	0.24	1	0.00	5.61	3.49	9.03
	Yes	3.06	0.78								
Proximity	No	1.71	0.79	0.00	0.02	0.18	1	0.89	1.02	0.72	1.45
	Yes	1.73	0.85								
Positive passive	No	1.85	0.81	0.10	0.76	0.19	1	0.00	2.13	1.46	3.11
	Yes	2.36	0.84								
Positive active	No	1.76	0.79	0.05	0.57	0.20	1	0.00	1.76	1.20	2.60
	Yes	2.12	0.81								
Negative passive	No	2.23	0.99	0.00	-0.09	0.16	1	0.57	0.91	0.67	1.24
	Yes	2.15	0.92								
Negative active	No	1.88	0.83	0.00	-0.02	0.17	1	0.93	0.98	0.70	1.38
	Yes	1.87	0.86								

Report?, did the participant report misconduct; M, mean; SD, standard deviation; B, beta; SE, standard error; df, degrees of freedom; sig, significance level; Exp(B), odds ratio; CI, confidence interval

who decided to report peer misconduct ($M = 2.01$, $SD = 0.92$; $M = 2.45$, $SD = 1.03$, respectively).

Table 22 depicts the results of the logistic regressions conducted for those in the advisor misconduct reporting conditions. Results indicate that asking for help ($\beta = 0.68$, $p < 0.05$, pseudo $R^2 = 0.06$), questioning one's judgment ($\beta = 0.34$, $p < 0.05$, pseudo $R^2 = 0.28$), dealing with emotions ($\beta = 0.59$, $p < 0.05$, pseudo $R^2 = 0.08$), and looking within ($\beta = 0.55$, $p < 0.05$, pseudo $R^2 = 0.09$), are the four metacognitive reasoning strategies that predict intended whistleblowing of observed advisor misconduct. Those who chose to not report their advisor evidenced greater use of asking for help ($M = 3.29$, $SD = 1.36$), questioning judgment ($M = 3.18$, $SD = 1.13$), dealing with emotions ($M = 3.03$, $SD = 1.07$), and looking within ($M = 2.44$, $SD = 1.05$), compared to those who decided to report advisor misconduct ($M = 2.66$, $SD = 1.28$; $M = 2.02$, $SD = 0.89$; $M = 2.40$, $SD = 1.06$; $M = 1.87$, $SD = 0.87$, respectively).

Emotions

None of the emotions measured were significant in predicting intended whistleblowing of observed peer misconduct. However, positive passive ($\beta = 2.13$, $p < 0.05$, pseudo $R^2 = 0.10$) and positive active ($\beta = 1.76$, $p < 0.05$, pseudo $R^2 = 0.05$) emotions predicted intended whistleblowing of advisor misconduct, as depicted in Table 22. Individuals who chose to report the misconduct of their advisor evidenced greater positive passive emotions ($M = 2.36$, $SD = 0.84$) and positive active emotions ($M = 2.12$, $SD = 0.81$), compared to their non-reporting counterparts ($M = 1.85$, $SD = 0.81$; $M = 1.76$, $SD = 0.79$, respectively).

Discussion

Prior to discussing the broader implications of the findings flowing from the present effort, a few limitations should be noted. First, the sample obtained in this study was restricted to graduate students, so caution should be exercised when generalizing these findings to other populations. Even if the generalizability of these findings to other professionals is limited, these findings still prove valuable in highlighting differences between whistleblowing on observed peer and advisor misconduct. The experimental nature of the approach taken in the present effort also serves to provide insight on the causality of the variables examined. Second, participants took part in this study during an ethics training program, which may have primed them to respond differently to the situation presented in the case than they would otherwise.

