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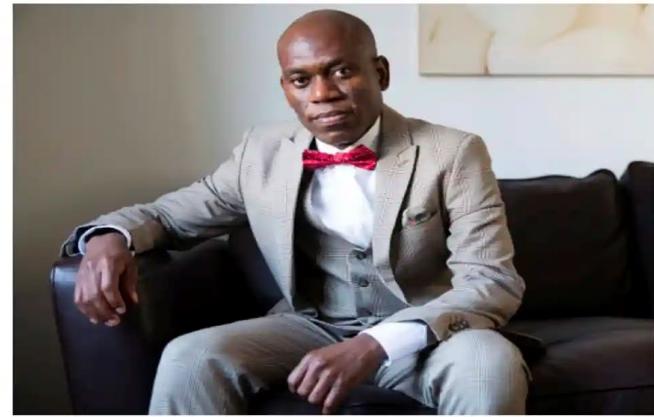
# **Analyzing Determinants of Whistleblowing with the Gamification Method**

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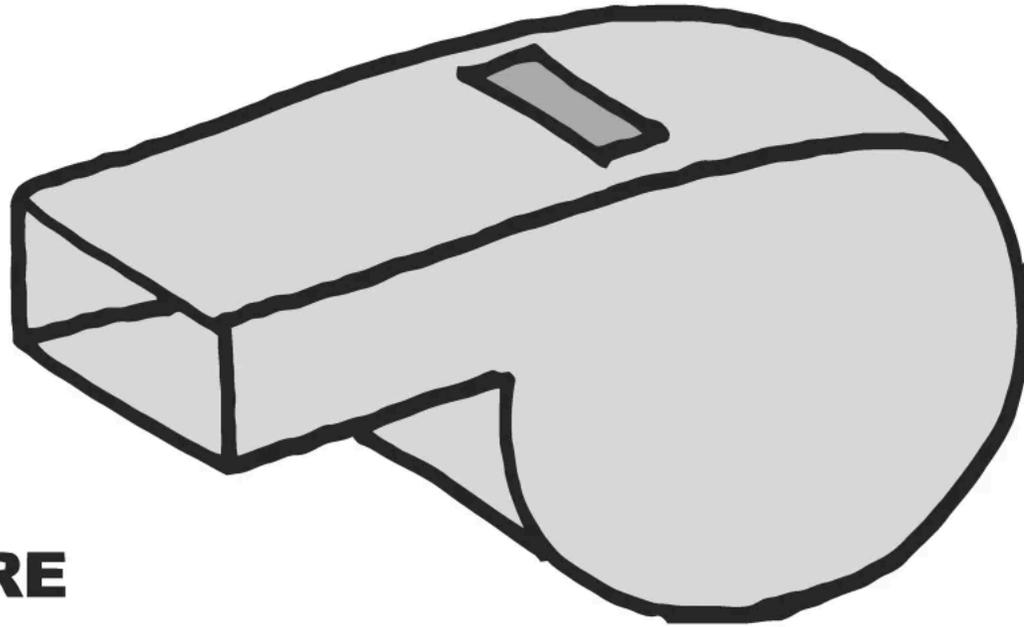








**BLOW HERE**



# The Dilemma of a Whistleblower

# Research Background & Question

- What makes some people blow the whistle while others remain silent?  
What drives whistleblowing within an organization?
- To answer these questions, we need to get *good* data  
→ It is challenging to elicit honest answers for whistleblowing motivation
- Risks and costs for the whistleblowers: condemnation, demotion, and allegations

Gamification Method	
Respondents immerse themselves into the main character's position	→ <b>Stimulate</b> spontaneous and honest responses
Respondents can consider their own responses as being relevant to the virtual situation	→ <b>Feel</b> safe for their sincere responses
Respondents are randomly assigned with initial conditions (an experimental design)	→ <b>Increase</b> scientific rigor of statistical analysis

# Literature Review on Whistleblowing

## • Definition of Whistleblowing

*“the disclosure by former or current organization members of illegal, immoral, or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action” (Near & Miceli, 1985, p. 4).*

