FEDERAL UNIVERSITY OF PERNAMBUCO
CENTER FOR APPLIED SOCIAL SCIENCES
DEPARTMENT OF ACCOUNTING AND ACTUARIAL SCIENCE
GRADUATE PROGRAM IN ACCOUNTING

ARTHUR DO NASCIMENTO FERREIRA BARROS

EXAMINING INCENTIVE CONTRACTS FOR WHISTLEBLOWING INTENTIONS: A SYSTEMATIC-EXPERIMENTAL APPROACH

RECIFE
2024

ARTHUR DO NASCIMENTO FERREIRA BARROS

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Dissertation presented for the fulfilment of the requirements for the degree of Doctor of Philosophy in Accounting, at the Graduate Program in Accounting, Department of Accounting and Actuarial Sciences, Center of Applied Social Sciences, Federal University of Pernambuco.

Advisor: Dr. Kate E. Horton, PhD.

RECIFE

2024

Catalogação na Fonte
Bibliotecária Ângela de Fátima Correia Simões, CRB4-773

B277e Barros, Arthur do Nascimento Ferreira
Examining incentive contracts for whistleblowing intentions: a systematic-experimental approach / Arthur do Nascimento Ferreira Barros. – 2024.
171 folhas: il. 30 cm.

Orientadora: Prof.ª Dra. Katherine Elisabeth Horton, PhD.
Tese (Doutorado em Ciências Contábeis) – Universidade Federal de Pernambuco, CCSA, 2024.
Inclui referências e apêndices.

1. Denúncia. 2. Estudo experimental. 3. Incentivos financeiros. I. Horton, Katherine Elisabeth (Orientadora). II. Título.

657 CDD (22. ed.) UFPE (CSA 2024– 081)

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Tese apresentada ao Programa de Pós-graduação em Ciências Contábeis da Universidade Federal de Pernambuco, Centro Acadêmico CCSA, como requisito para a obtenção do título de Doutor em Ciências Contábeis. Área de concentração: Informação Contábil.

Aprovado em: 21/05/2024.

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ABSTRACT

This dissertation explores the intricate relationship between whistleblowing behaviour and incentive contracts within organizational settings. The study comprises two distinct yet complementary components: a systematic literature review and an experimental investigation. The systematic literature review synthesizes existing knowledge on the influence of incentives on whistleblowing intentions, drawing from 35 papers published between 2006 and 2023 across 29 different journals. Through meticulous categorization and analysis, the review addresses four key questions: the types of incentives examined, associated outcomes, research designs utilized, and moderators identified in the incentive-whistleblowing relationship. Findings reveal a predominant reliance on experimental methodologies, particularly the Motivational Crowding Theory, in examining whistleblowing incentives. Monetary incentives emerge as the most examined type, with a majority yielding significant positive results, highlighting the prevalence of financial motivations in whistleblowing decisions. Complementing the review, an experimental study delves into the effectiveness of combined reward-penalty incentive contracts in influencing whistleblowing intentions, alongside moderating factors such as the closeness of the potential whistleblower to the wrongdoer and the moral identity of the potential whistleblower. Employing a randomized experimental design in which incentive contracts, perpetrator status and perpetrator-whistleblower closeness were manipulated, data from participants recruited through online platforms were subjected to rigorous statistical analyses. Contrary to expectations, results indicate that combined financial incentive contracts do not significantly increase whistleblowing intentions compared to individual reward-only or penalty-only contracts. However, the study identifies several factors that significantly influence whistleblowing intentions, including the closeness of the potential whistleblower to the wrongdoer, moral identity internalization, and level of ethical training. In addition, whistleblowing intentions were found to be higher for moral identity “symbolizers” under rewards contracts than penalty contracts. Together, these findings contribute to a nuanced understanding of

whistleblowing incentives and their implications for organizational governance and ethics. By elucidating methodological approaches, identifying gaps in the literature, and offering practical insights, this dissertation informs organizational policies and practices aimed at fostering environments conducive to ethical behaviour and accountability amidst the spectre of fraud and misconduct.

Keywords: Whistleblowing; incentive contracts; systematic review; experimental study; organizational ethics; financial incentives; fraud detection; whistleblowing intentions; ethical behaviour; moral identity.

RESUMO

Esta dissertação explora a intricada relação entre o comportamento relacionado às denúncias (“whistleblowing") e contratos de incentivo dentro de ambientes organizacionais. O estudo compreende dois componentes distintos, porém complementares: uma revisão sistemática da literatura e uma investigação experimental. A revisão sistemática da literatura sintetiza o conhecimento existente sobre a influência de incentivos nas intenções de denúncia, baseando-se em 35 artigos publicados entre 2006 e 2023 em 29 periódicos diferentes. Através de uma categorização e análise meticulosas, a revisão aborda quatro questões-chave: os tipos de incentivos examinados, os resultados associados, os desenhos de pesquisa utilizados e os moderadores identificados na relação entre incentivos e denúncias. Os resultados revelam uma dependência predominante de metodologias experimentais, especialmente a Teoria da Motivação de Multidão (“Motivational Crowding Theory"), na análise de incentivos para denúncias. Incentivos monetários emergem como o tipo mais examinado, com a maioria resultando em resultados positivos significativos, destacando a prevalência de motivações financeiras nas decisões de denúncia. Complementando a revisão, um estudo experimental investiga a eficácia de contratos de incentivo combinados de recompensa e penalidade na influência das intenções de denúncia, juntamente com fatores moderadores, como a proximidade do potencial denunciante ao infrator e a identidade moral do potencial denunciante. Empregando um desenho experimental randomizado no qual contratos de incentivo, status de perpetrador e proximidade entre perpetrador e “whistleblower” foram manipulados, dados de participantes recrutados por meio de plataformas online foram submetidos a análises estatísticas rigorosas. Contrariando as expectativas, os resultados indicam que contratos de incentivo financeiro combinados não aumentam significativamente as intenções de denúncia em comparação com contratos individuais apenas de recompensa ou apenas de penalidade. No entanto, o estudo identifica diversos fatores que influenciam significativamente as intenções de denúncia, incluindo a proximidade do potencial denunciante ao infrator, a internalização da

identidade moral e o nível de treinamento ético. Além disso, descobriu-se também que as intenções de denúncia eram maiores para os "simbolizadores" sob contratos de recompensa do que sob contratos de penalidade. Juntos, esses resultados contribuem para uma compreensão mais refinada dos incentivos para denúncia e suas implicações para a governança organizacional e a ética. Ao elucidar abordagens metodológicas, identificar lacunas na literatura e oferecer insights práticos, esta dissertação informa políticas e práticas organizacionais destinadas a promover ambientes propícios ao comportamento ético e à responsabilidade diante do espectro de fraudes e má conduta.

Palavras-chave: Denúncia; contratos de incentivo; revisão sistemática; estudo experimental; ética organizacional; incentivos financeiros; detecção de fraudes; intenções de denúncia; comportamento ético; identidade moral.

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CHAPTER 1: Introduction

Over the past ten years, a series of corporate scandals have thrust the issue of corruption into the global spotlight (Blanc et al., 2018; Branco, 2010; Xu et al., 2019). One example is the Volkswagen emissions scandal in 2015, where the company used software to cheat emissions tests, resulting in significant environmental harm and legal repercussions. Extensive literature on corporate misconduct underscores its pervasive adverse effects on consumers, investors, creditors, employees, and broader societal stakeholders. Furthermore, both scholarly and professional investigations elucidate the profound impact of white-collar crimes and corporate malfeasance (Song & Han, 2017).

Misconduct is ubiquitous and is likely to occur within any organization you are familiar with at some stage of its existence. In addition, it has a substantial impact on firms' operations, affecting social development and contributing to social inequality (Lau et al., 2013; Yeboah-Assiamah & Alesu-Dordzi, 2016).

Whistleblowing, the act of individuals disclosing information about wrongdoing within organizations, plays a pivotal role in detecting and combatting fraud and corruption across various sectors worldwide. This phenomenon has garnered significant attention due to its potential to uncover misconduct, facilitate investigations, and lead to the recovery of substantial financial losses. Through whistleblower programs and legal protections, governments and regulatory bodies aim to incentivize individuals to come forward with information about fraudulent activities, offering both monetary rewards and safeguards against retaliation.

The research territory navigated in this dissertation centres on the nexus between whistleblowing behaviour and incentive contracts within organizational settings. Given the increasing concerns about corporate fraud, grasping the dynamics of whistleblowing incentives becomes essential. While the literature has extensively examined the sociodemographic and organizational factors underpinning whistleblowing behaviour (Antinyan et al.,

2020; Near & Miceli, 2016), the efficacy of incentive structures in shaping whistleblowing intentions remains an area ripe for exploration.

Existing literature underscores the complexities inherent in incentivizing whistleblowing behaviour. Notably, studies have highlighted the efficacy of both rewards and penalties in promoting whistleblowing (Andon et al., 2018; Dyck et al., 2010; Feldman & Lobel, 2010; Kurz et al., 2014), yet the optimal incentive structure remains elusive. While rewards have been shown to spur reporting, they also engender unintended consequences such as an increase in false complaints (Dyck et al., 2010). Conversely, penalties, though effective in discouraging undesirable behaviour, may be perceived as unfair and result in unintended outcomes (Tenbrunsel & Messick, 1999; Nosenzo, 2016). The conundrum persists: how can organizations strike a balance between incentivizing whistleblowing and mitigating adverse repercussions?

This dissertation endeavours to shed light on these paradoxes by offering a systematic review and experimental study. The systematic literature review examines the landscape of whistleblowing and incentive contracts, synthesizing existing knowledge to identify gaps and delineate research trajectories. By addressing pertinent questions regarding the types of incentives examined, associated outcomes, research designs, and moderators, this review provides a comprehensive understanding of the current state of scholarship.

Complementing the review, the experimental study delves into uncharted territory by investigating the efficacy of combined reward-penalty incentive contracts in influencing whistleblowing intentions. By interrogating the moderating effects of various factors, including the proximity of the potential whistleblower to the wrongdoer and their moral identity, this study offers nuanced insights into the interplay between incentives and whistleblowing behaviour.

In a landscape characterized by escalating concerns over corporate fraud and the imperative for robust whistleblowing mechanisms, this dissertation assumes critical significance. By elucidating the complexities surrounding

whistleblowing incentives and offering novel insights through a systematic review and experimental study, this research extends the frontiers of scholarly inquiry. Ultimately, the findings gleaned from this dissertation have the potential to inform organizational policies and practices, fostering environments conducive to ethical behaviour and accountability amidst the spectre of fraud and misconduct.

This dissertation is organized into three main chapters, each contributing to a comprehensive understanding of the dynamics of whistleblowing incentives within organizational contexts. Chapter 2, titled "A Systematic Review of Methodological Approaches and Trends in Whistleblowing and Financial Incentives Research – Implications and Future Directions", presents a systematic literature review that synthesizes existing knowledge on the relationship between whistleblowing and financial incentives. This chapter critically examines methodological approaches, identifies trends, and provides insights into future research directions, thereby laying the groundwork for subsequent empirical investigations.

Chapter 3, titled "The “Carrot”, the “Stick” or Both? Incentive Contracts’ Effects on Whistleblowing Intentions" introduces an experimental study aimed at elucidating the effectiveness of different incentive structures in influencing whistleblowing intentions. By exploring the impact of combined reward-penalty contracts compared to individual reward-only or penalty-only contracts, this chapter offers valuable insights into the nuanced interplay between incentives and whistleblowing behaviour.

The final chapter, Chapter 4, serves as the conclusion of this dissertation. In this chapter, the findings from both the systematic review and the experimental study are synthesized and integrated. Additionally, implications for theory and practice are discussed, and avenues for future research are proposed. Through this comprehensive analysis, the dissertation culminates in an understanding of whistleblowing incentives and their implications for organizational governance and ethics.

CHAPTER 2: A Systematic Review of Methodological Approaches and Trends in Whistleblowing and Financial Incentives Research – Implications and Future Directions

Abstract

This chapter reports findings from a systematic literature review on whistleblowing and incentive contracts, in which I identify, summarize, and categorize the existing knowledge on how incentives can influence whistleblowing intentions. I have collected data from the Web of Science and ProQuest platforms. This review includes 35 papers published between 2006 and 2023, in 29 different journals. This paper updates prior literature reviews by answering four key questions: 1) What kinds of incentives have been examined? 2) What are the outcomes (results) associated with introducing different kinds of incentives to blow the whistle? 3) What kinds of research designs have been used to analyse this relationship/association? 4) What kinds of moderators of the incentive-whistleblowing relationship have been identified? The papers were categorized into four main research designs: Experimental (including laboratory, online/scenario, and quasi-experimental), Survey, Literature Review, and Theoretical. Results indicate a predominant utilization of experimental methodologies, comprising 54% of the reviewed literature. Notably, the Motivational Crowding Theory emerged as the most frequently employed theoretical framework across the identified studies. A bibliographic analysis and exploration of the background of the publications underscored the prevalence of monetary incentives as the most examined type of incentive, accounting for 58.14% of the studies identified, with 76% of hypotheses yielding significant positive results.

Keywords: Whistleblowing, Systematic Review, Financial Incentives, Research Design, Corporate Governance, Compliance, Fraud Detection.

1 Introduction

Corporate scandals have brought the world's attention to the corruption problem (Blanc et al., 2018; Branco, 2010; Xu et al., 2019). The literature on corporate crime highlights its daily negative impact on consumers, investors, creditors, employees, and other society members. In addition, both professional and academic research describes the severity of the damage caused by white-collar crimes and corporate wrongdoing (Song & Han, 2017).

The most common way to detect corruption inside organizations is through tips, according to the Association of Certified Fraud Examiners, or ACFE, (2022). The ACFE (2022) research analysed more than 2,000 cases of organizational fraud in 133 countries and found that a typical fraud case lasts 12 months, while this time drops to 6 months in organizations with dedicated hotlines to report wrongdoing. In addition, organizations that do not promote whistleblowing had almost twice the losses compared with those that do promote it.

Whistleblowing is "the disclosure by organizational members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action" (Near & Miceli, 1985, p. 4). Research on whistleblowing dates to the 1980s and most of it has focused on defining whistle-blower characteristics or the organizational factors that lead whistle-blowers to report wrongdoing (Vandekerckhove & Lewis, 2012).

Despite the effort, the literature has not been able to answer which sociodemographic or organizational characteristics, and value orientations can predict whistleblowing behaviour (Andon et al., 2018; Cintya & Yustina, 2019; Dhamija & Rai, 2017; Mesmer-Magnus & Viswesvaran, 2005; Miceli et al., 1991; Near & Miceli, 1996; Park et al., 2014; please see table 1).

Table 1 - Whistleblowing findings on sociodemographic characteristics and value orientations

Author(s)	Age and Tenure	Education	Gender (male)	Moral Judgment
Keenan and Sims (1995)	Not significant		+	+
Brewer and Seiden (1998)	+	+		
Dworkin and Baucus (1998)	+		Not significant	
Chiu (2003)	Not significant	-		+
Cassematis and Wortley (2013)	Not significant		Not significant	
Vasconcelos (2015)				Not significant
Dhamija and Rai (2017)	Not significant		Not significant	
Andon et al. (2018)	+		-	
Krambia-Kapardis (2020)	+		+	
Lee (2020)	Not significant		Not significant	

"+" and "-" indicate the association's direction regarding whistleblowing intention.
Source: Elaborated by the author.

Age and tenure have been scrutinized in relation to whistleblowing intentions, with mixed findings across studies (table 1). While some research suggests a non-significant association between age and tenure (Keenan & Sims, 1995; Chiu, 2003; Cassematis & Wortley, 2013; Dhamija & Rai, 2017; Lee 2020) and whistleblowing intentions, others indicate a positive correlation (Brewer & Seiden, 1998; Dworkin & Baucus, 1998; Andon et al., 2018; Krambia-Kapardis, 2020), implying that older individuals with longer tenures may exhibit a greater propensity to blow the whistle.

Education emerges as another key variable, with results ranging from reports of a positive (Brewer & Seiden, 1998) to a negative (Chiu, 2003) association with whistleblowing intentions. This variation underscores the complex interplay between educational attainment and whistleblowing behaviour. Gender, particularly the male gender, has been a focal point of

investigations, yielding varied outcomes ranging from positive associations to negative ones, with some studies reporting no significant relationship (Keenan & Sims, 1995; Dworkin & Baucus, 1998; Cassematis & Wortley, 2013; Dhamija & Rai, 2017; Andon et al., 2018; Krambia-Kapardis, 2020; Lee 2020). Additionally, moral judgment, a critical value orientation, has been examined in relation to whistleblowing intentions, with findings suggesting a positive association in some studies (Keenan & Sims, 1995; Chiu, 2003), while others report non-significant results (Vasconcelos, 2015). These divergent findings underscore the multifaceted nature of whistleblowing behaviour, which is influenced by a myriad of individual characteristics and value orientations.

The decision to blow the whistle is usually seen as a cost-benefit analysis (Hennequin, 2020; Miceli & Near, 1985; Rose et al., 2018) and the highest cost that whistle-blowers face is retaliation (Berger et al., 2017; Teichmann & Falker, 2020). Therefore, academics have tried to further this cost-benefit analysis by considering other elements that could incentivize whistleblowing behaviour (table 2). Apart from penalties, factors like rewards and anonymous reporting channels have also presented conflicting results.

