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ORIGINAL PAPER

To Blow or Not to Blow the Whistle: The Role of Rationalization in the Perceived Seriousness of Threats and Wrongdoing

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Abstract
Whistleblowers who need to decide whether or not they should report wrongdoing usually experience several anxieties and pressures before making a final decision. As whistleblowers continue to attract the attention of a wide range of stakeholders, more research is necessary to understand the effects of the perceived seriousness of threats (PST) and perceived seriousness of wrongdoing (PSW), as well as the effect of the rationalization process on the intention to blow the whistle. We make the original proposal that the rationalization process can affect how PST and PSW trigger whistleblowing intentions. We tested our model using employees of tax offices operating in an emerging economy. We suggest several research findings, which can be summarized as follows: (i) PST reduces individuals' intention to blow the whistle. That is, the greater the threat perceived by whistleblowers, the higher the likelihood they will choose to remain silent; (ii) we find evidence of a positive relationship between PSW and whistleblowing intention, whereby PSW increases individuals' intention to blow the whistle. That is, the more serious the wrongdoing perceived by potential whistleblowers, the more likely they are to choose to blow the whistle; and (iii) we find evidence of the important role of rationalization in moderating the relationships between PST, PSW, and whistleblowing intention. The implications of these findings for business ethics scholars, managers, and end-users interested in whistleblowing are also presented.

Keywords Business ethics · Perceived seriousness of threats · Perceived seriousness of wrongdoing · Rationalization · Whistleblowing intentions

Introduction

In 2018, the world's largest antifraud organization—the Association of Certified Fraud Examiners (ACFE)—released the 10th edition of its report on occupational fraud and abuse, first published in 1996. In the latest report, the ACFE analyzed 2690 real cases from 125 countries, and found that 40% of fraud cases were detected or uncovered by whistleblowers. These ACFE findings indicate that employees (53%) are the most active subjects in blowing the whistle, followed by customers (21%), anonymous individuals (14%), vendors (8%), others (5%), competitors (3%) and shareholders/owners (2%). This research has raised questions about why someone who observes wrongdoing makes the decision either to blow the whistle or to remain silent (Dozier and Miceli 1985; Dworkin and Baucus 1998; MacGregor and Stuebs 2014a; Rehg et al. 2008; Young 2017).

According to Culiberg and Mihelič (2017), a whistleblower who witnesses or uncovers wrongdoing will go through several considerations before deciding whether or not to blow the whistle. We will first consider the question—why might an observer choose to remain silent, and what makes him or her afraid to reveal wrongdoing? Previous studies have documented several explanatory factors (e.g. powerful status of wrongdoers, lack of support or fear of retaliation) that can sway potential whistleblowers toward remaining silent upon observing wrongdoing (Near et al. 1993; Rehg et al. 2008; Wainberg and Perreault 2016; Gao et al. 2015). However, a factor which has not yet been well

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studied in this area is the perceived seriousness of threats (Martin 2014; Lee and Xiao 2018). Perceived seriousness of threats (PST) can be understood as a whistleblowers' assessment of the actual level of risk they may incur in the future as a result of uncovering wrongdoing. Such threats, which include being laid off from work, being treated unfairly, experiencing verbal harassment and intimidation or pressure from coworkers, can constitute reprisals and thus reduce the intention of whistleblowing (Latan et al. 2018a; Martin 2014). In this sense, the seriousness of the threat is a disincentive to blowing the whistle. For example, a supervisor may threaten dismissal for employees who reveal wrongdoings within the organization. However, are such threats serious, or just a bluff? In this situation, the rationalization is required to assess the level of the threat. Rationalization can be defined as a process of cognitive justification underlying the decision to blow the whistle (Smaili and Arroyo 2019; MacGregor and Stuebs 2014a). This represents a process of reasoning undertaken by whistleblowers to consider their actions (or inaction), according to their own moral standards (Brown et al. 2016; Latan et al. 2018a).

Another consideration concerns the reasons why an observer chooses to blow the whistle; what motivates an observer to take action for the benefit of others? Previous studies have documented several predictor variables, including individual, situational, and environmental factors (e.g., justice, personal responsibility, financial incentives, trust in supervisors, organizational support, pressure etc.) that affect individuals' intention to blow the whistle upon observing wrongdoing (Alleyne et al. 2018; Andon et al. 2018; Cassematis and Wortley 2013; Chen and Lai 2014; Guthrie and Taylor 2017; Latan et al. 2018a; Park et al. 2018b; Patel 2003; Sims and Keenan 1998; Seifert et al. 2014; Soni et al. 2015). However, as indicated by Lee and Xiao (2018), Mesmer-Magnus and Viswesvaran (2005) and Miceli et al. (2008), a number of mixed results have been observed in the relationships between these variables, and therefore further testing is required. Specifically to this study, research into the effect of the perceived seriousness of wrongdoing (PSW) on whistleblowing intention has yielded mixed evidence. For example, several scholars have reported that PSW has a positive effect on the intention to blow the whistle (Andon et al. 2018; Cassematis and Wortley 2013; Near and Miceli 1986), while others have reported no effect (Alleyne et al. 2017; Chen and Lai 2014; Rehg et al. 2008). PSW can be defined as the observer's view of the magnitude of the consequences generated by illegal, immoral or illegitimate practices (Alleyne et al. 2017; Rehg et al. 2008). A study conducted by Mesmer-Magnus and Viswesvaran (2005) found that the correlation between PSW and whistleblowing intention was weak, potentially signaling the presence of a moderator variable. With regard to PSW, as with PST, a rationalization process is needed in order to assess the potential harm of the relevant wrongdoing before the whistleblower takes action.

Motivated by the aforementioned context, this study aims to test the relationship between PST and PSW and its effect on whistleblowing intentions, moderated by the process of rationalization. We will test our model in the context of employees working at tax offices operating in Indonesia. We chose this sample on the basis that these employees play a vital role in any organization, with the possibility of coming across a variety of wrongdoings in their work (ACFE 2018; Miceli et al. 2008). Moreover, several previous studies in the field of whistleblowing have already used such employees as a sample (Alleyne et al. 2017; Cassematis and Wortley 2013; Dworkin and Baucus 1998; Young 2017; Wilde 2017). Furthermore, studies related to whistleblowing in developing countries, especially in the Asia–Pacific region, are relatively rare (Latan et al. 2018b, 2019). While there have been widespread studies related to whistleblowing in numerous regions of the world (Miceli 2013; Patel 2003), most have been conducted in the context of developed countries, and there remains a persistent lack of evidence from developing countries, including Indonesia. Based on the aforementioned ACFE (2018) report, the Asia–Pacific region has the highest ranking in terms of the level of occupational fraud and abuse, with Indonesia being ranked third worst, alongside countries such as China and Australia. Due to the lack of evidence from Indonesia and the high number of fraud cases in this region found by the ACFE, research specific to Indonesia has become an urgent demand.

Our study extends the state-of-the-art research in the field of whistleblowing and provides original evidence in three ways. First, we respond to the research calls from Lee and Xiao (2018) and Martin (2014). Lee and Xiao (2018) argue that there is a relative scarcity in the body of academic knowledge addressing retaliation against whistleblowing, meaning that concerns about the threats perceived by whistleblowers are less studied. In the same vein, Martin (2014) suggests that research related to whistleblowing should provide benefits to existing and potential whistleblowers, especially in relation to the threat of retaliation. In this context, we test the relationship between PST and whistleblowing intention, with rationalization as a moderator. In addition, this study also advances the concept of the 'whistleblowing triangle' (Smaili and Arroyo 2019; Latan et al. 2018a), considering rationalization as a moderator in the relationship between the two main factors.

Second, we reconcile the mixed results found in previous studies related to whistleblowing. While a plethora of emerging research studies has dealt with the driving factors for choosing to blow the whistle, the results are still unclear and contradict each other in terms of several relationships between variables (Culiberg and Mihelič 2017; Miceli and Near 2005). Our study re-examines the relationship between

PSW and whistleblowing intention by considering the role of rationalization as a moderator.

Finally, our research contributes to the provision of evidence in the context of developing countries; in this case, Indonesia. Although a small number of studies related to whistleblowing have been conducted in Barbados, India, Jamaica, Malaysia, Peru, South Africa and Thailand (Alleyne et al. 2018; Apaza and Chang 2017; Maroun and Atkins 2014; Maroun and Solomon 2014; Sims and Keenan 1998; Soni et al. 2015), studies related to whistleblowing in the Indonesian context are relatively rare (Latan et al. 2018a, b).

The remainder of this paper is organized as follows. The next section presents the theoretical background and development of hypotheses, followed by the research methodology. Following this, we present our empirical results. Finally, we discuss these results and provide implications that may be useful for both academics and practitioners.

