

The Power of Moral Concerns in Predicting Whistleblowing Decisions

James A. Dungan¹, Liane Young², Adam Waytz³

¹Booth School of Business, University of Chicago, IL, USA

²Department of Psychology, Boston College, MA, USA

³Kellogg School of Management, Northwestern University, IL, USA

Corresponding Author:

James A. Dungan
University of Chicago
Booth School of Business
5807 S Woodlawn Ave.
Chicago, IL 60637
Email: james.dungan@chicagobooth.edu

Abstract

Whistleblowing can help expose injustice and corruption. While research has revealed important organizational and situational factors that influence whistleblowing, existing evidence on the relationship between moral concerns and whistleblowing is mixed. Moreover, little is known about the magnitude of the effect that moral concerns have on whistleblowing relative to other organizational and situational factors. To address these gaps, we investigated in a large dataset of federal employees (N=42,020) how moral concerns predict real-world whistleblowing decisions relative to several other factors. Results revealed that, of all the factors tested, moral concerns were most strongly related to whistleblowing. In particular, whistleblowing decisions were associated with a tradeoff between moral concerns whereby concerns for the fair treatment of others beyond one's organization were associated with reporting unethical behavior, and loyalty to one's organization was associated with *not* reporting unethical behavior. Moreover, these same moral concerns were strongly associated with both the means and consequences of blowing the whistle. In contrast, organizational factors, such as the extent to which the organization educates its employees about how to disclose wrongdoing, were associated not with whistleblowing decisions, but rather the way in which people blew the whistle, i.e., reporting unethical behavior through either internal or external channels. These findings clarify the factors influencing whistleblowing decisions and support a prominent role for moral concerns. In doing so, they provide insight into an important form of moral courage in a real-life context.

Keywords: whistleblowing; fairness; loyalty; moral psychology; organizational citizenship behavior

The Power of Moral Concerns in Predicting Whistleblowing Decisions

Whistleblowers – people who report unethical behavior occurring within their own group or organization to an authority – critically help expose injustice and corruption. Their actions led to the recovery of fraudulent charges totaling \$3.7 billion in 2017 alone (U.S. Department of Justice, 2017). While the number of people who choose to blow the whistle is on the rise, unfortunately, so is the rate of retaliation against them (Near & Miceli, 2016). Analyses have shown that many whistleblowers, particularly those who are unable to blow the whistle anonymously, experience harassment and emotional trauma (Kenny, Fotaki, & Scriver, 2018; van der Velden, Pecoraro, Houwerzijl, & van der Meulen, 2018), quit under duress, or are fired outright (Bjørkelo, 2013; Dyck, Adair, & Zingales, 2010; Rehg, Miceli, Near, & Van Scotter, 2008). This backlash may explain in part why so many people refrain from speaking up: in one study, only 9.4% of people blew the whistle when given the opportunity (Bocchiaro, Zimbardo, & van Lange, 2012). Whistleblowers thus represent a minority of individuals who act at great personal risk for the sake of public interests.

Whistleblowing has only recently begun to receive attention in social and moral psychology. Most research on whistleblowing has focused on the organizational and situational features that promote whistleblowing in businesses (Dyck et al., 2010; Miceli, Near, & Dworkin, 2013; Near & Miceli, 2008). *Organizational* features reflect policies that organizations can use to encourage whistleblowing, such as explicitly supporting whistleblowing, educating employees about channels for reporting unethical behavior, and protecting the identity and safety of whistleblowers (Dozier & Miceli, 1985; Near & Miceli, 2008; Vadera, Aguilera, & Caza, 2009). *Situational* features reflect the context surrounding unethical behavior. For example, people are

more likely to blow the whistle on wrongdoing if they are personally affected by it, if direct evidence is available, and if the wrongdoing is more versus less severe (Mesmer-Magnus & Viswesvaran, 2005; Vadera et al., 2009).

While these research efforts illuminate important practical concerns preventing whistleblowers from acting, they often neglect the prominent moral concerns involved in these decisions. As such, the existing evidence on the relationship between moral concerns and whistleblowing is mixed (Vadera et al., 2009). Opponents of whistleblowing claim that whistleblowers are “malcontents” (Devine & Aplin, 1986), acting not out of some altruistic concern for others, but rather out of selfish concerns for personal gain or vengeance. In line with this view, whistleblowing rates increase when people receive some monetary or personal gain for blowing the whistle (Andon, Free, Jidin, Monroe, & Turner, 2018; Butler, Serra, & Spagnolo, 2017; Dyck et al., 2010), suggesting that, at the very least, purely moral concerns alone do not drive whistleblowers (Callahan & Dworkin, 1994; Near, Dworkin, & Miceli, 1993). However, as other research shows, whistleblowers are typically conscientious (Bowman, 1980; Glazer & Glazer, 1989), score high on tests of moral reasoning (Brabeck, 1984; Liyanarachchi & Newdick, 2008), and feel more responsibility to others (Glazer & Glazer, 1989; Miceli & Near, 1992). This broader concern for others can be construed as a form of altruism that has been shown to positively predict whistleblowing (Brewer & Seldon, 1998). Overall, these studies leave open the possibility that moral concerns are directly linked to whistleblowing.

In light of this mixed evidence, several issues must be addressed in order to determine how (and to what extent) moral concerns are involved in decisions of whether or not to blow the whistle. First, most studies investigating the psychology of whistleblowers have only measured intentions to blow the whistle in hypothetical scenarios (e.g., Chen & Lai, 2014; Curtis & Taylor,

2009; Dalton & Radtke, 2013; Zhang, Chiu, & Wei, 2009), not real whistleblowing decisions (Culiberg & Mihelič, 2017). A prominent meta-analysis found only 2 papers investigating how moral concerns relate to actual whistleblowing behavior (Mesmer-Magnus & Viswesvaran, 2005; but see Hollings, 2013, and Waytz, Dungan, & Young, 2013, for two recent additions). This is particularly problematic given that people over-report their intentions to blow the whistle relative to their actual whistleblowing decisions (Bocchiaro et al., 2012; see also, Kawakami, Dunn, Karmali, & Dovidio, 2009; Woodzicka & LaFrance, 2001).

Second, many studies have focused on particular predictors of whistleblowing in isolation, concealing how different factors interact to determine complex, real-world decisions. For example, priming loyalty to one's group makes group members express greater intentions to blow the whistle on unethical behavior (Hildreth, Gino, & Bazerman, 2016); however, other research highlights that people may be forced to make tradeoffs between competing moral concerns during whistleblowing decisions (Dungan, Waytz, & Young, 2015). In such cases, people who value loyalty relative to fairness are *less* likely to blow the whistle (Waytz et al., 2013). More work is needed on how different moral concerns impact whistleblowing and what influence they have relative to the organizational and situational factors that have been the primary focus of prior work on whistleblowing.

Third, many factors show inconsistent effects on whistleblowing decisions. For instance, research suggests that, on the one hand, women tend to feel more connected and responsible to others than men and are thus more likely to blow the whistle (Mesmer-Magnus & Viswesvaran, 2005; Rothschild & Miethe, 1999). On the other hand, men tend to be less risk-averse than women, and accordingly, other research has found that men are more likely to engage in the risky act of whistleblowing (Miceli & Near, 1984, 1988). Similarly, while some work has found

that factors reflecting high power increase willingness to blow the whistle (Miceli & Near, 2008; Miceli, Near, Rehg, & Van Scotter, 2012), other work has found the opposite relationship, revealing through archival data and experimental designs that high-ranking, powerful individuals were less likely to blow the whistle (Kennedy & Anderson, 2017). These inconsistencies further demonstrate the need for large-scale investigations of how different factors influence whistleblowing across contexts.