**1. Subject** Why the whistle should be blown?

wrongdoings, corruption

**2. Actor** Who would blow the whistle?

insider vs. outsider

former employee vs. current employee

**3. Method/Channel** How to blow the whistle?

external channels vs. internal channels

identified vs. unidentified

online tools vs. offline tools

# Literature Review on Whistleblowing

## • Determinants of Whistleblowing

### • Individual attributes

- Demographic characteristics: male, older, longer tenured, and supervisory status
- Personality types: responsibility, moral identity, loyalty concerns, public service motivation, prosocial personality, proactiveness, and tendencies towards organizational citizenship behavior

### • Organizational characteristics: organizational size, organizational climate, perceived organizational support, group cohesion, management responsiveness, organizational protection, and ethical environment within the organization

### • Relational factors: a supervisor-employee relationship. span of control (i.e., the greater number of employees under the control of a supervisor), discretion at ordinary tasks

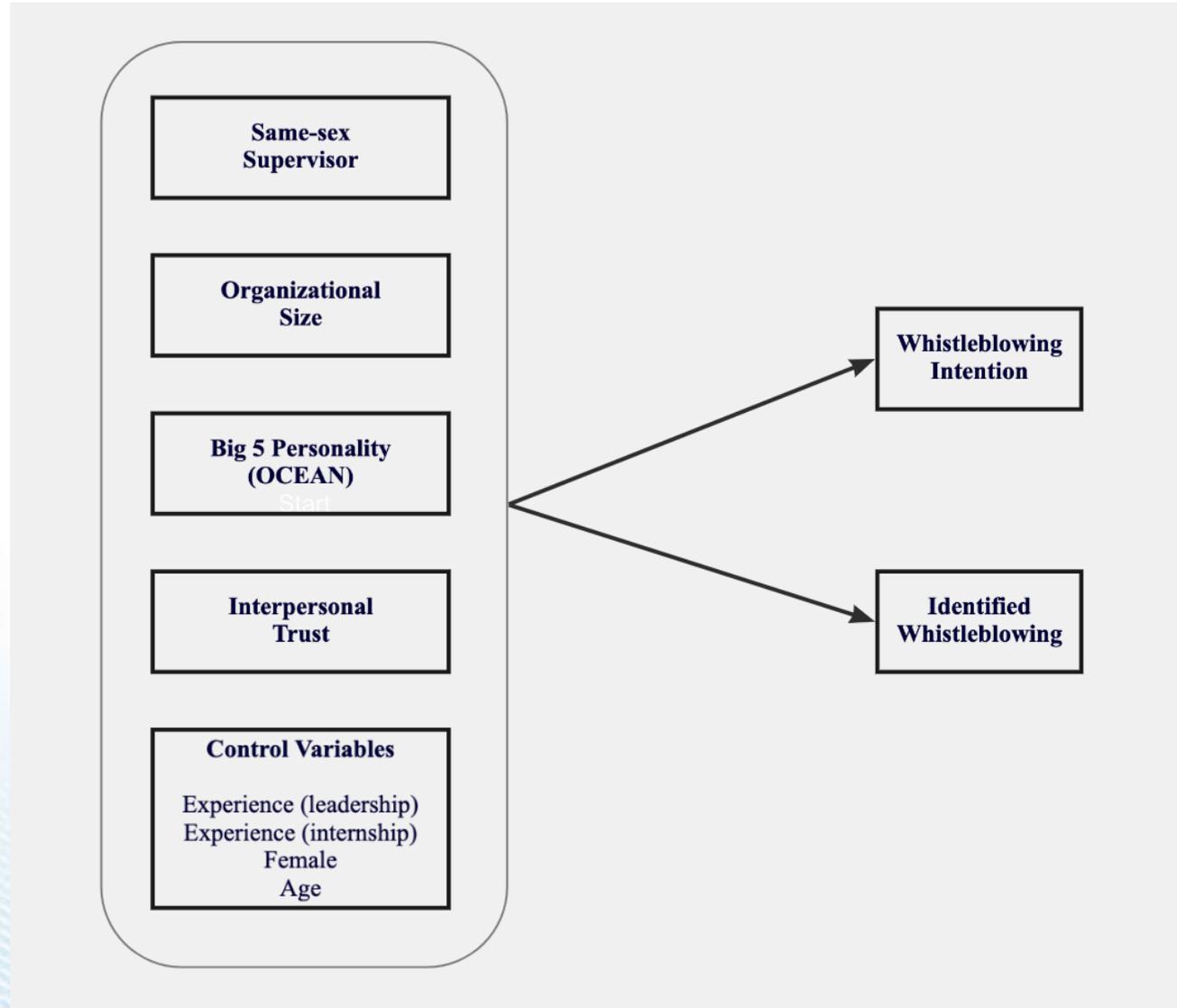
## • Means of Whistleblowing

### • Internal vs. External channels

### • Online vs. Offline tools

### • Identified vs. Unidentified whistleblowing

# Research Framework



# Hypothesis 1: Relational Factors

- **Dyadic Relationships between Same-Sex Managers and Employees**

- The **consistency** with his/her supervisor's sex can affect whistleblowing decisions
  - Women tend to refrain from whistleblowing (Brennan & Kelly, 2007; Cassematis & Wortley, 2013; Fatoki, 2013; Prysmakova & Evans, 2022), avoid their identity being disclosed (Feldman & Lobel, 2010; Kaplan et al., 2009)
  - The gender gap in whistleblowing can be coupled with one's organizational status
  - Same-sex leaders are likely to nurture more interactions within the organization (Wayne et al., 1994), and thus likely to decrease one's anxiety associated with whistleblowing

*H1a: When an employee has a same-sex supervisor, whistleblowing is more likely to occur than otherwise.*

*H1b: When an employee has a same-sex supervisor, identified whistleblowing is more likely to occur than otherwise.*

# Hypothesis 2: Organizational Characteristics

- **The Size of Organization, Span of Control, and Level of Formalization**

- Miceli and Near (1992) asserted that whistleblowing is more likely to take place in a smaller organization because members would feel more responsibility