Theoretical Background and Development of Hypotheses

Whistleblowing as Prosocial Behavior

A number of scholars have defined whistleblowing in a variety of ways (Alford 2001; Jubb 1999; Near and Miceli 1985). However, taking our lead from earlier studies in this field, we will utilize one of the most widely cited definitions in social science research: whistleblowing constitutes the disclosure by members of an organization (including former members and job applicants) of illegal, immoral, or illegitimate practices (including omissions) under the control of their employers, to persons or organizations who may be able to effect action (Near and Miceli 1985). This definition covers all types of wrongdoing that may occur (Near et al. 2004), including wrongdoing that harms organizations (e.g., embezzlement, corruption and asset misappropriation), harms individual employees (e.g., sexual harassment, discrimination and intimidation) or harms society at large (e.g., public dishonesty or illegal corporate behavior). In addition, according to Miceli et al. (2008), this definition does not limit wrongdoing to illegal or immoral behavior. For example, arbitrary firing or bullying of employees by superiors (Park et al. 2018a), may be considered immoral or illegitimate. While the fact is that these actions are perhaps legal in some countries, they may still be considered triggering events for whistleblowing. Hence, when wrongdoing occurs but the observer does not perceive it as illegal, immoral or illegitimate, then whistleblowing by definition cannot occur.

At present, whistleblowing has been widely accepted as a prosocial behavior; that is, a behavior intended to benefit other persons (Alford 2001; Miceli and Near 2005; Latan et al. 2018b). Unlike altruism, which by definition is not motivated by self-interest, prosocial actors may also intend to gain reward or praise for themselves through their actions (Dozier and Miceli 1985; Miceli et al. 2008). However, in certain situations, inadvertent whistleblowing or so-called de-facto whistleblowers can also appear. For instance, certain employees voluntarily report discrepancies in the manner in which a task has been performed, without taking into consideration the consequences of reporting it. In taking this type of action, there is no weighing of pros and cons.

Several studies have indicated that one reason whistleblowers may choose to reveal wrongdoing is the desire to obtain a financial incentive (Andon et al. 2018; Brown et al. 2016; Latan et al. 2018a). This dynamic is supported by several agencies and organizations that promise rewards to whistleblowers (e.g., Internal Revenue Service and Dodd-Frank Act of 2010 in U.S). Despite the fact that rewards can be gained by whistleblowers, observers may decide to remain silent due to a lack of action after speaking out about wrongdoings. In some cases, observers learn from previous experience before deciding to speak out and reveal wrongdoing. In this context, the reasoning process for making a decision to blow the whistle is carried out. When the action of blowing the whistle is felt not to have a positive impact on the organization and/or his/her personal life, the whistleblower may be cynical and decide to remain silent. On the other hand, Berger et al. (2017) note that observers sometimes remain silent until the wrongdoing has caused considerable losses, before blowing the whistle to achieve this gain. Therefore, whistleblowing may be referred to as prosocial behavior, because it will generally benefit organizations and society in general, aside from benefitting whistleblowers themselves.

Meanwhile, whistleblowing systems have developed in many countries, with various interesting cases. For example, Apaza and Chang (2017) provide interesting descriptions and explanations of whistleblowing systems developed in Peru, South Korea, Thailand and the U.S. A study by Vandekerckhove (2006) provides a good overview of the whistleblowing systems in several other countries, such as Australia, New Zealand, the U.K., South Africa, Japan, Belgium and Germany. Vaughn (2012) provides excellent explanations regarding the successes and failures of whistleblowing laws in various countries. Despite the international effort to regulate whistleblowing systems, whistleblowing laws are at times not as effective as expected, because court judgments regarding whistleblowers are based more on technical legal considerations rather than focusing on ethical justifications; thus, whistleblowing laws may fail to promote a culture of speaking out about problems (Vaughn 2012). Therefore, in many ways whistleblowing laws may not be effectively enforced when they are placed among other laws.

In Indonesia, there are policies and regulations that have been ratified by the legislative council related to the whistleblowing system. Indeed, in Indonesia a whistleblowing system was in the process of developing and was beginning to receive attention in 1998, during the financial crisis. The basic idea behind developing this whistleblowing system in Indonesia is that poor corporate governance, which causes wrongdoing, is very difficult to detect and reveal (Latan et al. 2018b; Rachagan and Kuppusamy 2013). According to Transparency International's Corruption Perceptions Index (2018), Indonesia has a score of 38 on a scale from 0 (very corrupt) to 100 (very clean). In previous indexes (2010–2017), Indonesia obtained similar low scores. Among the many reasons for these scores is the lack of an effective and efficient legal framework regarding whistleblowing (Near and Miceli 1995; Miceli et al. 2008). Indeed, the mechanism for reporting wrongdoings in Indonesia has not been fully regulated and the whistleblowing law has not been fully enforced, so the whistleblowing process depends more on the availability of reporting channels within the organization and on whistleblowers' courage to speak out against misconduct. In addition, the possibility of suffering retaliation in Indonesia is still quite high, in relation to the seriousness of wrongdoing. Although there are laws and regulations regarding whistleblowing in Indonesia, such as Law No. 13 of 2006, there remains unclear and/or insufficient protection for whistleblowers. Therefore, the Whistleblower Protection Act (WPA) in Indonesia has not fully protected whistleblowers from various risks and threats of retaliation.

In this paper, we examine the effects of PST and PSW on the intention to blow the whistle, moderated by rationalization. We have divided whistleblowing intention into three categories—internal, external and anonymous—following a number of related studies in the literature (Alleyne et al. 2018; Park et al. 2008; Latan et al. 2018b). Furthermore, we explain the relationships between variables based on our conceptual framework and previous studies, and thus derive our hypotheses. First, we hypothesize a direct effect of both PST and PSW on whistleblowing intention. Second, we hypothesize interaction effects between predictors and moderators (in this case rationalization) on whistleblowing intention. Figure 1 presents our conceptual model.

Perceived Seriousness of Threats, Rationalization and Whistleblowing Intention

Potential threats hold negative connotations for whistleblowers, and their mention can evoke dire consequences. In general, whistleblowers often find themselves in situations where they are threatened, and these threats whistle (e.g., from wrongdoers, organizations or third parties) frequently influence the decision to blow the whistle. Several previous studies have indicated that threats of retaliation are common; however, not all whistleblowers experience retaliation (Miceli et al. 2008; Miceli 2013). The seriousness of threats can vary from not serious to very serious; for example, this could constitute pressure from coworkers, poor performance appraisal, demotion or denial of promotion, verbal harassment and intimidation, being fired or being blacklisted (Cassematis and Wortley 2013; Rehg et al. 2008). It may not always be clear whether a threat should be taken seriously

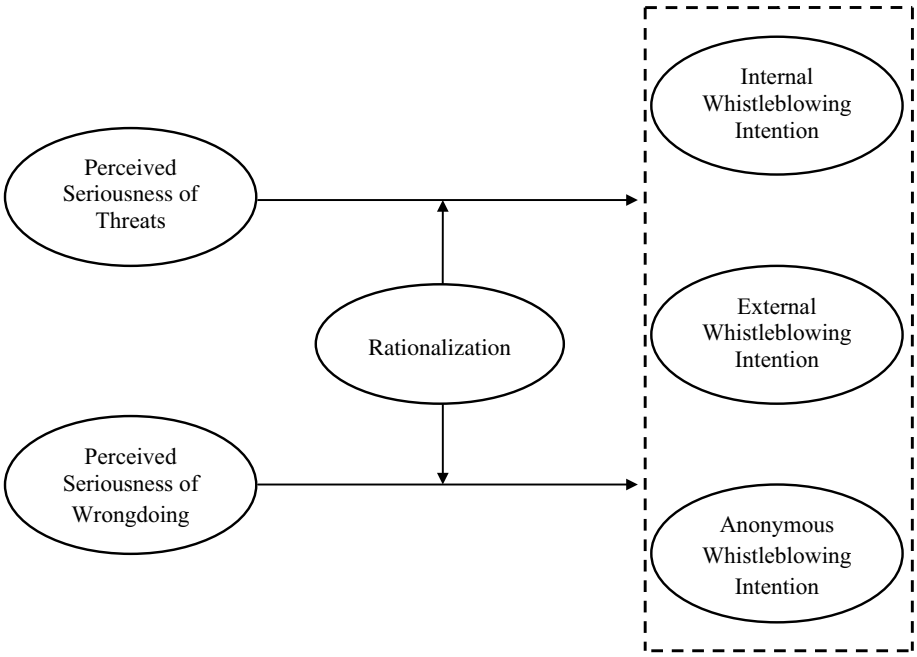


Fig. 1 Theoretical framework for understanding whistleblowing intention

or considered a bluff; this depends on both the perceived level of the threat and the mental state of the whistleblower (Kenny et al. 2018; Park and Lewis 2018). The seriousness of threats can influence a whistleblower to reconsider his/her decision to reveal wrongdoing and thus prevent whistleblowing from occurring. In many situations, the perception of threats causes anxiety, fear, and a lack of confidence, all of which have an effect on the whistleblower's decision. Reckers-Sauciuc and Lowe (2010) argue that observers who fear retaliation tend to be more reluctant to engage in whistleblowing and to take risks.