Table 2 - Whistleblowing incentives

Author(s)	Incentive	Results
Pope and Lee (2013)	Anonymous reporting channel	Not significant
Johansson and Carey (2016)	Anonymous reporting channel	+
Dyck et al. (2010)	Rewards	+
Brink et al. (2013)	Rewards	-
Stikeleather (2016)	Rewards	+
Feldman and Lobel (2010)	Penalties	+
Boo et al. (2016)	Penalties	+
Chen et al. (2017)	Penalties	+

"+" and "-" indicate the association's direction regarding whistleblowing intention.
Source: Elaborated by the author.

As you can see in table 2, the effectiveness of anonymous reporting channels has been a topic of interest, with mixed findings. Pope and Lee (2013) found a non-significant association between anonymous reporting channels and whistleblowing behaviour, suggesting that the mere provision of anonymity may not significantly impact individuals' willingness to report wrongdoing. Conversely, Johansson and Carey (2016) identified a positive association between anonymous reporting channels and whistleblowing, indicating that the availability of such channels may encourage individuals to come forward with concerns.

Regarding the use of rewards as incentives, Dych et al. (2010) and Stikeleather (2016) both reported a positive association between rewards and whistleblowing behaviour, suggesting that offering incentives may encourage individuals to report misconduct. However, Brink et al. (2013) found a negative association, suggesting that the provision of rewards could potentially discourage whistleblowing. On the other hand, penalties for not reporting misconduct have also been examined. Feldman and Lobel (2010), Boo et al. (2016), and Chen et al. (2017) all found positive associations between penalties and whistleblowing behaviour, indicating that the threat of penalties may serve as a deterrent against misconduct by encouraging individuals to report wrongdoing.

Research on whistleblowing and corruption has increased over the years (Scherbarth & Behringer, 2021; Tomo et al., 2020). However, most systematic reviews of whistleblowing chose to look at it in a broad way (Bhargava & Madala; 2014; Culiberg & Mihelič; 2016; Mehrotra et al., 2019; Nicholls et al., 2021; Scherbarth & Behringer, 2021; Gao & Brink, 2017; Lee & Xiao, 2018), as I discuss in the next section. Specific reviews of research about incentives, which are used to increase employees’ efforts, and improve a firm’s performance (Christ et al., 2012; Christ & Vance, 2018; Mahmoodi et al., 2018; Nichol, 2019), and their role in the whistleblowing decision are currently missing.

Therefore, I undertook a systematic literature review on whistleblowing, one of the more effective tools against corporate corruption (ACFE, 2022), and

which can protect organizations' equity and incentives. The purpose of this review is to identify, summarize, and categorize the existing knowledge on the matter to examine the understanding of incentives and whistleblowing. By systematically organizing and evaluating the current evidence, this review aims to provide practitioners with a comprehensive understanding of the factors that influence whistleblowing behaviour. This can help practitioners design and implement more effective incentive structures and whistleblowing policies. For instance, understanding which types of incentives are most effective in encouraging ethical behaviour can guide organizations in crafting reward systems that promote transparency and accountability. Additionally, identifying barriers to whistleblowing can inform the development of support mechanisms to protect and empower potential whistleblowers, ultimately fostering a more ethical organizational culture.

Four research questions guide this literature review: (a) What kinds of incentives have been examined? (b) What are the outcomes (results) associated with introducing different kinds of incentives to blow the whistle? (c) What kinds of research designs have been used to analyse this relationship/association? and (d) What kinds of moderators of the incentive-whistleblowing relationship have been identified? To answer these questions, I conducted a systematic review that identified 35 papers published between 2006 and 2023, in 29 different journals (the papers are marked with a "*" in the reference list of this dissertation). I provide more details regarding the research in the methodology section.

This chapter is organized as follows; After an analysis of past literature reviews, I describe how the review was planned and conducted (including the identification and selection of empirical studies). In the next section, I present and discuss the results. Finally, I discuss the theoretical and practical contributions of this review and directions for future studies.

2 Past Systematic Literature Reviews

Recent past literature reviews on whistleblowing have adopted different foci regarding the scope of their reviews. For instance, Bhargava and Madala (2014), Culiberg and Mihelič (2016), Mehrotra et al. (2019), and Nicholls et al. (2021) chose to look at whistleblowing in a broad way.

Bhargava and Madala's (2014, p. 48) goal was to "assess the importance and scope of whistleblowing across the world" through an "in-depth literature review to understand the whistleblowing concept and ethical issue". The authors focused their research on **whistle-blower protection legislation** and found that around a quarter of their sample (163 countries) had at least, what they classified as, advanced whistle-blower protection.

In the same way, Mehrotra et al. (2019) sought to understand what was being researched on whistleblowing globally, with the intention of seeing the interest that international literature had in India, and if the topics on whistleblowing researched in the country match with the ones that international researchers have analysed.

They analysed 319 papers from the EBSCO Database published between 2012 and 2018. Classifying the papers into 15 different themes, they found that 23% of the papers were about **regulatory mechanism and reform**, in accordance with Bhargava and Madala's (2014) results, and less than 10% investigated **incentives and rewards**. The 31 papers that discussed **incentives and rewards** argued how incentives and rewards' systems implemented by companies or regulatory bodies, mostly in the US, like the Securities and Exchange Commission (SEC), Internal Revenue Service (IRS), and the Dodd-Frank Act (2010), for instance, affect the intention to blow the whistle. Among the main results regarding **incentives and rewards**, Mehrotra et al. (2019) highlighted that **companies discourage whistleblowing** (due to increasing retaliation issues), and **penalties could improve whistleblowing intentions**.

Different from Bhargava and Madala (2014) and Mehrotra et al. (2019), Culiberg and Mihelič (2017) did a critical review on whistleblowing. They approached their review from the whistle-blower perspective to critically review

existing whistleblowing studies, to integrate and develop a conceptual framework. Culiberg and Mihelič (2017) built a conceptual framework called **The Wheel of Whistleblowing**, based on five "Ws" (**Who**, **What**, **hoW**, **Why** and to **Whom**). From the whistle-blower's view they tried to answer: (1) Who is the whistle-blower? (2) What is reported by the whistle-blower? (3) How does the whistle-blower make the decision to blow the whistle? (4) Why does the whistle-blower report wrongdoing? And (5) To whom is it reported?

Analysing the **Why**, Culiberg and Mihelič (2017) state that whistleblowing literature has focused on factors regarding the organization like culture, climate, size, industry, the people involved in the wrongdoing (their status or closeness to the potential whistle-blower), etc. However, nothing is mentioned about **incentives** and their role in the whistleblowing decision.

Nicholls et al.'s (2021, p. 1) purpose was "to identify the factors that are associated with intentions to blow the whistle on wrongdoing". They searched the Academic Search Premier, CINAHL Complete, Education Research Complete, ERIC, Medline, PsycARTICLES, PsycINFO, Regional Business News, and SPORTDiscus databases. They selected 217 papers that investigated factors associated with whistleblowing intentions, and most of the papers used a quantitative design (89%). In addition, most of the studies used scenarios that captured some kind of wrongdoing and assessed the participants' intentions to report it.

The authors identified eight dimensions associated with whistleblowing intentions: 1) personal factors; 2) organizational factors; 3) **costs and benefits**; 4) outcome expectancies; 5) the offense; 6) reporting; 7) the wrongdoer; and 8) social factors. Within each dimension Nicholls et al. (2021) classified other themes of research, which they called higher-order and lower-order themes.

The "**Costs and Benefits**" dimension (which is most pertinent to my focus on incentives) contained two higher-order themes: personal costs and benefits. Sixteen papers were classified as benefits; ten studies positively associated monetary benefits with whistleblowing, two found that the financial

reward size was also positively associated with whistleblowing intentions. Three assessed the effect of incentives on whistleblowing, of which two found a positive relationship, but one found that when the wrongdoer is a close friend, incentives do not have a significant effect on whistleblowing. However, while Nicholls et al. (2021) briefly touched on this aspect as part of their broader review of whistleblowing, they did not provide a comprehensive examination of incentives specifically.

Similarly, Scherbarth and Behringer (2021, p. 61) focused on whether and how the consequences that a potential whistle-blower can face by reporting misconduct are taken into consideration in the elaboration and implementation of internal whistleblowing systems. Their scope was “on the organizational dimension of the whistleblowing system”, and they analysed the literature about organizational factors that increase/decrease the willingness of persons to blow the whistle.

Their review was conducted in the JStor, EbscoHost Business Source Premier, and ECONBIZ databases. They searched for keywords related to their focus on the title, abstract and papers’ keywords, resulting in 45 studies. They clustered their results as (1) **incentives**, (2) internally/externally administered reporting channel, (3) anonymous reporting channel, (4) organizational responsiveness and characteristics of the report recipient, (5) explicit protection, (6) culture, and (7) organizational justice perspective on the implementation of internal whistleblowing procedures.

Regarding the **incentives** results, they cited 6 publications (13% of the sample) where 4 studied the relation between a financial **reward/incentive/bounty** and the intention to blow the whistle. Three papers found positive results (Xu & Ziegenfuss, 2008; Pope & Lee, 2013; Stikeleather, 2016), while one (Brink et al., 2013) found that whistleblowing did not increase following the addition of a reward. All papers used experiments to test their hypotheses. The other two papers focused on **penalties** as incentives, they also conducted experiments, and found that penalties increased whistleblowing intentions when the norms that support it are stronger (Chen et al., 2017), and

that when the whistle-blower has a close relationship with the wrongdoer, a penalty increases whistleblowing intentions (Boo et al., 2016).

Other literature reviews include the ones of Gao and Brink (2017), and Lee and Xiao (2018). Both reviews focused on whistleblowing and accounting, and with similar approaches. The former focused on experimental studies and their determinants of whistleblowing, while the latter, as the authors say, differs from the Gao and Brink (2017) review by including all kinds of empirical methodology, not only experiments.

Lee and Xiao's (2018) sample comprised 59 papers, while Gao and Brink's (2017) one included 36 studies. Both clustered their samples basically in the same way: by characteristics of the (1) whistle-blower, (2) report recipient, (3) wrongdoer, (4) wrongdoing, and (5) organization. Regarding **incentives**, papers on the subject represented fewer than 10% of papers in both samples. Although their incentive-related samples found similar results, they only had one paper in common (Rose et al., 2018).

In addition, the only paper in both samples that was not an experiment, was the one by Call et al. (2016). This is an archival paper, which found that firms which grant more stock options or provide more unvested options are less likely to face external whistleblowing (Lee & Xiao, 2018).

The only review that I found that is specifically related to incentives and whistleblowing decisions is the one by Nyreröd and Spagnolo (2021). They reviewed "available empirical evidence in favour and against financial rewards for whistle-blowers and connected it to the corresponding policy debate" (Nyreröd & Spagnolo, 2021, p. 2). They divided their paper's sections into arguments used against financial rewards for whistle-blowers and, using empirical evidence, discussed if that argument made sense or was just a "myth". Like the other reviews, Nyreröd and Spagnolo (2021) focused on the results of the papers, but only those that they used to "demystify" opposing arguments related to whistleblowing.

In conclusion, although there have been a few recent literature reviews on whistleblowing, their scopes were too expansive, covering a wide range of topics without focusing deeply on any specific aspect. Even when incentives

were included in these reviews, they were not analysed in depth due to the wide-ranging nature of the studies. There is a notable gap in the literature concerning focused research on incentives and their role in the whistleblowing decision. My aim was to fill this gap by specifically examining incentives and their impact on the decision to blow the whistle.

3 Methodology

3.1 Database Selection

I carried out the literature searches in the Web of Science (WOS) and ProQuest databases. WOS is a multidisciplinary database, which started in 1973 but covers papers since 1956, and indexes the contents of around 1900 journals with advanced search features and an extensive range of tools that allow to manipulate the results (Norris & Oppenheim, 2007).

ProQuest is also a database that "covers an extensive range of academic journals" (Bask et al., 2012, p. 3) and it is "the world's most comprehensive and diverse business database available to identify the relevant peer-reviewed journal articles from most of the diverse business and management disciplines" (Wong et al., 2015, p. 45).

3.2 Planning and Conducting the Review

My research objective was to provide a systematic overview of the literature regarding whistleblowing and incentive contracts, to shed light on how the latter impacts the former. This involved conducting a comprehensive search of multiple databases to identify all relevant studies, applying clear criteria to determine which studies to include or exclude, and synthesizing the findings to identify overarching patterns and gaps. The research questions that guided this review were: 1) What kinds of incentives have been examined? 2) What are the outcomes (results) associated with introducing different kinds of incentives to blow the whistle? 3) What kinds of research designs have been used to analyse this relationship/association? 4) What kinds of moderators of the incentive-whistleblowing relationship have been identified?

I searched the literature to identify relevant publications. I used the keywords 1) "whistleblowing" + "incentiv*"; 2) "whistleblowing" + "reward*"; 3) "whistleblowing" + "penalt*"; 4) "whistle*" + "incentiv*"; 5) "whistle*" + "reward*"; 6) "whistle*" + "penalt*"; 7) "whistle*" + "carrot*"; and 8) "whistle*" + "stick*" in the WOS platform and searched in the title, abstract and keywords of English-language, published, double-blind reviewed papers. No date limit was

placed on this search. This search resulted in 143 papers. I first removed all the duplicates. After I read the abstracts of each paper and removed those that did not fulfil our research objective or were not scientific contributions. The final sample consisted of 43 papers.

On ProQuest, I conducted seven searches. No date limit was placed on the searches. In the first one, we searched for the terms, “whistleblowing” or “whistle-blowing” in the thesaurus or abstract, or title of English-language, peer-reviewed, published papers in scholarly journals. This search resulted in 2.337 papers. The second search focused on the terms “incentive”, “monetary incentive”, “incentives”, and “monetary incentives”, also in the title and/or the abstract of English-language, peer-reviewed, published paper in scholarly journals, resulting in 128.468 papers. Search number 3 combined the results of the first two searches (using the Boolean operator “And”), resulting in 132 papers.

In my fourth search, we used the terms and filters of searches 1 and 2 but I added another filter, restricting the retrieved papers to those published in the field of “business”. This resulted in 92 papers. In search number 5, I looked for the terms “reward”, “penalty”, “rewards”, and “penalties” in the title and/or the abstract of English-language, peer-reviewed, published papers in scholarly journals, resulting in 78.914 papers.

The sixth search combined incentives terms (search 2) OR rewards/penalties terms (search 5), resulting in 200.284 papers. Finally, after combining incentives OR rewards/penalties AND whistleblowing terms (search 1 and search 6), I retrieved 249 papers. I read the abstracts of the papers and removed those that did not fulfil our research objective or were not scientific contributions. I also removed all the duplicates. The final sample consisted of 79 papers. I compared the samples from WOS and ProQuest and removed the duplicates. This sample consisted of a total of 56 papers. However, after reading all of the papers, I observed that although some of the abstracts mentioned the research objective, they did not satisfy the criteria on closer inspection. They were therefore removed from the sample. The final sample consisted of 35 papers.

3.3 Organizing the Results

In order to answer research question 3, I clustered the papers according to their research design: 1) Experiment (laboratory, online/scenario, and quasi-experiment); 2) Survey; 3) Literature Review; and 4) Theoretical. In the final sample, I also found literature reviews (Mehrotra et al., 2019; Nicholls et al., 2021; Nyreröd & Spagnolo, 2021; Lee & Xiao, 2018). Because we already discussed these papers in the previous section, I decided not to include them in the analysis.

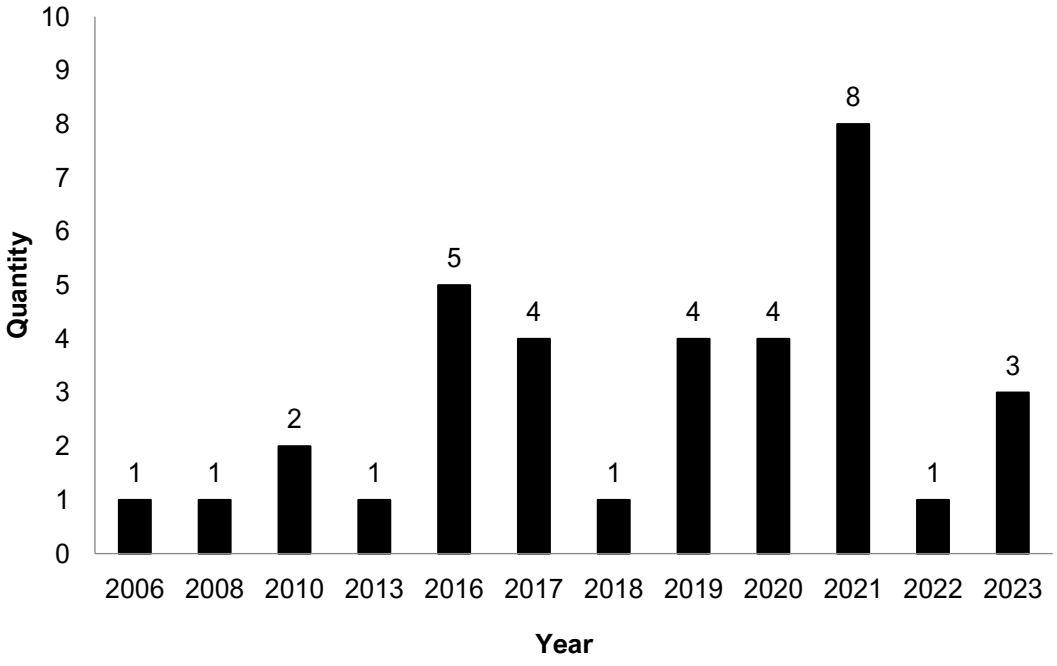
4 Results

I will start the results section by looking at the bibliographic analysis, where I provide a descriptive analysis of the sample, and then explain the background of the publication.