To address these concerns, the present work asks how moral concerns, relative to other organizational, situational, and personal concerns, predict actual whistleblowing decisions on a large scale. To do this, we utilize data collected by the U.S. Merit Systems Protection Board (MSPB). The MSPB was established in 1979 to protect values of integrity, public service, efficiency, and the fair and equitable treatment of employees within the federal government. The MSPB acts as an independent arbitrator of disputes involving prohibited personnel practices and adjudicate employee complaints filed under the Whistleblower Protection Act of 1989. Over the past several decades, the MSPB has conducted several large, Government-wide surveys of federal employees probing the incidence, causes, and consequences of unethical behavior. Here, we use data from the 2010 Merit Principles Survey, the latest survey to include questions that ask directly about whistleblowing.

To our knowledge, only two papers have used the 2010 MSPB dataset to examine which factors predict whistleblowing. The present investigation adds to this work in several important ways. First, Cho & Song (2015) focused only on predicting people's likelihood of blowing the whistle in hypothetical situations. Given that predictors of whistleblowing intentions do not always correspond to predictors of actual whistleblowing (Mesmer-Magnus & Viswesvaran, 2005), we investigate which factors predict both hypothetical and actual whistleblowing

decisions. Second, Callier's (2016) work with the Merit Principles Survey focused specifically on how 11 items, in addition to demographic factors, predicted whistleblowing behavior. In particular, he focused on how Public Service Motivation (Perry, 1996), fear of retaliation, and the severity of the act predict whistleblowing. Here, we conduct a series of exploratory and confirmatory factor analyses on a much larger set of predictors (83 items) to better capture how a wide range of factors across different categories (e.g., moral, organizational, situational, pragmatic) predict whistleblowing.

Methods

Sample

We analyze data from the 2010 Merit Principles Survey – the latest dataset to include direct questions about whistleblowing behavior. Participants were full-time federal employees selected from 18 different departments and 6 independent agencies representing 97% of all permanent, full-time federal employees. Using a stratified random sampling technique, 71,970 employees were invited to complete the survey, and 42,020 responded – a response rate of 58%. The survey included 325 variables probing a range of issues related to an employee's personal values, motivations, job satisfaction, and perceptions of their workplace. Crucially, it also measured whether people witnessing unethical behavior blew the whistle or not, making it ideal for the current investigation.

Analysis Plan

In the following sections, we report all information about the measures included in the study, manipulations to the dataset, and any exclusions of participants or variables.

Measurements describes all variables of interest that we analyzed out of the 325 variables included in the Merit Principles Survey. *Missing Data* describes the procedure we used to address missing data issues. *Classifying Whistleblowers* describes how we determined the final sample size of whistleblowers and non-whistleblowers in the dataset. *Exploratory Factor Analysis* describes the results of an initial analysis of the structure underlying all variables of interest. Finally, *Confirmatory Factor Analysis* describes our test of whether the variable structure identified in the exploratory stage adequately fit responses in an independent sample. To foreshadow the results, analyses identified 9 factors (representing moral concerns, organizational factors, situational factors, and pragmatic concerns) that were then entered into regression analyses to predict whistleblowing decisions.

Measurements

We selected 83 variables of interest for the current investigation (see Table 1). These variables were chosen based on previous research and represented a diverse set of features potentially related to whistleblowing decisions. We included items measuring perceptions of the organization (e.g., “My organization treats employees fairly”), concerns about the situation at hand (e.g., concern that “the event might not rise to the level of unlawful behavior”), pragmatic concerns about personal benefits (e.g., “My job makes good use of my skills and abilities”; “My awards/bonuses are an important job factor to seeking and continuing employment at my organization”), as well as items measuring moral concerns (e.g., “Concern that I would be seen as disloyal would factor into my decision on whether or not to report wrongdoing”; “I am not afraid to go to bat for the rights of others even if it means I will be ridiculed”). No items were

selected from sections on leadership impact, telework, professional affiliation, union partnership, or disabilities.

Table 1: All 83 items selected for analysis. Six items marked by ** were excluded after missing data analyses. The remaining 77 were used in exploratory factor analysis.

Item #	Item Wording
Please indicate your level of agreement or disagreement with the following statements.	
1	The work I do is meaningful to me
2	My job makes good use of my skills and abilities
3	I have the resources to do my job well
4	I would recommend my agency as a place to work
5	I am satisfied with the recognition and rewards I receive for my work
6	I am treated with respect at work
7	My opinions count at work
8	A spirit of cooperation and teamwork exists in my work unit
9	At my job, I am inspired to do my best work
10	I have the opportunity to perform well at challenging work
My organization...	
11	... holds fair and open competition for job vacancies
12	... selects the best-qualified candidates when filling jobs
13	... treats employees fairly
14	... takes steps to prevent prohibited discrimination
15	... takes steps to rectify prohibited discrimination
16	... pays employees fairly
17	... recognizes excellent performance
18	... rewards excellent performance
19	... holds employees to high standards of conduct
20	... puts the public interest first

- 21 ... uses the workforce efficiently and effectively
- 22 ... makes good use of employees' skills and talents
- 23 ... focuses employee attention and efforts on what is most important
- 24 ... protects employees against reprisal for whistleblowing**
- 25 ... protects employees against reprisal for exercising a grievance, complaint, or app...
- 26 ... protects employees against arbitrary action
- 27 ... does not engage in favoritism
- 28 ... protects employees from political coercion**
- 29 ... has made it clear that it prohibits discrimination

**Please indicate your level of agreement or disagreement with the following statements.
My job...**

- 30 ... allows me to perform a variety of tasks that require a wide range of knowledge, skills, and abilities
- 31 ... has a significant positive impact on others, either within the organization or the public in general

In my work unit, the better I perform on the job...

- 32 ... the greater personal satisfaction I experience
- 33 ... the more I feel I am serving the public

In each of the following questions, please indicate how important each job factor is to you in seeking and continuing employment in your organization.

- 34 ... The personal satisfaction I experience at my job
- 35 ... My job security is important to continuing my employment
- 36 ... My awards/bonuses are important to continuing my employment
- 37 ... My opportunity for advancement is important to continuing my employment
- 38 ... Being granted informal perks is important to continuing my employment
- 39 ... Being able to serve the public is important to continuing my employment

Please indicate your level of agreement or disagreement with the following statements.

- 40 I feel highly motivated in my work
- 41 Meaningful public service is important to me
- 42 I am not afraid to go to bat for the rights of others even if it means I will be ridiculed
- 43 I am prepared to make enormous sacrifices for the good of the agency

- 44 I am often reminded by daily events about how dependent we are on one another
- 45 Making a difference in society means more to me than personal achievements
- 46 My agency takes sufficient steps to ensure my safety from violence occurring at my workplace

Please indicate your level of agreement or disagreement with the following statements.

- 47 My agency actively encourages employees to report wrongdoing.
- 48 If I disclosed wrongdoing, I would be praised for it at work**
- 49 I feel that I could disclose wrongdoing without any concerns that the disclosure would make my life harder
- 50 My agency has educated me about the purpose of the Office of the Inspector General
- 51 My agency has educated me about how I can anonymously disclose wrongdoing
- 52 My agency has educated me about what my rights would be if I disclosed wrongdoing
- 53 In your opinion, how adequate or inadequate is the protection against reprisal for federal employees who report wrongdoing?*
- 54 If you were to observe or have evidence of wrongdoing, how important would it be to you that you be able to report without disclosing your identity?

If tomorrow you were to observe a health or safety danger, unlawful behavior, fraud, waste, or abuse, to what extent do you think that each of the following would factor into your decision on whether or not to report the wrongdoing?