According to power theory (Near et al. 1993), the level of threat is usually inversely related to the power of the whistleblower. That is, when the observer is sufficiently dependent on the organization and has a lower power status than the wrongdoer, the level of threat will be higher (Gao et al. 2015; Martin 2014). The seriousness of threats has thus become one of the primary concerns for potential whistleblowers. The meta-analysis conducted by Mesmer-Magnus and Viswesvaran (2005) using a sample of 21 studies indicates that the threat of retaliation is negatively correlated with the intention to blow the whistle. Furthermore, prior studies by Guthrie and Taylor (2017), Liyanarachchi and Newdick (2009) and Reckers-Sauciuc and Lowe (2010) have also found that the threat of retaliation has a negative effect on the likelihood of respondents confirming their intention to blow the whistle. Another study (Young 2017) has found that the perceived fear of retaliation will decrease when persuasive messages related to whistleblowing are present. Based on the above discussion, we derive our first hypothesis:

H1 The perceived seriousness of threats has a negative effect on whistleblowing intention (internal, external and anonymous).

Previous studies have reported varying percentages for threat levels in different cases of whistleblowing. For example, Miceli (2013) analyzed the incidence of retaliation in the public sectors of three countries (Australia, Norway and the U.S.) and found that retaliation occurred in between 4 and 22% of total instances of whistleblowing. A recent study conducted by Park and Lewis (2018) with whistleblowers in South Korea concluded that retaliation had a serious impact on the physical, behavioral, emotional and mental status of whistleblowers, with most of them experiencing retaliation. Near and Miceli (2011) suggest that when observers witness illegal, immoral or illegitimate practices, but also perceive a serious threat level, they must proceed through a mechanism of rationalization before coming to a decision on whether or not to blow the whistle. Rationalization is a cognitive process that enables observers to distinguish, for instance, between what actually happened and what should have happened (MacGregor and Stuebs 2014a). In line with this definition, the concept of the 'whistleblowing triangle' (Smaili and Arroyo 2019) explains that the process of rationalization can act as a cognitive justification for whistleblowing. Rationalization allows observers to reframe their revelation of wrongdoings as a positive act. For example, observers may persuade themselves that (a) there is legal protection for whistleblowers, and threats will be therefore minimized; (b) they have the option of reporting wrongdoing via anonymous channels; or (c) they will be supported by bystanders and superiors. Prior research by Latan et al. (2018a) indicates that rationalization affects the intention to blow the whistle.

After deciding to disclose a wrongdoing, observers have to choose the means by which they will speak out, which can be through internal, external, or anonymous channels. There is no clear pattern of decision-making concerning which channel is most utilized by observers to report wrongdoings; the authors suggest that this decision may depend on the perception of harmfulness of the wrongdoing, but this debate is still in progress (Culiberg and Mihelič 2017). Based on the above discussion, we derive our second hypothesis:

H2 Rationalization moderates the relationship between the perceived seriousness of threats and whistleblowing intention (internal, external and anonymous).

Perceived Seriousness of Wrongdoings, Rationalization and Whistleblowing Intention

The seriousness of wrongdoing refers to the extent to which the consequences of illegal, immoral or illegitimate actions result in potential harm to those affected by the actions. Before taking action, an observer will assess whether an activity or behavior can be categorized as wrongful and/or harmful; this is done in order to gauge the level of seriousness of the wrongdoing (Cassematis and Wortley 2013; Rehg et al. 2008). For example, three whistleblowers from Time magazine have reported wrongdoing which they considered to have a high level of seriousness in the cases of Enron and WorldCom—which were major financial fraud scandals—and in the case of the FBI, regarding terrorist attacks. With respect to PSW, Miceli et al. (2008) point out that greater seriousness of the purported wrongdoing will positively influence the likelihood of whistleblowing. We argue that a more serious wrongdoing will be perceived as having the potential to inflict greater harm, and it is therefore more likely that the decision will be taken to act on the situation (Alleyne et al. 2017; Keil et al. 2018). This argument is consistent with prior research which indicates that a more serious wrongdoing is more likely to cause potential whistleblowers to feel a personal responsibility to report the wrongdoing (Alleyne et al. 2018; Latan et al. 2018b). The

more serious the wrongdoing, the more willing an observer will be to blow the whistle, making it more likely that the observer will take action (Taylor and Curtis 2010).

Additionally, the seriousness of wrongdoing is closely linked to the magnitude of the consequences—a component of moral intensity (Chen and Lai 2014)—and thus also influences individuals' ethical decision making. The seriousness of wrongdoing may also have parallels with the concept of 'materiality', as defined by professional accountants in financial statements, which may also affect considerations (Alleyne et al. 2017; Rehg et al. 2008). Several previous studies have provided empirical evidence indicating a positive relationship between PSW and the intention to blow the whistle (Andon et al. 2018; Cassematis and Wortley 2013; Gao et al. 2015; Keil et al. 2018; Near and Miceli 1986). For example, Andon et al. (2018) found that perceptions of the seriousness of wrongdoing have a positive effect on the intention to report wrongdoing externally. In addition, they found that the level of seriousness of wrongdoing moderates the relationship between financial incentives and whistleblowing intention. Based on the above discussion, we derive our third hypothesis:

H3 The perceived seriousness of wrongdoing has a positive effect on whistleblowing intention (internal, external and anonymous).

Nevertheless, not all scholars agree that PSW will always be a significant positive predictor of whistleblowing intention (Cassematis and Wortley 2013; Mesmer-Magnus and Viswesvaran 2005). Although the results of many previous studies have indicated a positive relationship between PSW and whistleblowing intention, other studies have found that the relationship between the two is not significant (Alleyne et al. 2017; Chen and Lai 2014; Rehg et al. 2008). For example, a recent study conducted by Alleyne et al. (2017) did not find a significant relationship between PSW and the intention to blow the whistle among public accountants in Barbados. As indicated by Mesmer-Magnus and Viswesvaran (2005), seriousness of wrongdoing is one factor that is likely to be considered along with others when deciding whether or not to blow the whistle. For example, an observer will usually not make a decision without convincing himself/herself that the wrongdoing is really serious. In this case, the rationalization process must be taken into account. A high level of potential harm tends to increase whistleblowing intention (Chen and Lai 2014), and this perception of harmfulness is a cognitive aspect of the rationalization. Near and Miceli (2011) suggest that the mechanism of rationalization helps a potential whistleblower to convince themselves that the wrongdoing they have observed has significant potential to harm. A prior study by Latan et al. (2018a) has found that rationalization plays an important role in public accountants' decision to blow the whistle. Based on the above discussion, we derive our fourth hypothesis:

H4 Rationalization moderates the relationship between perceived seriousness of wrongdoing and whistleblowing intention (internal, external and anonymous).

Figure 1 portrays the research framework which is empirically tested in this work.

Research Methodology

Sample and Data Collection

The sample used in this study is made up of employees working in tax service offices in Indonesia. We chose tax employees for the sample because, based on the 2018 ACFE report, they are particularly active subjects in revealing wrongdoings. In addition, based on the aforementioned ACFE report (2018), the government finance sector, including tax services, experiences a high rate of fraud cases, because it relates with billions of taxpayers' money; however, there has so far been a lack of studies addressing this area. Most research so far has focused on the private sector rather than the public sector. To determine an appropriate sampling frame, we referred to the data provided by the Directorate General of Taxation (DJP) (www.pajak.go.id), a directory for registered tax offices in Indonesia. Using this directory, we contacted tax offices about participating in our research. We received approval from 184 tax offices, with the total number of tax offices registered by the DJP in 2018 coming to 352, plus branches.

After receiving approval for voluntary participation in this study from this sample, we distributed questionnaires to employees from each participating tax office. Before the questionnaire was distributed, we conducted pretesting to minimize potential bias (Podsakoff et al. 2012; Spekle and Widener 2018), to prevent possible measurement errors and to ensure that our questionnaire was understood by the target respondents (Fowler Jr. 2013). This pretesting process was intended to maintain the quality of the survey conducted. We asked for opinions and suggestions from two senior academics to assess the content validity of the questionnaire (Rossiter 2011). Some phrases were corrected for the purpose of clarity. In addition, the questionnaire was originally written in English, and we used a back-translation procedure—from English to Indonesian and back into English—to ensure clarity in the content of the measurement instruments. The enhanced version of this questionnaire was first sent to 26 tax offices in order to conduct preliminary data analysis, assessing the validity and reliability of the indicators for the

measured variables. The pretesting results indicated that the questionnaire was feasible for use in the later stages.

We distributed questionnaires during July and October 2018, with a total number of 1038 copies sent out. We sent the questionnaires via e-mail, and contacted each tax office with a follow-up telephone call to ensure that the questionnaire had been received by the target respondent. This method is considered an effective way to reach a broad field of respondents at low cost (Dillman et al. 2014). In addition, the use of online surveys has been widely recommended and is used by many scholars in various disciplines (Fowler Jr. 2013). E-mail addresses and telephone numbers for each tax office were obtained from the DJP database. In order to increase the response rate, we sent a reminder e-mail at the end of each subsequent month, as well as making several phone calls to nonresponders. We also assured participants of the anonymity of their responses, and did not disclose the name of the tax offices involved. Finally, for the purpose of testing nonresponse bias (Dillman et al. 2014; Fowler Jr. 2013), we allowed a time span of three months to complete the data collection for this survey.