4.1 Bibliographic Analysis

The oldest paper in the sample was published in 2006 (figure 1). Between 2006 and 2013 there were 5 papers published; Between 2016 and 2023 there were 30, and 2021 was the year with the most publications (8).

Figure 1 - Publication per year



Source: Elaborated by the author

In my sample, the paper by Bugarin and Bugarin (2017) was the only study focused on the Brazilian context. This paper, published in the “Revista de Direito FGV”, analysed the principle of financial compensation for citizens who report corruption through the lens of the Theory of Mechanism Design and legal perspectives. The authors found that monetary incentives can effectively encourage whistleblowing, particularly in a diverse society like Brazil's. They

highlighted the potential conflict between the moral duty of reporting corruption and the financial benefits of doing so, arguing that well-designed incentives could resolve this tension. The study also proposed legislative amendments to enhance the effectiveness of these incentives within Brazil, addressing the unique cultural and legal challenges present in the country. By situating their analysis within the Brazilian context, Bugarin and Bugarin (2017) provided valuable insights into how financial rewards for whistleblowers could be optimized to improve accountability and reduce corruption in Brazil.

The increasing number of publications after 2013 could be explained by the changes in the False Claims Act (FCA) that occurred in 2009 and 2010. The FCA is a United States of America federal law that allows people who do not have a governmental position to file actions on behalf of the government, the whistleblowers, in order to report frauds; in addition, that person can be rewarded.

Table 3 - Publication per journal

Journal	Qty.	Journal Citation Indicator (2022)
Journal of Business Ethics	5	1.82
Auditing: A Journal of Practice and Theory	3	0.96
International Journal of Industrial Organization	1	0.56
Journal of Public Economic Theory	1	0.47
Accounting Education	1	0.92
European Journal of Law and Economics	1	0.95
Revista Direto GV	1	0.32
Management Science	1	1.19
Contemporary Accounting Research	1	1.26
Journal of Accounting Research	1	1.31
Journal of Economic Psychology	1	0.95
Texas Law Review	1	1.42
International Conference on Environment and Technology	1	-
Journal of Accounting Literature	1	-
International Journal of Environmental Research and Public Health	1	-

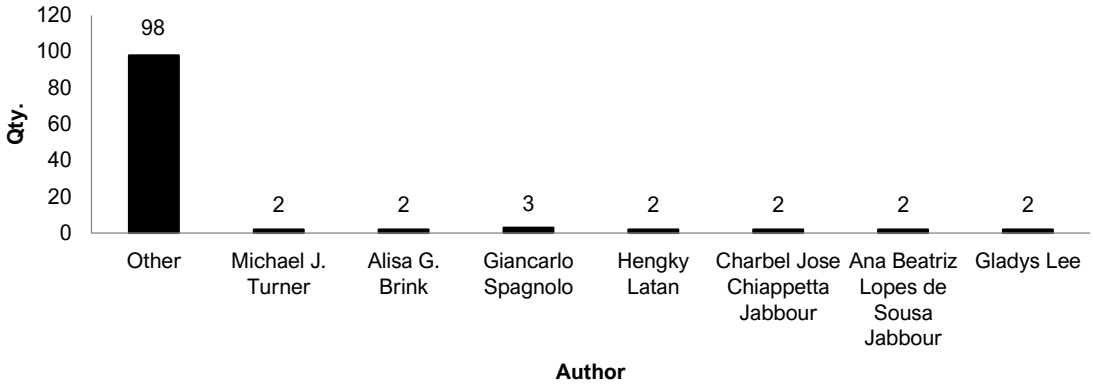
FIIB Business Review	1	0.34
Frontiers in Psychology	1	1.04
Regulation & Governance	1	2.23
Journal of Organizational Computing and Electronic Commerce	1	0.55
International Journal of Public Administration	1	0.79
IMA Journal of Management Mathematics	1	0.58
Sustainability	1	0.67
Accounting, Organization and Society	1	1.34
Gadjah Mada International Journal of Business	1	0.15
International Journal of Research in Business and Social Science	1	-
Journal of Business Psychology	1	-
Accounting Horizons	1	0.77
Review of Industrial Organization	1	0.36
Journal of European Economic Association	1	1.34

Source: Elaborated by the author.

Table 3 shows in which journals our sample papers were published. We count 29 different journals. The journals with the most publications were the Journal of Business Ethics (5) and Auditing: A Journal of Practice and Theory (3) – a journal of the American Accounting Association. Regarding specifically the accounting-related journals, we can observe the following: (a) Auditing: A Journal of Practice and Theory; (b) Accounting Education; (c) Contemporary Accounting Research (CAR); (d) Journal of Accounting Research (JAR); (e) Journal of Accounting Literature; (f) Accounting, Organization and Society (AOS); and (g) Accounting Horizons.

Because the journal's quality matters, we also provide in table 3 the Journal Citation Indicator (JCI) from Clarivate™, which considers three main factors: the field or discipline, publication type, and year of publication. The JCI value "represents the average category-normalized citation impact for papers published in the prior three-year period" (Clarivate, 2021). The journal with the most publications, Journal Business Ethics, has a 1.82 JCI, only behind Regulation & Governance, with a JCI of 2.23.

Figure 2- Publication by authors



Source: Elaborated by the author.

Regarding the authors (figure 2), most authors only published once about the subject matter and the ones that published more than one time did so twice. Among the authors that published twice, we can highlight Alisa Brink, who works with behavioural and experimental accounting research. According to Google Scholar, she has more than one thousand citations.

Table 4 - Sample by country

Country	Qty.
USA	17
Not applicable	8
Indonesia	5
Singapore	2
Germany	1
China	1
Norway	1
Afghanistan	1

Source: Elaborated by the author.

About the locations of each of the samples (table 4) - not all the papers required a sample (like theoretical and literature reviews, for instance). Most of the samples are from the USA: 60.71% if we do not consider the papers where

a sample is not applicable. Based on our sample, countries from South and Central America, Africa, and Oceania are not represented. In addition, Europe and Asia are not as studied as the USA.

4.2 Background of the Publication

In the following section, we discuss the methodology of the publications, which theories the papers used to build their hypotheses, the types of incentives the authors examined in relation to whistleblowing intentions, and finally, if mediating or moderating variables were found to influence their results.

Table 5 shows the type of methodology that the papers used. The most common methodology is the experiment (48.57%), and the quasi-experiment (5.71%). Combined they represent 54% of the sample. Both research designs are causal, meaning that they "are designed to determine whether one or more variables causes or affects one or more outcome variables" (Trochim et al., 2016, pp. 14). An experiment is "a study in which an intervention is deliberately introduced to observe its effects", and a quasi-experiment is "an experiment in which units are not assigned to conditions randomly" (Cook et al., 2002, p. 12). These types of studies can answer whether, or not, financial incentives can affect whistleblowing decisions. Later I will discuss the variables that these papers observed and their findings.

The second most common type of methodology in these studies is the survey, which differs from the experiment in the way that the data is collected. There is generally no random assignment and, therefore, surveys cannot infer causality. There are also theoretical papers, and finally, literature reviews which are "a systematic compilation and written summary of all the literature published in scientific journals that is related to a research topic of interest" (Trochim et al., 2016, pp. 11).

Table 5 - Papers' Methodology

Methodology	Qty.
Experiment	17
Quasi-experiment	2
Theoretical	5
Survey	7
Literature Review	4

Source: Elaborated by the author.

Regarding the theory(ies) that publications drew on to develop their hypotheses, the most common was the Motivational Crowding Theory, which suggests that "external intervention via monetary incentives or punishments may undermine, and under different identifiable conditions strengthen, intrinsic motivation" (Frey & Jegen, 2001, pp. 589). The second most used theory is game theory, which was, however, only used in theoretical papers.

Table 6 - Theories

Theory	Qty.
Not specified	10
Motivational Crowding Theory	5
Game Theory	4
The Theory of Planned Behaviour	2
Behavioural Reasoning Theory	2
LMX Theory	1
Intrinsic-extrinsic Motivation Theory	1
Nash's Cooperative Bargaining	1
Theory of Mechanism Design	1
Prospect Theory	1
Theory of Social Norms (Bicchieri)	1
Whistleblowing Triangle	1

Fraud Diamond	1
Path Dependence Theory	1
Gift-exchange Theory	1
Prosocial Behaviour Theory	1
Kohlberg Theory	1
Mental Accounting Theory	1

Source: Elaborated by the author.

In addition, two papers drew on the theory of planned behaviour, which states that "the immediate determinant of human behaviour is behavioural intention" (Manstead & Parker, 1995, p. 70)[1]; and behavioural reasoning theory, that also "proposes that the most proximal determinant of behaviour is intention" (Norman et al., 2012, p. 683)[2].

Table 7 shows the papers in our sample that were not literature reviews or theoretical. In other words, it only shows empirical papers including experiments, quasi-experiments, and surveys. All of these papers had as their dependent variable - whistleblowing intentions and, as their independent variable(s), financial incentives. In addition, the table shows what kind of incentive the authors examined, the mediating and moderating variables, if applicable, and the result that they found. Notice that one paper could appear more than once, if multiple hypotheses were tested.

Table 7 - Hypotheses and variables

Author(s)	Type of Incentive	Mediating Variable	Moderating Variable	Results
Berger, Perreault, and Wainberg (2017)	Monetary reward		Fraud size	+
Boo, Ng, and Shankar (2016)	Non-monetary reward		Working relationship	NS

[1] According to the authors, intention will predict behaviour if two conditions are fulfilled: 1st) "Both behavioural intention and behaviour must be measured with the same degree of specificity; and 2nd) "there should be little opportunity for intention to change between the assessment of behavioural intention and the subsequent behavioural measure" (Manstead & Parker, 1995, p. 70).

[2] Intention would be determined by global motives that reflect the person's global evaluations of behaviour, such as constructs of attitudes, subjective norms, and perceived behavioural control (Normal et al., 2012).

Boo, Ng, and Shankar (2016)	Monetary penalty		Working relationship	+
Andon et al. (2018)	Monetary reward		Perceived seriousness of the wrongdoing	+
Bernardi et al. (2016)	Monetary/non-monetary reward			+
Brink, Lowe, and Victoravich (2013)	Monetary reward	Internal Hotline	Strength of evidence	NS
Brink, Lowe, and Victoravich (2013)	Monetary reward	External Hotline	Strength of evidence	+
Butler, Serra, and Spagnolo (2019)	Monetary reward		Social judgment	+
Chen, Nichol, and Zhou (2017)	Monetary reward		Descriptive norms	NS
Chen, Nichol, and Zhou (2017)	Monetary penalty		Descriptive norms	+
Dey, Heese, and Pérez-Cavazos (2021)	Monetary reward			+
Farrar, Hausseman, and Rennie (2019)	Monetary reward		Revenge motive	NS
Feldman and Lobel (2010)	Monetary reward			+
Feldman and Lobel (2010)	Monetary reward		Duty	+
Feldman and Lobel (2010)	Monetary penalty		Duty	+
Hardi, Wiguna, and Mela (2020)	Not specified Reward			+
Latan, Jabbour, and Jabbour (2019)	Not specified reward			+
Latan, Jabbour, and Jabbour (2021)	Not specified reward			+
Lee, Pittroff, and Turner (2020)	Monetary reward			NS/-
Li et al. (2021)	Monetary reward			+
Oh and Teo (2010)	Monetary reward			+
Park and Jeon (2022)	Merit-based reward			+
Rose, Brink, and Norman (2018)	Unrestricted stock option		Reward size	-
Rose, Brink, and Norman (2018)	Restrict stock option		Reward size	+
Sorensen, Gaup, and Magnussen (2020)	Monetary reward			+
Stikeleather (2016)	Monetary reward			+
Prasetyaningsih (2021)	Monetary reward		Working relationship	+
Prasetyaningsih (2021)	Monetary penalty		Working relationship	+
Utami, Irianto, and Prihatiningtias (2020)	Monetary reward			+

Utami, Irianto, and Prihatiningtias (2020)	Monetary reward		Personal cost	+
Utami, Irianto, and Prihatiningtias (2020)	Monetary reward		Reporting channel	-
Xu and Ziegenfuss (2008)	Monetary reward			+
Xu and Ziegenfuss (2008)	Non-monetary reward			+
Xu and Ziegenfuss (2008)	Monetary reward		Moral reasoning	+
Xu and Ziegenfuss (2008)	Non-monetary reward		Moral reasoning	NS
Desir, Perreeault, and Wainberg (2023)	Monetary reward		Reward size	+
Desir, Perreeault, and Wainberg (2023)	Non-monetary reward			NS
Desir, Perreeault, and Wainberg (2023)	Monetary reward size		Reward type	+
Kim and Noussair (2023)	Monetary penalty		Penalty size	NS
Fiorin (2023)	Monetary reward		Wrongdoer punishment	NS
Fiorin (2023)	Monetary reward			+

*+/- show if the result was statistically significant and the direction of the main effect (positive/negative);
**NS stands for “Not Significant”;
Source: Elaborated by the author.

The type of incentive that was most examined was the monetary reward (58.14%), of various types. The second most examined was the monetary penalty (9.3%) and the non-monetary reward (9.3%). Looking at the monetary reward results, 76% of studies found significant positive results (+) regarding whistleblowing intentions (i.e., that monetary rewards were positively related to the intention to blow the whistle), and 25% reported that incentives were significantly positively associated with whistleblowing intentions in cases of monetary penalty and non-monetary reward. On the other hand, 20% of studies reported non-significant relationships between monetary rewards and whistleblowing intentions (Brink et al., 2013; Farrar et al., 2019; Lee et al., 2020; Fiorin, 2023); and 8% found that monetary rewards were negatively associated with whistleblowing intentions (Utami et al., 2020). These mixed results concerning the relationships between incentives and whistleblowing intentions suggest that moderator variables may play an important role in these relationships.

Moderator variables, such as organizational culture, the perceived fairness of the incentive system, and individual differences in moral identity and ethical training, could influence how incentives impact whistleblowing intentions. For instance, the effectiveness of monetary rewards might be enhanced in environments where ethical behaviour is strongly supported by organizational norms and leadership (Brink et al., 2013). Similarly, individuals with high moral identity internalization may respond more positively to non-monetary rewards due to their intrinsic motivation to act ethically (McClain & Seifert, 2018). Moreover, the perceived fairness of the incentive system can affect employees' willingness to blow the whistle, as perceptions of unfairness may undermine the motivational effects of the incentives (Proost et al., 2013). Therefore, understanding these moderator variables is crucial for designing effective incentive systems that promote whistleblowing.

Table 8 - Measures of whistleblowing intention

Whistleblowing Intention Measure	Qty.
Not applied	9
Dichotomous variable	7
Likert scale (1-7)	7
Likert scale (1-9)	6
Likert scale (1-8)	4
Likert scale (0-100)	4
Likert scale (1-10)	3
Likert scale (1-5)	3
Likert scale (0-10)	2
Likert scale (1-11)	1
Lawsuits	1
Not specified	1

Source: Elaborated by the author.

The most common way to measure whistleblowing intentions is through Likert scales (table 8), with scale anchors that range from 1-5 to 0-100. The range of the Likert scale is an important issue because it is directly related to

the variance of the answers. Another intention measure used in these papers is a dichotomous variable, where the person's intention to blow the whistle would be indicated by "yes" or "no". In the case of Dey and colleagues (2021), they used whistleblowers' lawsuits against private and public firms, which contain the complaint and the outcome of the lawsuit.

Table 9 - Moderator variables

Moderator Variable	**Qty.**
Working Relationship	4
Moral reasoning	2
Strength of Evidence	2
Descriptive Norms	2
Duty	2
Reward Size	2
Perceived Seriousness of the Wrongdoing	1
Fraud Size	1
Social Judgment	1
Revenge motive	1
Personal Cost	1
Reporting Channel	1

Source: Elaborated by the author.

In addition to analysing the association between financial incentives and whistleblowing intentions, some experimental papers examined moderator variables (table 9). A moderator variable is a variable which interacts with the independent variable and could moderate the effect between the independent variable(s) and the dependent variable (Vij & Farooq, 2017). The moderator variable that was most examined was the working relationship between members inside organizations (close relationship), which "can foster a climate of loyalty within an organization" (King, 1997, p. 424). These relationships are important factors that could influence the whistle-blower's decision to report misconduct (Boo et al., 2016) because the likelihood of reporting wrongdoing

could decrease when the wrongdoer is someone close to the whistle-blower due to a partnership created in the work environment. The studies in our sample showed that when there is a working relationship between the wrongdoer and the whistleblower, financial incentives (monetary reward, monetary penalty, and non-monetary penalty) have a positive and significant effect on whistleblowing decisions unless the incentive is a non-monetary penalty, in which case there is no significant effect (Boo et al., 2016; Prasetyaningsih, 2021).

Other moderator variables that were observed more than once (or in more than one hypothesis) include moral reasoning (Xu & Ziegenfuss, 2008), strength of evidence (Brink et al., 2013), descriptive norms (Chen et al., 2017), duty (Feldman & Lobel, 2010), and reward size (Rose et al., 2018; Desir et al., 2023). Past literature has shown that lower levels of moral reasoning decrease whistleblowing intentions (Arnold & Ponemon, 1991). Xu and Ziegenfuss (2008) tested if financial incentives could increase whistleblowing intentions among auditors with lower levels of moral reasoning (results in table 7).