- Whistleblowing is more likely in a bigger organization with a bigger span of control and a lower level of control for the rank and file (e.g., Lee, 2020).
- Whistleblowing programs, which are more likely to be installed within a bigger organization, can contribute to increasing the likelihood of whistleblowing (Hooks et al., 1994; Rothwell & Baldwin, 2006; Smith, 2013).

*H2a: Within a bigger organization, whistleblowing is more likely to occur than otherwise.*

*H2b: Within a bigger organization, identified whistleblowing is more likely to occur than otherwise*

# Hypothesis 3: Individual Attributes

- **The Big Five Personality Traits** human personality generally consists of five dimensions (Costa et al., 2001)
  - **H3-1) Openness to Experience:** imagination, curiosity, originality, broad-minded, intelligence
  - **H3-2) Conscientiousness:** responsible, achievement-oriented, persistent
  - **H3-3) Extraversion:** sociable, talkative, cheerful, optimistic, confident, persuasive
  - **H3-4) Agreeableness:** identification with others, empathy, selflessness, cooperation
  - **H3-5) Neuroticism:** shame, anger, anxiety, depression

*H3-1/2/3a: The higher the Big Five Personality Traits, the higher the likelihood of whistleblowing.*

*H3-1/2/3b: The higher the Big Five Personality Traits, the higher the likelihood of identified whistleblowing.*

*H3-4/5a: The higher the Big Five Personality Traits, the lower the likelihood of whistleblowing.*

*H3-4/5b: The higher the Big Five Personality Traits, the lower the likelihood of identified whistleblowing.*

# Hypothesis 4: Individual Attributes

- **Interpersonal Trust**

- The probability of internal whistleblowing would likely increase when a high level of fairness perception towards the affiliated organization prevails (Jeon, 2017).
- Trusting the institution, process, governing authorities, and, most importantly, colleagues, an individual would feel more comfortable or feel like 'an insider' to report organizational wrongdoings that s/he has seen or experienced (Akhtar et al., 2021; Taylor, 2018).
- The individual would have less fear of disclosing his/her identity when the trust is robust.

*H4a: A higher level of one's interpersonal trust will likely lead to a higher likelihood of whistleblowing.*

*H4b: A higher level of one's interpersonal trust will likely lead to a higher likelihood of identified whistleblowing.*

# Data and Method

## Interactive Webcomic with the Gamification Method

- **Interactive webcomic**

- After completing the preceding survey, each participant enters the game situation and plays a main character in the webcomic.