- 55 ... Concern that I would be suspended, demoted, or fired
- 56 ... Concern that I had sufficient proof
- 57 ... Concern that an action might not be serious enough
- 58 ... Concern that an event might not rise to the level of fraud, waste, abuse, unlawful behavior, or a safety or health danger
- 59 ... Belief that nothing WOULD be done to stop a wrongdoing
- 60 ... Belief that nothing COULD be done to stop a wrongdoing
- 61 ... Belief that wrongdoing would not happen again
- 62 ... Belief that someone else had already reported a wrongdoing
- 63 ... Concern that I would be seen as disloyal
- 64 ... Concern that an action might negatively impact my relationship with my co-workers
- 65 ... Concern that an action might get someone in trouble
- 66 ... Concern that an action might harm the reputation of my organization/agency
- 67 ... Concern that an action might cause other things to be investigated

68	... Concern that an action might affect my performance appraisal
69	... Concern that an action might affect my ability to get a performance award
70	... Concern that an action might affect my ability to get training
71	... Concern that an action might affect my ability to get a promotion
72	... Concern that management might become less tolerant of any small mistakes I might make
73	... Concern that management might become less willing to grant me any favors that are optional for them
74	... Concern that I might be retaliated against in another way not mentioned above
75	... A lack of knowledge about to whom I should report a wrongdoing
How important, if at all, would each of the following be in encouraging you to report an illegal or wasteful activity?	
76	... The activity might endanger people's lives
77	... The activity was something you considered serious in terms of costs to the Government**
78	... Something would be done to correct the activity you reported
79	... The wrongdoers involved in the activities would be punished
80	... You would be protected from any sort of reprisal
81	... You would be positively recognized by management for a good deed
82	... Your identity would be kept confidential by the people to whom you reported the activity
83	... You would be eligible to receive a cash award**

Missing Data

To manage missing data, we first removed participants who answered fewer than 80% of the variables selected for analysis (N=4,798; 11.4%). The median response rate of the excluded participants was 47%. Next, we used an expectation maximization algorithm to fill in missing data. Little's test was significant ($\chi^2(47353)=50559.732, p<0.001$), indicating that the data were not Missing Completely at Random (MCAR). To account for this, we eliminated 6 variables for which whether or not participants responded was correlated with whistleblowing decisions (excluded items marked with asterisks in Table 1). For the remaining variables, 2% of all cases

were replaced by the missing data procedure. The median percent of cases replaced for a single variable was 0.5%, and no variable had over 20% of its cases replaced.

Classifying Whistleblowers

Participants indicated (yes/no) whether or not during the last year they had personally observed or obtained direct evidence of one or more illegal or wasteful activities involving their agency. Participants responding “no” were classified as Non-Observers (N=33,578), and those responding “yes” were classified as Observers (N=3,644). Observers were further divided into distinct groups based on their response to a question probing who they reported the illegal activity to. Inactive Observers (N=1,272) did not report the activity. Whistleblowers (N=1,726) reported the activity to one or more of the following (see Table 2): their immediate supervisor, a higher-level supervisor or agency official, the Agency Inspector General, the Office of Special Counsel, the Government Accountability Office, a law enforcement official, a union representative, the news media, a congressional staff member or member of Congress, or an advocacy group outside the Government. Observers who reported the activity only to friends, family, co-workers, or an unknown party (as indicated by selecting “other”), were excluded from analyses (N=583; see Table 2), as it is unclear whether this action constitutes whistleblowing (i.e., reporting to an authority that is able to address the wrongdoing). An additional 63 participants who reported observing an illegal activity did not answer the question about who they reported the activity to and were also removed from analysis.

Whistleblowers could also be distinguished by whether they used an internal or external channel to blow the whistle. Whistleblowers using internal channels (N=1,376) reported to an immediate or higher-level supervisor, a higher-level agency official, or their agency’s Inspector

General. Whistleblowers using external channels (N=350) reported to the Office of Special Counsel, the Government Accountability Office, a law enforcement official, a union representative, the news media, a congressional staff member or member of Congress, or an advocacy group outside the Government. For analyses predicting the use of internal versus external channels, participants who reported the activity to both internal and external channels were included in the external group (N=267).

Table 2: Participants who observed wrongful activity were classified according to their responses to the question: Did you report this activity to any of the following? (Please mark all that apply).

Inactive-Observer (N=1,272)	Not Included in Analysis (N=583)	Whistleblower (N=1,726)	
		Internal (N=1,376)	External (N=350)
I did not report the activity	Family member or friend	Immediate supervisor	Office of Special Counsel
	Co-worker	Higher level supervisor	Government Accountability Office
	Other	Higher level agency official	Law enforcement official
		Agency Inspector General	Union representative
			News media
			Congressional staff / member of Congress
			Advocacy group outside the Government

If participants observed wrongdoing, they answered a series of questions describing the most serious problem they personally observed. Most of the wrongdoing that people observed involved waste (59%), followed by unfairness (bribery, abusing an official position for personal benefit, unfair advantage in selecting contractors/consultants/vendors; 15%), tolerating a situation or practice which poses danger to public health or safety (4%), and stealing federal funds or property (4%). An additional 18% of wrongdoing did not fit within those categories, but was identified by the participant as “a serious violation of law or regulation.” Nearly 88% of the wrongdoing occurred within the observer’s own work group or agency, compared to 6% originating with a contractor or vendor and 3% originating in a separate federal agency. In most cases, the wrongdoing was not an isolated incident: for 48% of cases the wrongdoing occurred frequently, compared to 17% of cases in which it occurred only once or rarely. Importantly, the observed wrongdoing was quite serious, costing \$5,000 - \$100,000 in 33% of cases and more than \$100,000 in 35% of cases. An additional 17% of people who observed wrongdoing reported that a dollar value could not be placed on the activity.

Exploratory Factor Analysis

Although the questions in the Merit Principles Survey are divided into specific sections, we began with an exploratory factor analysis to see what factors emerged from the 77 selected items in the absence of conceptual constraints. Responses from Non-Observers (N=33,578) served as a large independent dataset for this analysis. Principal axis factoring was performed using direct oblimin rotation with Kaiser normalization, allowing the factors to be correlated. Thirteen factors with eigenvalues greater than 1 emerged explaining 63% of the variance. However, analysis of the scree plot and factor loadings suggests that approximately 9 factors

should be retained (the 13-factor solution includes factors onto which no items loaded greater than 0.3).

Table 3 gives the factor loadings for a 9-factor solution (see next section for comparison of models with different numbers of factors retained). The 9 factors account for 57.39% of variance. At least 3 items loaded onto each factor, and all retained items had factor loadings of .47 or higher. Furthermore, no items had cross loadings with another factor greater than .32. Nineteen items did not load highly onto any factor.

We further removed 10 redundant items that were leading to excessive error covariance amongst factors with a large number of items. For example, 15 items showed high factor loadings for the first factor, but several of the items had nearly identical wording (e.g., “my organization *recognizes* excellent performance” and “my organization *rewards* excellent performance”; “my organization takes steps to *prevent* prohibited discrimination” and “my organization takes steps to *rectify* prohibited discrimination”). Because these items loaded only onto factors with many items, we can reliably estimate the latent factors while simply removing the items rather than parceling the items together. Most importantly, we turn to confirmatory factor analysis to compare the fit of several different models and ensure that the factor structure is appropriate.

Table 3: Factor loadings for the 77 variables included in the Exploratory Factor Analysis of the Non-Observer data. Items included in each factor are in bold. Factor loadings lower than 0.20 are omitted from the table.