Along related lines, a low fidelity simulation exercise was used in this study, requiring that whistleblowing *intentions* be measured, as opposed to measuring the actual act of whistleblowing. That is, participants were not asked to face a real-life ethical situation, as the vignette they were presented with was only hypothetical. People may handle whistleblowing differently when confronted with peers or advisors that they actually know. It may be more difficult for people to blow the whistle on people that they know personally, especially taking into account the real-

life consequences associated with whistleblowing. Although low-fidelity simulations can, to an extent, predict future performance (Motowidlo et al. 1990), socially desirable responding to the case questions is still of concern. Bearing this in mind, there are limits to observing ethical behavior directly.

It should also be recognized that only one case was presented to participants, and in this case, only one individual was the source of misconduct. In reality, individuals are often faced with multiple, different ethical situations involving multiple wrongdoers. Additionally, participant responses to the situation were measured immediately following the case manipulations. In many cases of being faced with a decision to blow the whistle on observed misconduct, more time is allotted for decision making. However, ruminating too much on such a decision may prove detrimental. Future research should investigate the impact of time on reporting the misconduct of peers and advisors.

Even bearing these limitations in mind, we believe the findings emerging from the present effort have noteworthy implications for understanding differences in the ways in which people handle whistleblowing on observed peer and advisor misconduct. The finding that the odds are nearly two times higher that a person intends to report observed peer misconduct than advisor misconduct suggests that whistleblowing is more complex than has originally been thought. This contrast also suggests that people process and respond to situations involving the prospect of whistleblowing differently depending on the source of misconduct. Our findings regarding differences in moral intensity, metacognitive reasoning strategies, and emotions also provide support for this conclusion.

In general, people are willing to blow the whistle on their peers because peers have minimal authority (Jubb 1999) and, consequently, there may be less of a perceived threat to the whistleblower. That is, people tend to report observed misconduct of their peers with minimal affect, as evidenced by the results obtained in this study. One might expect unethical behavior to occur more frequently with a less experienced individual, such as a peer. This expectation may lead the whistleblower to second guess themselves less and to be more confident in reporting misconduct as a result. However, the opposite appears to be true for reporting observed misconduct of an advisor. Results from the present effort indicate that a greater negative active emotional response occurs because of an advisor's ethical violation compared to a peer's ethical violation. This negative response suggests that individuals who are faced with the choice to blow the whistle on an advisor likely experience fear and panic in anticipation of the potential negative outcomes of blowing the whistle. People may be more reluctant to whistleblow on an advisor because the advisor has greater control over the individual and is perceived as a greater threat to the individual faced with the decision to blow the whistle.

Findings also suggest that people are more likely to seek help from others when the source of misconduct is an authority figure. These "others" might include trusted colleagues, other faculty members, or other individuals removed from the situation. These sources of aid were regularly mentioned in the open-ended responses provided by participants, suggesting these are likely sources of help in real-world situations involving whistleblowing. Help-seeking behaviors on the part of prospective whistleblowers faced with the decision to report advisor misconduct

suggest a degree of uncertainty in their projected course of action. Incidentally, advisors are likely to be perceived by subordinates as being in control and are assumed to engage in appropriate ethical behavior, given their stature and expertise (Hall et al. 2004). These assumptions may exacerbate the uncertainty that comes with reporting observed advisor misconduct. However, nobody is immune to making unethical decisions and engaging in misconduct, yet the assumptions regarding ethicality of an advisor may provide explanation for the findings obtained in this study. In sum, people are more likely to seek help from others when the wrongdoer is an authority figure.

Similarly, the results also suggest that individuals may be more likely to withdraw, or leave the lab, when the ethical misconduct is from an authority figure as opposed to a peer. Given that subordinates assume ethical behavior from their leader (Hall et al. 2004), when this view is violated one can also assume that their perception of the leader and the workplace may change as a result. Consequently, previous research has demonstrated that when subordinates perceive their leader to be more unethical, the ethical climate of the workplace is perceived to be worse, commitment to the organization weakens, and turnover intentions rise (Demirtas and Akdogan 2015). These findings suggest that ethical behavior exhibited by an advisor has a substantial influence on subordinates' view of the ethical environment within the organization and may ultimately lead to withdrawal behaviors, such as leaving the lab. In contrast, peers often believe their counterparts to be more unethical than they are (Morgan 1993) and are likely to attribute their behavior less to the organization and more to the individual, proving less impactful on withdrawal behaviors. This may explain why individuals have a greater intent to leave the lab when it is their advisor who engages in ethical misconduct.

