

# The Relation of Trust in Leaders to Reporting Unethical Conduct: A Factorial Vignette Study

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This article investigates factors related to the reporting of unethical conduct, or whistle-blowing.<sup>1</sup> Previous empirical research identifies individual, organizational and situational factors that relate to the whistle-blowing decision. At the individual level, certain persons may be more predisposed to report; a variety of factors such as power and status, altruism, and self-interest could affect this predisposition. In an organization, support for whistle-blowers, avenues to report unethical conduct anonymously and the behaviour of leaders in the organization may affect the decision to report or not. Situationally, the location and severity of the observed misconduct may also play into the reporting decision. These concepts frame the inquiry into factors related to the reporting of unethical conduct. While accounting for known individual, organizational and situational factors, the focus is particularly on leaders and especially on trust in leaders. Research to date on whistle-blowing has neglected the well-developed social-psychological literature on trust. Accounting for previously-identified individual, organizational and situational factors, the relationship between whistle-blowers and their leaders is examined to explore whether or not trust in leaders is related to the reporting of unethical conduct.

Reporting unethical conduct has important implications in civilian and military settings in the United States. Among federal civilian employees, estimates of those who observe wrongdoing such as mismanagement of federal programs, stealing and providing funds to ineligible persons range from 25% to 45% across studies.<sup>2</sup> Data indicates that reporting unethical conduct is the exception rather than the norm. When internal auditors are excluded, only 42% of those that observe unethical conduct report it. Of these reports, 79% are made internal to the organization in which they occur (Miethe & Rothschild, 1994). Reasons cited for this silence include an individual's belief that nothing will be done, fear of reprisal, culturally negative views of a whistle-blower as a "tattle-tail" and the implied disloyalty to the organization associated with reporting. Although not previously considered, lack of trust in leaders is another reason why individuals may choose not to report.

A recent case highlights that trust in leaders is also relevant to those that do choose to report unethical conduct. Federal government contractor Edward Snowden leaked classified information from the National Security Agency on global surveillance programs; this information was subsequently published in *The Guardian*, *The Washington Post* and *The New York Times*. In an interview with *The New York Times*, Snowden revealed he

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<sup>2</sup> MSPB, 1981 ; Miethe & Rothschild, 1994.

placed little trust in his leadership, observing the requirement to “*report wrongdoing to those most responsible for it*”. Snowden also pointed to the lack of whistle-blower protection for government contractors (Risen, 2013). This lack of trust may have contributed to Snowden’s decision to report external to the organization.

In exploring the relationship between trust in leaders and the reporting of unethical conduct, it is important to account for previously identified individual, organizational and situational factors related to the reporting of such conduct. An experimental method is used to address this research question, particularly recruiting workers (N=581) from Amazon’s Mechanical Turk to conduct a factorial vignette study testing the effect of trust alongside previously identified factors. This experimental approach considers multiple explanations for the reporting of unethical conduct and addresses causality in observed relationships.

Before presenting analyses in detail, a review the literatures on whistle-blowing, power, status, altruism, trust and leadership identifies known factors related to the reporting of unethical conduct that form the basis for a proposed relationship between trust in leaders and such reporting. After summarizing expectations grounded in previous work, the complete results of the factorial vignette study are presented which test the relationship of reporting unethical conduct with various factors, particularly trust in leaders. The article concludes with implications for leaders seeking to increase the reporting of unethical conduct in their organizations, limitations and recommendations for future research.

## **Theory Development and Expectations**

Established sociological literature is well-poised to contribute to recent whistle-blowing research. Four such areas are leveraged to address the research question ; these areas correspond to how trust in leaders, power, status and altruism relate to the reporting of unethical conduct. Previous power and status research examines individual characteristics which make trust in leaders more or less likely to relate to the reporting outcome. The altruism literature indicates that an individual’s orientation towards prosocial behaviour could influence whether they report unethical conduct. The literatures on trust and leadership, particularly as they relate to each other, identify known outcomes of trust in leaders that inform specific predictions on the potential relationship of trust in leaders with the reporting of unethical conduct. First, however, the literature on whistle-blowing is considered which informs analyses by identifying known factors related to the reporting outcome.

### **Whistle-Blowing**

Whistle-blowing is defined as “*the disclosure by organization members (former or current) of illegal, immoral, or illegitimate practices under the control of their employers, to persons or organizations that may be able to affect action*” (Near & Miceli, 1985, p.4). Whistle-blowing is a dynamic process involving multiple social actors. At a minimum, this includes an individual or organization accused of wrongdoing, an individual who observed this wrongdoing and decided to report it, and an individual or organization that receives the

report. Unethical conduct encompasses behaviour that is illegal, immoral or illegitimate, but behaviour that falls into these categories can be interpreted differently by various individuals (Near & Miceli, 1996). For the purposes of this article, the view of the observer is taken ; if an individual feels conduct is unethical, the conduct is assumed to be unethical. This assumption carries the risk of accepting false whistle-blowing reports as legitimate.

Whistle-blowing is differentiated from top-down social control in three ways. First, whistle-blowing involves the reporting of unethical conduct by individuals upon peers, more senior personnel or the organization itself. Second, while in some cases it may be normative to report unethical conduct, whistle-blowing is not considered part of an individual's work role. This is as opposed to quality control personnel or internal monitors whose job it is to bring to light unethical conduct within an organization. Third, a whistle-blower has the prospect of facing some level of retaliation for reporting as it is outside the scope of the individual's responsibilities (Miethe & Rothschild, 1994).

Analyses of Merit Systems Protection Board questionnaire data (Miceli & Near, 1984) find that both individual and organizational factors are related to whether or not individuals report unethical conduct. Those who report via external channels tend to be less educated and in non-supervisory positions. This research also finds correlation between the reporting of unethical conduct and favourable attitudes towards whistle-blowing. Organizationally, individuals who did not blow the whistle are more fearful of organizational retaliation, and organizations which have a culture of unethical conduct may provide strong indicators that retaliation will occur (Miceli & Near, 1984).

Concerning position within an organization, it is difficult to disentangle whether level of responsibility within an organization results in varying exposure to unethical conduct or whether the power and status of individuals relates directly to the likelihood of reporting. The positive relationship between being a manager and internal reporting may be indicative of wanting to keep the organization's problems from the public eye (Near & Miceli, 1985), or just an artifact of increased exposure to wrongdoing. Assuming position does play a role, anonymity may encourage individuals with lower status to report unethical conduct (Miceli & Near, 1984). Some research positively relates anonymity to whistle-blowing (Lee & Fargher, 2013), but anonymous reporting may also be received as less credible than attributed reporting (Miethe & Rothschild, 1994). As a lack of credibility undermines trust (Miceli & Near, 2002) and change theory suggests that individuals resist change when they mistrust the change agent (Kotter & Schlesinger, 1979), it is possible that identified whistle-blowers are more likely to persuade others to terminate unethical conduct (Miceli & Near, 2002).

Individuals who report unethical conduct harbour an expectation that their reporting will affect the termination of the wrongdoing (Near & Miceli, 1996). Results from three field studies indicate that would-be whistle-blowers perceive unethical conduct will be terminated when it occurs infrequently, is relatively minor in impact or has occurred for a short period of time. As well, individuals in higher status positions and those who have the support of others tend to believe action will be taken on their reporting (Miceli & Near,

2002). If an individual believes that reporting will not end the unethical conduct, this may deter the decision to report. One study found the belief that nothing can be done about observed wrongdoing to be the primary obstacle to reporting (Near *et al.*, 2004), and prior exposure to wrongdoing is related to decreased intentions to report (Curtis & Williams, 2014).

Later research (Near & Miceli, 1996) indicates that organizational factors explain more variance in a whistle-blower's decision to report than do individual factors. Organizational factors that support whistle-blowing include perceived support for whistle-blowing by leadership and organizational policy, organizational commitment and the type of the wrongdoing itself, especially when the wrongdoing is seen as illegal.<sup>3</sup> In a survey of employees at a military base, those observing mismanagement, sexual harassment or unspecified legal violations were significantly more likely to report the behaviour than employees observing stealing, waste, safety problems or discrimination (Near *et al.*, 2004).

Experimental research indicates that factors representing organizational policies, managerial practices, and degree of demographic dissimilarity between employees and top managers can contribute to a culture of silence which in turn has an effect on an individual's willingness to blow the whistle (Park & Keil, 2009). Also, organizations are known to recruit individuals who support their mission and further socialize employees to be loyal. This loyalty grows over time as benefits such as retirement plans and sick leave are accumulated, possibly decreasing the likelihood of reporting observed wrongdoing. Finally, when leaders are known to condone unethical conduct, it makes the reporting of such behaviour less likely (Miethe & Rothschild, 1994).

Recent whistle-blowing literature (Miceli *et al.*, 2012) supports the inclusion of situational measures when considering the whistle-blowing outcome. Social-psychological literature supports the construction of in-groups and out-groups as a potential factor affecting group member behaviour (Turner & Reynolds, 2008). In-group preference does not necessarily imply a desire to harm out-group members, as studies indicate that individuals favouring in-group members can at the same time view out-group members neutrally or even favourably.<sup>4</sup> Group composition may affect the preference, however, with previous research showing that ethnic majorities (Griffiths & Nesdale, 2006) and women (Rudman & Goodwin, 2004) exhibit a stronger in-group preference.