According to Brink and colleagues (2013), the strength of evidence is a factor that can influence whistleblowing decisions because if the evidence is “weak”, the potential whistleblower could make a cost-benefit analysis and realize that the “stakes” are too high, especially considering retaliation as the main cost. However, if the evidence is strong, it is more likely that the whistleblower makes the complaint because it is more probable that the accusation will be resolved. The authors tested a mediator variable (table 7), which “represents the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest” (Baron & Kenny, 1986, p.1173), to observe the mediating effect of the hotline (internal or external) in which the misconduct reporting is done depending on the strength of the evidence and the financial incentive. They found a positive and significant relationship when the hotline was external, meaning that the whistleblower prefers to report to someone outside the company.

“Descriptive norms represent (an) individual’s perception of what other people commonly do” (Chen et al., 2017, p. 1758), affecting individual behaviour when they are strong and the individual thinks that other people are expecting him/her to act in conformity with these norms (Bicchieri, 2006; Thøgersen, 2008). Chen and colleagues (2017) tested how financial incentives would interact with descriptive norms and found a significant relationship with penalties, compared with rewards, when the descriptive norms are strong.

Feldman and Lobel (2010) argue that the duty to report misconduct is imposed in cases of child, domestic, and elder abuse, for instance, but in other cases it is only expected from senior positions, like accountants. However, the authors discuss that to impose these duties on high-rank people who can bear the costs of blowing the whistle, restricts the range of people that could provide useful information to prevent misconduct. Therefore, they compare the effects of duty in scenarios where financial rewards are provided for whistleblowers (table 7).

It is well known that financial incentive can increase specific behaviours. It is also the case for whistleblowing because it could affect the cost-benefit analysis made by whistleblowers (Mesmer-Magnus & Viswesvaran, 2005; Dyck et al., 2010). Whistleblowing rewards, like the ones provided by the SEC, have the potential to be substantial in size (Rose et al., 2018), and large payments can improve desirable behaviour (Frey & Jegen, 2001; Verschoor, 2010, 2011). Therefore, Rose and colleagues (2018), and Desir and colleagues (2023) tested the effect of reward size on whistleblowing intentions. Rose and colleagues (2018) used stock options as reward incentive, restricted and unrestricted. Both sets of authors (Rose et al., 2018; Desir et al., 2023) found a positive effect of reward size on whistleblowing intentions, in the case of Rose and colleagues (2018) when the reward was restricted stock options (table 7).

5 Discussion

In 2021, occupational fraud cases resulted in a staggering loss exceeding $3.6 billion, with an average per-case loss of $1.7 million (Association of Certified Fraud Examiners [ACFE], 2022). Typically, these fraudulent activities persist for an average duration of 12 months before detection, incurring a monthly cost of approximately $8,300 (ACFE, 2022). Notably, whistleblowing emerges as the most prevalent method of detection, accounting for 42% of cases (ACFE, 2022). Organizations that fail to incentivize whistleblowing suffer double the losses, with an average loss of $200,000, compared to $100,000 for organizations that incentivize it (ACFE, 2022). Moreover, entities equipped with hotlines tend to identify fraud six months earlier on average than those lacking such resources (ACFE, 2022).

Due to the importance of whistleblowing to organizations, it is crucial that we try to fully understand how it works and the drivers of whistleblowing behaviour. Despite the effort, the literature has not been able to answer which sociodemographic or organizational characteristics, and value orientations can predict whistleblowing behaviour (Andon et al., 2018; Cintya & Yustina, 2019; Dhamija & Rai, 2017; Mesmer-Magnus & Viswesvaran, 2005; Miceli et al., 1991; Near & Miceli, 1996; Park et al., 2014), as you can see in table 1.

Despite whistleblowing's importance, and financial incentives' capacity to improve performance, few papers have been published regarding the influence of the latter on the former. Figure 1 shows that only 35 papers were published on this matter between 2006 and 2023, which represents an average publication rate of less than 2 papers per year. Because of its importance, it would be expected that more research on this issue would be published. In the future, researchers should consider giving more attention to the subject and help practitioners to understand when to apply financial incentives for whistleblowing to ensure best practices.

The papers in the sample were published in 29 different journals (table 3), but only 7 (24%) were accounting related. Due to whistleblowing's

importance in protecting a company's equity, it would be expected that accountants (or accounting related journals) would be more interested in the subject. Maybe accountants could provide a different perspective on the issue due to their practical and technical expertise/viewpoint.

Regarding the papers' empirical samples, you can see in table 4 that 17 were from the USA, 9 from Asia, and 2 from Europe. The absence of empirical samples from significant regions such as Africa, South America, and Oceania underscores a critical gap in the existing literature. Future research endeavours should aim to address this limitation by incorporating diverse global perspectives, thereby enriching the understanding of whistleblowing phenomena across various cultural, institutional, and geographical contexts. We know that culture impacts behaviour. National culture is found to have a more significant effect on employees than organizational culture (Adler, 2001), and national culture could also affect leadership methodology, executive decision-making, and human resource management actions (Puffer, 1993; House et al., 1999). Almost all of the papers analysed a single country, apart from Lee (2020), in which the sample came from the USA and Germany. Perhaps a multi-national survey/experiment could bring more insights on the effect of financial incentives on whistleblowing and bring light on the impact of culture on this matter. Kamisha and Lynn (2017) provide practical guidance on how to perform such analysis.

All of the papers in the sample were quantitative studies, of which 54% were experimental/quasi-experimental studies. Although these kinds of papers are important due to their capacity to prove the effect of variables on each other, I believe that qualitative work could complement the findings of quantitative papers (McLaughlin et al., 2001). Qualitative methods deeply explore a topic while they try to preserve context, tending to study specific cases for maximum exploration (Newing et al., 2010). In addition, their emphasis is on quality and depth of findings over quantity and generalizability (Rust et al., 2017), they are also useful at shedding light on "why" questions, e.g.: why individuals felt motivated to blow the whistle. Therefore, future research could provide deep

analysis/insights, using, for example, case studies of firms that implement financial rewards to promote whistleblowing.

Table 6 shows that the most used theory to understand how whistleblowing and incentives work together is the motivational crowding theory, which states that “external intervention via monetary incentives or punishments may undermine, and under different identifiable conditions strengthen, intrinsic motivation” (Frey & Jegen, 2001, p. 589). This theory highlights the complex interplay between external rewards or punishments and intrinsic motivation. Rather than solely enhancing motivation, monetary incentives or penalties can sometimes unintentionally diminish individuals' inherent drive to engage in a task. However, the impact of such interventions varies depending on specific contextual factors, suggesting a nuanced understanding of how external influences interact with internal motivations to shape behaviour (Frey & Jegen, 2001).

However, table 7 shows that not all of the studies found significant results concerning the association between non-monetary and monetary rewards, and monetary penalties and whistleblowing. Perhaps extrinsic motivation is not enough to always predict whistleblowing intentions and researchers should focus on intrinsic motivation and how it interacts with extrinsic motivation in incentivizing whistleblowing behaviour. According to Reiss (2012), studies of this dualism between intrinsic versus extrinsic motivation fail in predicting behaviour due to issues with construct validity, measurement reliability, and experimental control. The author suggests that multifaceted theories should be applied instead.

As you can see in table 7, only one paper examined mediating variables in the incentive-whistleblowing relationship (Brink et al., 2013). Because trying to predict whistleblowing behaviour is a difficult task, it would be valuable if future research could analyse how whistleblowing intention works when it interacts with a moderator (e. g., organizational culture) variable, and how it is shaped by mediating (e. g., reputational benefit) variables. The former interacts

with the independent variable and could moderate the effect between the independent variable(s) and the dependent variables (Vij & Farooq, 2017), and the latter represents the mechanism through which the independent variable influences (or not) the dependent variable (Baron & Kenny, 1986).

Organizations should prioritize the development of strong working relationships between employees and management. Research by Boo and colleagues (2016), and Prasetyaningsih (2021) indicates that when employees perceive positive working relationships, financial incentives are more likely to enhance whistleblowing intentions. Therefore, fostering an environment of trust, open communication, and mutual respect can facilitate a culture where employees feel comfortable speaking up about wrongdoing.

While monetary rewards are effective in incentivizing whistleblowing, the inclusion of non-monetary rewards can further enhance employees' willingness to report misconduct. Boo and colleagues (2016), and Prasetyaningsih (2021) also demonstrate that when both monetary and non-monetary rewards are offered, they are more likely to positively influence whistleblowing intentions, particularly in the context of strong working relationships. Therefore, organizations should consider implementing a comprehensive incentive system that includes both financial and non-financial incentives to encourage whistleblowing behaviour.

Organizations should carefully consider the size and structure of monetary rewards offered for whistleblowing. Research by Rose and colleagues (2018), and Desir and collaborators (2023) suggests that the effectiveness of monetary rewards in promoting whistleblowing may be influenced by the magnitude of the reward. Therefore, organizations should evaluate the optimal reward size based on the specific context and severity of wrongdoing. Offering competitive and meaningful financial incentives can motivate employees to come forward with information about misconduct, thereby strengthening the organization's ability to detect and address unethical behaviour.

In summary, organizations can enhance their whistleblowing programs by focusing on building strong working relationships, incorporating both monetary and non-monetary rewards, and tailoring financial incentives to reward size. By implementing these recommendations, organizations can create an environment where employees feel empowered to speak up about wrongdoing, ultimately promoting ethical behaviour and integrity within the workplace.

Despite the extensive body of research on the effects of rewards and penalties as individual components of incentive contracts, there remains a significant gap in the understanding of how these elements function when combined within the same contract. The literature indicates that individuals tend to prefer incentives framed as rewards rather than penalties, yet evidence suggests that penalties might promote greater effort compared to rewards (Brink, 2011; Frederickson & Waller, 2005). These findings, however, are largely derived from studies examining rewards and penalties in isolation. Given the evolving nature of modern compensation contracts — particularly in the aftermath of the recent financial crisis, which prompted firms to integrate penalties alongside rewards to align executive compensation with firm performance (Brink, 2011) — it is crucial to explore how these mixed-incentive structures impact employee behaviour and organizational outcomes.

In my review of the existing literature, I did not find studies investigating the dynamics of combined incentive contracts. This represents a notable research opportunity, as understanding the interplay between rewards and penalties within a single contract could provide valuable insights into optimizing incentive structures to enhance employee effort and organizational performance. Addressing this gap could lead to a more nuanced understanding of how to design effective incentive systems that balance motivation, fairness, and performance outcomes, thereby offering a substantial contribution to both academic literature and practical applications in human resource management and organizational behaviour.

Regarding the limitations, I only used two databases: Web of Science and ProQuest. Future research can use other databases, like Google© Scholar, Scopus®, SciELO, ScienceDirect®, etc., for instance. In addition, I only searched for papers written in the English language. Although English is the language that the world uses to communicate - the academic community included, maybe there are papers that are not in English that could help to bring light on the subject of this literature review and may give access to broader samples beyond the English-speaking world. Finally, I read the papers' abstracts in order to make decisions on inclusion in the final sample and perhaps the abstract could not be informative enough and some paper on the matter was inadvertently omitted.

CHAPTER 3: The “Carrot”, the “Stick” or Both? Incentive Contracts’ Effects on Whistleblowing Intentions

Abstract

This experimental study investigates the effectiveness of combined reward-penalty incentive contracts in influencing whistleblowing intentions compared to individual reward-only or penalty-only contracts. Furthermore, it examines the moderating effects of the closeness of the potential whistleblower to the wrongdoer, the status of the wrongdoer, and the moral identity of the potential whistleblower on whistleblowing intentions. I conducted a randomized experimental design in which incentive contracts, perpetrator status and perpetrator-whistleblower closeness were manipulated, participants were recruited through Prolific© and the survey was performed on Survey Monkey©. The study employed a combination of ANOVA, ANCOVA, and regression analyses to examine the data collected from participants who were presented with a case scenario adapted from pre-validated experimental designs. Contrary to expectations, the results revealed that combined financial incentive contracts did not significantly increase whistleblowing intentions when compared to reward-only or penalty-only contracts. However, several factors were found to significantly influence whistleblowing intentions. Specifically, the closeness of the potential whistleblower to the wrongdoer, the moral identity internalization and symbolization of the potential whistleblower, and the level of ethical training had a significant impact on whistleblowing intentions.

Keywords: Whistleblowing, Combined incentive contracts, Rewards, Penalties, Experiment, Closeness, Status, Moral Identity, Ethical Training.

1 Introduction

Occupational fraud is defined as “the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets” (Association of Certified Fraud Examiners, 2022, p. 6). According to a study by the Association of Certified Fraud Examiners (2022) or ACFE, which investigated 2,110 fraud cases in 133 countries, more than $3.6 billion was lost in occupational fraud cases in 2021, with an average loss per case of $1.7 million. A typical fraud case on average lasts 12 months before its detection, which represents a cost of $8,300 per month.

Despite sophisticated fraud detection techniques, ACFE (2022) found that tips were the most common way of detection, representing 42% of cases in which occupational fraud was initially detected, and more than half of the tips were provided by employees. In addition, a survey of the Ethics and Compliance Initiative (2021) in the USA with 5,000 employees showed that 49% had observed misconduct, with 86% reporting all or some of this misconduct to the authorities. Also, organizations that did not incentivize whistleblowing had double the losses ($200,000) compared with those that incentivized it ($100,000). On average, organizations with hotlines detect fraud six months earlier than those without (ACFE, 2022).

As discussed in the previous chapter, researchers have strived to uncover the sociodemographic, organizational characteristics, and value orientations that underlie whistleblowing behaviour in various studies (Antinyan et al., 2020; Near & Miceli, 2016). While these efforts have yielded diverse findings, reflecting the intricate nature of whistleblowing decisions (Culiberg & Mihelič, 2017), they have nonetheless contributed valuable insights into the multifaceted factors influencing whistleblowing behaviour.

According to expectancy theory, whistleblowing decisions are motivated by the expectation of consequences resulting from determined action (Lobos, 1975; Near & Miceli, 1985; Zedeck, 1977). In essence, it is proposed

that whistleblowing can be viewed as a cost-benefit analysis, where individuals weigh the potential outcomes and their perceived probabilities of occurrence before deciding whether to report misconduct (Hennequin, 2020; Near & Miceli, 1985). By understanding and influencing these motivational factors, organizations can potentially shape the level of whistleblowing within their environments.

In addition, prospect theory, as proposed by Kahneman and Tversky (1979), offers insights into the decision-making process involved in whistleblowing. According to prospect theory, individuals evaluate potential gains and losses relative to a reference point, rather than in absolute terms. This means that whistleblowers may be particularly sensitive to the perceived risks and rewards associated with reporting misconduct, with a tendency to weigh potential losses more heavily than equivalent gains. As a result, the decision to blow the whistle may be influenced not only by the expected outcomes of the action but also by the psychological impact of potential losses, such as the fear of retaliation or damage to one's reputation (Kahneman & Tversky, 1979; Miceli & Near, 1984). Understanding these cognitive biases and emotional responses can provide valuable insights for organizations seeking to foster a culture of ethical behaviour and whistleblowing.

Both organizations and governments have tried to incentivize whistleblowing behaviour through financial incentives, more specifically: rewards (Teichmann & Falker, 2020; Vandekerckhove & Lewis, 2012). Researchers have found an increase in whistleblowing behaviour when an organization offers a reward (Andon et al., 2018; Dyck et al., 2010; Pope & Lee, 2013; Rose et al., 2018; Xu & Ziegenfuss, 2008). However, rewards have side effects like increasing the number of false complaints (Dyck et al., 2010), and offering rewards combined with a minimum threshold could decrease whistleblowing behaviour for minor wrongdoing (Berger et al., 2017; Latan et al., 2019). Rewards for whistleblowing could also negatively impact the relationships between employees (Teichmann & Falker, 2020).

Another approach to financial incentives is the enforcement of penalties, which are considered effective in (1) discouraging undesirable behaviour, and (2) in the encouragement of social conventions (Kurz et al., 2014; Pei et al., 2020; Tenbrunsel & Messick, 1999). The literature has given little attention to the matter in the whistleblowing field (Boo et al., 2016). However, some results show that penalties are equally or more effective than rewards (Boo et al., 2016; Chen et al., 2017; Feldman & Lobel, 2010). The problem is that penalties also have side effects such as (1) the fact that small ones do not increase desirable behaviour (Tenbrunsel & Messick, 1999), and (2) they are seen as unfair and could lead to corruption and cheating (Nosenzo, 2016).

The accounting literature has mostly concentrated on comparing the effects of rewards and penalties in mutually exclusive environments and discussing agents' preferences and their responses to incentive contracts framed positively and negatively (Brink & Rankin, 2013; Christ et al., 2012). The results show that employees choose rewards contracts, but they provide more effort when faced with penalties contracts (Christ & Vance, 2018). Given this comparison between rewards and penalties, some argue (Boo et al., 2016; Gilligan et al., 2017; Teichmann & Falker, 2020) that for the effective elimination of corruption inside organizations, a combined contract of rewards and penalties is necessary.