Item #	Factor								
	1	2	3	4	5	6	7	8	9
14	0.86								
15	0.85								
13	0.82								
12	0.79								

11	0.78			
27	0.70			
25	0.68		0.22	
26	0.68		0.21	
17	0.67			
18	0.60			
16	0.59			
22	0.55			0.30
23	0.54			0.23
21	0.53			0.22
19	0.50			
29	0.49		0.20	
20	0.43			
49	0.30		0.34	
5	0.30			0.45
47	0.27		0.45	
46	0.27		0.23	
59	-0.22	0.21		0.40
65		0.68		
66		0.65		
67		0.65		
63		0.53		0.32
64		0.53		0.29
62		0.47	0.22	
61		0.36	0.33	
60		0.31	0.40	
41		0.70		
45		0.66		
39		0.62		-0.24
43		0.58		
42		0.51		
33		0.45		0.36
44		0.42		
34		0.30		-0.28
32		0.23		0.46
80			0.75	
82			0.64	
78			0.63	
79			0.58	
76			0.39	
81			0.33	
54			0.33	
51			0.95	
52			0.94	
50			0.79	
75			-0.23	0.33

57		0.75	
58		0.74	
56		0.70	
55		0.28	0.32
10		0.80	
3		0.78	
9		0.73	
2		0.65	
40		0.64	
7	0.20	0.63	
6		0.61	
30		0.59	
1		0.55	
8		0.54	
31	0.26	0.53	
4		0.47	
35			-0.50
38			-0.59
37			-0.69
36			-0.78
71			0.88
69			0.85
72			0.83
73			0.83
70			0.79
74			0.72
68	0.22		0.62

Confirmatory Factor Analysis

The large Non-Observers dataset was useful for exploring the factor structure of the chosen items. To confirm that a 9-factor solution is appropriate for capturing participant responses, we conducted a series of confirmatory factor analyses on responses to the same 77 items by Observers (N=3,581) using the lavaan package in R (Rosseel, 2012). We compared model fit for models with 6 to 9 factors. Models with 10 or more factors included factors onto which no items loaded higher than 0.3, so were not included in the comparison. Chi-square tests for all models were significant ($p < 0.001$); however, rejection of the test can be expected in large samples where the chi-square test captures slight deviations from the exact fit of the model

(Bentler & Bonnet, 1980). Instead, we rely on several goodness-of-fit indices to evaluate the models (reported in Table 4). Based on these indices weighing both fit and parsimony, the 9-factor model shows the most acceptable fit. Specifically, the root mean square error of approximation (RMSEA) is lower than the ideal cut off of 0.06 and the standardized root mean square residual (SRMR) is below 0.08 (Hu & Butler, 1990; Steiger, 2007).

Table 4: Goodness-of-Fit Indices for Models Representing Confirmatory Factor Analyses of the Observer data. All chi-square tests are significant ($p < 0.001$).

Model	χ^2 / df	RMSEA [95% CI]	SRMR	CFI	TLI
6 factors	25804 / 1259	0.074 [0.073, 0.075]	0.069	0.756	0.743
7 factors	20138 / 1304	0.064 [0.063, 0.064]	0.066	0.817	0.806
8 factors	13063 / 1196	0.053 [0.052, 0.053]	0.057	0.874	0.866
9 factors	10018 / 1044	0.049 [0.048, 0.050]	0.047	0.903	0.895

For analysis, responses to items within each factor were averaged together for each participant. Table 5 gives descriptive statistics for each factor. Items within each factor showed good to excellent reliability (all α 's > 0.70; Table 6), and no two factors were correlated greater than 0.66 (see Table 7), demonstrating acceptable discriminant validity. Importantly, the nine factors identified by confirmatory factor analysis align clearly with conceptual distinctions between the items resulting in highly interpretable factors, which we labeled as follows: Organizational Fairness, Loyalty, Concern for Others, Whistleblowing Effectiveness, Whistleblowing Education, Doubts About the Act, Job Satisfaction, Personal Benefits, and Fear of Reprisal (Table 6).

Two factors measured organizational features. The Organizational Fairness factor includes nine items. All items specifically targeted perceptions of fair practices within the

organization, for example, whether the organization treats employees fairly. The Whistleblowing Education factor included three items, all of which probed how well the organization educated employees about how and to whom to blow the whistle.

Three factors measured situational concerns about the act of whistleblowing. The Whistleblowing Effectiveness factor included four items probing how important it would be that blowing the whistle caused something to be done to correct the illegal activity and that the identity of the whistleblower would be protected. The Doubts About the Act factor included three items measuring concern about not having sufficient proof about the illegal activity, or that the activity was not serious enough to warrant a response. Finally, the Fear of Reprisal factor included five items all probing concern that blowing the whistle would result in some form of reprisal, including denial of promotion and less tolerance.

Two factors measured personal pragmatic motivations in the workplace. The Job Satisfaction factor included 10 items measuring how participants feel about their employment – that they find their work meaningful, that they feel respected and inspired, and if they would recommend their agency as a place to work. The Personal Benefits factor includes four items, all measuring how much importance participants place on their own job security and awards or bonuses. These factors are important given that rhetoric condemning whistleblowers portray them as malcontents who are unhappy with their job and seek revenge or personal gains.

Finally, of key interest to the current investigation were two factors probing moral concerns. The Loyalty factor included five items explicitly measuring concern that blowing the whistle would be seen as disloyal and negatively impact the participant's reputation with co-workers and the organization. The Concern for Others factor also included five items. These items largely come from a measure of public service motivation (Perry, 1996); specifically, the

Commitment to the Public Interest, Social Justice, Compassion, and Self-Sacrifice subscales.

While different fields conceptualize public service motivation differently, the measure generally captures an altruistic concern for people and society beyond one’s immediate group (Perry, Hondeghem, & Wise, 2010). In this spirit, we named this factor Concern for Others, as endorsing these moral values requires extending care and fairness to people outside one’s immediate group (e.g., going to bat for the rights of others, being able to serve the public).

Table 5: Descriptive Statistics for each factor

Factor	Mean	SD	Range	Scale
Organizational Fairness	2.55	0.93	1 - 5	Strongly Disagree – Strongly Agree
Loyalty	1.95	0.81	1 - 4	Not at All – Great Extent
Concern for Others	4.08	0.65	1 - 5	Strongly Disagree – Strongly Agree
Whistleblowing Effectiveness	4.27	0.74	1 - 5	Unimportant – Very Important
Whistleblowing Education	2.67	1.17	1 - 5	Strongly Disagree – Strongly Agree
Doubts About the Act	2.32	0.91	1 - 4	Not at All – Great Extent
Job Satisfaction	3.30	0.88	1 - 5	Strongly Disagree – Strongly Agree
Personal Benefits	3.96	0.78	1 - 5	Strongly Disagree – Strongly Agree
Fear of Reprisal	2.30	1.05	1 - 4	Not at All – Great Extent

Table 6: Items and reliability for each factor

Factor	Item
Organizational Fairness ($\alpha=0.905$)	My organization...holds fair and open competition for job vacancies
	... treats employees fairly
	... takes steps to prevent prohibited discrimination
	... pays employees fairly
	... recognizes excellent performance
	... holds employees to high standards of conduct
	...uses the workforce efficiently and effectively
	... protects employees against reprisal for any grievance/complaint
	... does not engage in favoritism