The whistle-blowing literature also indicates an organization's dependence on wrongdoing (as measured by the frequency, duration and severity of observed unethical conduct) is shown to influence whether it is reported or not.<sup>5</sup> Two possibilities flow from this observation; the first is that an ingrained culture of unethical conduct deters reporting as observers consider it normative, and the second is that with more severe unethical conduct comes increased reporting as it crosses some subjective line of severity for

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<sup>3</sup> Near & Miceli, 1996 ; Lee & Fargher, 2013 ; Chen & Lai, 2014 ; Miethe & Rothschild, 1994 ; Kang, 2015.

<sup>4</sup> Allport, 1954 ; Brewer, 1999 ; Lowery *et al.*, 2006.

<sup>5</sup> Miethe & Rothschild, 1994 ; Miceli & Near, 2002.

observers. Previous research demonstrates that type and moral intensity of wrongdoing correlate with whistle-blowing intentions<sup>6</sup> and moderate the impact of leadership on whistle-blowing (Bhal & Dadhich, 2011). Related to the type of wrongdoing, its severity may also factor into the decision to report or not (Vadera, Aguilera & Caza, 2009).

### **Power, Status and Altruism**

Two areas of sociological literature positioned to contribute to whistle-blowing research are power and status. Whistle-blowing literature (Miceli & Near, 1984) identifies individual factors related to whistle-blowing, and theorizes that power plays a role in the decision to report unethical conduct (Near & Miceli, 1995) via theories of resource dependence (Pfeffer & Salancik, 1978), minority influence (Moscovici, 1976) and power bases (French & Raven, 1959). Motivated by research on power in exchange relations, Molm (2003) considers reciprocal exchange and notes different causal mechanisms behind power use, different emphasis on learning versus rational choice, different motivations, and different emphasis on cooperation versus competition that affect an actor's experience with the exchange (Molm, 2003). Later research by Molm and colleagues explores generalized exchange, finding reciprocal acts of unilateral giving promote bonds of trust, affective regard, and solidarity by increasing risk and uncertainty and decreasing the salience of conflict.<sup>7</sup>

Empirical testing of earlier power theories in whistle-blowing research yields inconsistent results (Near & Miceli, 1996). One possibility is that these earlier theories did not account for personal characteristics of the observer (Miethe & Rothschild, 1994). Incorporating status, or inequality based on differences in esteem and respect, is one way to address these personal characteristics. In a summary of power and status research (Lucas & Baxter, 2012), status is identified as a differentiator in groups where members of disadvantaged status groups have less influence and face challenges in acquiring and using power. Individually, status motivates behaviour just as power does. Culturally, status promotes resource and power inequality via beliefs about group differences; these beliefs result in resource advantages attributed to group membership in groups perceived as more esteemed. Status beliefs discourage low-status group members from challenging the status hierarchy. The cumulative effect of status results in positions of increased resource and power for members of higher status groups, while simultaneously holding back lower status group members. In this way, status institutionalizes group differences such as gender, race, and class into organizational structures of resource and power (Ridgeway, 2014).

Previous whistle-blowing research demonstrates that factors representing power and status play a role in whether an individual reports unethical conduct or not. In a summary of whistle-blowing literature (Near & Miceli, 1996), those who did report have more years of service, held a supervisory role, were better educated and more likely to be men as compared to individuals who did not report observed unethical conduct. These

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<sup>6</sup> Near *et al.*, 2004 ; Chen & Lai, 2014.

<sup>7</sup> Molm, Collett & Schaefer, 2007 ; Molm, 2010.

individual factors are not consistent across every study, but the relationships appear in a majority of the literature reviewed. It is also possible that the influence of power and status on reporting unethical conduct is attributed to power and status differences in the likelihood of observing unethical conduct (Miethe & Rothschild, 1994).

Altruism is a third area of sociological literature with potential value for whistle-blowing research. Recent whistle-blowing literature supports the inclusion of personality (Miceli *et al.*, 2012) and self-interest (Jones, Sprakman & Sanchez-Rodriguez, 2014) measures when considering the whistle-blowing outcome. Orientation towards prosocial behaviour and orientation towards Machiavellianism can be used to operationalize these measures. Previous research<sup>8</sup> relates individuals who are higher in Machiavellianism to the decreased reporting of wrongdoing. These individuals consider primarily self-interest when making ethical decisions, and use deception and manipulation to achieve their objectives.

The sociological literature on altruism indicates that social forces such as norms and social networks affect prosocial behaviour (Simpson & Willer, 2015), and both the individual and the situation interact when considering the effect of prosocial behaviour (Simpson & Willer, 2008). Previous whistle-blowing research (Dozier & Miceli, 1985) categorizes whistle-blowing as a form prosocial behaviour, classifying the act as a positive social behaviour intended to benefit others (and potentially, but not necessarily, the whistle-blower).

### **Trust and Leadership**

Having considered the existing whistle-blowing literature and the sociological concepts of power, status and altruism, trust in leaders is now established as a relevant, although unexplored, factor in the reporting of unethical conduct. What actually defines a leader? Addressing this question, European theoretical approaches to the study of leadership inspired work in the United States in the field of group dynamics. Here, leadership was defined via roles in social groups which help group members achieve collective ends. The primary method of studying leadership focused on interaction within the group (e.g., observation and peer evaluation). Early studies demonstrated that the same group of people would behave differently when their leaders behaved differently. While not claiming that individual leadership characteristics were the sole determinant of group performance, these studies forwarded that the degree to which leaders support their followers and encourage group integration has consequences for the group (Lewin, Lippitt & White, 1939).

More recently, the focus of leadership research includes structural constraints on leadership and the functions that a leader must perform in the group. A constant finding is that the nature and quality of interaction between the leader and the group is strongly related to the group's effectiveness (Segal, 1981). Rather than conceptualizing a leader by position, this article focuses on the interpersonal processes in social groups by which an individual (the leader) assists the group in completing a collective task.

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<sup>8</sup> Dalton & Radtke, 2013 ; Stylianou *et al.*, 2013.



The follower is an equally important part of the equation ; his or her interactions with the leader and the situation need to be accounted for (Fiedler, 1967). The interaction between these three entities, leader, follower and situation, should be brought together in an interactional framework. A particular case may be analyzed by considering each of the three entities separately, but greater insight is gained when the interaction between the three entities is explored. For example, it is necessary to take the leader's traits and abilities into account, but it is also necessary to determine how the situation impacts the leader's ability to employ specific traits.<sup>9</sup> One experimental study (Bhal & Dadhich, 2011) indicates that both quality of leadership and the leader-follower interaction impact the whistle-blowing decision.

Existing research relates supervisory ethical leadership (Mayer *et al.*, 2013), manager integrity (Kang, 2015) and authentic leadership (Liu, Liao & Wei, 2015) to whistle-blowing intentions, but trust is not specifically addressed despite the fact it is well-established in social-psychological literature.<sup>10</sup> The exact meaning of trust varies across studies ; in this article, trust is defined as a belief in another person's integrity. Trust is conceptualized as a social belief impacting the relationship between leader and follower.<sup>11</sup>

Social-psychological research demonstrates the importance of the role trust plays in the leader-follower interaction. Simpson and colleagues (2013) show that individuals' perceptions of leader trustworthiness affect their behaviour when making moral judgements. Psychological literature indicates that leaders who display what their followers believe to be the characteristics of a good leader get increased response from and more favourable evaluations by their followers.<sup>12</sup> Recent work (Schilke, Reimann & Cook, 2015) also shows that power differentials, such as those between a leader and a follower, negatively affect trust in social exchanges.

Status is also related to trust ; experimental research demonstrates that higher status individuals trust others more than lower status individuals. Mediation analyses reveal that having status alters the perception of others' intentions, such that the perceived positive intentions account for the relationship between status and trust. This may result in lower status individuals trusting their leaders less, possibly impacting the reporting of unethical conduct (Lount & Pettit, 2012).

## **Summary and Expectations**

Although previous empirical work addresses whistle-blowing, it does not consider the social-psychological literature on trust. As well, the sociological literatures on power, status and altruism have much to offer to whistle-blowing research. Guided by these literatures, previous trust and leadership research is leveraged to make predictions on the relationship between trust in leaders and the reporting of unethical conduct.

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<sup>9</sup> Hollander, 1978 ; Hughes, Ginnett & Curphy, 1996.

<sup>10</sup> Gambetta, 1990 ; Simpson, Harrell & Willer, 2013.

<sup>11</sup> Ross, Mirowsky & Pribesh, 2001 ; Ross & Mirowsky, 2003.

<sup>12</sup> Eagly & Karau, 2002 ; Lord & Hall, 2003 ; Epitropaki & Martin, 2005.