A combined contract could solve most of the side effects that rewards and penalties bring along and could increase whistleblowing behaviour compared with a reward or a penalty contract alone. According to Brink and Rankin (2013), in environments where there are multiple dimensions to an employee's work, a reward could provide an incentive to a desirable behaviour in one dimension while a penalty could provide a disincentive to an undesirable behaviour in another dimension. Past studies have shown significant, positive (Andreoni et al., 2003; Brink & Rankin, 2013; Mahmoodi et al., 2018), and not statistically significant (Fehr & Schmidt, 2007) results regarding the association of combined contracts and performance.

However, I could not find any study that has tried to observe the effect/association of combined reward-penalty incentive contracts on whistleblowing behaviour. Therefore, I aim to answer the following question in this research: Would a combined reward-penalty incentive contract increase whistleblowing intentions when it is compared with individual contracts (rewards- or penalties-only)? In addition, I tested if a combined incentive contract could increase whistleblowing intentions when other factors, such as the closeness and status of the wrongdoer, also shape the decision-making process.

Innovatively, this study delves into unexplored territory by examining the impact of combined reward-penalty incentive contracts on whistleblowing intentions, a dimension largely overlooked in existing literature. By addressing this gap, the research not only advances our understanding of the efficacy of incentive mechanisms in promoting whistleblowing behaviour but also sheds light on the nuanced interplay between rewards, penalties, and individual decision-making processes within organizations. Furthermore, by exploring how the effects of combined contracts may be moderated by contextual factors such as the closeness and status of the wrongdoer, this study offers insights that extend beyond traditional incentive frameworks, providing a more comprehensive understanding of whistleblowing dynamics. Thus, this research not only contributes to theoretical advancements in organizational behaviour and ethics but also offers practical implications for designing effective anti-fraud strategies and fostering a culture of accountability within organizations. Additionally, this study provides significant contributions to the field of accounting by informing the development of more robust internal controls and compliance programs. Understanding the dynamics of combined incentive contracts can help accountants and auditors better assess the risk of fraudulent activities and enhance the design of monitoring systems, ultimately improving the accuracy and reliability of financial reporting.

This chapter is divided into four main sections: Theoretical Background and Hypotheses' Development, Methodology, Results and Discussion. In the

Theoretical Background section, existing literature and theory on whistleblowing behaviour and incentive mechanisms is synthesized, leading to the formulation of the hypotheses. The Methodology section outlines the research design and data collection methods. The results section presents the analysis of the empirical findings, while the Discussion section offers a critical interpretation of the results and their implications. Overall, this chapter systematically explores whistleblowing behaviour and incentivization strategies, aiming to contribute to organizational governance and integrity and theoretical improvement.

2 Theoretical Background and Hypotheses' Development

2.1 Whistleblowing

Whistleblowing has received many definitions (see Elliston, 1985; Jubb, 1999; Kumar & Santoro, 2017; Rehg et al., 2008). The most used (Brennan & Kelly, 2007; Rehg et al., 2008) is the one by Near and Miceli (1985, p. 4): "the disclosure by organizational members (former or current) of illegal, immoral or illegitimate practices under the control of their employers or organizations that may be able to effect action".

Near and Miceli (1985, 2016) argue that whistleblowing is a process that involves three key parts, the wrongdoer(s), the whistle-blower(s) and the complaint recipient. This process is composed of four stages. First, the whistle-blower must decide if what he/she has seen is illegal, immoral, or illegitimate. Second, the whistle-blower must choose whether to report it or not. Third, the whistle-blower must consider whether they believe the complaint will be effective and whether there is another way to stop the irregularity. Finally, the complaint receiver must decide whether to act, ignore or silence the whistle-blower.

Since the 1980s researchers have tried to solve the puzzle of the whistleblowing decision. Unfortunately, the motivations that cause people to blow the whistle are varied and unpredictable (Near & Miceli, 2016). In the literature, you can find conflicting results involving whistleblowing and socio-demographic (age and tenure, educational level, and gender) and organizational (leadership, firm size, legal protection, training, organizational response, and whistleblowing channels) characteristics, and value orientations (extraversion, moral judgment, individualism, idealism and locus), as highlighted in the previous chapter.

Whistle-blowers can be outsiders (e.g., clients and suppliers) from where the misconduct happens (Hennequin, 2020; Vandekerckhove & Lewis, 2012) or insiders (former or current) as Near and Miceli's (1985) definition points out. However, due to the consequences like retaliation that current employees

could face when they blow the whistle, and the fact that insiders probably have more precise information, researchers have focused on that kind of whistle-blower.

Usually, scholars see the decision to blow the whistle as the result of a cost-benefit analysis, which suggests that organizations and individuals could affect both the benefits and costs of that decision (Miceli & Near, 1985). Therefore, if we assume that individuals seek to maximize their welfare in a contract relationship, we could infer that the employee will not always work in the best interests of the employer. One way that the employer can align his/her, and the employee's interests is to financially incentivize the latter (Jensen & Meckling, 1976; Lambert, 2001).

For instance, the US False Claims Act of 1989 offered a percentage of the amount that the government could recover from fraud schemes in exchange for private information (Vandekerckhove & Lewis, 2012). Since financial incentives could allow the employer to obtain private information from employees (Teichmann & Falker, 2020), researchers have also focused on how these incentives could improve whistleblowing behaviour.

2.2 Expectancy and Prospect Theories

As I discussed previously, while whistleblowing behaviour can be influenced by various factors identified in the literature, its complexity makes it challenging to predict consistently. Therefore, researchers could not adequately describe it using a single theory (Hamid & Zainudin, 2015; Mesmer-Magnus & Viswesvaran, 2005; Near & Miceli, 1985, 2016). Theories like the prosocial behaviour theory (Brennan & Kelly, 2007; Brief & Motowidlo, 1986), bystander intervention theory (Latane & Darley, 1968), power and justice theories (Near et al., 1993), prospect theory (Boo et al., 2016), Motivational Crowding Theory (Frey & Jegen, 2001), and expectancy theory (Fudge & Schlacter, 1999) have been used to explain whistleblowing decisions (Hamid & Zainudin, 2015).

I use expectancy and prospect theories as my primary theoretical frames. These theories offer rich insights into decision-making processes, which are essential for understanding and influencing behaviours within organizations. Expectancy theory provides a lens through which to examine how individuals evaluate the likelihood of achieving desired outcomes based on their efforts, while prospect theory delves into how people weigh risks and rewards when making decisions in uncertain situations. This approach not only has a strong academic foundation but also holds practical implications for reshaping organizational cultures and designing effective strategies to foster desired behaviours (Fudge & Schlacter, 1999).

Expectancy theory was used at the beginning of motivational studies; it was considered one of the most popular theories at the time and was seen as broadly accepted and useful to study motivation in organizations. Developed by Victor Vroom in the 1960s, Expectancy Theory suggests that people are motivated to act in certain ways based on their expectations of the outcomes of those actions and the degree to which they value those outcomes (Zedeck, 1977).

Expectancy Theory is a motivational theory that helps us understand why individuals choose to engage in certain behaviours or actions. It is based on the idea that people are motivated to act in ways that they believe will lead to desired outcomes. There are three key components of Expectancy Theory (Lobos, 1975; Zedeck, 1977):

- **Expectancy (Effort-Performance Link)**: This component focuses on the belief that individuals hold regarding the relationship between the effort they put into a task and their ability to perform that task successfully. In simpler terms, it's about whether people believe that if they put in the effort, they can accomplish what they set out to do. For example, if a student believes that studying hard will lead to good grades, they have a high expectancy regarding the effort-performance link;

- **Instrumentality (Performance-Reward Link)**: Instrumentality refers to the belief that successful performance will result in certain outcomes or rewards. It is about understanding whether individuals believe that achieving a certain level of performance will lead to something they value. For instance, if an employee believes that meeting sales targets will result in a bonus or promotion, they have high instrumentality regarding the performance-reward link;
- **Valence (Value of Outcomes)**: Valence represents the value or attractiveness that an individual places on the outcomes or rewards that they could potentially receive. It is about assessing the importance or desirability of the rewards that might come from achieving a certain level of performance. For example, if an employee highly values financial bonuses, then the valence of receiving a bonus is high for them.

In essence, Expectancy Theory suggests that individuals are motivated to act when they believe that their efforts will lead to successful performance (Expectancy), successful performance will result in desirable outcomes or rewards (Instrumentality), and the outcomes or rewards are personally meaningful or valuable (Valence). This theory emphasizes the importance of individuals' beliefs about the link between effort, performance, and outcomes in driving motivation and behaviour. By understanding these beliefs, organizations can better design incentives and structures to motivate their employees effectively (Lobos, 1975; Zedeck, 1977).

Pepper and Gore (2014) argue that expectancy theory is the most used theory to explain the motivational impact of financial incentives. According to the theory, whistleblowing would be based on motivation, which is a function of the expected consequences of determined action. Therefore, the motivation of an employee to blow the whistle would be a function of the perceived probability (expectancy) of results - like the attention given to the complaint by the management, anonymity, public attention to the irregularity, retaliation, incentives, and others. Consequently, the variables that would affect the

likelihood of these events are predicted to influence the motivation to blow the whistle (Miceli & Near, 1985; Near & Miceli, 1985).

Standard economic models assume that decisions and behaviours are based exclusively on considerations of maximizing individual utility, expecting a monotonic relationship between incentives and performance, i.e., the greater the financial incentive, the greater the resulting effort and performance (Gneezy et al., 2011), while effort and performance are expected to be minimal when there are no extrinsic incentives (Kreps, 1997). However, real-world behaviours do not follow this monotonic assumption. Korman et al. (1981) highlight failures in the incentive theory, concluding that 'more is not always better' and that the optimal contract should provide different motivations for the manager. Instead, several additional factors influence the effect that incentives have on human decisions and behaviour, such as the type of incentive and the temporal distance to the receipt of this incentive.

Behavioural economics models can explain real-world observations of the effect of incentives on human decisions and behaviour and account for the asymmetric effectiveness of bonuses and punishments, allowing for deviations from standard rational choice models to be considered. Loss aversion, as formalized in prospect theory, postulates that rewards and punishments are perceived as deviations from a neutral reference point, with rewards being perceived as gains and penalties being perceived as losses (Tversky & Kahneman, 1989, 1991).

Because the value function for losses is more pronounced than for gains, the displeasure associated with losses is up to twice as intense as the pleasure associated with gains (Kahneman, 1979). Consequently, people generally show greater behaviour change to avoid a penalty, or loss, than to receive a reward. However, the exact psychological mechanisms and the role of loss aversion in incentive-based contractual preferences are still inconclusive and more work is needed (Imas et al., 2017; Mahmoodi et al., 2018).

2.3 Incentive Contracts

An “incentive contract” is a linear payment schedule in which the principal (the employer) pays a fixed amount, and, in addition, there is a variable fee (positive or negative) to the employee that is determined by the accomplishment of some performance (Weitzman, 1980). The main aspect of this contract is the informational gap between the principal and the agent (e.g., the employee), but first I need to clarify the assumptions behind this contract.

First, both participants (the principal and the agent) are assumed to be economically rational agents. Therefore, they will perform a behaviour that maximizes their individual utility. Second, the employer doesn’t know the employee’s private information, but the probability distribution of this information is “common knowledge”. Finally, the employer is a Bayesian utility maximiser, that is, he/she will adjust the perceived probability of an event based on new information acquired (Chalmers, 1999; Jensen & Meckling, 1976; Lambert, 2001; Martimort & Laffont, 2009).

Incentive contracts are used to increase employees’ efforts and improve a firm’s performance, which is why they are essential tools in management control systems and in the firm’s production (Christ et al., 2012; Christ & Vance, 2018; Mahmoodi et al., 2018; Nichol, 2019). The design of these contracts is an important and controversial issue in the economic environment. Therefore, higher management must be aware of the organizational impact of the chosen incentives to obtain the desired performance (Brink & Rankin, 2013; Christ & Vance, 2018).

2.3.1 Reward-Only Contracts

Nichol (2019) states that incentive contracts can be classified as rewards/bonus contracts, where the employee will receive a benefit (monetary or not) if he/she reaches a pre-established performance, or penalties/fines contracts, where the employee is subject to lose something (financial or not) if he/she does not reach a pre-established performance. Rewards contracts have been more common in practice than penalties. They have also been preferred

by both firms and employees, and the literature has mainly focused on the role of positive incentives (Christ et al., 2012; Gonzalez et al., 2020; Luft, 1994; Moldovanu et al., 2012).

As I explained previously, the decision to blow the whistle is usually a cost-benefit analysis (Hennequin, 2020), and the highest cost is the possible retaliation that the employee might suffer (Berger et al., 2017; Rose et al., 2018; Teichmann & Falker, 2020). To solve this problem, organizations implement financial rewards for whistle-blowers to increase the probability of occupational fraud detection. This reward allows the employer to "buy" private information about any misconduct that occurs inside the firm and decreases its capital.

Whistleblowing literature has found positive results (Andon et al., 2018; Dyck et al., 2010; Pope & Lee, 2013; Rose et al., 2018; Xu & Ziegenfuss, 2008), i.e., financial rewards have a positive effect on whistleblowing intentions. However, organizations could face problems when they adopt this strategy. Rewards, even those that intend to align management and employees' interests, represent a cost to the organization (Lambert, 2001; Stikeleather, 2016). Stikeleather (2016) argues that the cost-benefit ratio of offering financial rewards becomes less favourable to the management as the initial rate of internal complaints increases. False complaints could increase for employees to get the reward or if the reward is based on the misconduct's size, they could delay the complaint and wait for the "right moment" until they suppose that it is worth reporting (Berger et al., 2017; Teichmann & Falker, 2020). Also, rewards for blowing the whistle on your colleagues can decrease motivation in the work environment (Teichmann & Falker, 2020).

Mahmoodi et al. (2018) state that classic behavioural economic models assume that decisions and behaviours are only taken to maximize the individual's utility function. Therefore, the effort applied in certain tasks would be directly proportional to the extrinsic incentive for accomplishing that task and, in the absence of any extrinsic incentive, it will be expected that the effort is minimal (Gneezy et al., 2011; Kreps, 1997; Mahmoodi et al., 2018).

However, according to Mahmoodi et al. (2018), behaviours in the real world often do not follow these assumptions and, in addition, several factors have an impact on the effect of incentives like the type (monetary or not), size, the time it takes for receipt (Berger et al., 2017; Presslee et al., 2013) and the perceived probability regarding the promise of these incentives happening (Pepper & Gore, 2014). According to expectancy theory, "motivation is a function of individuals' perceptions of their environment and the expectations they form based on these perceptions" (Fudge & Schlacter, 1999, p. 296).

2.3.2 Penalty-Only Contracts

Penalty contracts could present an attractive alternative to these problems. The literature indicates that financial penalties increase employees' performance when compared to rewards (Armantier & Boly, 2015; Mahmoodi et al., 2018; Nichol, 2019). However, they are not common in practice (Luft, 1994; Nichol, 2019). Some even argue that it is not clear why most firms use rewards contracts instead of penalties contracts (Christ et al., 2012).

Financial (or not) penalty contracts have attracted little attention in whistleblowing literature (Boo et al., 2016). But a few studies in the field have shown that financial penalties are, at least, equally efficient (compared to rewards) in increasing whistleblowing intentions when the misconduct is severe (Feldman & Lobel, 2010), and are more effective than rewards when the wrongdoer is closer to the whistle-blower (Boo et al., 2016), and when the descriptive norms that support whistleblowing are stronger (Chen et al., 2017).

However, penalty contracts also have issues. Penalty contracts make a fixed salary uncertain and may cause resentment or suspicion among employees (Brink & Rankin, 2013). In comparison with rewards, they are seen as unfair and controlling, potentially leading to corruption, and cheating inside an organization, and making employees less willing to work in firms that offer this kind of contract (Nichol, 2019; Nosenzo, 2016). According to Piquero et al. (2005), organizational misconduct could still happen even if the wrongdoer is at risk of being punished by a penalty. Barrett and colleagues (2018) argue that an

ideal penalty function would never exist. In addition, small penalties do not increase desirable behaviour (Tenbrunsel & Messick, 1999). Regarding whistleblowing, penalty contracts could harm the independence of the system (Teichmann & Falker, 2020).

2.3.3 Combined Incentive Contracts

It seems that we have reached an impasse; both types of contracts are followed by positive and negative effects (such as false complaints, complaint delays, decreased motivation, and feelings of unfairness). Choosing between them may lead to only marginal contributions and could result in negative consequences, including a lack of whistleblowing intentions. Perhaps we have not seen this problem in the right way. Luft (1994) discusses that rewards and penalties are incomplete contracts and, in an environment like the workplace, a reward could provide an incentive to desirable behaviour, while, at the same time, a penalty could provide a disincentive to undesirable behaviour (Brink & Rankin, 2013).

Brink (2011), and Frederickson and Waller (2005) state that how the employee's effort is affected when rewards and penalties coexist in the same incentive contract is an underexplored field. She argues that loss aversion would lead to a greater effort compared with a reward-only contract, besides, the perception of fairness due to the bonus component would lead to a greater effort compared with a penalty-only contract.

The literature suggests that individuals prefer incentives framed as rewards instead of economically equivalent contracts framed as penalties and provides evidence that the latter promotes more effort than the former. This evidence was obtained by analysing rewards and penalties in mutually exclusive environments. However, modern compensation contracts contain a combination of rewards and penalties due to the recent financial crisis that led firms to cut off rewards and add penalties to match executive compensation with firm performance (Brink, 2011).