At the end of the data collection process, 183 questionnaires had been returned. Twenty-six of these were excluded from our analysis due to being incomplete, giving an overall response rate of 15.13%. According to Hiebl and Richter (2018), this response rate can be considered acceptable for studies using the survey method. Groves et al. (2009) argue that online surveys tend not to produce high response rates, but that the results are not jeopardized by bias as a result of this, as long as there is no significant difference between respondents and nonrespondents. In order to test for nonresponse bias, we compared those who responded early in the data collection period with those who responded late. In this case, we took respondents who provide late responses to represent branches that did not participate in this study. We used a *t* test to assess differences between the means of the two sample groups. Our results did not find any significant differences between early and late responders. In Table 1, we obtained results for Levene's test, which was significant > 0.05, indicating that the assumption of homogeneity variance was fulfilled. Furthermore, we obtained significant values > 0.05 for equality of means in both sample groups for the variables tested. This demonstrates that our data does not contain systematic bias arising from nonresponse errors. That is to say, our final sample possesses the same characteristics as the branches that did not take part in this survey in terms of PST and PSW levels.

In addition, we also tested for common method variance (CMV), which is another potential source of bias when using the survey method (Malhotra et al. 2017). We used full collinearity VIFs (AFVIF) to assess CMV, an approach proposed by Kock (2017) which assesses the correlations between items of two constructs. Our analysis results obtained an AFVIF value of 2.887 < 3.3, which indicates that CMV does not interfere with our measurement results. Finally, we considered social desirability bias (SDB), a type of bias which is often overlooked in survey research. SDB generally refers to respondents' tendency to select responses that reflect societally approved behavior (Nunnally and Bernstein 1994; Chung and Monroe 2003). In order to detect this bias, we used an indirect questioning approach by adding additional measurement items during initial data collection (Fisher 1993). The control for this bias took place in the whistleblowing intention construct, and showed that there were no significant differences ($p < 0.05$), between the two measurements, which indicates that our target respondents did not provide different answers when taking a personal point of view compared to a third person perspective (see Table 1). A summary of respondent profiles can be seen in Table 2.

Measurement Items and Scales

Several previous works in the business ethics literature have developed measurement scales to use as indicators of the same constructs used in our model. We have therefore adopted a number of these measurement scales, based on the consideration that these items had already undergone a series of tests. In using established measurement scales, rather than developing new ones, we followed the recommendations of several scholars, given the complexity of scale development (Fowler Jr. 2013; DeVellis 2017). To

Table 1 Assessment of nonresponse bias and social desirability bias

Construct	Sig. Levene's test	Sig. *t*-test for equality of means	Social desirability bias
Perceived seriousness of threats (PST)	0.255	0.150	–
Perceived seriousness of wrongdoing (PSW)	0.151	0.806	–
Rationalization (RNL)	0.375	0.870	–
Internal whistleblowing (IWB)	0.915	0.756	0.156
External whistleblowing (EWB)	0.365	0.961	0.257
Anonymous whistleblowing (AWB)	0.355	0.445	0.094

Table 2 Characteristics of the sample

Demographic variable	Frequency	Percentage (%)
Gender		
Male	123	78.34
Female	34	21.66
Age (years)		
21–30	28	17.83
31–40	63	40.13
41–50	47	29.94
51–60	19	12.10
Work experience		
1–7 years	27	17.20
8–15 years	77	49.04
16–25 years	41	26.11
Over 25 years	12	7.64
Academic qualifications (level of education)		
High school	16	10.19
Diploma	43	27.39
Bachelor's degree	87	55.41
Master's degree	11	7.01
Salary		
< 5 million IDR	42	26.75
5–8 million IDR	58	36.94
9–15 million IDR	36	22.93
> 15 million IDR	21	13.38

measure PST, we used measurement items adapted from Rehg et al. (2008), Liyanarachchi and Newdick (2009) and Latan et al. (2018a). In addition, to measure rationalization (RNL), we used measurement items adapted from Latan et al. (2018a), Murphy (2012) and Murphy and Free (2016). We used a 7-point Likert scale with 6 and 5 indicators, respectively, to measure these constructs. The scale used ranged from 1 = "not likely" to 7 = "very likely". Furthermore, we used measurement items adapted from Keil et al. (2018) and Alleyne et al. (2017) to measure PSW. We again used a 7-point Likert scale to measure this construct, this time with 3 indicators. This scale ranged from 1 = "not very serious" to 7 = "very serious". Despite the fact that these items were developed in a Euro-centric context, we argue that these measures are appropriate for application in the Indonesian context. Several scholars have proven that differences in cultural and social systems do not affect the validity of such measurements. For instance, Patel (2003) found no evidence of differences in the use of measurement items in his cross-cultural study.

Finally, to measure whistleblowing intention, we used measurement items adapted from Park et al. (2008), Alleyne et al. (2018) and Latan et al. (2018b). This construct included three types of reporting channel: internal (IWB), external (EWB) and anonymous (AWB), with a total of 10 items. All aspects of whistleblowing intention were measured using a 7-point Likert scale, ranging from 1 = "not at all" to 7 = "very much". Respondents were asked to provide their assessments regarding PST, PSW, RNL, IWB, EWB, and AWB based on a case scenario. We chose this case scenario approach due to the difficulty of directly observing wrongdoing at work. Although the scenario approach has a number of limitations, it represents a feasible method to measure respondents' perceptions of fraud (Keil et al. 2018; Latan et al. 2018a; Liyanarachchi and Newdick 2009; MacGregor and Stuebs 2014b). It may occur that respondents want to think well of themselves, and therefore give an overly positive impression of themselves. However, we found that such SDB did not occur in this case (see Table 1), and so did not affect our results. We developed a case scenario for the purpose of this study following previous research (see "Appendix").

Data Analysis

We employed a second-generation analysis method using structural equation modeling (SEM) to test our model and hypotheses. The use of SEM has increased in many disciplines throughout the past several decades, including in the field of business ethics (Hampton 2015; Zyphur and Pierides 2017). SEM has become a fundamental component of the quantitative analysis techniques used by many scholars today. We chose a variance-based SEM approach with partial least squares-path modeling (PLS-PM) as the core of our analysis (Hair et al. 2018; Wold 1982). We chose PLS-PM due to a number of key considerations that make it superior to other SEM approaches in our case (Aguinis et al. 2018; Hair et al. 2019; Latan 2018).

First, PLS was initially developed for prediction purposes. In this sense, PLS provides a high level of predictive accuracy in studying relationships between variables that have not yet been established, due to a relative scarcity of theory and prior knowledge (Noonan and Wold 1986). Given that the relationships between variables in our model (i.e., PST, PSW, RNL and whistleblowing intention) are still primitive and relatively unexplored, PLS is a useful approach. Second, PLS enables researchers to obtain the most accurate possible estimates in their models by using real cases in the field. Therefore, PLS employs soft modeling based on light assumptions, offering flexibility and a wide range of applications. One advantage of PLS is that it avoids Heywood cases. Finally, PLS-PM allows us to test the effect of interactions between latent variables and conduct a series of robustness tests. In this case, PLS also offers advanced features which made this analysis easy to run.

Because PLS-PM has been widely used and has gained popularity in social sciences research, the guidelines for estimating and reporting the results of PLS are widely available.

We followed the step-by-step guidelines to best practice available in the literature (Hair et al. 2019; Latan 2018) in reporting the results of our PLS analysis. We calculated the minimum sample size required by using the gamma-exponential approach, and found that the minimum sample size for our model was 146 cases (where the minimum absolute significant path coefficient = 1.97, significant level = 0.05, and required power level = 0.80), which our study meets.

In short, we will report the results of our PLS analysis through three key steps. First, we will report the results of the measurement model assessment, demonstrating that the construct indicators in our model are valid and reliable. Second, we will report the results of the structural model assessment and the testing of our hypotheses. Finally, we will provide the results of several robustness tests which were conducted to ensure that our analysis results were not biased.

Results

Recently, several scholars have proposed a standard for harmonizing the reporting of PLS results in top-tier journals, for the purposes of transparency (Aguinis et al. 2018; Hair et al. 2019; Latan 2018). We have followed this systematic approach, and have applied it in reporting our results. We used SmartPLS 3 software, using specific settings as follows. In the PLS algorithm settings, we selected the path weighting scheme with the maximum number of iterations set at 300 and a stop criterion of 10^{-7} (= 1.0E−07). In terms of bootstrapping, we used 5000 subsamples to obtain stability of model estimates through confidence interval methods, namely a bias-corrected and accelerated (BCa) bootstrap. In addition, we set the level of significance to reject the null hypothesis at 5% (one-tailed). The results obtained are described below.