Loyalty ($\alpha=0.860$)	Concern that... I would be seen as disloyal (would factor into not blowing the whistle) ... it might negatively impact my relationship with my co-workers (would factor into not WB) ... it might get someone in trouble ... it might harm the reputation of my organization/agency (would factor into not WB) ... it might cause other things to be investigated
Concern for Others ($\alpha=0.748$)	How important is being able to serve the public to seeking and continuing employment Meaningful public service is important to me I am not afraid to go to bat for the rights of others even if it means I will be ridiculed I am prepared to make enormous sacrifices for the good of the agency Making a difference in society means more to me than personal achievements
Whistleblowing Effectiveness ($\alpha=0.713$)	Something would be done to correct the activity you reported The wrongdoers involved in the activities would be punished You would be protected from any sort of reprisal Your identity would be kept confidential by the people to whom you reported the activity
Whistleblowing Education ($\alpha=0.919$)	My agency has educated me about the purpose of the Office of the Inspector General My agency has educated me about how I can anonymously disclose wrongdoing My agency has educated me about what my rights would be if I disclosed wrongdoing
Doubts About the Act ($\alpha=0.853$)	Concern that... I had sufficient proof ... it might not be serious enough ... the event might not rise to the level of unlawful behavior, etc.
Job Satisfaction ($\alpha=0.893$)	The work I do is meaningful to me My job makes good use of my skills and abilities. I have the resources to do my job well I would recommend my agency as a place to work I am treated with respect at work A spirit of cooperation and teamwork exists in my work unit At my job, I am inspired to do my best work I have the opportunity to perform well at challenging work Job allows me to perform variety of tasks that require wide range of knowledge/skill I feel highly motivated in my work
Personal Benefits ($\alpha=0.764$)	How important is _____ to continuing employment: My job security My awards / bonuses My opportunity for advancement Being granted informal perks
Fear of Reprisal ($\alpha=0.924$)	Concern that... it might affect my performance appraisal ... it might affect my ability to get a performance award ... it might affect my ability to get a promotion ... management might become less tolerant of any small mistakes I might make ... I might be retaliated against in another way not mentioned above

Table 7: Bivariate correlations between factors (data from Observers; N=3,581). * $p < 0.05$, ** $p < 0.01$

	1	2	3	4	5	6	7	8	9
1) Organizational Fairness	1								
2) Loyalty	-.089**	1							
3) Concern for Others	.034*	.050**	1						
4) Whistleblowing Effectiveness	-.140**	.224**	.085**	1					
5) Whistleblowing Education	.450**	-.124**	.022	-.120**	1				
6) Doubts About the Act	.003	.454**	-.027	.141**	-.047**	1			
7) Job Satisfaction	.655**	-.070**	.088**	-.082**	.389**	-.010	1		
8) Personal Benefits	-.080**	.156**	.165**	.303**	-.036*	.050**	-.025	1	
9) Fear of Reprisal	-.368**	.621**	.030	.340**	-.304**	.266**	-.312**	.252**	1

Results

Hypothetical Whistleblowing

Participants responded to a series of questions indicating hypothetically how likely they would be to blow the whistle. Specifically, the item asked, “how likely would you be to blow the whistle when the wrongdoer is: a) your supervisor, b) a higher-level supervisor, c) a coworker (in their work group), d) a Federal employee outside their work group, e) a contractor or vendor, and f) a political appointee in their agency.” Responses were given on a 5-point scale from “very unlikely” to “very likely”. Responses for each of these wrongdoers were averaged to form a single measure of each participant’s likelihood of blowing the whistle.

We then entered averages for each factor into a linear regression predicting the likelihood that Observers (N=3,581) would hypothetically blow the whistle. Concern for Others had the

largest positive association with hypothetical whistleblowing (Table 8). Whistleblowing Effectiveness and Personal Rewards also emerged as significant positive factors. In contrast, Loyalty, along with Fear of Reprisal, was negatively associated with hypothetical whistleblowing. Notably, both factors measuring moral concerns showed the strongest relationship to hypothetical whistleblowing: Loyalty and Concern for Others have standardized coefficients with the largest absolute value and explain the greatest amount of unique variance in the regression model.

Table 8: Results of a linear regression predicting the hypothetical whistleblowing intentions of Observers (N=3,581) from each factor.

Predictors	β	SE (β)	95% CI		t	p	Semi-partial correlation
			Lower	Upper			
Organizational Fairness	0.000	0.026	-0.052	0.052	0.004	0.997	0.000
Loyalty	-0.288	0.030	-0.348	-0.229	-9.527	<0.001	-0.161
Concern for Others	0.211	0.028	0.157	0.265	7.650	<0.001	0.130
Whistleblowing Effectiveness	0.073	0.026	0.023	0.123	2.838	0.005	0.048
Whistleblowing Education	0.022	0.017	-0.011	0.056	1.312	0.190	0.022
Doubts About the Act	0.005	0.022	-0.038	0.047	0.213	0.831	0.004
Job Satisfaction	0.003	0.027	-0.050	0.055	0.098	0.922	0.002
Personal Rewards	0.130	0.024	0.082	0.178	5.316	<0.001	0.090
Fear of Reprisal	-0.117	0.024	-0.164	-0.069	-4.795	<0.001	-0.081

Actual Whistleblowing Behavior

We next conducted a binary logistic regression predicting whether someone who observed wrongdoing reported being a whistleblower (N=1,726) versus an inactive observer (i.e., did not report the wrongdoing; N=1,272). Despite evidence that people over-report their

intentions to blow the whistle relative to actual whistleblowing decisions (Bocchiaro et al., 2012), people who reported a greater likelihood of hypothetically blowing the whistle in the current dataset were, in fact, more likely to have actually blown the whistle after observing real unethical behavior ($\beta=0.497$, $Z=12.12$, $p<0.001$, odds ratio=1.643, 95% CI [1.516, 1.781]). However, the factors that predict whistleblowing intentions are not always the same factors that predict behavior (Mesmer-Magnus & Viswesvaran, 2005). Thus, while moral concerns emerged as the largest predictors of hypothetical whistleblowing in the current dataset, of primary interest is whether this relationship would persist for actual whistleblowing decisions.

Regressing responses on each of the 9 factors onto whistleblowing decisions revealed that Personal Rewards and Fear of Reprisal, which were both associated with the likelihood of blowing the whistle in hypothetical situations, did not emerge as significant predictors of actual whistleblowing decisions (Table 9). Importantly, however, both Concern for Others and Loyalty remained significant. Concern for Others was the only factor to have a positive relationship with whistleblowing, and the magnitude of this relationship was the strongest of all factors included in the analysis (difference in odds ratios, all Z 's >2.40 , p 's <0.016). Specifically, the odds of blowing the whistle increase by 1.51 times for each 1-unit change in the average response to items captured by the Concern for Others factor. Loyalty again had a negative association with whistleblowing. For every 1-unit increase in concerns about loyalty, the odds of blowing the whistle decrease by 0.163. Doubts About the Act, which did not relate to hypothetical intentions to blow the whistle, also had a strong negative association with whistleblowing behavior, though this association was not significantly stronger than the association between Loyalty and whistleblowing ($Z=0.736$, $p=0.462$). The odds of blowing the whistle decrease by 0.204 for every 1-unit increase in doubts about the act (e.g., that the wrongdoing was not serious enough).

Table 9: Binary Logistic Regression Analysis predicting actual whistleblowing behavior.

Predictors	β	SE (β)	Wald	p	Exp(β)	95% CI	
						Lower	Upper
Organizational Fairness	-0.002	0.058	0.002	0.968	0.998	0.890	1.119
Loyalty	-0.169	0.065	6.700	0.010	0.845	0.743	0.960
Concern for Others	0.411	0.060	46.737	<0.001	1.509	1.341	1.698
Whistleblowing Effectiveness	-0.139	0.057	5.903	0.015	0.870	0.777	0.973
Whistleblowing Education	0.060	0.037	2.640	0.104	1.062	0.988	1.142
Doubts About the Act	-0.228	0.047	23.722	<0.001	0.796	0.727	0.873
Job Satisfaction	-0.070	0.058	1.446	0.229	0.932	0.831	1.045
Personal Rewards	0.039	0.053	0.554	0.457	1.040	0.938	1.154
Fear of Reprisal	-0.024	0.053	0.207	0.649	0.976	0.880	1.083

Internal versus External Whistleblowing

The analysis above demonstrates that moral concerns are strongly associated with whistleblowing decisions overall; however, prior research draws important distinctions between when whistleblowers use internal channels (e.g., reporting wrongdoing to one’s supervisor within the company) and when whistleblowers use external channels (e.g., reporting wrongdoing to the media or other groups outside one’s company). Notably, using external channels has been singled out as a potentially antisocial act, as it may violate standards of procedural justice (Miceli & Near, 1997). Given these claims, we investigated what factors influence the particular channel or means people used to blow the whistle.