Reward-only contracts are seen as fairer while penalty-only contracts are seen as less fair, while a combined incentive contract is seen between these two if we imagine a fairness scale (Brink, 2011). Brink's (2011) results support the use of combined incentive contracts. She shows that adding a penalty into an incentive contract leads to more effort while the reward component prevents the contract from being seen as unfair. Also, recent studies (table 10), mostly in economics, show that a combination between rewards and penalties could bring motivational advantages over reward- or penalty-only contracts (Andreoni et al., 2003; Armantier & Boly, 2015; Brink, 2011; Brink & Rankin, 2013; Mahmoodi et al., 2018).

Chen et al. (2015, p. 8) demonstrated that an institutional sanctioning policy, which they called “first carrot, then stick”, was successful in promoting cooperation. They built a model based on the public good game for cooperation and defection. They showed that when the policy switches from rewarding to punishing when the frequency of cooperators exceeds a threshold, this minimizes the defector’s advantage. Therefore, “the optimal institutional sanctioning policy is not given by a gradual change in the relative allocation towards bonuses and penalties, but by a sudden switch from positive to negative incentives once cooperation is sufficiently widespread”.

Most of the papers that have tried to study the combination of rewards and penalties in incentive contracts have used laboratory experiments (Andreoni et al., 2003; Armantier & Boly, 2015; Brink, 2011; Brink & Rankin, 2013; Fehr & Schmidt, 2007). Laboratory experiments provide higher internal validity due to the conduction control of the experiment (Lima, 2023). The samples examined in these studies varied from between 22 and 156 participants, and most of them involved student-only samples.

Andreoni and colleagues’ (2003) study found that rewards and penalties act like complements to encourage cooperation in contracts. Their experiment found a strong effect when rewards were combined with penalties, and both acted to complete each other. In the same direction, other studies have shown

that a combination of both produces strong effects on cooperation and leads to an ideal balance between perceived justice and effort (Armantier & Boly, 2015; Brink, 2011; Brink & Rankin, 2013; Mahmoodi et al., 2018).

The only paper that did not find a significant difference in effort levels comparing combined contracts against reward-only contracts was the one of Fehr and Schmidt (2007). According to them, combined contracts did not induce significantly higher effort levels and, in addition, adding a penalty to a reward-only contract could bring adverse incentive effects that can make reward-only contracts more effective.

Table 10 - Previous Literature

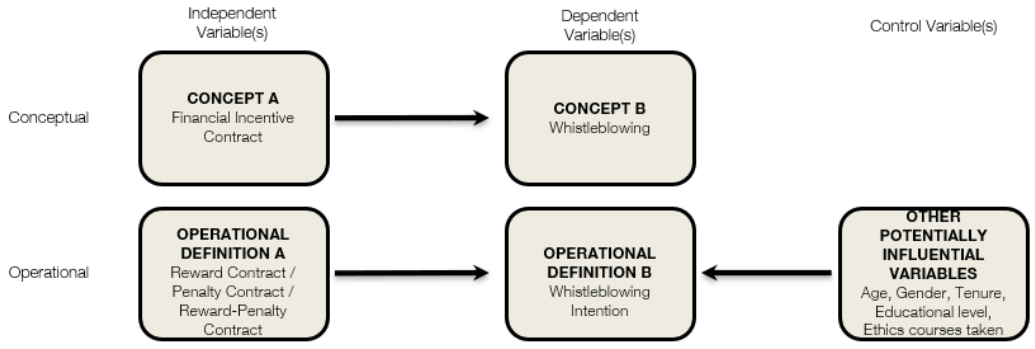
Author(s)	Objective	Method(s)	Results
Andreoni et al. (2003)	To begin a systematic look at both punishments and rewards in economic laboratory experiments	Laboratory Experiment	Adding rewards to punishments has a profound effect because they seem to act as complements
Armantier and Boly (2015)	To better understand the link between incentives framing and effort provision	Laboratory Experiment	Participants performed best when bonuses and penalties were combined in the same incentive contract frame
Brink (2011)	To investigate the perceived fairness and the applied effort of economically equivalent contracts of different frames	Laboratory Experiment	Bonus contracts are perceived as the fairest, penalty contracts enforce higher effort and combined contracts lead to the best balance of higher effort and perceived fairness
Brink and Rankin (2013)	To examine the effects of risk preference and loss aversion on individual responses to differently framed and economically equivalent incentive contracts	Laboratory Experiment	Contracts framed as a combination of bonuses and penalties are less attractive to participants than bonuses or penalties only contracts
Chen et al. (2015)	To demonstrate that a combined institutional sanctioning policy between rewards and penalties promotes cooperation	Theoretical	To suddenly switch from positive to negative incentives establishes and recovers full cooperation at lower cost and under a wider range of conditions than either rewards or penalties alone

Fehr and Schmidt (2007)	To test if the combination of bonuses and fines improves efficiency or whether the use of explicit incentives undermines the functioning of implicit incentives	Laboratory Experiment	Combined contracts did not induce significantly higher effort levels. In addition, adding a fine to a bonus contract had adverse incentive effects that may render a pure bonus contract more efficient than a combined contract
Mahmoodi et al. (2018)	To examine consumer preferences for electricity tariffs that apply a combination of rewards and/or penalties for electricity consumption	Online Experiment	Consumers prefer tariffs that reward decreases in electricity consumption, rather than tariffs that penalize increases in consumption, but that tariffs combining rewards and penalties achieve substantial potential market acceptance

Source: Elaborated by the author.

The application of an incentive contract for whistleblowing behaviour that combines rewards and penalties, balancing their individual advantages and disadvantages, could mitigate the individual problems of each one and increase the willingness of an employee to report misconduct, compared to when there is a reward or penalty-only contract (Boo et al., 2016; Gilligan et al., 2017; Teichmann & Falker, 2020). For instance, financial penalties could decrease the number of false reports and speed up the misconduct reporting time, to stop opportunistic behaviour, while rewards make the penalties seem less unfair.

Figure 3 - Predictive validity framework (Design 1)



Source: Elaborated by the author.

If whistleblowing is based on motivation, according to expectancy theory, and individuals have expectations regarding the results of their actions, then the perceived probability of the consequences of an incentive contract that

combines rewards and penalties could be higher than a reward/penalty-only incentive contract due to the combination of positive drivers for desirable behaviour in rewards and the expectation of bad consequences by penalties.

In addition, prospect theory states that rewards and penalties are perceived as deviations from a neutral reference point, with rewards being perceived as gains and penalties as losses (Tversky & Kahneman, 1989, 1991). Because the value function for losses is more pronounced than for gains, the discontentment associated with losses is up to twice as intense as the pleasure associated with gains (Kahneman, 1979), causing people generally to show greater behaviour change to avoid a penalty than to receive a reward (Imas et al., 2017; Mahmoodi et al., 2018). Therefore, I state my first set of hypotheses:

H1: Employees will be more willing to report misconduct when there is a contract that combines rewards and penalties compared to a rewards-only contract under expectancy theory and prospect theory.

H2: Employees will be more willing to report misconduct when there is a contract that combines rewards and penalties compared to a penalty-only contract, under expectancy theory.

However, under prospect theory a significant difference (as hypothesized in H2) may not be predicted because under prospect theory, the presence of both potential gains and losses in the combined contract may not significantly alter behaviour compared to the penalty-only contract, as individuals' heightened sensitivity to potential losses would still drive behaviour towards avoiding penalties. This suggests that while the expectancy theory predicts a difference in behaviour between the two types of contracts based on the presence or absence of rewards, prospect theory suggests that the dominance of loss aversion may mitigate this difference, leading to similar behaviour patterns in both contract scenarios.

2.4 Close Relationships

An important factor that could influence the whistle-blower's decision to report misconduct is the existence of a close relationship with the wrongdoer(s) (Boo et al., 2016). According to King (1997, p. 424), close relationships or friendships are developed between employees inside organizations, and "can foster a climate of loyalty within an organization". This can happen because intimate social bonds, particularly friendships, are founded upon attributes such as reciprocity, intimacy, emotional support, and companionship (Chadsey & Beyer, 2001).

Close relationships play a crucial role in the work environment, contributing to various aspects of individual and organizational well-being. One key reason why close relationships matter in the workplace is their impact on employee satisfaction and engagement. Research has shown that employees who have strong social connections with their coworkers and supervisors tend to report higher levels of job satisfaction (Rhoades & Eisenberger, 2002). Close relationships provide emotional support, camaraderie, and a sense of belonging, which are essential for fostering a positive work environment. Additionally, close relationships at work can enhance teamwork, collaboration, and communication, leading to increased productivity and effectiveness (Collins & Feeney, 2004).

Furthermore, close relationships in the workplace can contribute to organizational outcomes such as innovation and knowledge sharing. Studies have found that employees who have strong social ties are more likely to engage in knowledge exchange and sharing of ideas (Granovetter, 1973). Close relationships facilitate the flow of information, creativity, and problem-solving, as individuals feel comfortable reaching out to trusted colleagues for advice and feedback (Morrison, 1993). Moreover, close relationships can enhance organizational commitment and reduce turnover intentions, as employees are more likely to remain loyal to an organization where they have strong social connections (Wayne, Shore, & Liden, 1997).

In summary, close relationships are vital in the work environment because they promote employee satisfaction, engagement, and well-being,

foster collaboration, and communication, facilitate knowledge sharing and innovation, and contribute to organizational commitment and retention. By understanding the importance of close relationships at work, organizations can create a supportive and inclusive culture that promotes the development and maintenance of meaningful social connections among employees.

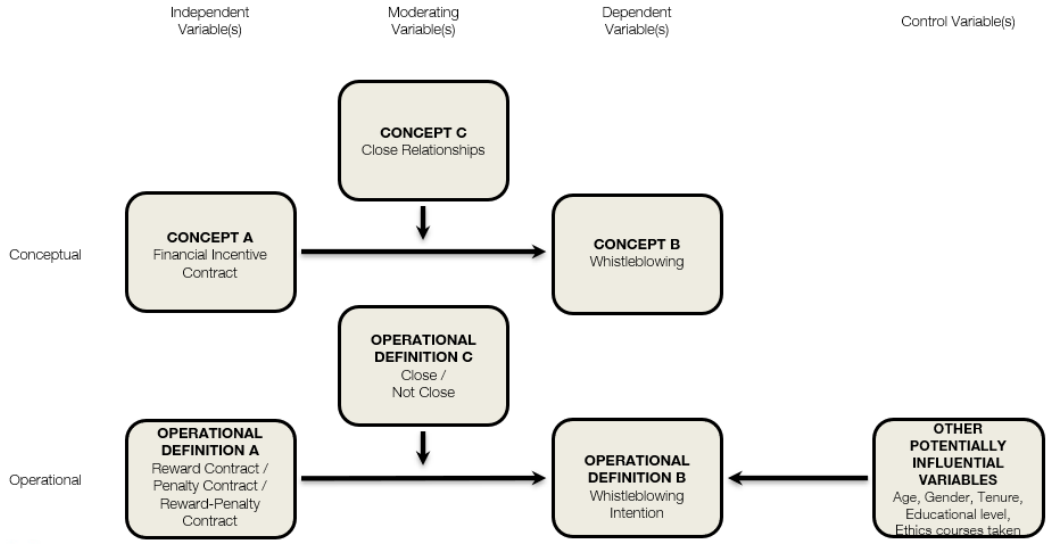
Consequently, the probability of whistleblowing diminishes when the perpetrator of misconduct is a close friend of the potential whistleblower, owing to the interpersonal bonds fostered within the workplace (King, 1997). Close relationships in the professional setting create a sense of loyalty, trust, and mutual support, which can complicate the decision to report unethical behaviour committed by a friend. The emotional and social ties established through close relationships may act as barriers to whistleblowing, as individuals may hesitate to jeopardize the relationship or fear potential repercussions within the work dynamic. Thus, the presence of close relationships in the workplace can impede the willingness of individuals to come forward and report wrongdoing, highlighting the intricate interplay between social connections and ethical decision-making.

In the whistleblowing literature, we can find results that prove that close relationships reduce whistleblowing intentions. For instance, King (1997), and Miller and Thomas (2005) found that the likelihood to blow the whistle of potential whistle-blowers decreased when the perpetrator was a colleague with a close relationship. However, both studies did not use incentive contracts for whistleblowing to measure the effect of close relationships on whistleblowing intentions.

On the other hand, Boo et al. (2016) examined the combined effects of incentive contracts and working relationships. According to the authors, when there is a reward-only contract (they used career-related incentives), when close relationships are on the table, the reward for blowing the whistle does not overcome the expense of reporting a friend. However, in a situation where penalties are involved, the whistleblowing intention increases regardless of the

existence of a close working relationship, and their findings support this. Their results show that a penalty contract increases the whistleblowing intention even if the wrongdoer has a close relationship with the potential whistle-blower. In addition, the propensity to blow the whistle does not vary significantly under a reward contract in a situation in which there is a close working relationship compared with a not close one.

Figure 4 - Predictive validity framework (Design 2)



Source: Elaborated by the author.

Nonetheless, the authors do not consider the negative consequences of penalties contracts, as I discussed previously. Based on expectancy theory, I predict that a combined (rewards and penalties) incentive contract, which mitigates the individual problems of each separately (Andreoni et al., 2003; Brink & Rankin, 2013; Luft, 1994; Mahmoodi et al., 2018), will be even more efficient than a reward or a penalty-only contract in increasing whistleblowing intentions when there is a close relationship between the wrongdoer and the potential whistle-blower compared to when this relationship is not close. Thus, I state the following hypothesis:

H3: The difference between reporting under a contract that combines rewards and penalties compared with a reward-only contract will be higher when the whistle-blower has a close relationship with the perpetrator compared to when

the whistle-blower does not have a close relationship with the perpetrator under expectancy and prospect theory.

However, as prospect theory predicts that losses loom larger gains, it may be expected (based on this theory) that while a combined contract will be significantly more effective in motivating whistleblowing intentions than a reward-only contract, there will be no significant difference between the effectiveness of a combined versus a penalty-only contract. On this basis, I state hypothesis 4:

H4: The difference between reporting under a contract that combines rewards and penalties compared with a penalty-only contract will be higher when the whistle-blower has a close relationship with the perpetrator compared to when the whistle-blower does not have a close relationship with the perpetrator under expectancy theory.

However, under prospect theory, a significant difference (as hypothesized in H4) would not be predicted.

2.5 Wrongdoer Status

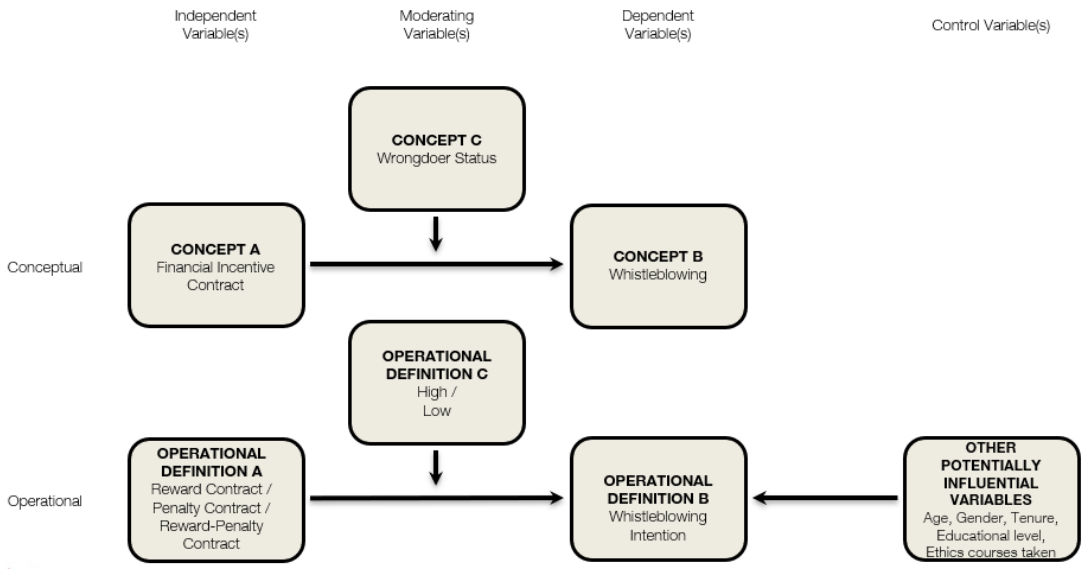
Expectancy Theory suggests that individuals are motivated to act in ways that they believe will lead to desired outcomes. In the context of whistleblowing, individuals may engage in a cost-benefit analysis, weighing the potential risks and rewards associated with reporting misconduct (Ahmad et al., 2012; Brink et al., 2018; Sampaio & Sobral, 2013). The perceived status of the wrongdoer within the organizational hierarchy plays a significant role in this analysis (Berger et al., 2017; Miceli et al., 1991, 1999; Rose et al., 2018; Teichmann & Falker, 2020). If the wrongdoer holds a high-status position, individuals may perceive the potential costs of whistleblowing, such as retaliation or damage to their own reputation, as more severe. This perception may lead to a lower expectancy of positive outcomes, such as organizational change or justice being served, thereby reducing motivation to blow the whistle.

For instance, Gao et al. (2015) found that the intention to blow the whistle significantly decreases when the wrongdoer is a supervisor than when s/he is a co-worker. The literature states three main reasons why whistleblowing intentions decrease when the perpetrator is of high status: (1) potential whistle-blowers could perceive retaliation as more likely to happen when the wrongdoer has a high status in the organization (Ahmad et al., 2012; Brink et al., 2018; Rehg et al., 2008; Sampaio & Sobral, 2013); besides, (2) the associated consequences are seen as more significant compared to when a co-worker is reported (Ahmad et al., 2012); and (3) due to the status of the wrongdoer, whistle-blowers probably remain in silence because they do not believe that the complaint will be effective (Ahmad et al., 2012; Miceli et al., 1991; Sampaio & Sobral, 2013).