Measurement Model Assessment

Assessment of the measurement model aims to ensure the validity and reliability of the construct indicators used in the model; this allows us to choose to retain or exclude items in relation to their ability to reflect our constructs. We employed several core metrics that are commonly used in PLS and are recommended for reporting in testing convergent and discriminant validity, as well as internal consistency reliability. First, we assessed loading factors and average variance extracted (AVE) to infer convergent validity. The fit of loading factor values to explain the construct variance in the model should be > 0.708, and the AVE value should be > 0.5 (Bandalos 2018; Hair et al. 2019; Latan and Noonan 2017). However, in many situations, a loading factor value < 0.60 may be obtained. Such a value may still be acceptable, as long as the AVE value meets the threshold value to strengthen content validity. The results of our analysis for convergent validity are depicted in Tables 3 and 4. We conclude that the indicators in the model meet the threshold values for convergent validity (see Fig. 2). Furthermore,

Table 3 Measurement model assessment of PST, PSW and RNL

Indicator/item	Code	Mean	S.D	FL	AVE	α	ρ_A
Perceived seriousness of threats (PST)					0.838	0.961	0.963
Risk of being laid off from the firm	PST1	3.318	1.670	0.870			
Being treated unfairly within the firm	PST2	3.140	1.474	0.891			
Verbal harassment or intimidation	PST3	3.490	1.657	0.933			
Risk of losing reputation	PST4	3.038	1.484	0.937			
Pressure from coworkers	PST5	3.401	1.619	0.925			
Poor performance appraisal	PTS6	3.013	1.414	0.935			
Perceived Seriousness of wrongdoing (PSW)					0.673	0.755	0.758
Level of seriousness of the wrongdoing	PSW1	4.643	1.336	0.852			
Potential harm of the wrongdoing	PSW2	5.089	1.356	0.849			
Financial, reputational, or other harm caused	PSW3	4.834	1.301	0.756			
Rationalization (RNL)					0.738	0.911	0.912
Helping the victims in the situation	RNL1	5.541	1.469	0.804			
Helping someone else by disclosing wrongdoing	RNL2	4.885	1.493	0.853			
Did not consider whether the action was right or wrong at the time	RNL3	4.924	1.546	0.906			
Did not consider the consequences of this action	RNL4	4.637	1.613	0.874			
Did not think this action was so bad	RNL5	5.166	1.423	0.857			

FL factor loading, *S.D.* standard deviation, *AVE* average variance extracted, α Cronbach's Alpha, ρ_A Dijkstra–Henseler's rho_A

Table 4 Measurement model assessment of whistleblowing intention

Indicator/item	Code	Mean	S.D	FL	AVE	α	ρ_A
Internal whistleblowing (IWB)					0.713	0.865	0.872
Report it to the appropriate persons within the firm	IWB1	5.210	1.242	0.858			
Use the firm's internal reporting channels	IWB2	4.624	1.197	0.873			
Let upper-level management know about it	IWB3	4.796	1.240	0.864			
Tell director about it	IWB4	4.930	1.257	0.779			
External whistleblowing (EWB)					0.680	0.843	0.846
Report it to the appropriate authorities outside of the firm	EWB1	5.210	1.292	0.822			
Use reporting channels outside of the firm	EWB2	5.268	1.289	0.850			
Provide information to outside agencies	EWB3	5.592	1.151	0.820			
Inform the public about it	EWB4	5.618	1.165	0.805			
Anonymous whistleblowing (AWB)					0.853	0.829	0.831
Report it using an assumed name	AWB1	4.866	1.410	0.919			
Report the wrongdoing but don't provide any personal information	AWN2	4.783	1.191	0.929			

FL factor loading, *S.D.* standard deviation, *AVE* average variance extracted, α Cronbach's Alpha, ρ_A Dijkstra–Henseler's rho_A

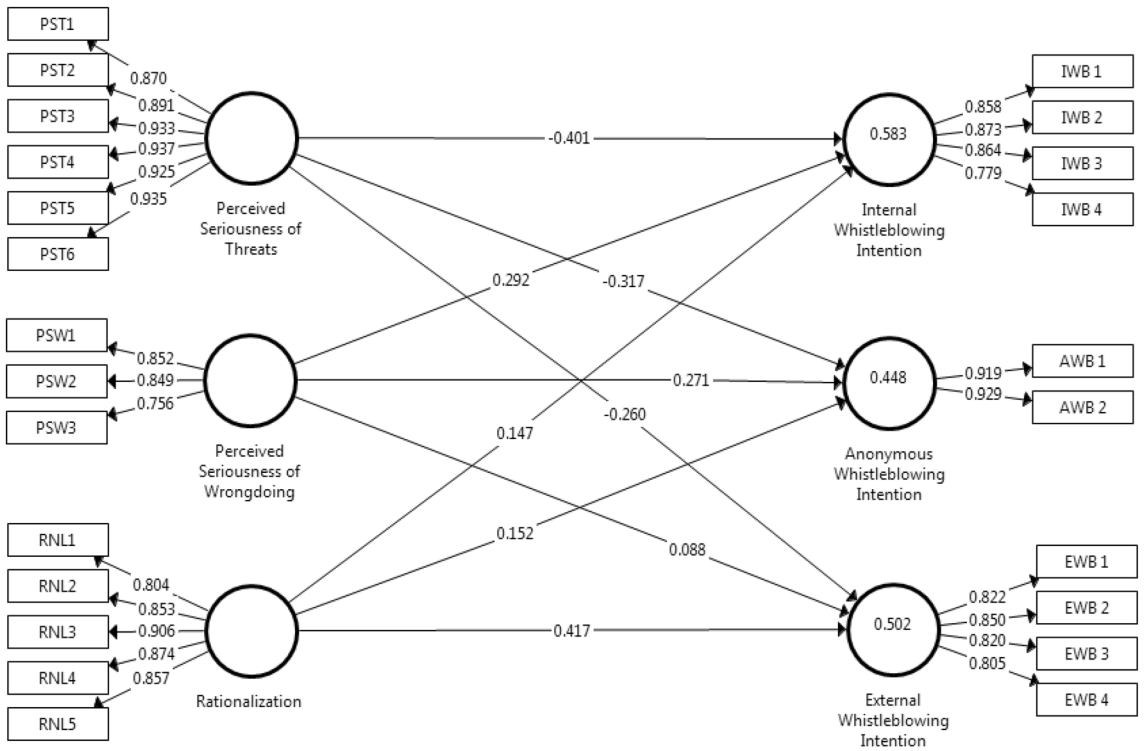


Fig. 2 Evaluation of the measurement and structural models

we assessed the internal consistency of the measurement model using Cronbach's alpha (α) and Dijkstra–Henseler's ρ_A value. Cronbach's alpha is a conservative measure and indicates the lower bound of reliability. This measure is useful when a small sample size is combined with a low number of indicators, while ρ_A serves as a good representation of a construct's internal consistency. The recommended threshold values for Cronbach's alpha (α) and ρ_A range from 0.80 to 0.90. The results of our analysis, presented in Tables 3 and 4, show that the internal consistency reliability of the constructs in the model fulfill this rule of thumb.

Meanwhile, to assess discriminant validity, we used the Heterotrait–Monotrait (HTMT) criterion, a new approach which conceptually demonstrates the differences and similarities between the two constructs being measured. Discriminant validity verifies the intended measurement of

separate constructs, which should measure different concepts and should not correlate with each other. The threshold value of > 0.90 for HTMT indicates conceptually similar constructs, while HTMT values < 0.85 indicate conceptually different constructs (Henseler et al. 2015). From the results shown in Table 5, we can see that the HTMT value in our case is significantly lower than the specified threshold value. Therefore, discriminant validity is met for our measurements. This means that each indicator of the constructs in the model measures a different concept.

Structural Model Assessment

Assessment of the structural model aims to evaluate the quality of the estimations in the model; this allows us to assess the fit of the model with the data, the magnitude of the influence and contribution of each predictor variable and the significance of the relationships between the hypothesized variables. Following the reporting metrics recommended by several scholars for structural model assessment (Hair et al. 2019; Latan 2018), we report several standard metrics including coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2) and variance inflation factor (VIF). In addition, we assessed our model's out-of-sample predictive power by implementing the PLS predict procedure (Hair et al. 2019; Latan 2018).

Table 6 depicts the results of our structural model assessment. We obtained both R^2 and adj. R^2 values for whistleblowing intention, which ranged from 0.437 to 0.575 for the three types of reporting channel: internal whistleblowing (IWB), external whistleblowing (EWB) and anonymous whistleblowing (AWB). According to Hair et al. (2018), these values can be included in the weak to moderate category. However, we argue that these values will depend on the number of predictor variables in the model. In the field of business ethics, both of these values are often found to be lower than 0.25, given the magnitude and complexity of the relationships between variables to be explained. In addition, R^2 values that are too high (e.g., > 0.90) are an indication of over-fit and the occurrence of collinearity between variables.

The effect sizes (f^2) produced by each predictor in the model range from 0.039 to 0.220, falling into the small and medium categories. These values indicate the contribution of each predictor in the model to explaining the variance of the outcome (in this case, whistleblowing intention).The greater the f^2 value, the more important the role of the predictor variable in the model. We also assessed the predictive relevance of our model (Q^2). A Q^2 value larger than zero is meaningful. Our model produces Q^2 values ranging from 0.310 to 0.382, suggesting low to medium predictive relevance of the PLS model. We obtained VIF values of < 3.3 for each predictor in the model, which indicates no high correlation or collinearity between predictor variables in the model.