We conducted another binary logistic regression predicting whether someone used internal (N=1,376) versus external (N=350) channels for blowing the whistle. In contrast to the

factors predicting decisions of whether or not to blow the whistle in the first place, Organizational Fairness was the strongest predictor of utilizing internal versus external channels. Specifically, the odds of using internal channels for blowing the whistle (as opposed to external channels) increases by 1.346 times for each 1-unit increase in how fair participants perceive their organization to be. Whistleblowing Education was also significantly associated with the use of internal over external channels. Notably, the odds of using external channels increases by 1.345 times for each 1-unit increase in Concern for Others, suggesting that having strong concerns about others outside one’s organization may motivate whistleblowers to disseminate information beyond their own group, particularly if they feel that the wider public may be affected most.

Table 10: Binary Logistic Regression Analysis predicting the use of internal versus external channels when blowing the whistle.

Predictors	β	SE (β)	Wald	p	Exp(β)	95% CI	
						Lower	Upper
Organizational Fairness	-0.404	0.098	16.863	<0.001	0.668	0.551	0.810
Loyalty	-0.114	0.107	1.135	0.287	0.892	0.724	1.100
Concern for Others	0.296	0.100	8.693	0.003	1.344	1.104	1.637
Whistleblowing Effectiveness	-0.030	0.091	0.109	0.741	0.970	0.812	1.160
Whistleblowing Education	-0.123	0.060	4.167	0.041	0.885	0.787	0.995
Doubts About the Act	-0.034	0.076	0.197	0.657	0.967	0.832	1.123
Job Satisfaction	-0.118	0.091	1.667	0.197	0.889	0.744	1.063
Personal Rewards	0.026	0.087	0.090	0.764	1.026	0.866	1.217
Fear of Reprisal	0.139	0.082	2.859	0.091	1.149	0.978	1.351

Reprisal for Blowing the Whistle

Finally, the current dataset also allowed us to explore what factors are associated with receiving reprisal for blowing the whistle. People who indicated that they did blow the whistle were asked an additional question probing whether in the last year they personally experienced some type of reprisal or threat of reprisal by management for having reported an activity. Of the 1,726 whistleblowers, 339 reported received reprisal and 671 reported not receiving reprisal.

We conducted a final binary logistic regression predicting whether or not a whistleblower received reprisal. Unsurprisingly, Fear of Reprisal had the largest association with receiving reprisal (Table 11), indicating that people who received reprisal for blowing the whistle reported concerns about how whistleblowing might affect their standing in the organization. More interestingly, Concern for Others had nearly as strong of a positive association with reprisal: the odds of receiving reprisal increased by 1.848 times for each 1-unit increase in Concern for Others. This positive relationship does not appear to be driven by Concern for Others' positive association with using external channels for whistleblowing – the relationship only becomes stronger after first controlling for internal versus external whistleblowing in the regression ($B=.579, p<0.001, \text{Exp}(B)=1.784$). Moreover, the positive relationship between Concern for Others and receiving reprisal holds when separately predicting reprisal received by whistleblowers using internal channels ($B=.554, p=0.001, \text{Exp}(B)=1.740$) and whistleblowers using external channels ($B=.657, p=0.016, \text{Exp}(B)=1.928$). One possible interpretation of these results is that prioritizing concerns for others outside one's organization comes at a cost to the relationship whistleblowers have with management and other people within their organization.

Many factors were associated with the absence of receiving reprisal. The odds of receiving reprisal decrease by 0.383 times for every 1-unit increase in Organizational Fairness.

Similarly, the odds of receiving reprisal decrease by 0.409 for every 1-unit increase in Job Satisfaction. Whistleblowing Education and Doubts About the Act also had a significant, albeit smaller, effect on reprisal.

Table 11: Binary Logistic Regression Analysis predicting reprisal for blowing the whistle.

Predictors	Beta	SE (B)	Wald	p	Exp(B)	95% CI	
						Lower	Upper
Organizational Fairness	-0.479	0.117	16.706	<0.001	0.619	0.492	0.779
Loyalty	0.028	0.136	0.042	0.838	1.028	0.787	1.344
Concern for Others	0.607	0.131	21.600	<0.001	1.835	1.421	2.370
Whistleblowing Effectiveness	0.191	0.124	2.363	0.124	1.210	0.949	1.543
Whistleblowing Education	-0.179	0.076	5.501	0.019	0.836	0.721	0.971
Doubts About the Act	-0.210	0.100	4.458	0.035	0.810	0.667	0.985
Job Satisfaction	-0.516	0.113	20.665	<0.001	0.597	0.478	0.746
Personal Rewards	-0.062	0.106	0.338	0.561	0.940	0.764	1.157
Fear of Reprisal	0.632	0.107	34.845	<0.001	1.881	1.525	2.320

Discussion

The present research demonstrates the extent to which moral concerns (relative to other organizational, situational, and personal concerns) relate to actual whistleblowing decisions in a large sample of government employees. Compared to other features that have been the primary focus of prior research, moral concerns were the most strongly related to both hypothetical and actual whistleblowing decisions. Specifically, the greater someone's concern for loyalty, the less likely they were to blow the whistle; the greater someone's concern for the wellbeing of the wider public, the more likely they were to blow the whistle. Moral concerns were also strongly related to both the means and consequences of blowing the whistle. Together, these findings

reveal key psychological motivations underlying whistleblowing behavior and highlight the importance of understanding the moral psychology of whistleblowers.

Prior work has concluded that situational factors generally play a larger role than person-based factors in determining whether or not someone blows the whistle; however, as the current data suggest, aspects of a person's character, such as the moral values a person endorses, can play a critical role. People with high moral character, who tend to consider how their actions affect other people, engage in more organizational citizenship behaviors (e.g., offering suggestions for improving the work environment; Cohen, Panter, Turan, Morse, & Kim, 2014) and report greater likelihood of blowing the whistle (Helzer, Cohen, & Kim, 2018). Interestingly, many traits that have been linked to whistleblowers, including high extraversion and low agreeableness (Bjørkelo et al., 2010), may reflect a "proactive personality", whereby whistleblowers seek to actively influence, rather than be influenced by, their environment (Bateman & Crant, 1993; Bjørkelo et al., 2010; Miceli et al., 2012). Given the current finding that concerns about loyalty were associated with a decreased likelihood of whistleblowing, having high levels of agency may be a crucial character trait of whistleblowers (as well as other exemplars of moral courage; Cf. Matsuba & Walker, 2005; Walker & Frimer, 2007) as whistleblowers must overcome pressures to conform or acquiesce to unethical behavior.

Perhaps surprisingly, organizational features such as how well an organization educates its employees about whistleblowing procedure were not associated with whether people decided to blow the whistle or not. However, a key role for the organization was evident in other aspects of the whistleblowing process. Perceiving one's organization as fair had a strong association with how one chooses to blow the whistle (i.e., through internal versus external channels) and strongly predicted better outcomes for whistleblowers (i.e., less threat of reprisal). Receiving

education about whistleblowing had similar, but weaker, effects. These findings should be useful to organizations that seek to promote whistleblowing internally.

While concern for others was positively associated with whistleblowing, it was also strongly related to receiving backlash and reprisal for blowing the whistle. This unfortunate effect holds regardless of the channels used to blow the whistle. While additional research is needed to clarify this relationship, we speculate that whistleblowers may be more likely to receive reprisal when their actions appear to be motivated by concerns for parties beyond their organization, putting into stark relief the potential costs of prioritizing people outside of one's own group. Notably, the people who show high concern for others are not simply "malcontents" – scores on the Concern for Others factor were positively correlated with greater job satisfaction and, to a lesser extent, concern for loyalty. Rather, these findings suggest whistleblowers receive reprisal for having otherwise prosocial motivations that favor people outside their organization.