The player is newly employed by the social enterprise called "Today's Coffee" and faces a situation where he or she finds that the company deceives him that it uses fair-traded coffee. As the story of the webcomic goes, it lets the participants make decisions on several issues including whistleblowing. After the choice, a different story is unfolded by reflecting on the decision.

- 1) Whether or not to blow the whistle
- 2) How to blow the whistle once decided  
(identified vs. unidentified)

Figure 2. Webcomic Example: Dyadic Relationships between Same-sex Supervisor and Employee



# Results



Table 5. Binary Logistic Regression Analysis Results

	Model 1 Whistleblowing Intention <i>Odds Ratios</i> ( <i>Standard Error</i> )	Model 2 Identified Whistleblowing <i>Odds Ratios</i> ( <i>Standard Error</i> )
Same-sex Supervisor	0.548** (0.165)	1.079 (0.248)
Organizational Size	2.049** (0.624)	1.119 (0.255)
Openness	1.539*** (0.253)	0.696*** (0.0958)
Conscientiousness	1.057 (0.210)	0.843 (0.128)
Extraversion	1.220 (0.223)	1.152 (0.165)
Agreeableness	0.868 (0.160)	1.334* (0.220)
Neuroticism	0.919 (0.151)	0.983 (0.127)
Interpersonal Trust	1.885*** (0.356)	1.086 (0.157)
Experience (leadership)	1.452 (0.458)	1.008 (0.244)
Experience (internship)	0.533** (0.169)	1.321 (0.316)
Female	1.270 (0.387)	1.361 (0.336)
Age	1.009 (0.0314)	1.050** (0.0259)
Constant	0.197 (0.281)	0.240 (0.276)
No. of Observations	400	336

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

# Findings

- The gender consistency of the immediate supervisor reduced the intention, whereas the size of the organization encouraged it.
- Blowing the whistle was more likely among those with a high level of openness and interpersonal trust, while those with leadership experience were less likely to blow the whistle.
- While people with a more agreeable personality are less afraid of being identified in order to use their position to help their organization, those with openness are more likely to use it to spur whistleblowing while taking steps to reduce the chances of being identified.

# Discussion

- **Facilitating whistleblowing can be a difficult issue to solve**

- Individual characteristics and internship experience
- A supervisor's biological sex and the size of an organization

⇒ *Not easy to manage*

- **Organizations need to cultivate ethical culture**

- Managers need to pay attention to the characteristics and contexts of their subordinates

- **A webcomic based on the gamification method**

- **Pros:** Honest, spontaneous answer when immersed in the game situation
- **Cons:** Hypothetical response to hypothetical situation

# Thank You

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# Table 1. Distribution of Respondents

	Variable	Freq.	Percent (%)
<b>Sex</b>	Female	263	65.42
	Male	139	34.58
	Total	402	100
<b>Education Level</b>	Undergraduate	212	52.74
	Graduate_Master's Level	90	22.39
	Integrated Master's and Doctorate Course	51	12.69
	Graduate_Doctoral Level	49	12.19
	Total	402	100
<b>Major</b>	College of Nursing	13	3.23
	School of Business	27	6.72
	College of Engineering	71	17.66
	College of Educational Sciences	16	3.98
	Global Leaders College	1	0.25
	College of Liberal Arts	61	15.17
	College of Social Sciences	70	17.41
	College of Commerce and Economics	23	5.72
	College of Life Science and Biotechnology	12	2.99
	College of Human Ecology	16	3.98
	College of Theology	7	1.74
	College of Pharmacy	6	1.49
	Underwood International College	6	1.49
	College of Music	5	1.24
	College of Medicine	22	5.47
	College of Science	30	7.46
	College of Dentistry	16	3.98
Total	402	100	