Finally, we tested the model's out-of-sample predictive power by conducting the PLS predict procedure (Shmueli et al. 2016) to generate holdout sample-based point predictions for the constructs in our model. Given that our sample size meets the minimum requirements and is large enough, we used ten folds and ten replications, and compared the root mean squared error (RMSE) values from the PLS-PM analysis with those generated by a naïve linear benchmark (Hair et al. 2019). The results indicate that the

Table 5 Assessment of discriminant validity using the HTMT

Construct	1	2	3	4	5	6
AWB	**(0.900)**					
EWB	0.566 [0.455;660]	**(0.900)**				
IWB	0.497 [0.473;708]	0.628 [0.548;795]	**(0.900)**			
PST	0.605 [0.590;703]	0.720 [0.628;807]	0.491 [0.420;656]	**(0.900)**		
PSW	0.648 [0.620;763]	0.662 [0.522;793]	0.625 [0.533;710]	0.732 [0.669;798]	**(0.900)**	
RNL	0.364 [0.344;559]	0.775 [0.676;848]	0.535 [0.433;621]	0.762 [0.611;809]	0.756 [0.656;841]	**(0.900)**

Brackets show the lower and upper bounds of the 95% BCa confidence intervals

Table 6 Structural model assessment

Construct	R^2	Adj. R^2	f^2	Q^2	VIF	AFVIF
Perceived seriousness of threats (PST)	–	–	0.039–0.110	–	3.423	–
Perceived seriousness of wrongdoing (PSW)	–	–	0.108–0.162	–	2.048	–
Rationalization (RNL)	–	–	0.140–0.220	–	2.899	–
Internal whistleblowing (IWB)	0.583	0.575	–	0.382	–	2.887
External whistleblowing (EWB)	0.502	0.492	–	0.310	–	2.887
Anonymous whistleblowing (AWB)	0.448	0.437	–	0.360	–	2.887

PLS-PM analysis yields lower prediction errors than the naïve benchmark for most of the indicators related to PST, PSW, RNL, IW, EWB, and AWB, offering clear support for our model's predictive power. In addition, the Q^2_{predict} values > 0 obtained indicate that our model outperforms the naïve benchmark (i.e., the indicator means from the analysis sample).

Testing of Hypotheses: Direct Effect

We tested the relationships between the variables hypothesized using the bootstrapping procedure, assessing the direction of the path coefficients and the 95% confidence interval (CI), generated at the 5% significance level (one-tailed). We tested our hypotheses simultaneously in one period of analysis. In general, the results supported the direct hypotheses on the effects of the relationships between PST/PSW and IWB, EWB, and AWB. Table 7 depicts the results of our direct hypothesis testing. We found the relationship between PST and whistleblowing intention to be fully supported, with the relationships between PST → IWB, PST → EWB, and PST → AWB all being significant, giving beta (β) values of − 0.401, − 0.260, and − 0.310, respectively, and significance at $p = < 0.01$ at 95% CI. From these results, we can conclude that H1a, H1b, and H1c are fully supported. In addition, we found the relationship between PSW and whistleblowing intention to be fully supported. Specifically, we found the relationships PSW → IWB, PSW → EWB, and PSW → AWB to be significant, with beta (β) values of 0.292, 0.088, and 0.271, respectively, and significance at $p = < 0.01$ at 95% CI. Hence, we can conclude that H2a, H2b, and H2c are fully supported.

Testing of Hypotheses: Interaction Effect

We examined the role of RNL in moderating the relationship between PST and PSW in terms of their effects on whistleblowing intention. We followed the guidelines suggested by Hayes (2018) to assess the interaction effects. First, we tested the model without the interaction effects. Next, we again tested the model by entering the interaction effects, evaluating the level of significance and comparing the R^2 value of the two models. Finally, we generated a visual graph using the Hayes PROCESS macro. We used the orthogonalization approach in SmartPLS (Little et al. 2006) to estimate the interaction effects while minimizing collinearity between predictors and enhancing the predictive accuracy of our model. The results of the interaction effects are depicted in Table 8.

In Table 8, we find the expected results, with RNL acting as a moderator in our model. Therefore, we conclude that there is full support for the interaction hypotheses concerning the relationships of PST*RNL and PSW*RNL with whistleblowing intention. Specifically, we found that the relationships between PST*RNL → IWB, PST*RNL → EWB, and PST*RNL → AWB were significant, with beta (β) values of − 0.246, − 0.122, and − 0.139, respectively, and significance at $p = < 0.05$ at 95% CI. From these results, we conclude that H3a, H3b, and H3c are fully

Table 7 Testing of hypotheses (direct effect)

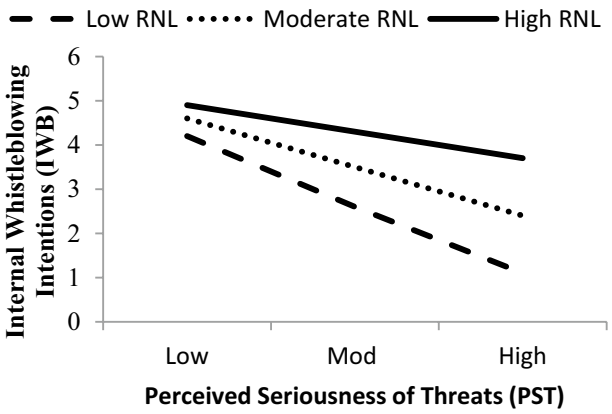
Structural path	Coef (β)	S.D.	*p* value	95% BCa CI	Conclusion
PST → IWB	− 0.401	0.133	0.001**	(− 0.627, 0.005)**	H1a supported
PST → EWB	− 0.260	0.110	0.009**	(− 0.436, 0.001)**	H1b supported
PST → AWB	− 0.310	0.126	0.006**	(− 0.516, 0.002)**	H1c supported
PSW → IWB	0.292	0.082	0.000**	(0.416, 0.005)**	H2a supported
PSW → EWB	0.088	0.046	0.043*	(0.275, 0.001)**	H2b supported
PSW → AWB	0.271	0.102	0.004**	(0.434, 0.008)**	H2c supported

**,*Statistically significant at the 1% and 5% levels, respectively

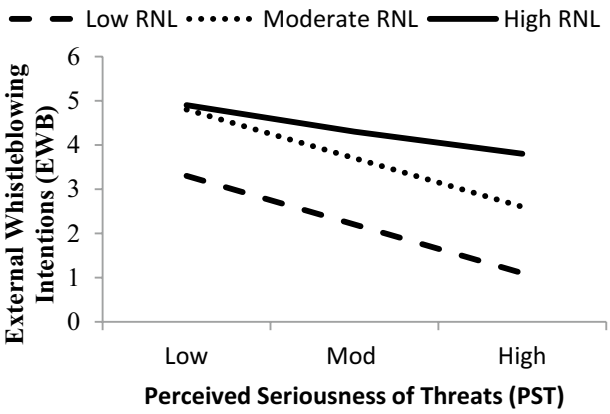
Table 8 Testing of hypotheses (interaction effect)

Structural path	Coef (β)	S.D.	*p* value	95% BCa CI	Conclusion
PST*RNL → IWB	− 0.246	0.098	0.021*	(− 0.226, 0.003)**	H3a supported
PST*RNL → EWB	− 0.122	0.061	0.038*	(− 0.276, 0.039)*	H3b supported
PST*RNL → AWB	− 0.139	0.053	0.008**	(− 0.368, 0.021)*	H3c supported
PSW*RNL → IWB	0.365	0.044	0.000**	(0.228, 0.047)*	H4a supported
PSW*RNL → EWB	0.171	0.081	0.029*	(0.331, 0.041)*	H4b supported
PSW*RNL → AWB	0.331	0.089	0.000**	(0.221, 0.039)*	H4c supported

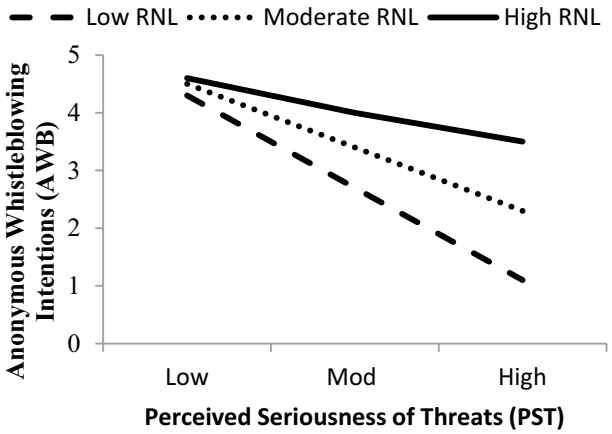
**,*Statistically significant at the 1% and 5% levels, respectively



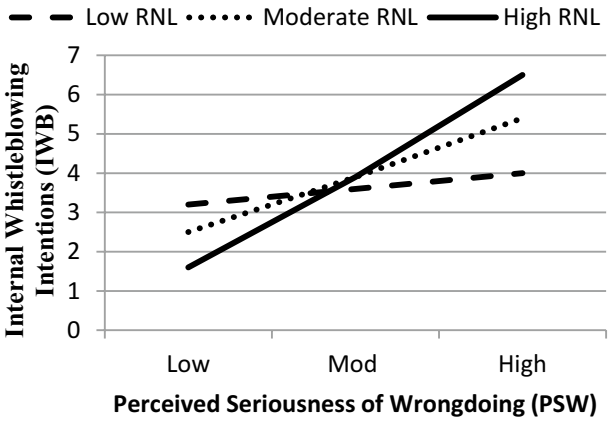
A Plot of interaction effect of PST & RNL on IWB