Results pertaining to the impact of the recipient of positive and negative consequences of whistleblowing suggest that the salience of the entity who will be dealing with the consequences of whistleblowing matters. That is, the level of the entity who will have to deal with the consequences of whistleblowing appears to have an influence on the amount of cognitive resources expended by the whistleblower. Results demonstrate that there may be a tendency for individuals to think less about the consequences for their department, and more for the individual or university. One possible explanation for these findings may be in the psychological closeness felt by the whistleblower to the other entities. More specifically, individuals are closer to, and share more similarities with, other individuals they work with and as a result, tend to identify more closely with them compared to a more broad and distant entity (Brown et al. 1992). In the context of blowing the whistle, people may more readily identify with the consequences felt by another individual, making the decision to blow the whistle more difficult and, thus, requiring more cognitive effort.

Along related lines, results suggest that individuals expend a similar amount of cognitive effort when faced with the consequences felt by a university, a larger, "more distant" entity. While it may be true that a university is more distant to the individual, research suggests that individuals can, and will, identify with larger entities such as a university (Ashforth and Mael 1989; Dutton et al. 1994), and that prestige plays a significant role in this identification (Fuller et al. 2006; Mael and

Ashforth 1992). That is to say, the more prestigious the university, the more likely an individual may identify with that university. Subsequently, when a person is faced with the consequences of blowing the whistle on a larger, relatively well-perceived entity, such as a university, they may be more apprehensive in making that decision, thus requiring more emotion regulation and the use of cognitive resources (Baumeister et al. 1998; Schmeichel et al. 2003). Bearing this in mind, our findings also suggest that individuals consider the consequences towards the department significantly less than those towards the individual or the university. The organizational identity literature suggests that individuals look to express the characteristics they believe they possess and of which are valuable (Dutton et al. 1994). Such desirable characteristics may be identifiable within other individuals or larger, well-known entities. However, they may be less salient within the smaller, generally less prestigious departments. Thus, when considering the consequences directed towards a department, individuals may be less apt to identify with it and, as a result, may make the decision to blow the whistle easier.

Beyond the first wave of results obtained in this study, the results stemming from the second stage of within-group post hoc analyses also provide insight regarding what factors contribute to an individual's decision to blow the whistle and how this differs when the source of misconduct is a peer or advisor. Results suggest that those who perceive greater moral intensity, in particular, probability of effect, tend to report observed unethical behavior more, regardless of the source of misconduct. When moral intensity is greater, people have to engage in less metacognitive reasoning because the salience of the situation is clearer. Moral intensity had a larger effect when a peer was the one engaging in unethical behavior. The social closeness of peers, compared to the social distance from an advisor, may make the moral intensity of the situation more salient. Along related lines, if people believe that something will happen as a result of blowing the whistle, or that there is a probability that their action will have an impact, they may feel more justified in blowing the whistle compared to someone who is unsure if anything will come of whistleblowing. Future research should investigate how an individual's confidence in whistleblowing and the degree to which an individual feels justified in reporting misconduct influences whistleblowing behaviors.