Based on the trust and leadership literatures, it is expected that trust in leaders is related to the reporting of unethical conduct where greater trust in leaders correlates with increased reporting. When leaders are known to condone unethical conduct, the reporting of such behaviour is less likely (Miethe & Rothschild, 1994). Previous literature relates trust in leaders to better moral judgements by and increased response from individuals they lead.<sup>13</sup> Assuming that trust represents a belief in another person's integrity, individuals with greater trust in their leaders should be more likely to report unethical conduct due to belief that they will be supported by their leaders and that their leaders will take action on the report (Miceli & Near, 2002). Status is also expected to be related to trust in leaders, as experimental research has shown higher status individuals trust others more than lower status individuals (Lount & Pettit, 2012).

Position in an organization may affect the likelihood of both observing and reporting unethical conduct. It is possible that individuals with different levels of responsibility have different exposure to unethical conduct (Miceli & Near, 1984), where supervisors occupying central positions or with other high-status attributes are more likely to directly observe unethical conduct (Miethe & Rothschild, 1994). Having been exposed to such behaviour, individuals with higher power and status may be more likely to report this behaviour despite possible retribution as their position could provide greater options for employment outside of the organization (Miceli & Near, 1984). As well, reporting unethical conduct carries with it the assumption that some action will be taken to terminate the wrongdoing (Near & Miceli, 1996). Individuals with higher power and status could have a greater belief that their reporting will be acted upon based on their elevated positions in the organization and support from others (Miceli & Near, 2002), as well as perceived benevolence from others (Lount & Pettit, 2012). Based on this, it is expected that individuals who are in a supervisory position will report unethical conduct more than their non-supervisor counterparts.

Organizations that engage in unethical conduct may be highly dependent on such behaviour (Near & Miceli, 1985). Organizations that rely on unethical practices to survive may provide indicators that retaliation will occur against whistle-blowers, either through organizational practices or the expressed attitudes or behaviour of leaders in the organization. Observers of unethical practices could be discouraged by this culture of silence, and rationalize not reporting by attributing the behaviour to established organizational culture.<sup>14</sup> Based on this, it is expected that individuals who observe more instances of misconduct by their leaders will report unethical conduct less than those who observe fewer instances.

Organizational factors shown to support whistle-blowing include perceived support for whistle-blowing by organizational policy and organizational commitment.<sup>15</sup> Perception of support for whistle-blowing by the organization is related to whether individuals report

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<sup>13</sup> Eagly & Karau, 2002 ; Lord & Hall, 2003 ; Epitropaki & Martin, 2005 ; Simpson *et al.*, 2013.

<sup>14</sup> Miceli & Near, 1984 ; Miceli & Near, 1985.

<sup>15</sup> Lee & Fargher, 2013 ; Chen & Lai, 2014 ; Kang, 2015.



unethical conduct or not (Near & Miceli, 1996). Anonymity, both at the organizational and individual levels, could also influence whether or not individuals report unethical conduct.<sup>16</sup> Based on this, it is expected that individuals with a greater perception of organizational support for whistle-blowing will report unethical conduct more than those who perceive less support. As well, it is expected that greater individual importance of anonymity and greater perceived organizational support for anonymity will both be correlated with increased reporting.

The whistle-blowing literature indicates an organization's dependence on wrongdoing is shown to influence whether it is reported or not.<sup>17</sup> While an ingrained culture of unethical conduct may deter reporting as observers consider it normative, it is also possible that with more severe unethical conduct comes increased reporting as it crosses some subjective line of severity for observers. Previous research demonstrates that type and moral intensity of wrongdoing correlate with whistle-blowing intentions<sup>18</sup> and moderate the impact of leadership on whistle-blowing (Bhal & Dadhich, 2011). Related to the type of wrong-doing, its severity may also factor into the decision to report or not (Vadera *et al.*, 2009). Based on this, it is expected that more severe unethical conduct is related to the increased reporting of such misconduct.

Finally, based on intergroup relations research (Turner & Reynolds, 2008), it is expected that in-group preference is related to the reporting of unethical conduct where individuals are less likely to report on members of their in-group. An open question is which group boundaries may trigger this in-group preference in a whistle-blowing situation.

## Data and Methods

The decision to report unethical conduct is a social process simultaneously affected by numerous influences. A factorial vignette study is well-suited to examine this type of research question involving social judgement (Rossi & Nock, 1982). In such a study, participants view a standardized vignette in which multiple factors are simultaneously manipulated in a predictable manner. The entire vignette population represents all possible combinations of factors (Wallander, 2009). Participants are randomly assigned to view one or more vignette(s), a sample of the entire vignette population, allowing many manipulations to be incorporated in a single experiment (Jasso, 2006).

Table 1 (next page) presents a list of all factors considered in the factorial vignette study as potentially related to the reporting of unethical conduct. These factors are organized in two categories ; vignette and participant. The vignette factors are those varied in a controlled manner across vignettes, including organizational and situational measures from previous literature. Additionally, to test the relationship between trust in leaders and the reporting of unethical conduct, the level of trust is varied in the individual to whom

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<sup>16</sup> Miceli & Near, 1984 ; Miceli & Near, 1985.

<sup>17</sup> Miethe & Rothschild, 1994 ; Miceli & Near, 2002.

<sup>18</sup> Near *et al.*, 2004 ; Chen & Lai, 2014.

misconduct is reported. Finally, the position and gender of the perpetrator is varied to test the in-group preference prediction and explore possible correlation with participant characteristics. Participant factors in Table 1 include individual measures from previous literature and demographic characteristics.<sup>19</sup>

**Table 1:** Vignette and Participant Factors

<i>Vignette Factors</i>	<i>Participant Factors</i>
Trust in Leaders	Gender
Leader Behaviour	Race
Support for Anonymous Reporting	Age
Severity of Observed Misconduct	Level of Education
Location of Observed Misconduct	Supervisor Status
Position of Perpetrator	Importance of Anonymity
Gender of Perpetrator	Machiavellianism
	Prosocial Behaviour

### **Experimental Procedures**

Amazon’s Mechanical Turk (MTurk), a crowd-sourcing service adopted by social scientists, was used to recruit study participants. A recent estimate numbers MTurk workers at approximately 500,000 (Hitlin, 2016), and MTurk data have proven to be of high quality based on manipulation checks, completion time, item nonresponse and lack of variation in response (Weinberg, Freese & McElhattan, 2014). MTurk produces more demographically diverse samples as compared to traditional university-based settings.<sup>20</sup> However, MTurk workers tend to be younger and of higher educational attainment than survey data representative of the United States population (Huff & Tingley, 2015).

The vignette scenario is a variation of a workplace scenario that research on ethical judgements (Mudrack & Mason, 2013) recommends as an exemplary whistle-blowing vignette. Although recognized as superior to other vignettes in previous literature, Mudrack and Mason also identify shortcomings. One such shortcoming is that the consequences of the unethical conduct are not highlighted. Explicitly stating consequences assists the participant in distinguishing between two potential unethical decisions in a whistle-blowing vignette ; the decision to commit some form of unethical conduct (the desired decision to be evaluated) and the decision to report the offender (this could be seen by some participants as unethical). In addition to explicitly stating consequences, this study incorporates manipulation checks to ascertain whether the stated consequences had the desired effect of focusing the participant on evaluating the unethical conduct and not the decision to report the offender.

<sup>19</sup> Demographic information was gathered before participants were made aware of the selection criteria for participation in the vignette study. As such, there is no reason to believe that participants misrepresented their reported characteristics to gain access to study participation.

<sup>20</sup> Paolacci, Chandler & Ipeirotis, 2010 ; Horton, Rand & Zeckhauser, 2011.

Another recognized shortcoming of whistle-blowing vignettes is the challenge of participants evaluating the vignette as if they were experiencing the scenario themselves. Phrasing a vignette in the second-person and asking participants what they would do leaves some question as to their immersion in the scenario, especially in the case of participants who are less likely to report unethical conduct. Instead, Mudrack and Mason recommend a third-person vignette with questions asking participants how likely they would be to take the same action as the protagonist. This likelihood evaluation is used as the outcome of interest in this study.

The factorial vignette study occurred in two phases. The first phase gathered demographic information, including employment status, and solicited participants' views on individual and organizational factors related to the reporting of unethical conduct. Participants also completed an instrument designed to measure their orientation towards Machiavellianism. Upon completing the first phase, participants were informed they may be contacted for participation in the second phase of the study. First-phase data was then used to select respondents into the second phase of the factorial vignette study. Only employed participants were selected, as the unethical conduct vignette is a workplace scenario.<sup>21</sup> Participants were next selected by gender<sup>22</sup> to ensure an equal number of men and women in the second phase, in which participants answered questions on five vignettes and completed an instrument designed to measure their orientation towards prosocial behaviour.<sup>23</sup>

## **Design and Participants**

As shown in Table 1, seven factors were varied in the factorial vignette study. Table 2 (next page) lists these factors along with their tested conditions. Although each factor has two conditions, the supervisor/ out-workgroup combination was not used, resulting in 96 possible vignette variations that participants could view. With the exception of perpetrator gender, the alternate condition for each vignette factor predicts an increase in reporting as compared to the control condition. See the Appendix (p.32) for the full text of the control version of the vignette, as well as the wording changes used in each alternate condition.