The current investigation provides important evidence of the strong association between moral concerns and whistleblowing. It addresses several key gaps in our current understanding of the psychology of whistleblowers by investigating how a wide range of factors influence real whistleblowing behavior at a large scale. One limitation of the current findings is that they do not provide strong evidence of a causal role for moral concerns in whistleblowing decisions. Nevertheless, the current findings are consistent with prior work showing that whistleblowing decisions can be altered by manipulating people's attention to particular moral values. Specifically, priming participants to endorse fairness over loyalty increases people's willingness to blow the whistle on unethical behavior in an online marketplace (Waytz et al., 2013). We note that concern for others, as measured by the items included in the MPSB survey, is operationalized differently from this previous work on fairness, yet captures at least one key

common feature: extending concern for the rights and wellbeing of others beyond one's group. The current large-scale investigation thus supports earlier conclusions that concern about loyalty to one's group inhibits whistleblowing, whereas concern about those outside one's group promotes whistleblowing.

The current results may ultimately be leveraged to encourage more people to blow the whistle and diminish the backlash against those who do. People observing unethical behavior in their group are confronted with a dilemma between remaining silent out of a concern for loyalty to their group, or to blow the whistle out of a concern for fairness to others (Hersh, 2002; Misch, Over, & Carpenter, 2018; Waytz et al., 2013). While some researchers have suggested that organizations attempting to promote whistleblowing would be better off by focusing on non-moral factors that may be more controllable than moral factors (Mesmer-Magnus & Viswesvaran, 2005), prior work has shown that even highly polarized attitudes can be manipulated by appealing to different moral concerns (Feinberg & Willer, 2013). In the present context, organizations can play a critical role in diminishing the tension between loyalty and fairness by clarifying their values, goals, and obligations with respect to the wider public. Notably, a recent analysis of 380 ethics training courses in business, science, and engineering fields (Steele et al., 2016), found that over 15% of the measures used to evaluate these courses consisted of versions of the Defining Issues Test (Rest, 1975)—a series of moral dilemmas based on Kohlberg's (1976) stages of moral development. Organizations might capitalize on the existing inclusion of moral dilemmas to promote discussion of conflicts that can arise between loyalty and fairness when attempting to balance concerns for one's family, coworkers, boss, organization, and community. By situating an employee's responsibilities within a larger sense

of moral responsibility to society at large (Rorty, 1997), people may come to accept whistleblowing as an expression of both loyalty and fairness.

Importantly, the dichotomy between loyalty to one's group and extending concern to others evident in the current data on whistleblowing decisions also lies at the heart of many key moral issues beyond the domain of whistleblowing. Over-prioritizing group concerns relative to the needs of others may similarly act as a barrier to fostering equality and cooperation across individuals (Napier & Luguri, 2013), diminishing intergroup conflict (Cohen, Montoya, & Insko, 2006), extending empathy to outgroups (Cikara, Bruneau, & Saxe, 2011), and widening the moral circle (Singer, 2011). Understanding how whistleblowers are willing and able to set aside group obligations, risking personal well-being and safety for the sake of treating others fairly, will thus aid the larger goal of building moral courage and fostering prosocial behavior more generally.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

Andon, P., Free, C., Jidin, R., Monroe, G. S., & Turner, M. J. (2018). The impact of financial incentives and perceptions of seriousness on whistleblowing intention. *Journal of Business Ethics, 151*(1), 165-178.

Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of organizational behavior, 14*(2), 103-118.

- Bentler, P.M. & Bonnet, D.C. (1980). Significance Tests and Goodness of Fit in the Analysis of Covariance Structures. *Psychological Bulletin*, 88(3), 588-606.
- Bjørkelo, B. (2013). Workplace bullying after whistleblowing: Future research and implications. *Journal of Managerial Psychology*, 28(3), 306-323.
- Bjørkelo, B., Einarsen, S., & Matthiesen, S. B. (2010). Predicting proactive behaviour at work: Exploring the role of personality as an antecedent of whistleblowing behaviour. *Journal of Occupational and Organizational Psychology*, 83(2), 371-394.
- Bocchiaro, P., Zimbardo, P.G., & Van Lange, P.A. (2012). To defy or not to defy: an experimental study of the dynamics of disobedience and whistle-blowing. *Social Influence*, 7, 35-50.
- Bowman, J. S. (1980). Whistle-blowing in the public service: an overview of the issues. *Review of Public Personnel Administration*, 1(1), 15-27.
- Brabeck, M. (1984). Ethical Characteristics of Whistle Blowers. *Journal of Research in Personality*, 18, 41-53.
- Brewer, G. A., & Selden, S. C. (1998). Whistle blowers in the federal civil service: New evidence of the public service ethic. *Journal of public administration research and theory*, 8(3), 413-440.
- Butler, J.V., Serra, D., & Spagnolo, G. (2017). Motivating Whistleblowers. CEIS Working Paper No. 419. Available at SSRN: <https://ssrn.com/abstract=3086671>.
- Callahan, E. S., & Dworkin, T. M. (1994). Who blows the whistle to the media, and why: Organizational characteristics of media whistleblowers. *American Business Law Journal*, 32(2), 151-184.

- Caillier, J. G. (2016). Public Service Motivation and Decisions to Report Wrongdoing in US Federal Agencies: Is This Relationship Mediated by the Seriousness of the Wrongdoing. *The American Review of Public Administration*, 1-22.
doi:10.1177/0275074015626299.
- Chen, C. P., & Lai, C. T. (2014). To blow or not to blow the whistle: The effects of potential harm, social pressure and organisational commitment on whistleblowing intention and behaviour. *Business Ethics: A European Review*, 23(3), 327-342.
- Cho, Y. J., & Song, H. J. (2015). Determinants of whistleblowing within government agencies. *Public Personnel Management*, 44(4), 450-472.
- Cikara, M., Bruneau, E. G., & Saxe, R. R. (2011). Us and them intergroup failures of empathy. *Current Directions in Psychological Science*, 20(3), 149-153.
- Cohen, T. R., Montoya, R. M., & Insko, C. A. (2006). Group morality and intergroup relations: Cross-cultural and experimental evidence. *Personality and Social Psychology Bulletin*, 32(11), 1559-1572.
- Cohen, T. R., Panter, A. T., Turan, N., Morse, L., & Kim, Y. (2014). Moral character in the workplace. *Journal of Personality and Social Psychology*, 107(5), 943.
- Culiberg, B., & Mihelič, K. K. (2017). The evolution of whistleblowing studies: A critical review and research agenda. *Journal of Business Ethics*, 146(4), 787-803.
- Curtis, M. B., & Taylor, E. Z. (2009). Whistleblowing in public accounting: Influence of identity disclosure, situational context, and personal characteristics. *Accounting and the Public Interest*, 9(1), 191-220.
- Dalton, D., & Radtke, R. R. (2013). The joint effects of machiavellianism and ethical environment on whistle-blowing. *Journal of Business Ethics*, 117(1), 153-172.