If we assume that the whistleblowing decision is a cost-benefit analysis, and imagine a scenario where there is no incentive, probably the potential whistle-blower decides not to report because of the consequences related to blowing the whistle on his/her superior as I described previously. However, with the addition of an incentive, the whistle-blower could be more willing to blow the whistle on his/her superior compared to a scenario without incentives.

The literature has shown that financial incentives (rewards and penalties) increase whistleblowing intentions, but some argue (Ahmad et al., 2012; Vasconcelos, 2015) they may be less effective when the wrongdoers have a superior status in the company. The study of Brink et al. (2018) revealed that the higher the wrongdoer's rank, the more likely potential whistle-blowers are willing to blow the whistle, but through external channels. This could incur more costs for the organization than the misconduct itself. According to Near and Miceli (2016), it is preferable that these matters are solved internally, otherwise, the episode could send a negative message to external stakeholders (regulators, the market, media, etc.).

Figure 5 - Predictive validity framework (Design 3)



Source: Elaborated by the author.

Focusing on the hypothetical scenario, if potential whistle-blowers are not willing to report on their own superior because of the fear of retaliation, even when there is a reward involved, and when they do, they prefer external channels, maybe a combined (rewards and penalties) incentive contract for whistleblowing could increase the willingness to blow the whistle. The addition of a penalty could increase whistleblowing intentions due to the opportunity cost that it represents if the employee does not make the complaint and, at the same time, the benefits from the reward may be higher when the wrongdoer possesses a higher status in the organization. In essence, compared to a penalty- or reward-only incentive, a combined incentive may be especially effective in motivating whistleblowing when the stakes are higher due to the high-status nature of the perpetrator. Therefore, I state the following hypothesis:

H5: The difference between reporting under a contract that combines rewards and penalties compared with a rewards-only contract will be higher when the wrongdoer has high status compared to when the wrongdoer has low status under expectancy theory and prospect theory.

However, as explained above, a slightly different prediction may be based on prospect theory, which predicts that losses will be a strong motivator of behaviour than gains. Specifically, based on this theory, it may be expected that while a combined contract will be significantly more effective in motivating whistleblowing intention than a reward-only contract, there will be no significant difference between the effectiveness of a combined versus a penalty-only contract. On this basis, I state hypothesis 6:

H6: The difference between reporting under a contract that combines rewards and penalties compared with a penalty-only contract will be higher when the wrongdoer has high status compared to when the wrongdoer has low status under expectancy theory.

However, under prospect theory, a significant difference (as hypothesized in H6) would not be predicted.

2.6 Moral Identity

According to Aquino and Reed (2002), moral identity can be described as a type of self-regulatory process that drives moral action. According to the authors, the stronger the importance of the moral traits that define a person's moral identity, the more likely it is that the person will act following what they believe and the stronger their association with moral cognitions and behaviour (Aquino & Reed, 2002). In their work, Aquino and Reed (2002) present the construct of moral identity and its predictive validity for moral cognition and behaviour, introducing a method to measure a person's moral identity.

Two dimensions make up an individual’s moral identity: internalization and symbolization. Moral identity internalization captures the self-importance of moral characteristics, showing stronger associations with normlessness and moral reasoning; “Internalization captures the chronic accessibility of a person’s moral self-schema and is therefore indicative of the chronic, subjective experience of having a moral identity” (Aquino & Reed, 2002; Boegershausen et al., 2015, p. 162).

Moral identity symbolization captures a more general sensitivity, where the individual's actions signal how the person would like to be seen, associated with religiosity, which can be understood as an expression of someone's commitment to moral principles, and with impression management, indicating self-presentation concerns (Aquino & Reed, 2002). The dimension of symbolization, therefore, “captures the importance a person attaches to displaying a public moral self as a way of affirming their morality” (Boegershausen et al., 2015, p. 162).

Past literature has observed the association between moral identity and whistleblowing behaviour (Khan, et al., 2020; McClain & Seifert, 2018; Proost et al., 2013). Proost and colleagues (2019) argue that besides loyalty, altruism and financial incentives, moral identity plays an important role in whistleblowing intentions because it can predict moral behaviour.

Moral identity could cause people to evaluate, make decisions, and react against any behaviour that goes against their moral principles. Therefore, when someone with high levels of moral identity sees any immoral behaviour, they may be compelled to report it (Khan et al., 2020). According to Khan and colleagues (2020), whistleblowing could be seen as a moral protest, where individuals disclose unethical behaviour.

McClain and Seifert (2018) observed the relationship between whistleblowing and moral identity, and 141 students participated in their experiment. They asked participants to play the role of a senior accountant (Alex) who had found that the CFO of a company had overstated their revenue; Alex was defined as a role reporter, someone who has the obligation to report misconduct. In another condition, participants would be themselves. Results of the first condition, where participants played the role of someone who is expected to blow the whistle, showed that only moral identity symbolization had a positive and marginally significant (at 10%) relationship with whistleblowing. Conversely, the results of the second condition (where participants were themselves) showed that moral identity internalization had a significant positive

relationship with whistleblowing ($p < 0.05$), while the relationship between moral identity symbolization and whistleblowing was only marginally significant.

Proost and colleagues (2013) also examined the relationship between moral identity and whistleblowing. There were 278 participants in their experiment and the results indicated that whistleblowing intention was positively related to moral identity, in the sense that participants with higher levels of moral identity were more likely to blow the whistle compared to those with lower levels of moral identity ($p < 0.05$). In addition, the authors found that when the perception of procedural fairness was high, moral identity was positively related to whistleblowing intentions ($p < 0.01$).

Khan and colleagues' (2020) research analysed the role of moral identity as a mediator between ethical leadership and whistleblowing using 214 participants in their study. They found a positive and significant relationship between moral identity and whistleblowing ($p < 0.01$). Therefore, "ethical leaders' behaviours served as a motivational source and support system that encouraged employees to raise their voice against ethical odds within their workplace" (Khan et al., 2020, pp. 1028).

Although there is research about moral identity and whistleblowing, I could not find literature that relates whistleblowing, moral identity, and financial incentives. According to Berger and colleagues (2017), past psychology research has divided motivation into two dimensions: intrinsic and extrinsic. Extrinsic motivation relates to behaviour which is guided by external factors such as financial incentives (rewards or penalties). In contrast, intrinsic motivation relates to actions that are guided by internal factors, such as the sense of moral or civic duty of a person, or their moral identity (Berger et al., 2017).

Whistleblowers are often intrinsically driven in their behaviour. However, financial incentives provide personal benefits to whistleblowers and could become the main motivator for blowing the whistle. At the same time, social or moral incentives are frequently difficult to measure, and they are dependent on

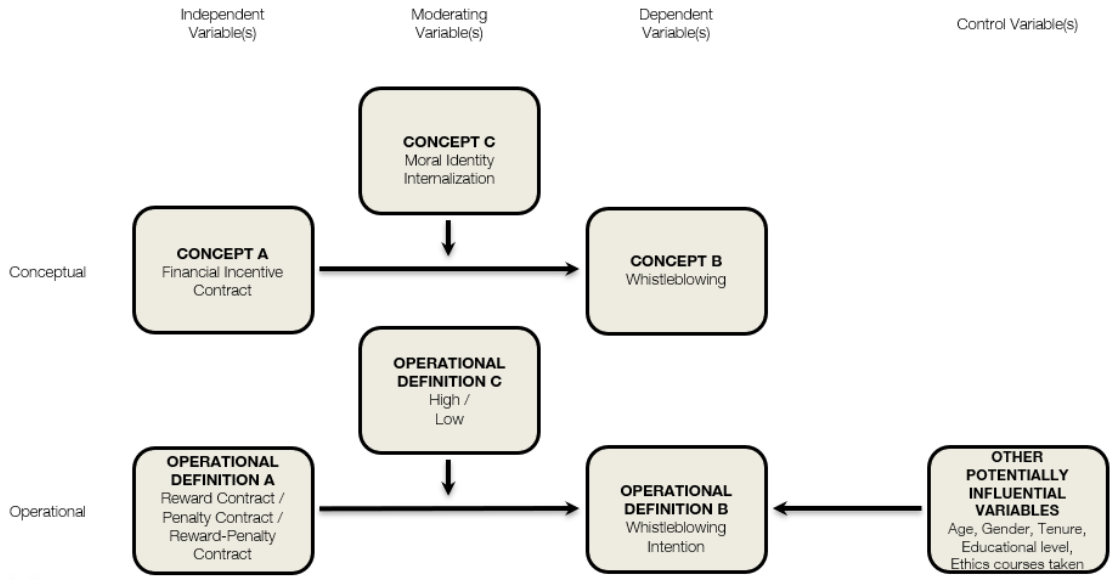
social norms, moral standards, culture, and the environment itself (Latan et al., 2019; Teichmann & Falker, 2020).

Khan and colleagues (2020) state that whistleblowing is probably driven by moral dynamics, and individuals with higher moral identity are more likely to act morally and behave in an acceptable moral and ethical way. As such, McClain and Seifert (2018) explain that moral identity is positively associated with whistleblowing because when the decision is individualized, our opinions about our own morality are influential. However, the relationship between moral identity and whistleblowing has received limited attention from the literature (Proost et al., 2013).

Proost and colleagues (2013) argue that since the person's moral identity induces moral behaviour, which includes whistleblowing (Khan et al., 2020), moral identity is directly related to whistleblowing intention, which is confirmed in their and other results, as we discussed (McClain & Seifert, 2018; Kahn et al., 2020). More specifically, McClain and Seifert (2018) argue that moral identity internalization would be more positively related to whistleblowing intention compared to moral identity symbolization because the former is a stronger moral construct than the latter. Moral identity symbolization would be mostly to "show off", meanwhile moral identity internalization has a higher association with actual moral behaviour (McClain & Seifert, 2018).

Whistleblowing is probably inspired by moral concerns and issues, with ethical meanings attached to it and, thus, any activity that harms the well-being of society should be reported for the greater good (Khan et al., 2020). However, Berger and colleagues (2017) discussed that financial incentives could make whistleblowers rethink their decision as an economic choice instead of an ethical decision. In fact, their results suggest that financial incentives could negate the intrinsic moral incentive of blowing the whistle (Berger et al., 2017).

Figure 6 - Predictive validity framework (Design 4)

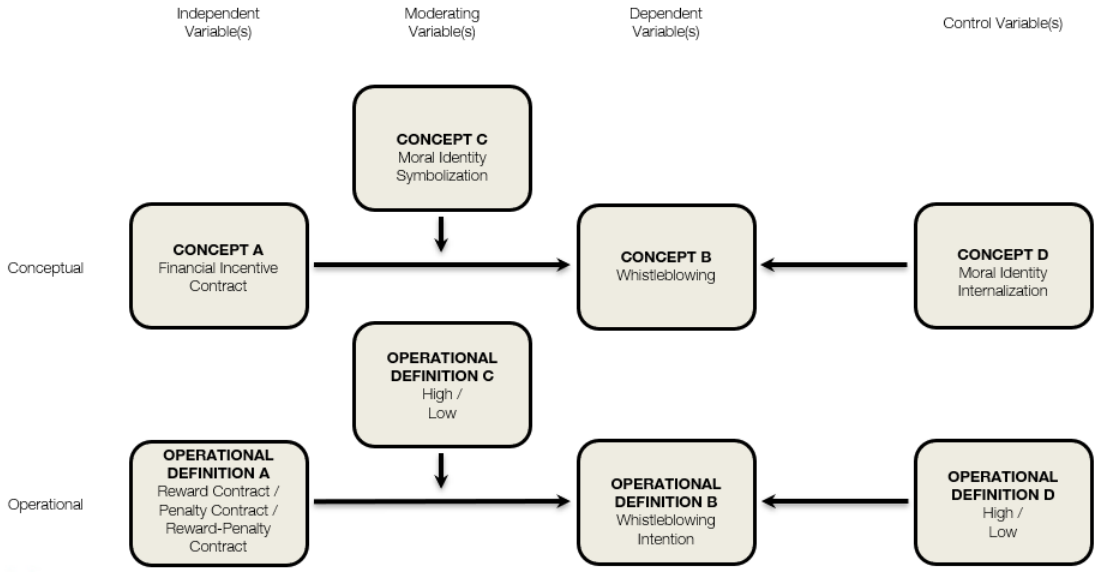


Source: Elaborated by the author.

Berger and colleagues (2017) did not consider moral identity and, more importantly, its two dimensions: internalization and symbolization. In fact, only McClain and Seifert's (2018) work has considered the two different dimensions of moral identity, with other studies treating moral identity as a single construct. Considering that moral identity internalization is a stronger moral construct than moral identity symbolization, and it has a higher association with actual moral behaviour (McClain & Seifert, 2018), it may be expected that financial incentives (rewards or penalties) would not have a significant direct impact on whistleblowing because “internalizers” (people with high levels of moral identity internalization) are driven by their moral traits and not by extrinsic factors. Therefore, I state the following hypothesis:

H7: There will be a significant direct relationship between moral identity internalization and whistleblowing regardless of the incentive condition.

Figure 7 - Predictive validity framework (Design 5)



Obs.: Other control variables (as age, tenure, ethical, gender, etc.) will be applied as in the past designs.

Source: Elaborated by the author.

Conversely, it may be expected that individuals who are high in moral identity symbolization (i.e., “symbolizers”) will care about how they are seen by others. Past studies have shown that employees are more likely to report misconduct in organizations that value and support whistleblowing (Berry, 2004; Mesmer-Magnus & Viswesvaran, 2005; Cho & Song, 2015; Chang et al., 2017). This effect could be related to symbolizers who wanted to show that they followed the organizational norms/culture and were willing to blow the whistle to help the organization. In addition, it may be predicted that individuals who are high in moral identity symbolization will be especially motivated by the prospect of a reward, as this reward would signal to others that they are a moral person. For instance, receiving a reward can publicly signal the moral values that a person has, and improve his/her social reputation (Henrich & Gil-White, 2001; Jordan et al., 2016; Jordan et al., 2017; Anderson et al., 2020). Therefore, I state two hypotheses:

H8a: Moral identity symbolization will be a stronger predictor of whistleblowing in a reward-only incentive contract condition compared to a penalty-only incentive condition.

H8b: Moral identity symbolization will be a stronger predictor of whistleblowing in a combined incentive contract condition compared to a penalty-only incentive condition.

3 Methodology

3.1 Design

I performed an experiment where I adopted two 2 x 1 and four 2 x 2 between-participants designs, in which I manipulated the incentive contract (reward versus combined and penalty versus combined) as main factor and (1) the closeness of the working relationship (close versus not close), and (2) the status of the wrongdoer (low versus high) as interactions with the incentive contract manipulation.

3.2 Pilot Tests

Before collecting the data, I performed pilot tests to ensure that there were no flaws or inaccuracies in the survey design and that the material would be clear and understandable to future participants. First, I asked members of the committee to complete the survey and to provide feedback. I performed a second pilot test with colleagues from work. Based on their answers I could check whether the manipulations were interpreted as intended (i.e., were valid) and whether the material was appropriately understood by participants.

Next, my advisor, another Professor and I made a few tests, before performing the final pilot with 100 people. For this final pilot, I accessed participants from prolific that matched the desired target sample. Participants were fluent in English, from the USA, and were full-time employees. This allowed us to rigorously check the validity of the experimental material and manipulation checks, ensuring that the online functionality of the survey tool was reliable. After each test, we made improvements to the survey's format and text based on the feedback given (see the survey in the Appendix).

3.3 Participants

For the final data, I accessed professionals using Prolific© and housed the survey on the SurveyMonkey® platform. These online platforms allow experimenters to select the participants' characteristics that would best fit the

experimental design and randomly assign participants to different manipulations in the experiment.

I recruited participants on Prolific© and pre-screened for participants that were (a) fluent in English, (b) from USA, and (c) were full-time employees. Participants were told that they would be taking part in a case scenario study. Participants were randomly assigned into different experimental conditions and were presented with study materials on the online platform, SurveyMonkey®. Therefore, I expected that there would be no systematic differences between the groups (allocated to different conditions) regarding their demographic profiles, and the following tests confirmed this.

The sample was composed of 408 participants. The demographics show that 51.72% (211) of the participants had a bachelor's degree, 15.20% (62) completed high school, 14.95% (61) had a trade/vocational/technical school/college, 14.71% (60) had a master's degree, 2.21% (9) had a Ph.D., and 1.23% (5) of the sample did not inform. In addition, 51.96% (212) identified themselves as male, 46.81% (191) as female, and 1.23% (5) did not inform. The average age of participants was 39.21 years old (SD = 11.90). In addition, 8.09% (33) indicated that they had no amount of ethics training, 9.07% (37) that they had a large amount of ethical training, and the average of ethical level was 5.40 (SD = 2.37). Regarding the work experience, the average was 18.07 years (SD = 11.63). You can see more details about the sample in the Appendix.