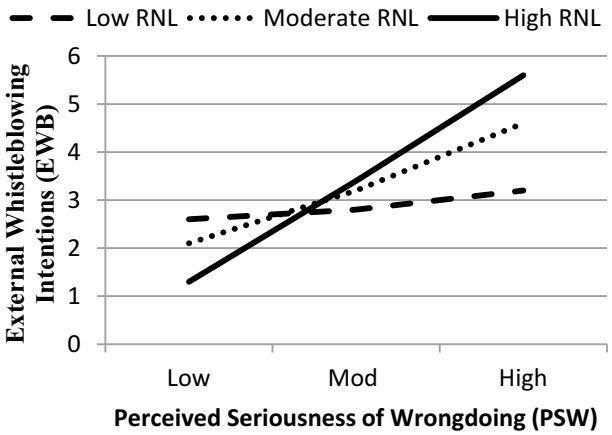
B Plot of interaction effect of PST & RNL on EWB



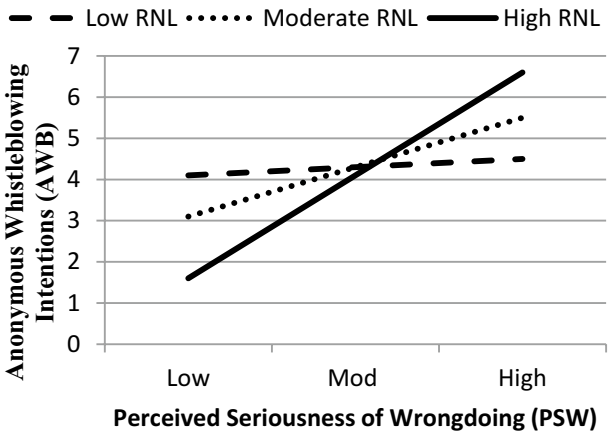
C Plot of interaction effect of PST & RNL on AWB



D Plot of interaction effect of PSW & RNL on IWB



E Plot of interaction effect of PSW & RNL on EWB



F Plot of interaction effect of PSW & RNL on AWB

Fig. 3 Moderating role of RNL in the relationship between PST, PSW and whistleblowing intention

supported. In panels A, B, and C of Fig. 3, we show that where there is a higher level of RNL there is a lower level of PST, and vice versa. This indicates that observers with a higher level of rationalization will have a reduced level of anxiety, fear, and perceived threats. Furthermore, we found that the relationships between PSW*RNL → IWB,

PSW*RNL → EWB, and PSW*RNL → EWB were also significant, with beta (β) values of 0.365, 0.171, and 0.331, respectively, and significance at $p = < 0.05$ at 95% CI. From these results, we can conclude that H4a, H4b, and H4c are fully supported. In panels D, E, and F of Fig. 3, it can be seen that the higher the level of RNL, the higher the level of PSW, and vice versa. This indicates that observers with higher levels of rationalization will have an increased understanding of the seriousness and potential harm of wrongdoings. Finally, we found that the differences in R^2 between the model without moderation and the model with moderation ranged from 0.056 to 0.083, which, being > 0.05, are considered substantial (Hayes 2018).

Table 10 Assessment of nonlinear effects

Structural path	Coef(β)	*p* value	f^2	Ramsey's RESET
PST*PST → IWB	0.068	0.256	0.007	
PST*PST → EWB	−0.067	0.184	0.006	F (2.395) = 0.64, p = 0.276
PST*PST → AWB	0.003	0.488	0.000	
PSW*PSW → IWB	0.014	0.394	0.001	
PSW*PSW → EWB	0.021	0.116	0.005	F (2.624) = 0.59, p = 0.758
PSW*PSW → AWB	0.036	0.327	0.003	

**, *Statistically significant at the 1% and 5% levels, respectively

Robustness Tests

To maintain the robustness of the main results, we conducted a complementary analysis, which has become mandatory in reporting the results of PLS analysis (Ansari et al. 2000; Ketokivi and McIntosh 2017; Latan 2018). This complementary analysis aims to ensure that our main results are unbiased and free of potential errors. First, we tested endogeneity bias to ensure that there was no intervention from the omitted variables, reverse causality or other potential errors (e.g., sample-selection bias). To do this, we conducted the Heckman test using a two-step procedure. In the first step, we examined the relationships between variables without controlling for endogeneity bias. In the second step, we controlled for the effects of endogeneity bias by including a third variable in the equation. The results in Table 9 indicate that there are no differences between the results with or without controlling for this bias, which indicates that endogeneity bias does not occur in our data and models.

We also tested our model for nonlinear effects, to ensure that the assumption of a linear relationship between variables is justified. We used Ramsey's regression specification error test (RESET) and quadratic functions in the SmartPLS software to do this. The results of this analysis, presented in Table 10, fully support a linear relationship between the variables in the model, with a value of $p > 0.05$.

Finally, we considered unobserved heterogeneity bias, which assumes that the data used comes from a single population. This bias usually occurs when performing sample selection. We used Finite Mixture PLS (FIMIX-PLS) to test for this bias. After performing a series of procedures, we found that FIMIX-PLS gave a final result of $k = 1$, indicating that our data is free from this bias.

Discussion and Implications for Theory and Practice

Whistleblowing systems have been discussed among scholars in a variety of fields, and have been recognized as one way to uncover wrongdoings in organizations. The present study aims to investigate the effects of PST and PSW in influencing whistleblowing intention, moderated by the role of rationalization, and using employees of tax offices as a sample. Specifically, we have considered how the role of rationalization helps individuals to assess the level of seriousness of threats and wrongdoings in order to reach a decision on whether or not to blow the whistle. While a plethora of prior research has considered the factors which drive whistleblowing intention, there has remained a lack of evidence addressing individuals' rationalization of blowing the whistle. Our findings answer the research calls of Lee and Xiao (2018) and Martin (2014), as well as filling empirical

Table 9 Assessment of endogeneity bias using the Heckman test

Test	Coef(β)	*p* value	*z*	Conclusion
PST → IWB (selection DV = EWB; IV = PSW, RNL)	−0.350	0.000**	−13.02**	Did not occur
PST → EWB (selection DV = AWB; IV = PSW, RNL)	−0.306	0.000**	−10.70**	Did not occur
PST → AWB (selection DV = IWB; IV = PSW, RNL)	−0.251	0.000**	−8.50**	Did not occur
PSW → IWB (selection DV = EWB; IV = PST, RNL)	0.847	0.000**	11.20**	Did not occur
PSW → EWB (selection DV = AWB; IV = PST, RNL)	0.654	0.000**	7.85**	Did not occur
PSW → AWB (selection DV = IWB; IV = PST, RNL)	0.608	0.000**	7.62**	Did not occur

DV dependent variables, *IV* independent variables

**,*Statistically significant at the 1 percent and 5 percent levels, respectively

gaps in the literature by adding preliminary evidence in the Indonesian context.

This article has highlighted that individuals from the sample studied tend to see the most serious threats as 'pressure from co-workers' and 'verbal harassment or intimidation', and the most serious wrongdoing as 'potential harm'. This sample rationalizes decisions concerning whether or not to blow the whistle mainly based on the possibility of 'helping victims' who are suffering the consequences of wrongdoing. Finally, the channels most commonly utilized by our respondents to report wrongdoing are the internal channel, by means of 'reporting them to the appropriate persons within the firm', and the external channel, by 'informing the public about them'.

These findings imply that whistleblowers are motivated by human relations to make decisions on whether or not to report wrongdoing. Whistleblowers may remain silent due to the threat of harassment, pressure and intimidation in the workplace. On the other hand, they may report wrongdoing because of the degree of harm that wrongdoing causes to others, and the decision on reporting wrongdoing takes into consideration the possibility of helping victims; in other words, the possibility of preventing harm to others. In certain situations, there is an intersection between the seriousness of wrongdoings and threats, whereby the perceived risks of retaliation may be higher when the wrongdoing is more serious. However, as reported by Miceli (2013), while not all actions by whistleblowers face retaliation, when retaliation occurs it can have a serious impact on the whistleblower's mental health (Park and Lewis 2018). Given that whistleblowing laws in Indonesia are not fully enforced, the process of whistleblowing may depend on formal reporting mechanisms within the organization. Sometimes, whistleblowers are reluctant to speak out against misconduct due to the lack of action taken by the authorities in the whistleblowing process.

Because whistleblowers assess the seriousness of wrongdoing in terms of potential harm, they appear to be motivated by human relations (e.g. social pressure); thus, internal channels may be more suitable than anonymous ones, for instance. Chen and Lai (2014) found that a high level of social pressure is related to the degree of perceived harmfulness of a wrongdoing, and, because of such relations, internal channels may be chosen by whistleblowers in order to avoid creating a bad image for themselves. Consequently, internal channels composed of appropriate persons who have an unbiased profile within the firm (e.g. no hierarchical power) may make observers more confident about reporting wrongdoings.