- Devine, T. M., & Aplin, D. G. (1986). Abuse of authority: the office of the special counsel and whistleblower protection. *Antioch LJ*, 4, 5.
- Dozier, J. B., & Miceli, M. P. (1985). Potential predictors of whistle-blowing: A prosocial behavior perspective. *Academy of Management Review*, 10(4), 823-836.
- Dungan, J., Waytz, A., & Young, L. (2015). The psychology of whistleblowing. *Current Opinion in Psychology*, 6, 129-133.
- Dyck, A., Morse, A., & Zingales, L. (2010). Who blows the whistle on corporate fraud? *The Journal of Finance*, 65(6), 2213-2253.
- Feinberg, M., & Willer, R. (2013). The moral roots of environmental attitudes. *Psychological Science*, 24(1), 56-62.
- Glazer, M. P., & Glazer, P. M. (1989). *The whistleblowers: Exposing corruption in government and industry*. Basic Books.
- Helzer, E. G., Cohen, T. R., & Kim, Y. (2018). The character lens: Moral character promotes ethical decision-making through moral awareness. In *Academy of Management Proceedings* (Vol. 2018, No. 1, p. 17936). Briarcliff Manor, NY 10510: Academy of Management.
- Hersh, M. A. (2002). Whistleblowers—heroes or traitors?: Individual and collective responsibility for ethical behaviour. *Annual Reviews in Control*, 26(2), 243-262.
- Hildreth, J. A. D., Gino, F., & Bazerman, M. (2016). Blind loyalty? When group loyalty makes us see evil or engage in it. *Organizational Behavior and Human Decision Processes*, 132, 16-36.

- Hollings, J. (2013). Let the story go: The role of emotion in the decision-making process of the reluctant, vulnerable witness or whistle-blower. *Journal of Business Ethics*, 114(3), 501–512.
- Hu, L.T. & Bentler, P.M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives. *Structural Equation Modeling*, 6(1), 1-55.
- Kawakami, K., Dunn, E., Karmali, F., & Dovidio, J. F. (2009). Mispredicting affective and behavioral responses to racism. *Science*, 323(5911), 276-278.
- Kennedy, J. A., & Anderson, C. (2017). Hierarchical rank and principled dissent: How holding higher rank suppresses objection to unethical practices. *Organizational Behavior and Human Decision Processes*, 139, 30-49.
- Kenny, K., Fotaki, M., & Scriver, S. (2018). Mental Heath as a Weapon: Whistleblower Retaliation and Normative Violence. *Journal of Business Ethics*, 1-15.
- Kohlberg, L. (1976). Moral stages and moralization: The cognitive-developmental approach. In T. Lickona (Ed.), *Moral development and behavior: Theory, research, and social issues* (pp. 31–53). New York: Holt, Rinehart & Winston.
- Liyanarachchi, G., & Newdick, C. (2009). The impact of moral reasoning and retaliation on whistle-blowing: New Zealand evidence. *Journal of Business Ethics*, 89(1), 37-57.
- Mesmer-Magnus, J. R., & Viswesvaran, C. (2005). Whistleblowing in organizations: An examination of correlates of whistleblowing intentions, actions, and retaliation. *Journal of Business Ethics*, 62(3), 277-297.

- Miceli, M. P., & Near, J. P. (1984). The relationships among beliefs, organizational position, and whistle-blowing status: A discriminant analysis. *Academy of Management Journal*, 27(4), 687-705.
- Miceli, M. P., & Near, J. P. (1988). Individual and situational correlates of whistle-blowing. *Personnel Psychology*, 41(2), 267-281.
- Miceli, M. P. & Near, J. P. (1992). *Blowing the whistle: The organizational and legal implications for companies and employees*. Lexington Books.
- Miceli, M. P. & Near, J. P. (1997). Whistle-blowing as antisocial behavior. *Antisocial behavior in organizations*, 130-149.
- Miceli, M. P., Near, J. P., Rehg, M. T., & Van Scotter, J. R. (2012). Predicting employee reactions to perceived organizational wrongdoing: Demoralization, justice, proactive personality, and whistle-blowing. *Human Relations*, 65(8), 923-954.
- Miceli, M. P., Near, J. P., & Dworkin, T. M. (2013). *Whistle-blowing in organizations*. Psychology Press.
- Misch, A., Over, H., & Carpenter, M. (2018). The Whistleblower's Dilemma in Young Children: When Loyalty Trumps Other Moral Concerns. *Frontiers in psychology*, 9, 250.
- Napier, J. L., & Luguri, J. B. (2013). Moral mind-sets: Abstract thinking increases a preference for “individualizing” over “binding” moral foundations. *Social Psychological and Personality Science*, 4(6), 754-759.
- Near, J. P., Dworkin, T. M., & Miceli, M. P. (1993). Explaining the whistle-blowing process: Suggestions from power theory and justice theory. *Organization Science*, 4(3), 393-411.

- Near, J. P., & Miceli, M. P. (2008). Wrongdoing, Whistle-Blowing, and Retaliation in the US Government What Have Researchers Learned From the Merit Systems Protection Board (MSPB) Survey Results? *Review of Public Personnel Administration*, 28(3), 263-281.
- Near, J. P., & Miceli, M. P. (2016). After the wrongdoing: What managers should know about whistleblowing. *Business Horizons*, 59(1), 105-114.
- Perry, J. L. (1996). Measuring public service motivation: An assessment of construct reliability and validity. *Journal of Public Administration Research and Theory: J-PART*, 5-22.
- Perry, J. L., Hondeghem, A., & Wise, L. R. (2010). Revisiting the motivational bases of public service: Twenty years of research and an agenda for the future. *Public administration review*, 70(5), 681-690.
- Rehg, M. T., Miceli, M. P., Near, J. P., & Van Scotter, J. R. (2008). Antecedents and outcomes of retaliation against whistleblowers: Gender differences and power relationships. *Organization Science*, 19(2), 221-240.
- Rest, J. R. (1975). Longitudinal study of the Defining Issues Test of moral judgment: A strategy for analyzing developmental change. *Developmental Psychology*, 11(6), 738-748.
- Rorty, R. (2005). Justice as a larger loyalty. *Ethical Perspectives*, 4(3), 139-151.
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling and more. Version 0.5–12 (BETA). *Ghent, Belgium: Ghent University*.
- Rothschild, J., & Miethe, T. D. (1999). Whistle-blower disclosures and management retaliation the battle to control information about organization corruption. *Work and occupations*, 26(1), 107-128.
- Singer, P. (2011). *Practical ethics*. Cambridge university press.

- Steele, L. M., Mulhearn, T. J., Medeiros, K. E., Watts, L. L., Connelly, S., & Mumford, M. D. (2016). How do we know what works? A review and critique of current practices in ethics training evaluation. *Accountability in research*, 23(6), 319-350.
- Steiger, J.H. (2007). Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual Differences*, 42(5), 893-98.
- U.S. Department of Justice, “Justice department recovers over \$3.7 billion from false claims act cases in fiscal year 2017” (Office of Public Affairs, 2017).
- U.S. Merit Systems Protection Board. (2012). *Federal employee engagement: The motivating potential of job characteristics and rewards*. Washington, DC: Author.
- Vadera, A. K., Aguilera, R. V., & Caza, B. B. (2009). Making sense of whistle-blowing's antecedents: Learning from research on identity and ethics programs. *Business Ethics Quarterly*, 19(04), 553-586.
- van der Velden, P. G., Pecoraro, M., Houwerzijl, M. S., & van der Meulen, E. (2018). Mental Health Problems Among Whistleblowers: A Comparative Study. *Psychological reports*, 1-13.
- Walker, L. J., & Frimer, J. A. (2007). Moral personality of brave and caring exemplars. *Journal of personality and social psychology*, 93(5), 845.
- Waytz, A., Dungan, J., & Young, L. (2013). The whistleblower's dilemma and the fairness–loyalty tradeoff. *Journal of Experimental Social Psychology*, 49(6), 1027-1033.
- Woodzicka, J. A., & LaFrance, M. (2001). Real versus imagined gender harassment. *Journal of Social Issues*, 57(1), 15-30.

Zhang, J., Chiu, R., & Wei, L. (2009). Decision-making process of internal whistleblowing behavior in China: Empirical evidence and implications. *Journal of Business Ethics*, 88(1), 25–41.