In the first phase, a short advertisement on MTurk directed potential participants to a survey hosted by Qualtrics.<sup>24</sup> Participants were restricted to MTurk workers in the United

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<sup>21</sup> In free text responses, some first phase participants who are currently retired (and thus unemployed) relayed that their past employment experience would make their input valuable in the vignette phase. While true, there were enough currently-employed participants in the first phase to meet desired sample size in the second phase. Only currently-employed participants were admitted to the second phase, as their connection to a workplace scenario is likely more salient in their lives at the time of study participation.

<sup>22</sup> Selection by gender is meant to address limitations of previous whistle-blowing data lacking gender information.

<sup>23</sup> The prosocial behaviour instrument was administered in the second phase in order to prevent survey fatigue in the first phase. Without the prosocial behaviour instrument, the first phase contained an appropriate number of questions to make response time fair for the payment agreed to by participants.

<sup>24</sup> The full text of the first and second phase surveys is available from the author upon request ([mnorton@usna.edu](mailto:mnorton@usna.edu)).

States<sup>25</sup> who were at least 18 years old and had at least 97% of their previous assignments in MTurk accepted. Upon reading and agreeing to the consent form, participants were informed they would participate in a study on the reporting of unethical conduct and were told that unethical conduct is defined as, “*any action that is illegal, immoral, illegitimate or inconsistent with the values of an organization*”. In line with whistle-blowing literature (Near & Miceli, 1985), this definition is meant to specifically include immoral behaviour under the umbrella of unethical conduct.

**Table 2** : Vignette Factor Conditions

<i>Vignette Factor</i>	<i>Condition</i>	
	Control	Alternate
-Trust in Supervisor to Whom Unethical Conduct is Reported	Low	High
-Misconduct by Supervisor to Whom Unethical Conduct is Reported	Yes	No
-Organizational Support for Anonymous Reporting	Low	High
-Severity of Observed Misconduct	Less	More
-Location of Observed Misconduct	In-workgroup	Out-workgroup
-Position of Perpetrator	Coworker	Supervisor
-Gender of Perpetrator	Woman	Man

Note : With the exception of Perpetrator Gender, the Alternate Condition corresponds to a predicted increase in reporting.

Participants then completed the survey in Qualtrics and were subsequently verified as authentic via a unique random code received upon survey completion and entered in MTurk. Upon finishing, participants were debriefed on the type of information gathered and informed they may be contacted for the second phase of the study (but not what the selection criteria would be). Participants who successfully completed the first phase, which on average took just under 7 minutes, were paid \$1.00 for their participation.<sup>26</sup> Due to the large number of available MTurk workers, data collection for the first phase took less than two hours. Fully 1,175 workers began the first phase and 40 did not finish, resulting in a drop-out rate of 3.4%.

All currently-employed participants passing both first-phase attention check questions<sup>27</sup> (N=927) were selected for participation in the second phase of the factorial vignette study. In order to obtain an equal distribution of participants across vignettes, men and women were directed to separate but identical versions of the second-phase survey in

<sup>25</sup> This was done to minimize the effect of cultural differences, as MTurk has a significant number of Indian workers.

<sup>26</sup> For financial reasons, the target participation in the first phase was N=1,130 workers.

<sup>27</sup> The first phase survey incorporated two attention check questions that asked participants to record a specific answer. N=15 participants failed one or both of these attention check questions, and were dropped from consideration for the second phase.

Qualtrics.<sup>28</sup> Upon reading and agreeing to the consent form, participants were again presented with the definition of unethical conduct used in the first phase and informed they would view 5 vignettes. Participants were explicitly made aware that, though the vignettes may appear similar, no two are the same and they should carefully read each vignette.

Participants then randomly viewed five of the 96 vignettes.<sup>29</sup> Random assignment was managed by the Qualtrics programme, where the number of vignettes each participant would view was specified while allowing Qualtrics to assign the vignettes evenly to ensure sufficient response across vignettes.<sup>30</sup> For each vignette, participants answered 5 questions including manipulation checks and dependent variable measurement. After viewing the vignettes, participants completed the prosocial behaviour instrument and were subsequently verified as authentic via a unique random code received upon survey completion and entered in MTurk. Upon finishing, participants were informed of the selection criteria for the second phase and were debriefed on the variations used in the vignettes. Participants who successfully completed the survey, which on average took just under 10 minutes, were paid \$1.50 for their participation.

Upon initiating the second phase, 328 workers completed the vignette study in the first four days; after which, responses all but ceased. At this point, the response rate for the second phase was 35%. As this did not provide sufficient power for analyses, a follow-up e-mail was sent to all eligible workers reminding them that the second phase was open. Within a day of sending the e-mail, sufficient responses were received and the second phase survey was closed with a final response rate of 63%. 619 workers began the second phase survey and 38 did not finish, resulting in a drop-out rate of 6.1%. The number of responses for each vignette ranged between 28 and 33.<sup>31</sup>

## Measures

For the dependent variable, second-phase participants were asked the following question after each vignette viewed, “*How likely would you be to take the same action as Sam in this vignette; that is, to report [the offender]?*”. Possible answers to this question were: (1) Very unlikely; (2) Somewhat unlikely; (3) Neither likely nor unlikely; (4) Somewhat likely; and (5) Very likely. Responses were treated as ordinal data representing the participant’s likelihood to report unethical conduct.

Independent variables in the factorial vignette study were separated into two categories: vignette and participant. Seven vignette variables were constructed representing

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<sup>28</sup> To ensure approximately 30 responses for each vignette while staying within budget, the target participation in the second phase was 580 workers (N=290 men and N=290 women).

<sup>29</sup> Participants are limited to five vignettes in order to prevent survey fatigue in the second phase. Ideally, participants would only view one vignette to simplify subsequent analyses (see the analyses section of this chapter for further discussion). However, the research budget necessitated that participants view multiple vignettes to obtain sufficient power for analyses.

<sup>30</sup> By assigning the vignettes evenly, Qualtrics did not truly randomize vignette viewing. For example, in a given round of 96 vignettes if a particular vignette was chosen first, it could not be viewed again until the other 95 vignettes were randomly presented.

<sup>31</sup> This variation in response across vignettes is partially due to dropped data from incomplete surveys. As men and women were managed by different randomizers, variation due to gender also exists.

the vignette factors from Table 2. All variables are dichotomous, with the control condition coded as a 0 and the alternate condition coded as a 1.

Participant independent variables were constructed from first- and second-phase data. In the first phase, data was gathered representing supervisory status, individual importance placed on anonymity and orientation towards Machiavellianism. For supervisory status, participants were asked, “*What is your current employment status ?*”. Possible answers to this question were : (1) Not employed; (2) Currently not employed, but actively seeking employment ; (3) Employed, but not in a position that has supervisory responsibilities or conducts performance appraisals on other employees ; and (4) Employed in a position that has supervisory responsibilities or conducts performance appraisals on other employees. A dichotomous variable was constructed for supervisory status, where participants answering (4) were coded as a 1 and participants answering (3) were coded as a 0 ; those answering (1) or (2) were coded as unemployed.

For individual importance placed on anonymity, a question was repeated from the 2010 Merit Principles Survey instrument<sup>32</sup> asking participants, “*If you were to observe or have evidence of wrongdoing, how important would it be to you that you be able to report it without disclosing your identity ?*”. Possible answers to this question were : (1) Not important; (2) Somewhat important; (3) Important; and (4) Very important. Of note, this question was asked of participants in the first phase of the survey and not with respect to a particular vignette. Responses were treated as ordinal data.

For orientation towards Machiavellianism, in the first phase participants completed the Mach-IV scale (Christie & Geis, 1970) that previous literature (Dalton & Radtke, 2013) used to operationalize orientation towards Machiavellianism. For a series of 20 questions, participants were asked to “*read each statement carefully and then indicate the extent to which you agree or disagree with each question*”. Responses ranged from 1 = Completely disagree to 7 = Completely agree, with 4 = Neutral. Responses from 10 of the questions were reverse-coded, and the resulting 20 answers were averaged to construct an index representing orientation towards Machiavellianism ( $\alpha=0.8492$ ).

In the second phase, data was gathered to construct a variable representing orientation towards prosocial behaviour. Participants completed an instrument that previous research (Van Lange *et al.*, 1997) used to measure social value orientation. Participants were asked to make 9 point-distribution decisions, with each point distribution having three possible choices. These choices corresponded to the social value orientations of prosocial, individualistic and competitive. Participants were classified into an orientation when they made six or more consistent choices representing that orientation. A dichotomous variable was constructed representing orientation towards prosocial behaviour, where participants making six or more prosocial point distributions were coded as a 1 and all others were coded as a 0.

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<sup>32</sup> The 2010 Merit Principles Survey is a government-wide survey of United States federal employees that solicits their opinions and experiences related to their careers, organizational human resources practices, and leadership. The survey is administered by the Merit Systems Protection Board.



For control variables, data was gathered in the first phase to construct variables representing gender, race, age and level of education. For gender, participants were asked, “*What is your gender ?*”. Possible responses to this question were male and female. A dichotomous variable was constructed representing gender, where participants answering male were coded as a 1 and participants answering female were coded as a 0.