Results also suggest that individuals who engage in more metacognitive reasoning strategies tend to report observed unethical behavior less. Namely, questioning one's judgment and dealing with emotions are approaches taken by non-reporters in instances of both peer and advisor misconduct. Moreover, metacognitive reasoning strategies are implemented more by non-whistleblowers compared to those who choose to report observed misconduct. This may be due to the uncertainty of outcomes of failing to report the misconduct. That is, people who apply more metacognitive reasoning strategies may take more time to "step back" and pause their decision making process to gather more information or wait for the situation to unfold more. Along related lines, those who grapple with their emotions more tend not to report misconduct, suggesting that over-attending to emotions resulting from being faced with the decision to whistleblow may overwhelm these individuals, leading them to not report the observed misconduct. However, some attention to emotions may benefit prospective whistleblowers by alerting them to

ethical situations that require attention. Future research should examine whether a curvilinear relationship exists between dealing with emotions and whistleblowing behaviors, as well as potential moderators of this relationship.

The use of metacognitive reasoning strategies is greatest when the advisor, as opposed to peer, engages in ethical misconduct. Furthermore, the metacognitive reasoning strategies of asking for help and looking within are unique to reporting misconduct of an advisor. This suggests that people, when faced with the decision to blow the whistle on an advisor, tend to focus inwardly and think more critically about their own motivations for taking action or making a decision. This is likely because there is greater uncertainty and there are more potential negative consequences involved when an advisor engages in unethical behavior, resulting in an affective response. Affect is often a response to ambiguity in a situation, and this ambiguity induces greater metacognition in general (Klignyte et al. 2008). Also, those who experience high levels of affect tend to report observed misconduct less (Milliken et al. 2003; Pinder and Harlos 2001). The uncertainty that comes with reporting misconduct of an advisor may also prompt individuals to seek help from others and ask for guidance on the situation. Taken together, the personal ambiguity involved with reporting advisor misconduct may contribute to an individual's unwillingness to report misconduct.

When advisors engage in unethical behavior, a greater perceived threat exists because they have social control over the whistleblowing subordinate (Braxton et al. 2011). Furthermore, a contingency effect exists whereby individuals think about and respond to contingencies bearing on the relationship with their advisor. Put somewhat differently, people do not like to "rat on" their advisors (Anderson et al. 1994). That is, the relationship between an advisor and subordinate hinges on social control, whereby subordinates think about and respond to the difference in power. Affect is a likely response to pressures placed on this relationship. In sum, results stemming from the post hoc analyses suggest that when people *do* see an advisor engaging in unethical behavior, increased cognition and affect result, leading the individual to not report or to suspend reporting the observed misconduct. Stated another way, more intensive activation of cognitive and affective resources result when the source of misconduct is an advisor.

Whistleblowing can occur both laterally and hierarchically, and the implications of these different approaches to whistleblowing are of note. While people, especially students or entry-level employees, are more likely to witness peers engaging in unethical behavior compared to advisors, there is the potential for misconduct at all levels of an organization or university. Results from the present effort demonstrate that people are more willing to report the observed ethical misconduct of peers, yet it is important to not lose sight of the importance of reporting the observed misconduct of advisors. Interventions targeted at fostering a workplace supportive of whistleblowing should emphasize that reporting bad advisory behavior is just as important as reporting bad peer behavior. Along with this, these interventions should also emphasize the difficulties people have with reporting advisors and peers. Perhaps resources can be provided to ease decision making processes, affect, and uncertainty associated with whistleblowing. Future research should examine what types of resources and interventions are best for

mitigating the struggles in reporting observed misconduct, especially the misconduct of advisors.

Conclusion

In sum, this study provides novel evidence bearing on the differences between reporting the observed misconduct of peers and advisors. The findings reveal the stark contrast in affect and cognition associated with whistleblowing on these different individuals. Namely, people experience greater affect and seek help more often when the source of misconduct is an advisor, likely as a result from social distance and the control an advisor might have on a whistleblower. Results also imply that those who intend to not blow the whistle experience greater affect and cognition compared to those who do intend to blow the whistle. In contrast, those who do intend to blow the whistle perceive the situation as having greater moral intensity, making the decision to blow the whistle less difficult. Taken together, these findings have important implications for how to combat the cognitive and emotional challenges that come with making the decision to blow the whistle.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Human and Animal Rights All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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