Regarding the testing of our hypotheses, four main results can be discussed, as follows. First, we have found evidence of a negative relationship between PST and whistleblowing intention, by which PST reduces individuals' intention to blow the whistle. That is, the higher the level of threat perceived by whistleblowers, the greater the likelihood of them choosing to remain silent. Our findings corroborate the evidence reported in several previous studies related to the threat of retaliation (Guthrie and Taylor 2017; Liyanarachchi and Newdick 2009; MacGregor and Stuebs 2014a; Reckers-Sauciuc and Lowe 2010), indicating that when threatened, observers are reluctant to blow the whistle and may choose to remain silent. However, in conditions where the perceived level of threat is lower, whistleblowers may choose an internal and anonymous reporting channel to uncover wrongdoings (Guthrie and Taylor 2017; Latan et al. 2018a; Near and Miceli 2016; Park et al. 2008). In this sense, organizations should appoint individuals within the organization to be in charge of listening to employees regarding wrongdoing issues, because it seems that observers prefer reporting wrongdoings to someone who has an unbiased profile, rather than reporting such things to supervisors or upper-level management.

Second, we found evidence of the important role of rationalization in moderating the relationship between PTS and whistleblowing intention. We argue that the process of rationalization helps observers to convince themselves that: (a) there is legal protection for whistleblowers, and therefore threats can be minimized; (b) they are able to report wrongdoings via anonymous channels; or (c) they will be supported by bystanders and superiors. Hence, the rationalization process can be expected to reduce the perception of threats as barriers to blowing the whistle (Near and Miceli 2011; Smaili and Arroyo 2019). This supports the findings of previous studies that have identified a relationship between rationalization and whistleblowing intention (Latan et al. 2018a). In this context, rationalization is used to support prosocial behavior that benefits others.

Third, we found evidence of a positive relationship between PSW and whistleblowing intention, where PSW increased the intention to blow the whistle. That is, the more serious the wrongdoing perceived by whistleblowers, the more likely they are to blow the whistle. Our findings corroborate evidence from previous studies related to the seriousness of wrongdoing (Andon et al. 2018; Cassematis and Wortley 2013; Gao et al. 2015; Keil et al. 2018; Near and Miceli 1986), whereby the higher the potential harm of wrongdoings, the more likely observers are to blow the whistle. Additionally, the seriousness of wrongdoing creates a sense of personal responsibility in the observer to prevent potential harm to the victims. This increases the observer's willingness to speak out and take action.

Finally, we found evidence of the role of rationalization in the relationship between PSW and whistleblowing intention. Given that there is mixed evidence concerning this relationship, we add a third variable as suggested by Mesmer-Magnus and Viswesvaran (2005). Our findings fully support the

role of rationalization in this relationship. The process of rationalization helps the observer to consider the potential harms and disadvantages of wrongdoing, and increases the belief that the wrongdoings are serious. Consequently, the mechanism of rationalization tends to increase the intention to blow the whistle (Smaili and Arroyo 2019). Our findings support previous studies that found a positive relationship between rationalization and whistleblowing intention (Latan et al. 2018a; Smaili and Arroyo 2019).

Our research provides a number of theoretical and practical implications, as follows. In terms of theoretical implications, our findings add new evidence to the whistleblowing literature, mainly because this is one of the first studies to consider the role of rationalization in the relationships between PST, PSW and whistleblowing intention. While previous research has focused on individual, situational and environmental factors that influence whistleblowing intention (Culiberg and Mihelič 2017; Lee and Xiao 2018; Miceli and Near 2005), an understanding of the process of deciding whether or not to blow the whistle is still limited. Here, the data support our argument that the rationalization process can affect PST and PSW in triggering whistleblowing intentions. In addition, our findings reconcile mixed results on the relationship between PSW and whistleblowing intention, and indicate the role of a third variable working to moderate the relationship between the two (Mesmer-Magnus and Viswesvaran 2005). While previous works have found inconclusive results regarding this relationship (Cassematis and Wortley 2013; Mesmer-Magnus and Viswesvaran 2005), our results indicate that rationalization can help individuals to convince themselves of the seriousness of wrongdoing, and thus trigger the intention to blow the whistle.

In terms of practical implications, our findings offer the following contributions. First, concerns about wrongdoing in organizations have increased (ACFE 2018), and it is very important to understand why individuals who observe wrongdoing may decide to blow the whistle. Our findings have implications for managers and stakeholders in organizations to minimize the threat of retaliation against whistleblowers and support them by providing accessible reporting channels (Near and Miceli 2016). Internal channels, in particular, are important in increasing the confidence of observers to report wrongdoings. It has been identified in this study that observers prefer reporting wrongdoings to someone who has an unbiased profile, rather than to supervisors or upper-level management. Thus, the top management of organizations should identify persons within the organization who are in a position to listen to and take action in favor of observers. In addition to this, internal channels must be formally established and must contain clear procedures on how to deal with disclosure and protection of whistleblowers. Second, when employees are active subjects in observing wrongdoings within an organization, management needs to introduce programs such as incentives for whistleblowers when disclosing wrongdoing to prevent wider damage and enhance internal controls. Finally, the effectiveness of the whistleblowing system needs to be improved using clear lines of authority, reporting mechanisms and training related to fraud education in the workplace, which helps employees to identify the seriousness of wrongdoings in organizations as early as possible (Near and Miceli 1995).

Limitations and Future Research Directions

As with all research, this study has certain limitations. First, our study does not consider demographic factors which might influence the relationship between variables (Erkmen et al. 2014). For example, Rehg et al. (2008) indicate that women are more likely than men to suffer retaliation when they blow the whistle. In addition, Rehg et al. (2008) report that women tend to blow the whistle on serious wrongdoing more often than men. In addition, there are limitations in relying on surveys to assess respondents' reactions to whistleblowing scenarios, when the responses given might be different from real life situations. Second, our main findings may not be generalizable to other cultural contexts. Several scholars have reported that differences in cultural contexts, such as between collectivism and individualism, play an important role in triggering whistleblowing intention (Trongmateerut and Sweeney 2013; Nayır et al. 2018). A cross-cultural comparison study on whistleblowing conducted by Patel (2003) provides preliminary evidence to support the effects of cultural differences on whistleblowing intention. Finally, our research only supports a rationalist approach to individual decisions to blow the whistle. Recently, a nonrationalist approach has also been taken into account in terms of whistleblowing intention and ethical decision making (Henik 2015; Schwartz 2016). Factors such as emotion and intuition cannot be ignored in making the decision to blow or not to blow the whistle.

We would suggest the following directions for future research. First, future studies might consider the role of mediating variables in influencing the relationships between variables. For example, the effects of anticipated regret (Keil et al. 2018), may provide new insights in the whistleblowing literature. In addition, classification of the types of seriousness of wrongdoing in relation to whistleblowing intention (Near et al. 2004) is an area which may prove fruitful to investigate further. Second, future studies may consider making cross-cultural comparisons of the factors that influence whistleblowers' intentions. We argue that studies like this are important in the era of globalization, but are rarely conducted. Furthermore, we encourage future researchers to use a nonrationalist approach to investigate whistleblowing intention. So far, only a few studies have devoted attention

to nonrationalist approaches in explaining whistleblowing intentions and ethical decision making (Henik 2015; Latan et al. 2019). Finally, we suggest future research can explore potential differences regarding the profile of participants of the research, including a sample of tax professional accountants or taxpayers which tend to be considered external to tax offices. Hence, this work suggests understanding further the mechanisms, technical procedures, formal education, and training that potential whistleblowers (for instance, tax professional accountants, taxpayers and government internal auditors) should follow in order to report wrongdoing appropriately.

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Compliance with Ethical Standards

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

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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

Appendix

Scenario

Mark has worked as an employee in one of the tax service offices (KPP Pratama) in Indonesia for 5 years, holding the position of account representative (AR). His salary is quite satisfying. He also has a good relationship with his colleagues and feels part of a team. Everything was going well, until 1 day he felt torn between conflicting emotions. In his last assignment, related to monitoring taxpayer compliance, he found evidence of bribery cases involving his supervisor conspiring with taxpayers to carry out tax avoidance. The amount of money involved was significant. Mark realized that this fraud was very serious and brought potential harm in terms of causing significant losses to the government and society at large. In addition, he also found evidence of a number of cases of extortion against other taxpayers. This caused him to be unable to sleep for several nights.

Following these discoveries, Mark considered reporting these findings to the general director of taxes or to the relevant authorities through available reporting mechanisms. However, he considered that by revealing this misconduct, there was an inherent risk that might haunt him in the future. If he wanted to pursue this case, there would be a risk of being laid off of work, being treated unfairly, verbal harassment and intimidation, or poor performance appraisal. Mark wanted to forget this case, but he reasoned that the truth must be revealed, even though it is difficult. However, with his current qualifications, he would not find another salaried position in the current economic climate. After thinking about this for several days, Mark decided to postpone making a decision about the case until he found the right solution.

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