For race, participants were asked, “*What is your race/ethnicity?*”. Possible responses to this question included : (1) Black or African-American ; (2) White or Caucasian ; (3) Hispanic or Latino ; (4) Asian ; (5) American-Indian or Alaska Native ; and (6) Native Hawaiian or Other Pacific Islander. These options are consistent with race categories on federal government surveys, with the exception of including the “Hispanic or Latino” option.<sup>33</sup> Respondents were allowed to choose all categories they felt applied. Due to the large majority of first-phase respondents identifying solely as “White or Caucasian”, a dichotomous variable was constructed representing race where participants answering only “White or Caucasian” were coded as a 1 and all other participants were coded as a 0.

An interval variable for age was constructed from a question asking participants “*What is your age ?*”. Possible responses ranged from 0-100. For level of education, respondents were asked “*What is your highest education level ?*”. Possible responses to this question included : (1) Less than a high school diploma ; (2) High school, equivalent diploma, or GED ; (3) Some college credits but no degree ; (4) Associates’ college degree ; (5) Bachelor’s college degree ; (6) Master’s degree ; (7) Professional degree (e.g. J.D., M.D., D.D.S.) ; and (8) Academic or scientific doctorate (Ph.D). Responses were treated as ordinal data representing the participant’s level of education.

### **Manipulation Checks**

Of the seven vignette factors, four were manipulated via differing statements in each vignette (see Appendix, p.32) ; these include the gender and position of the individual committing the unethical conduct, the location of such misconduct with respect to the workgroup, and any misbehaviour by the supervisor to whom such misconduct is reported. Given the factual nature of the statements in the vignettes, the manipulations for these four factors are assumed to be successful.

The severity of observed misconduct was manipulated by varying the type of office equipment being used at home. The less severe vignettes featured office supplies, while the more severe vignettes featured a laptop and laser printer.<sup>34</sup> For each vignette, participants were asked to “*assess the level of harm done...in using company property for personal use*”. Possible answers to this question were : (1) Very low ; (2) Low ; (3) Moderate ; (4) High; and (5) Very high. The average response across less severe vignettes was 2.36, while

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<sup>33</sup> Many federal government surveys treat “Hispanic or Latino” as a separate ethnicity question.

<sup>34</sup> In both cases, the same consequence was presented of the protagonist knowing “*from personal experience that they are in high demand at the office and productivity is sometimes reduced as coworkers wait for resources to become available*”.

the average response across more severe vignettes was 2.91.<sup>35</sup> This supports the conclusion that the severity manipulation was successful.

Organizational support for anonymous reporting was manipulated by varying the emphasis placed on the availability of an anonymous reporting channel. The alternate condition explicitly stated the availability of a supported anonymous reporting channel, while the control condition omitted mentioning it (as compared to explicitly stating such a reporting channel did not exist). For each vignette, participants were asked “*To you personally, how important would anonymity be in your decision to report such behaviour?*”. Possible answers to this question were: (1) Not at all important ; (2) Slightly important ; (3) Somewhat important ; (4) Very important ; and (5) Extremely important. The average response across control vignettes for this factor was 4.30, while the average response across vignettes in the alternate anonymity condition was 4.26. In a free text response at the conclusion of the second phase, one participant had this to say about the manipulation: “*The fact that Sam confronted the other person, then the VERY next day reported the items makes anonymity useless. Everyone would know it was Sam*”. This same participant offered a solution of letting some time elapse in the vignette before Sam reported the misconduct. Future studies using this vignette should incorporate this potential solution.

Trust in leadership was manipulated by varying the level of trust in the supervisor to whom misconduct is reported. The alternate condition explicitly stated that the supervisor to whom misconduct is reported is trusted based on previous interaction, while in the control condition this supervisor is new at the company (as compared to stating they are untrusted). As participants were not asked a question regarding their level of trust in the supervisor after viewing each vignette, the success of this manipulation can only be assumed.

All vignettes incorporated the use of a gender-neutral name for the protagonist. The name Sam was chosen, which could be a nickname for either Samuel or Samantha. Given that the vignette study was designed with an equal distribution of participants by gender, it was not desirable for the gender of the protagonist in the vignette to affect how likely participants were to report they would take the same action. This manipulation was generally unsuccessful, as 91% of men and 89% of women reported thinking Sam was a man after viewing their five vignettes.

Finally, to gauge how participants viewed the ethicality of both the decision to use company property and the decision to report this misconduct, participants were asked : “*How ethical you feel each person’s chosen action was in the vignette*”. Possible answers to these questions were : (1) Very unethical ; (2) Somewhat unethical ; (3) Neither ethical or unethical ; (4) Somewhat ethical ; and (5) Very ethical. The average response to the decision to use company property was 2.03, while the average response to the decision to report this misconduct was 4.18.<sup>36</sup> This supports the conclusion that participants viewed

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<sup>35</sup> Two-sample difference of means statistically significant (two-tailed,  $\alpha=0.05$ ).

<sup>36</sup> Two-sample difference of means statistically significant (two-tailed,  $\alpha=0.05$ ).

the decision to use company property as the primary form of unethical conduct in the vignette.

### Analyses

Although the dependent variable is treated as continuous, ordinary least squares (OLS) regression is not the optimal modelling for analyses of these data. The data collection methodology had participants each view multiple vignettes, resulting in data at two distinct levels.<sup>37</sup> Responses are assumed to be consistent at the participant level, but not totally distinct ; it is necessary to account for the relationship of both vignette and participant to the outcome of interest. The primary driver of this necessity is that, by having a single participant provide dependent variable data on multiple vignettes, the OLS assumption of independent cases with uncorrelated error terms is violated. Vignette responses are not from a random sampling of unique individuals but rather nested within participants.<sup>38</sup>

Multi-level modelling is used for analyses of the dependent variable. The first model is a variance components model with fixed effects for all covariates ; only the intercept is allowed to have random effects ( $u_{0j}$ ) among participants. The first model is of the general form :

$$Y_{ij} = \beta_{0ij} + \beta_1 X_{1ij} + \beta_2 X_{2j}$$

$$\beta_{0ij} = \beta_0 + u_{0j} + \varepsilon_{0ij}$$

where the errors are assumed to be independent with distributions :

$$u_{0j} \approx N(0, \sigma^2_{u0}) \quad \text{and} \quad \varepsilon_{0ij} \approx N(0, \sigma^2_{\varepsilon0})$$

The  $\beta$ s in the equation are fixed effects, where  $X_1$  is a set of vignette variables and  $X_2$  is a set of participant variables.  $\sigma^2_{u0}$  and  $\sigma^2_{\varepsilon0}$  are the two variance parameters to be estimated, where the former is attributed to the participant and the latter to the vignette. Both the conditional distribution and marginal distribution of random effects are Gaussian (Grilli & Rampichini, 2005).

This model is extended by allowing the effect of a given vignette variable to vary randomly among participants. The extended model is of the general form :

$$Y_{ij} = \beta_{0ij} + \beta_{1j} X_{1ij} + \beta_2 X_{2ij} + \beta_3 X_{3j}$$

$$\beta_{0ij} = \beta_0 + u_{0j} + \varepsilon_{0ij}$$

$$\beta_{1j} = \beta_1 + u_{1j}$$

where  $X_1$  is the varying vignette variable,  $X_2$  a set of other vignette variables and  $X_3$  is a set of participant variables. In the extended model, a third variance parameter ( $\sigma^2_{u1}$ ) is estimated for the varying vignette variable. The random effects at the participant level ( $u_{0j}$  and  $u_{1j}$ ) are assumed to follow a bivariate Normal distribution with zero mean and no covariance. This model assumes homoscedastic residual variance at the vignette level.<sup>39</sup>

<sup>37</sup> The vignette level is considered level 1 and the participant level is considered level 2 ; so, vignette data is nested within participants.

<sup>38</sup> Hox, Kreft & Hermkens, 1991 ; Wallander, 2009 ; Gideon, 2012.

<sup>39</sup> Rabe-Hesketh, Skrondal & Pickles, 2004, 2005 ; Grilli & Rampichini, 2005.

To begin with, responses to demographic and participant independent variables are compared for those who participated in the second phase of the study versus those who did not. Observed differences lend context to the results, as participants were not randomly selected into the second phase of the study. Next, the relationship of vignette and participant independent variables to the outcome of interest is explored with particular attention to trust in leaders. Based on the results of this model, an extended model is proposed allowing the effect of the most substantive vignette variable to vary randomly across participants (Steenbergen, 2012). Finally, the relative effect sizes of various factors are compared (Selya *et al.*, 2012).

## **Results and Discussion**

Analyses of the vignette data provide evidence that individual, organizational and situational factors are all related to the reporting of unethical conduct. As conceptualized in the factorial vignette study, these factors are organized at the vignette and participant level. At the vignette level, greater organizational support for anonymous reporting, more severe observed misconduct, misconduct perpetrated by a coworker, and good conduct by the supervisor receiving the report are all related to increased reporting. At the participant level, supervisory status, greater individual importance placed on anonymity and a lesser orientation towards Machiavellianism are all related to increased reporting. More substantive relationships are observed for the severity of observed misconduct, supervisory status and orientation towards Machiavellianism. Finally, greater trust in leaders is related to increased reporting only for non-supervisors.