# Table 2. Measurements of Variables

Variables	Measurements	Variables	Measurements
<b>Whistleblowing Intention</b>	1 = Blowing the whistle for wrongdoings 0 = Turning a blind eye to wrongdoings	<b>Agreeableness††</b>	- Is considerate and kind to almost everyone - Is helpful and unselfish with others - Is generally trusting
<b>Identified Whistleblowing</b>	1 = Identified whistleblowing 0 = Anonymous whistleblowing	<b>Neuroticism††</b>	- Worries a lot - Can be tense - Gets nervous easily
<b>Same-sex Supervisor†</b>	1 = Having the same biological sex with the immediate supervisor 0 = Having a different biological sex with the immediate supervisor	<b>Interpersonal Trust††</b>	- Most people are trustworthy - Most people are basically good and kind. - I am trustful.
<b>Organizational Size†</b>	1 = An organization with a large investment and workforce 0 = An organization with a small investment and workforce	<b>Experience (leadership)</b>	Have you ever assumed a leadership role in a student group since admitted to the university? (1 = yes, 0 = no)
<b>Openness††</b>	- Is inventive - Is original, comes up with new ideas - Values artistic, aesthetic experiences	<b>Experience (internship)</b>	Do you have any working experience such as an internship? (1 = yes, 0 = no)
<b>Conscientiousness††</b>	- Does a thorough job - Makes plans, follows through with them - Perseveres until the task is finished	<b>Female</b>	1 = Female 0 = Male
<b>Extraversion††</b>	- Is outgoing, sociable - Generates a lot of enthusiasm - Is full of energy	<b>Age</b>	Survey year – Year of birth

† Experimental variable: Each respondent was randomly assigned a hypothetical situation

†† Composite index: The mean score of three questions on a scale of 1-5

# Table 3. Summary Statistics

<b>Variable</b>	<b>Obs.</b>	<b>Mean</b>	<b>Std.</b>	<b>Min.</b>	<b>Max.</b>
<b>Whistleblowing Intention</b>	402	0.841	0.366	0	1
<b>Identified Whistleblowing</b>	338	0.541	0.499	0	1
<b>Same-sex Supervisor</b>	402	0.535	0.499	0	1
<b>Organizational Size</b>	402	0.483	0.500	0	1
<b>Openness</b>	402	3.289	0.922	1	5
<b>Conscientiousness</b>	402	3.765	0.813	1.333	5
<b>Extraversion</b>	402	3.132	0.990	1	5
<b>Agreeableness</b>	402	3.750	0.836	1	5
<b>Neuroticism</b>	402	3.429	0.929	1	5
<b>Interpersonal Trust</b>	402	3.001	0.857	1	5
<b>Experience (leadership)</b>	402	0.515	0.50	0	1
<b>Experience (internship)</b>	401	0.574	0.495	0	1
<b>Female</b>	402	0.654	0.476	0	1
<b>Age</b>	401	25.913	4.920	18	50

# Table 4. Bivariate Correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>1. Whistleblowing Intention</b>	1												
<b>2. Identified Whistleblowing</b>	.	1											
<b>3. Same-sex Supervisor</b>	-0.0787	0.003	1										
<b>4. Organizational Size</b>	0.1209*	0.0104	0.0324	1									
<b>5. Openness</b>	0.1586*	-0.1156*	0.072	0.0848	1								
<b>6. Conscientiousness</b>	0.0273	-0.0193	0.0468	0.0348	0.0059	1							
<b>7. Extraversion</b>	0.1474*	0.0689	-0.032	0.0256	0.3144*	0.2482*	1						
<b>8. Agreeableness</b>	0.0733	0.1029	0.0194	0.0477	0.1349*	0.3664*	0.2372*	1					
<b>9. Neuroticism</b>	-0.053	-0.0421	0.0493	0.0009	0.0649	-0.1954*	0.0976	-0.0816	1				
<b>10. Interpersonal Trust</b>	0.1938*	0.073	-0.003	-0.0358	0.026	0.2413*	0.0381	0.3387*	-0.1394*	1			
<b>11. Experience (leadership)</b>	0.0946	0.0358	0.0628	0.0508	0.0985*	-0.0672	0.3072*	0.0325	0.1774*	-0.0791	1		
<b>12. Experience (internship)</b>	-0.0729	0.0829	-0.0176	-0.0474	0.0904	0.0183	0.1670*	0.1460*	0.0932	-0.0922	0.1844*	1	
<b>13. Female</b>	0.041	0.0216	-0.0069	-0.041	0.048	0.0088	0.079	0.0172	0.0202	0.0211	0.1421*	0.0948	1
<b>14. Age</b>	-0.0036	0.1156*	0.0618	-0.0225	-0.0152	0.0282	-0.0026	-0.0691	0.0539	0.0004	0.0921	-0.0255	-0.1710*

\*p < .05

# Table 5. Binary Logistic Regression

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