To begin with, the results of analyses of vignette data are presented with particular attention to the vignette factor representing trust in leaders. Based on these results, the relative effect size for each significant factor is examined. A discussion of how the factors relate to the reporting of unethical conduct follows, including implications for leaders seeking to increase the reporting of unethical conduct in their organizations. Finally, research limitations are reviewed in addition to possible direction for future work.

### **Results**

Table 3 (next page) presents descriptive statistics for the employed participants from the first phase differentiated by their participation in the second phase. Given that participants were not randomly selected into the second phase, it is important to compare the characteristics of those who participate in the second phase versus those who did not. As compared to the participants who did not participate, those who did possess similar characteristics for the following variables: Race, Education, and Importance of Anonymity. Their scores on the Machiavellianism index are nearly similar, as well, although the difference is significant.

The characteristics of the two groups differ for the following variables: Gender, Age and Supervisory Status. These differences are partially explained by the characteristics of all first-phase participants and choices made in selecting second-phase participants. When considering the total number of employed first-phase participants (N=927), there are

significantly more men than women and men are significantly more likely to be supervisors than women. By design, selection into the second phase forced an equal distribution of men and women. This decreased both the percentage of men and supervisors for second phase participants.

**Table 3** : Descriptive Statistics for Vignette Study Participants

	<u>Phase 2 Participation</u>			
	<b>Yes</b>		<b>No</b>	
N	581		346	
<b><i>Control Variables</i></b>				
Gender (Man)	50.1%		59.8%	
Race (White)	81.8%		79.5%	
	<u>Mean</u>	<u>Std.Dev.</u>	<u>Mean</u>	<u>Std.Dev.</u>
Age (18-80) <sup>a</sup>	38.0	11.3	35.0	9.7
Level of Education (1-8)	4.2	1.3	4.2	1.4
<b><i>Participant Variables</i></b>				
Supervisor Status	33.4%		42.2%	
	<u>Mean</u>	<u>Std.Dev.</u>	<u>Mean</u>	<u>Std.Dev.</u>
Importance of Anonymity (1-4)	3.1	0.9	3.1	0.9
Machiavellianism (1-7) <sup>a</sup>	3.5	0.8	3.6	0.8
Prosocial Behaviour	60.6%		Not Measured	

a : Two-sample difference of means statistically significant (two-tailed,  $\alpha=0.05$ )

As described in the analyses section, multi-level modelling is used for analyses of the vignette data. To begin with, Figure 1 (next page) presents a random effects analysis of variance (ANOVA) on solely the outcome of interest : the likelihood that the participant would take the same action as the protagonist in the vignette and report the unethical conduct. This random effects ANOVA indicates what portion of the variance in likelihood to report is due to participant differences (level 2) as compared to vignette differences (level 1). The model has 2,905 responses nested within N=581 participants.

Equating the ANOVA results to the equations from the analyses section,  $\beta_{0ij}$  is the grand mean outcome score across all vignettes and  $\beta_0$  is the mean outcome score for a participant across the five vignettes viewed. The level 1 error term ( $\epsilon_{0ij}$ ) represents the difference between a particular vignette outcome and a participant’s mean outcome score. The level 2 error term ( $u_{0j}$ ) represents the difference between a participant’s mean outcome score and the grand mean. The variance associated with these two error terms distinguishes what portion is due to participant versus vignette differences.

Analyses using Stata’s *xtmixed* command show a grand mean ( $\beta_{0ij}$ ) of 2.988, represented in Figure 1 by the blue line. For participant mean outcomes, the same figure reveals variance from the grand mean. This variance occurs at both the participant

( $\sigma^2_{u0}=1.246$ ) and the vignette ( $\sigma^2_{\varepsilon0}=0.646$ ) levels ; 66% of the variance is attributable to differences across participants. When compared to the null hypothesis that there is no cross-participant variation in outcome (e.g., an OLS regression model allowing only for vignette-level variation), a likelihood ratio test indicates the null hypothesis is rejected ( $\chi^2(01)=1747.33$ ,  $p=0.000$ ) providing evidence of cross-participant variation in outcome.

**Figure 1:** Random Effects ANOVA of Likelihood to Report

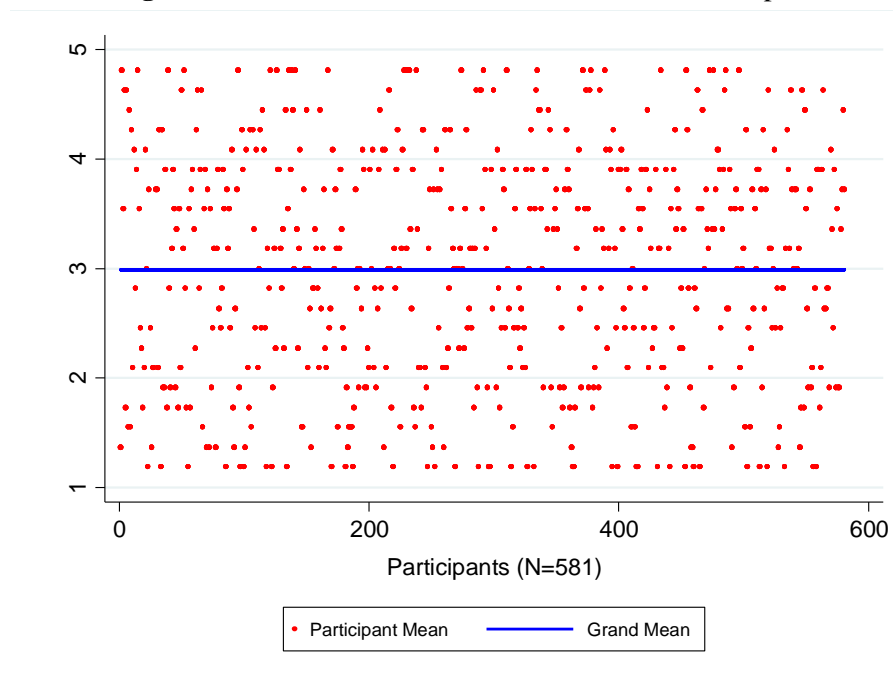


Table 4 (next page) presents a random intercept model of the reporting outcome, having 2,905 responses nested within N=581 participants. In this model, the intercept is allowed to vary across participants while the coefficients are fixed effects. The first column includes only vignette-level factors, which are jointly significant (Wald  $\chi^2(7)=239.05$ ,  $p=0.000$ ). Individually significant vignette factors include leader behaviour, support for anonymous reporting, the severity of observed misconduct, and the position of the perpetrator. Comparing the remaining variance in this model with that in the random effects ANOVA, the added vignette factors account for about 3% of the total variance in the likelihood to report outcome.<sup>40</sup>

To account for variation in the intercept across participants, the second column introduces only participant-level factors. These factors are jointly significant (Wald  $\chi^2(8)=37.53$ ,  $p=0.000$ ), with individually significant participant factors including supervisor status and orientation towards Machiavellianism. The addition of these participant factors reduces the variance associated with participants ( $\sigma^2_{u0}$ ) to 1.163, indicating that these factors account for about 7% of the variance across participants.

<sup>40</sup> This percentage is determined by calculating the reduction in the total variance ( $\sigma^2_{u0}+\sigma^2_{\varepsilon0}$ ) of the random intercept model as compared to the random effects ANOVA.



**Table 4:** Random Intercept Model of Likelihood to Report Outcome

	<b>Vignette Only</b>	<b>Participant Only</b>	<b>Full Model</b>
<b><i>Vignette Factors (Level 1)</i></b>			
Trust in Leaders	0.051 (0.031)	-	0.052† (0.031)
Leader Behaviour	0.165* (0.031)	-	0.165* (0.031)
Support for Anonymous Reporting	0.102* (0.031)	-	0.102* (0.032)
Severity of Observed Misconduct	0.424* (0.032)	-	0.425* (0.032)
Location of Observed Misconduct	0.011 (0.038)	-	0.013 (0.038)
Position of Perpetrator	-0.124* (0.038)	-	-0.122* (0.038)
Gender of Perpetrator	0.005 (0.031)	-	0.005 (0.031)
<b><i>Participant Factors (Level 2)</i></b>			
Gender (Man)	-	-0.044 (0.097)	-0.043 (0.096)
Race (White)	-	-0.018 (0.125)	-0.013 (0.124)
Age	-	-0.001 (0.004)	-0.001 (0.004)
Level of Education	-	0.001 (0.036)	-0.003 (0.036)
Supervisor Status	-	0.220* (0.101)	0.227* (0.101)
Importance of Anonymity	-	0.088 (0.053)	0.101† (0.053)
Machiavellianism	-	-0.307* (0.060)	-0.306* (0.059)
Prosocial Behaviour	-	0.058 (0.100)	0.071 (0.099)
<b>Constant</b>	2.652* (0.064)	3.727* (0.382)	3.368* (0.383)
$\sigma^2_{u0}$	1.249* (0.080)	1.163* (0.076)	1.163* (0.075)
$\sigma^2_{\varepsilon0}$	0.587* (0.017)	0.646* (0.019)	0.587* (0.017)
<b>-2LL</b>	8,121.31	8,312.83	8083.58

\*p<0.05, †p<0.10. Unstandardized coefficients, standard errors in parentheses.

As the full model in column three includes both vignette-level and participant-level factors that are significant, the fixed effects of this model are presented. Significant

vignette and participant factors from the previous two models remain so in the full model,<sup>41</sup> after accounting for all other factors in the full model. Compared to vignettes highlighting misconduct by the supervisor accepting a report, participants rate vignettes without such misconduct 0.17 points higher on the likelihood to report outcome. Similar differences in the reporting outcome occur when comparing greater versus less support for anonymous reporting (0.10 point increase), more severe versus less severe observed misconduct (0.43 point increase), and misconduct perpetrated by a supervisor versus a coworker (0.12 point decrease). For participant factors, supervisors rate the likelihood to report outcome 0.23 points higher than non-supervisors and a one point increase on the Machiavellianism index is related to a 0.31 point decrease in the likelihood to report outcome. Comparing the remaining variance in the full model with that in the random effects ANOVA, the vignette and participant factors together account for about 7.5% of the total variance in the likelihood to report outcome.

**Table 5** : Interaction Model of Trust in Leaders with Supervisor Status

	<b>Full Model</b>	<b>Interaction Model</b>
<b><i>Vignette Factors (Level 1)</i></b>		
Trust in Leaders	0.052† (0.031)	0.086* (0.038)
Trust in Leaders x Sup. Status	-	-0.103 (0.066)
Leader Behaviour, Support for Anonymous Reporting, Severity of Observed Misconduct, Location of Observed Misconduct, Position of Perpetrator and Gender of Perpetrator included in both models (although not shown, results are substantively similar to the full model in Table 4)		
<b><i>Participant Factors (Level 2)</i></b>		
Gender, Race, Age, Level of Education, Importance of Anonymity, Machiavellianism and Prosocial Behaviour included in both models (although not shown, results are substantively similar to the full model in Table 4)		
Supervisor Status	0.227* (0.101)	0.278* (0.106)
<b>Constant</b>	3.368* (0.383)	3.356* (0.383)
$\sigma^2_{u0}$	1.163* (0.075)	1.160* (0.074)
$\sigma^2_{\epsilon0}$	0.587* (0.017)	0.586* (0.017)
<b>-2LL</b>	8083.58	8081.17

\*p<0.05, †p<0.10. Unstandardized coefficients, standard errors in parentheses.

<sup>41</sup> Additionally, trust in leaders and individual important of anonymity are nearly significant.

**Table 6** : Random Slope Model of Likelihood to Report Outcome

	<b>Full Model</b>	<b>Random Slope<sup>a</sup></b>
<b>Vignette Factors (Level 1)</b>		
Trust in Leaders	0.052† (0.031)	0.046 (0.029)
Leader Behaviour	0.165* (0.031)	0.167* (0.029)
Support for Anonymous Reporting	0.102* (0.032)	0.110* (0.029)
Severity of Observed Misconduct	0.425* (0.032)	0.418* (0.044)
Location of Observed Misconduct	0.013 (0.038)	0.008 (0.035)
Position of Perpetrator	-0.122* (0.038)	-0.126* (0.035)
Gender of Perpetrator	0.005 (0.031)	0.001 (0.029)
<b>Participant Factors (Level 2)</b>		
Gender, Race, Age and Level of Education included in both models (although not shown, results from are substantively similar to the full model in Table 4)		
Supervisor Status	0.227* (0.101)	0.244* (0.101)
Importance of Anonymity	0.101† (0.053)	0.109* (0.053)
Machiavellianism	-0.306* (0.059)	-0.304* (0.059)
Prosocial Behaviour	0.071 (0.099)	0.061 (0.099)
<b>Constant</b>		
	(0.383)	(0.381)
$\sigma^2_{u0}$	1.163* (0.075)	1.160* (0.074)
$\sigma^2_{u1}$ (a : Severity)	-	0.633* (0.064)
$\sigma^2_{\varepsilon0}$	0.587* (0.017)	0.429* (0.014)
<b>-2LL</b>	8083.58	7858.86

\*p<0.05, †p<0.10. Unstandardized coefficients, standard errors in parentheses.

The relationship of trust in leaders with the likelihood to report outcome merits further attention, as it is nearly significant in the full model. In a reduced model of trust in leaders interacted with supervisor status, analyses reveal significant main effects ; as well, these factors are jointly significant (Wald  $\chi^2(3)=7.96$ ,  $p=0.047$ ). These relationships remain after accounting for all other factors in the full model, as seen in Table 5.

Compared to lower trust vignettes viewed by non-supervisors, non-supervisors rated higher trust vignettes 0.09 points higher on the likelihood to report outcome. This effect is non-substantive, accounting only for an additional 0.13% of the total variance in the likelihood to report outcome as compared to the full model.

As the severity of observed misconduct has the most substantive effect of all vignette factors in the full model, analyses presented in Table 6 (above) modify the full model to allow a slope effect for the vignette variable representing the severity of observed misconduct. In this random slope model, which best fits the data (-2LL=7858.86), an additional variance component ( $\sigma^2_{u1}$ ) represents the variance attributed to the severity of observed misconduct. Table 6 shows a sizable variance component ( $\sigma^2_{u1}=0.633$ ) for the severity of observed misconduct along with a logical reduction in vignette-level variance ( $\sigma^2_{\varepsilon0}=0.429$ ). Additionally, in this model the individual importance of anonymity is significant where a one point increase on the importance of anonymity scale is related to a 0.11 point increase in the likelihood to report outcome.

**Table 7:** Relative Effect Size for Significant Factors

	<b>Full Model</b>	<b>Cohen's <math>f^2</math></b>
<i>Vignette Factors (Level 1)</i>		
Location of Observed Misconduct and Gender of Perpetrator included but not shown (see Table 4)		
Trust in Leaders	0.052 <sup>†</sup> (0.031)	0.368
Leader Behaviour	0.165* (0.031)	0.382
Support for Anonymous Reporting	0.102* (0.032)	0.372
Severity of Observed Misconduct	0.425* (0.032)	0.470
Position of Perpetrator	-0.122* (0.038)	0.373
<i>Participant Factors (Level 2)</i>		
Gender, Race, Age, Level of Education and Prosocial Behaviour included but not shown (see Table 4)		
Supervisor Status	0.227* (0.101)	0.366
Importance of Anonymity	0.101 <sup>†</sup> (0.053)	0.366
Machiavellianism	-0.306* (0.059)	0.366
<i>See Table 4 for Constant and Variance Components</i>		
<b>-2LL</b>	8083.58	

\*p<0.05, †p<0.10. Unstandardized coefficients, standard errors in parentheses.

Finally, Table 7 (above) presents relative effect sizes for significant factors in the full model. Multi-level analyses do not allow for the computation of standardized coefficients for fixed effects. Instead, effect sizes are estimated by calculating the Cohen's  $f^2$  statistic for each factor (Selya *et al.*, 2012). Of all factors, the severity of observed misconduct has the largest effect.<sup>42</sup>

## Discussion

The most substantive finding in this study is the effect that the severity of observed misconduct has on the reporting decision, where more severe misconduct is related to increased reporting. Substantive participant factors related to increased reporting include supervisory status and a lesser orientation towards Machiavellianism. Although not as substantive, vignette factors including greater organizational support for anonymous reporting, misconduct located in the workgroup, and good conduct by the supervisor receiving the report are all related to increased reporting. At the participant level, greater individual importance placed on anonymity is also related to increased reporting. Concerning the primary research question, greater trust in leaders is related to increased reporting only for non-supervisors.

In the full model from Table 4 (above, pp.20-21), the vignette factors as a whole account for about 3% of the total variance in the likelihood to report outcome as compared the reduced random effects ANOVA. Of these factors, good leader behaviour,<sup>43</sup> greater organizational support for anonymous reporting and more severe observed misconduct had the predicted effect. After accounting for the other factors in the model, participants rate vignettes 0.17, 0.10 and 0.43 points higher, respectively, on the likelihood to report outcome. A fourth factor, position of the perpetrator, had an effect opposite that expected where participants rate vignettes with misconduct perpetrated by a supervisor 0.12 points *lower* than vignettes where the perpetrator was a coworker. Rather than supporting the in-group preference expectation, the position factor supports the notion that fear of retaliation from an individual in power (e.g. a supervisor) may factor into the reporting decision.

The vignette factor representing trust in leaders had the predicted effect when considering only non-supervisors. Compared to lower trust vignettes viewed by non-supervisors, non-supervisors rate higher trust vignettes 0.09 points higher on the likelihood to report outcome. While this effect is small, it does highlight the additional importance that trust plays for lower-status individuals when deciding whether or not to report unethical conduct.

Other vignette factors are not related to the reporting outcome ; these include the location of the observed misconduct and the gender of the perpetrator. The rationale behind

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<sup>42</sup> The similar effect size for participant factors is potentially due to the random assignment of vignettes to participants in the second phase, or to the multi-level nature of analyses conducted on vignette data.

<sup>43</sup> In the vignettes, leader behaviour is specifically attributed to the person to whom misconduct is reported. The vignettes were constructed in this manner in an attempt to disentangle leader behaviour from the concept of trust in leaders. Of the two, analyses reveal that leader behaviour has the more universal effect on reporting.

including the location was to test the in-group preference prediction. In the vignettes, when the perpetrator was a coworker it varied whether he or she is a member of the protagonist's workgroup or from another workgroup. However, the discovery of the misconduct always occurred at the perpetrator's house. It is possible that the location manipulation was obscured by the constant setting for the discovery of the misconduct. Another possibility is that workgroup membership was not a determining factor in triggering an in-group preference effect for study participants.

Participant factors not related to the reporting outcome include gender, race, age and level of education. The gender non-finding also holds true when considering the interaction of participant gender with the gender of the perpetrator in the vignette, and is despite the fact an equal gender distribution was forced when selecting participants into the vignette phase of the study.

Other participant factors, including supervisor status and orientation towards Machiavellianism, did have the predicted effect on the reporting outcome. Supervisors rate the likelihood to report outcome 0.23 points higher than non-supervisors and a one point increase on the Machiavellianism index is related to a 0.31 point decrease in the likelihood to report outcome. Additionally, the random slope model from Table 6 (above, p.23) indicates that individual importance of anonymity has an effect on the reporting outcome where a one point increase on the importance of anonymity scale is related to a 0.11 point increase in the likelihood to report outcome. While the prosocial behaviour factor did not have an effect on the reporting outcome, the supervisor and anonymity results provide evidence that supervisors and individuals placing importance on anonymity are more likely to report unethical conduct. As well, the Machiavellianism finding is in line with previous whistle-blowing literature.

Of all the factors considered, the severity of observed misconduct had the largest effect on the reporting outcome. This is evidenced by a Cohen's  $f^2$  statistic that is 23% greater than the next closest factor. Even after considering other vignette and participant factors, severity's effect on the reporting outcome across conditions is convincing with a 0.43 point increase in likelihood to report for participants viewing the more severe vignettes as compared to the less severe vignettes.

## **Conclusion**

Analyses in this article indicate that trust in leaders is related to reporting unethical conduct only for non-supervisors, highlighting the additional importance that trust plays for lower-status individuals when deciding whether or not to report. Additionally, good behaviour by the leader accepting a report is related to increased reporting for all participants. Finally, greater organizational support for anonymous reporting and more severe observed misconduct are both related to increased reporting. The severity of observed misconduct has the largest effect on the reporting outcome, with a relative effect 23% greater than the next closest factor. Counter to what was predicted, vignette



participants are less likely to report unethical conduct in vignettes with misconduct perpetrated by a supervisor as compared to a coworker. This finding supports the notion that fear of retaliation from an individual in power (e.g. a supervisor) may factor into the reporting decision. Three participant factors had the predicted effect on reporting ; participants who are supervisors, those with a greater importance placed on anonymity and those with a lesser orientation towards Machiavellianism all are more likely to report unethical conduct. By revealing obstacles to reporting, these findings may assist leaders and organizations in addressing such barriers ultimately contributing to the identification and correction of unethical conduct.

This article makes two contributions to the sociological body of knowledge. First, it connects the well-established literature of trust with recent research on whistle-blowing. This interdisciplinary approach brings insight from the social psychology literature of trust to whistle-blowing research in the fields of management and psychology. In addition to trust, the sociological literatures on power, status, and altruism enhance the findings. Second, the factorial vignette study experimentally explores the effect of individual, organizational and situational factors on the reporting of unethical conduct, allowing the relative effect of each on the reporting outcome to be determined.

### **Implications for Leaders**

In summarizing 30 years of whistle-blowing research, recent literature (Near & Miceli, 2016) makes the case that familiarity with the reporting process can help managers avoid external reporting and the associated costs to their organization. Managers are encouraged to investigate allegations, make the results known to those involved in the incident, correct problems that are identified and avoid reprisal against whistle-blowers. Other research analyzing qualitative data (Norton, 2017) echoes some of these findings, correlating desired reporting to a trusted leader with belief that a trusted leader takes reported misconduct seriously and takes the appropriate action following a report. The goal in researching factors related to the reporting of unethical conduct is to increase such reporting. By identifying factors related to whistle-blowing, this article reveals barriers to reporting that leaders and organizations may address, possibly resulting in the identification and correction of unethical conduct.

Analyses in this article provide leaders with two considerations to potentially increase reporting. The first is the finding that leader misbehaviour results in decreased reporting to them. Leaders that want to appear approachable to their subordinates should set a good personal example. The second is related to the finding on the severity of observed misconduct, which was the vignette factor with the greatest relative effect on the reporting outcome. Leaders who can influence how severe their subordinates view a particular type of unethical conduct, possibly by personal example or supporting organizational policies, may be able increase the reporting of this conduct by their followers.

## Limitations and Future Direction

While this factorial vignette study brings together a number of vignette and participant factors for analyses, it does have limitations. One such limitation is in the sample obtained via MTurk, which is not representative of the general population in the United States. As seen in Table 3, white respondents are overrepresented as compared to the total adult population in the United States. Also, although there is a representative distribution by gender this is owing to the design of the study rather than a random sampling method. Accordingly, the results of this study should not be generalized beyond the sample of MTurk workers used.

Free-text comments that participants voluntarily provided in the first phase of the study reveal another possible limitation. By only selecting participants who are currently employed into the second phase, participants were unintentionally excluded who in some cases had many years of experience in the workplace but are not currently employed. As one first-phase participant stated, *“I am a homemaker now but have 22 years of work experience, and much experience with this topic”*. Another first-phase participant provided this insight, *“I am unemployed, but I am retired/unemployed and I have 42 years of work experience. I could have answered [vignette] questions based on my last job”*. Participants were selected based on employment status using the logic that the workplace vignette is more salient to currently-employed individuals. Future studies should seek to be more inclusive in capturing previous work experience.

Analyses in this article were unable to replicate the in-group preference finding that previous research (Turner & Reynolds, 2008) suggests is a mechanism in intergroup relations. Instead of operationalizing group boundaries by workgroup, future studies should focus on two different group boundaries : shared experience and friendship. Previous research analyzing qualitative data (Norton, 2017) indicates these two concepts may better capture the in-group preference theme. Instead of varying workgroup membership, future vignette studies should vary whether the protagonist is friends with the perpetrator or whether they have previous shared experience at the company.

Future studies should also vary the type of misconduct in the vignette, as supported by previous whistle-blowing literature (Near *et al.*, 2004). Only the severity of the misconduct is varied in the vignettes in this article. By also varying the type of misconduct, individual factors such as gender could possibly be made relevant. As evidenced in previous research (Norton, 2017), gender matters for misconduct such as sexual harassment and assault. In future vignette studies, two degrees of this type of misconduct could be used ; sexual assault and rude sexual jokes. By varying both the type and severity of misconduct, the relative effect of gender to other reporting factors could be determined.

Moving forward, sociology is well-positioned to make further contributions to the whistle-blowing literature due to its focus on group processes. Specifically, the negative findings in this article for in-group preference and participant gender merit further attention. Future work re-examining these two factors could provide evidence for their relationship to the reporting of unethical conduct. Such potential findings would shed additional light on the mechanisms underlying the decision to report unethical conduct.

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## Appendix

### Control Vignette and Variations

The coloured text in the control vignette indicates factors that are varied. The text below the vignette lists the wording for each factor in the alternate condition.

Sam is invited to a social event at the home of a **coworker** ; **this is someone who is in the same workgroup as Sam (and performs a similar job [Note : omit wording in parentheses for supervisor/ in-group conditions])**. While at the social event, Sam notices **several piles of supply items from the office including notepads, printer paper, and boxes of pens**. When questioned, the **colleague** explains that **she** often brings work home from the office and even if **she** uses **some of the work supplies** for personal projects, **she** sometimes uses personal items for work-related efforts so it all washes out in the end. **Although the supplies don't total a substantive amount**, Sam knows from personal experience that they are in high demand at the office and productivity is sometimes reduced as coworkers wait for resources to become available. Sam also wonders what else the **colleague** may "borrow" for personal use. **[Insert anonymity text here in alternate condition]**. **The manager to whom such misconduct is reported is new at the company, and Sam has yet to personally interact with this manager. However, Sam is aware of instances of misconduct involving this manager and other company employees.** Taking all of this into consideration, at work the next day Sam decides to report the fact that the **colleague** is using company property for personal use.

### Alternate Condition Wording

Trust : **Based on previous interactions, Sam trusts the manager to whom such misconduct is reported.**

Misconduct : **To Sam's knowledge, this manager has always displayed exemplary personal conduct.**

Anonymity : **Sam's company has an established system for anonymously reporting unethical conduct that the company actively supports.**

Severity : **a work laptop and laser printer set up on the dining room table ; the office equipment ; the laptop and printer are high-value items.**

Location : **Although they perform similar jobs at their company they work in unrelated departments.**

Perpetrator Position : **an immediate supervisor from work ; supervisor ; supervisor ; supervisor.**

Perpetrator Gender : **he ; he ; he.**