3.4 Experimental Procedures and Task

Participants were presented with different case scenarios adapted from pre-validated experimental designs (Andon et al., 2018; Berger et al., 2017; Boo et al., 2016; Brink et al., 2013; Brown et al., 2016; Feldman & Lobel, 2010; Latan et al., 2021; Rose et al., 2018; Taylor & Curtis, 2010). In each scenario, they were asked to assume the role of an administrative assistant who works in a hypothetical firm (Cerebrum Company). The scenario stated:

"You are a staff member at Cerebrum Company, a sales company founded in 1993 that is one of the best in this field. Cerebrum sells electronics, computers and peripherals, smartphones,

video games, stereos, TVs, etc. You were hired as part of the back-office team as an administrative assistant and your job description includes filing, typing, copying, binding, scanning, handling administrative requests and queries from senior managers, organizing and scheduling appointments, and planning and taking detailed minutes. Cerebrum employs over 1,000 people, operating in different countries and, because of that, you must provide information and work with people from different countries".

To test **H1 and H2**, participants were exposed to the manipulated treatment: information on whether a financial incentive (reward, penalty, or combined) contract is available for reporting misconduct/fraud. The contract manipulation was presented in the form of an email from the company's director stating that a new (reward, penalty, or combined) incentive for whistleblowing would be introduced. For example, for the reward condition, the email was as follows:

Text Box 1 - Financial reward contract manipulation

Dear employees:

I hope this e-mail finds you well. I am writing this e-mail as a friendly reminder of our new whistleblowing incentive policy. This policy applies to every employee, no matter your position.

Employee misconduct is taken very seriously at Cerebrum. Therefore, Cerebrum has a dedicated hotline in place for employees to report any concerns (202-555-0149).

Employees who report ethical misconduct carried out by another staff member will receive a financial reward for any credible information received.

Source: Based on Boo et al. (2016).

The financial penalty contract manipulation was stated as follows:

Text Box 2 - Financial penalty contract manipulation

Dear employees:

I hope this e-mail finds you well. I am writing this e-mail as a friendly reminder of our new whistleblowing incentive policy. This policy applies to every employee, no matter your position.

Employee misconduct is taken very seriously at Cerebrum. Therefore, Cerebrum has a dedicated hotline in place for employees to report any concerns (202-555-0149).

Employees who do not report ethical misconduct carried out by another staff member will receive a financial penalty for any credible information withheld.

Source: Based on Boo et al. (2016).

The financial combined contract manipulation was stated as follows:

Text Box 3 - Financial combined contract manipulation

> Dear employees:
>
> I hope this e-mail finds you well. I am writing this e-mail as a friendly reminder of our new whistleblowing incentive policy. This policy applies to every employee, no matter your position.
>
> **Employee misconduct is taken very seriously at Cerebrum. Therefore, Cerebrum has a dedicated hotline in place for employees to report any concerns (202-555-0149).**
>
> **Employees who report ethical misconduct carried out by another staff member will receive a financial reward for any credible information received. At the same time, if employees do not report ethical misconduct carried out by another staff member, a financial penalty will be applied for any credible information withheld.**

Source: Based on Boo et al. (2016).

The scenario continued with a text indicating that subsequent to receiving this email, they witnessed misconduct at Cerebrum:

Text Box 4 - Experiment instrumental material

> One day, while staying late in the office to organize the following day's meetings, you come across a document that indicates **serious misconduct** on the part of a fellow Cerebrum employee. Specifically, this employee has clearly overbilled on their travel expenses for personal gain. You can dial the number 202-555-0149, as the firm has a dedicated hotline in place for employees to report any concerns.

Source: Based on Andon et al. (2018), Boo et al. (2016), and Brown et al. (2016).

To test **H3 and H4**, participants were presented with the same scenario, where they were asked to assume the role of an administrative assistant who works in a hypothetical firm, and the financial reward/penalty/combined contract manipulations were the same as in **the text boxes 1, 2, and 3.** However, in addition, I highlighted that the perpetrator of the misconduct was either a close friend from work or a colleague that they were unfamiliar with. The text for the 'close friend' condition was as follows:

Text Box 5 - Close condition manipulation

> One day, while staying late in the office to organize the following day's meetings, you come across a document that indicates **serious misconduct** on the part of a fellow Cerebrum employee. Specifically, this employee has clearly overbilled on their travel expenses for personal gain. While analysing the document, **you notice that the perpetrator is your close friend from work**. Due to the situation, you approach this close friend to voice your concerns. Despite your continuing concerns, your close friend insists that there is nothing wrong and tells you that there is nothing to worry about. You can dial the number 202-555-0149, as the firm has a dedicated hotline in place for employees to report any concerns.

Source: Based on Andon et al. (2018) and Boo et al. (2016).

In the not-close condition, participants were informed that a colleague from work, whom they had barely spoken to before, was the misconduct perpetrator, as follows:

Text Box 6 - Not close condition manipulation

> One day, while staying late in the office to organize the following day's meetings, you come across a document that indicates **serious misconduct** on the part of a fellow Cerebrum employee. Specifically, this employee has clearly overbilled on their travel expenses for personal gain. While analysing the document, **you notice that the perpetrator is one of your colleagues from work, whom you have barely spoken to before**. Due to the situation, you approach this colleague to voice your concerns. Despite your continuing concerns, your colleague insists that there is nothing wrong and tells you that there is nothing to worry about. You can dial the number 202-555-0149, as the firm has a dedicated hotline in place for employees to report any concerns.

Source: Based on Boo et al. (2016).

Finally, in order to test **H5 and H6**, I manipulated the wrong-doer status (low versus high). Participants were presented with the same financial reward/penalty/combined contract manipulations as outlined in the **text boxes 1, 2, and 3**, but instead of highlighting that the perpetrator appears to be a friend from work, they were told that the perpetrator was their senior manager in the organizational hierarchy (high-status condition):

Text Box 7 - High-status condition manipulation

> One day, while staying late in the office to organize the following day's meetings, you come across a document that indicates **serious misconduct** on the part of a fellow Cerebrum employee. Specifically, this employee has clearly overbilled on their travel expenses for personal gain. While analysing the document, **you notice that the perpetrator is your senior manager**. Due to the situation, you approach this senior manager to voice your concerns. Despite your continuing concerns, your senior manager insists that there is nothing wrong and tells you that there is nothing to worry about. You can dial the number 202-555-0149, as the firm has a dedicated hotline in place for employees to report any concerns.

Source: Based on Boo et al. (2016), Brink et al. (2018), and Taylor and Curtis (2013).

In contrast, in the low-status condition, they were informed that the perpetrator was a co-worker/peer:

Text Box 8 - Low-status condition manipulation

> One day, while staying late in the office to organize the following day's meetings, you come across a document that indicates **serious misconduct** on the part of a fellow Cerebrum employee. Specifically, this employee has clearly overbilled on their travel expenses for personal gain. While analysing the document, **you notice that the perpetrator is your co-worker/peer**. Due to the situation, you approach this co-worker/peer to voice your concerns. Despite your continuing concerns, your co-worker/peer insists that there is nothing wrong and tells you that there is nothing to worry about. You can dial the number 202-555-0149, as the firm has a dedicated hotline in place for employees to report any concerns.

Source: Based on Boo et al. (2016), and Taylor and Curtis (2013).

3.5 Dependent Variable

After reading their respective scenario, participants were asked to indicate how likely they would be to report this misconduct using a 5-point Likert scale anchored by 1 = I would definitely not report it and 5 = I would definitely report it. I adopted this measure, because it was pre-validated in previous whistleblowing studies (Park & Jeon, 2022; Stikeleather, 2016).

3.6 Moral Identity (Internalization and Socialization) Scales

I also collected data on moral identity to test my final hypotheses **(H7, H8a and H8b)**. Aquino and Reed (2002) developed the Moral Identity (Internalization and Socialization) Scales to measure the importance individuals attribute to morality in their lives. The scales are based on the theory of moral identity, which suggests that people possess an internalized moral identity that

influences their moral behaviour. Aquino and Reed (2002) proposed two main dimensions of moral identity: 1) Moral Identity Internalization; and 2) Moral Identity Symbolization.

The former reflects the extent to which individuals see morality as a central aspect of their self-concept. It involves the internalization of moral values and principles into one's identity. While the latter evaluates the extent to which individuals seek external validation of their moral character through the adoption of moral symbols, which can encompass religious figures, ethical role models, or other culturally significant icons. Unlike internalization, where morality is deeply integrated into one's self-concept, symbolization pertains to the outward demonstration of morality to others, reflecting a person's desire to be perceived as morally upright (Aquino & Reed, 2002).

Developed by Aquino and Reed (2002), the Moral Identity (Internalization and Socialization) Scales consist of items that evaluate these two dimensions. Participants are told about some characteristics that might describe a person (caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind). They are then asked to indicate their level of agreement or disagreement with a series of questions using a five-point Likert scale. The questions that I used to measure the two sub-scales are:

1) It would make me feel good to be a person who has these characteristics (moral identity internalization);
2) Being someone who has these characteristics is an important part of who I am (moral identity internalization);
3) I would be ashamed to be a person who has these characteristics (moral identity internalization);
4) Having these characteristics is not really important to me (moral identity internalization);
5) I strongly desire to have these characteristics (moral identity internalization);

6) I often wear clothes that identify me as having these characteristics (moral identity symbolization);
7) The types of things I do in my spare time (e.g., hobbies) clearly identify me as having these characteristics (moral identity symbolization);
8) The kinds of books, magazines, websites and apps that I read/use identify me as having these characteristics (moral identity symbolization);
9) The fact that I have these characteristics is communicated to others by my membership in certain organizations (moral identity symbolization);
10) I am actively involved in activities that communicate to others that I have these characteristics (moral identity symbolization).

The moral identity scales developed by Aquino and Reed (2002) have been widely used in research on moral and ethical behaviour (e.g., Detert et al., 2008; Reynolds, 2006; Jordan et al., 2011).

3.7 Additional Measures

I collected demographic data, like gender, age, work experience, ethical training level (e.g., number of ethical training courses that the person had taken), and educational level based on previous works (Andon et al., 2018; Berger et al., 2017; Boo et al., 2016; Brink et al., 2013; Brown et al., 2016; Buller et al., 1991; Nayır et al., 2018; Robertson & Fadil, 1999; Rose et al., 2018; Stubben & Welch, 2020; Taylor & Curtis, 2010, 2013). To measure work experience, ethical training and educational levels, I asked participants to inform how many years of work experience they had, the amount of ethics-related training that they had undertaken in their career using a 9-point Likert scale anchored by 1 = no amount of ethics training and 9 = a large amount of ethics training, and to indicate their highest educational level among the following options: 1) High School, 2) Trade/vocational/technical school/college, 3) Bachelor's degree, 4) Master's degree, and 5) Ph.D. or higher. These variables, as the literature has shown, are associated with ethical behaviour and whistleblowing itself.

In addition, I included manipulation checks, in which participants responded to items that indicate their perception of closeness and status of the

wrong-doer, and the incentive contracts. The manipulation checks were stated as follows (with participants responding on a 5-point Likert scale, anchored by 1 = Strongly disagree and 5 = Strongly agree):

Text Box 9 - Financial reward condition manipulation check

Please, indicate your agreement with the following statement: I will be financially rewarded for reporting ethical misconduct at Cerebum.

Source: Elaborated by the author.

Text Box 10 - Financial penalty condition manipulation check

Please, indicate your agreement with the following statement: I will be financially penalized for failing to report ethical misconduct at Cerebum.

Source: Elaborated by the author.

Text Box 11 - Status condition manipulation check

Please, indicate your agreement with the following statement: The perpetrator of the misconduct at Cerebum had a higher organizational status than me.

Source: Elaborated by the author.

Text Box 12 - Closeness condition manipulation check

Please, indicate your agreement with the following statement: The perpetrator of the misconduct at Cerebum was someone I was close to.

Source: Elaborated by the author.

3.7 Data Analysis

To test my hypotheses, I ran a series of ANOVA (analysis of variance) and ANCOVAs tests. ANOVAs are used to compare the differences between averages in two or more samples. ANCOVAs are an extension of ANOVAs with the addition of a covariate (Gujarati & Porter, 2011). This test is often used in experimental works, like Boo et al. (2016), Brink et al. (2013), Gao et al. (2015), and Rose et al. (2018).

4 Results and Discussion

4.1 Initial Checks

Our sample was randomly assigned into different treatment conditions. Therefore, we can expect that there would be no systematic differences between the demographics of participants assigned to the different experimental conditions. Analyses (shown in Tables 11, 12 and 13) confirmed this assumption.

Table 11 - One-Way ANOVA (Welch's)

	F	df1	df2	P
Work Experience	0.6187	2	269	0.539
Educational Level	1.6775	2	265	0.189
Ethical Training Level	0.9483	2	269	0.389
Age	0.0246	2	264	0.976
Symbolization	0.6693	2	268	0.513
Internalization	0.1791	2	267	0.836

Source: Elaborated by the author.

Table 12 - Chi-Square Contingency Tables

Gender		Incentive Contract			Total
		Reward	**Penalty**	**Combined**	
Male	Observed	71	74	67	212
	% within row	33.5 %	34.9 %	31.6 %	100.0 %
Female	Observed	58	72	61	191
	% within row	30.4 %	37.7 %	31.9 %	100.0 %
Total	Observed	129	146	128	403
	% within row	32.0 %	36.2 %	31.8 %	100.0 %

Source: Elaborated by the author.

Table 13 - χ^2 Tests

	Value	**Df**	**P**
χ^2	0.526	2	0.769
N	403	-	-

Source: Elaborated by the author.

Cronbach's alphas were analysed to assess the internal consistency (reliability) of the measures of moral identity (internalization and symbolization) utilized in this study. Cronbach's alpha is a widely used statistic for evaluating the reliability of scales by examining the consistency of responses across items measuring the same construct (Nunnally & Bernstein, 1994). As such, it provides a valuable indicator of the extent to which the items in a particular moral identity scale are measuring a single underlying concept consistently. The calculated Cronbach's alpha coefficient for the moral identity internalization scale was found to be 0.771 (table 14), while the Cronbach alpha for the moral identity socialization scale was 0.892 (table 15), indicating substantial reliability for both scales (Landis & Koch, 1977). This analysis ensures the reliability of the moral

identity measures and strengthens the validity of subsequent analyses involving these variables.

Table 14 – Moral Identity Internalization Reliability Statistics

	Mean	SD	Cronbach's α
Scale	4.41	0.624	0.771

Source: Elaborated by the author.

Table 15 – Moral identity Symbolization Reliability Statistics

	Mean	SD	Cronbach's α
Scale	3.25	0.865	0.892

Source: Elaborated by the author.

4.2 Manipulation Checks

To check our manipulations of incentive contract type, closeness, and status, we asked participants questions about their perception of the scenario they were confronted with, as I mentioned in the previous section.

Table 16 - Independent Samples T-Test (Reward vs. Penalty)

		Statistic	df	P
Reward Perception	Student's t	12.8	276	< .001
Penalty Perception	Student's t	-15.6	276	< .001

Note: $H_a\ \mu_{Reward} \neq \mu_{Penalty}$

Source: Elaborated by the author.

Table 17 - Independent Samples T-Test (Reward vs. Combined)

		Statistic	df	P
Reward Perception	Student's t	-0.942	258	0.347
Penalty Perception	Student's t	-14.038	258	< .001

Note: H_a $\mu_{Reward} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 18 - Independent Samples T-Test (Penalty vs. Combined)

		Statistic	df	P
Reward Perception	Student's t	-13.53	276	< .001
Penalty Perception	Student's t	1.08	276	0.283

Note. H_a $\mu_{Penalty} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 19 - Independent Samples T-Test (Closeness)

		Statistic	df	P
Closeness Perception	Student's t	20.2	151	< .001

Note. H_a $\mu_{Close} \neq \mu_{Not\ Close}$

Source: Elaborated by the author.

Table 20 - Independent Samples T-Test (Status)

		Statistic	df	P
Status Perception	Student's t	18.2	175	< .001

Note. H_a $\mu_{High\ Status} \neq \mu_{Low\ Status}$

Source: Elaborated by the author.

Results indicated that participants' perceptions of the incentive contract offered by the firm aligned with the treatment condition they were exposed to. Participants were thus significantly less likely to perceive that they would be penalized for failing to report misconduct under the reward condition compared to the combined and penalty incentive contract conditions, while they were significantly less likely to perceive that they would be rewarded for reporting misconduct under the penalty condition than the reward and combined conditions, as you can see in tables 16, 17 and 18.

In addition, results (table 19) also indicated that participants in the close condition assessed the working relationship with the perpetrator to be significantly closer than in the not close condition ($p < .001$), and in the high-status condition participants assessed the perpetrator's status also to be significantly higher than in the low-status condition ($p < .001$) as in table 20.

4.3 Descriptive Analysis

Table 21 - Descriptive Statistics on whistleblowing intentions: Mean (Standard Deviation)

	Incentive Contract		
Moderator	**Reward**	**Penalty**	**Combined**
-	3.73 (1.12) n = 130	3.94 (1.05) n = 148	3.92 (1.15) n = 130
Close	3.12 (1.24) n = 25	3.60 (1.29) n = 35	3.59 (1.28) n = 17
Not Close	4.13 (0.87) n = 23	3.84 (1.10) n =31	4.00 (1.15) n = 22
High Status	3.69 (1.16) n = 26	4.05 (0.89) n = 22	4.05 (0.99) n = 22
Low Status	3.79 (1.12) n = 34	4.05 (0.91) n = 30	3.93 (1.16) n = 43

Source: Elaborated by the author.

Table 21 shows the descriptive statistics of participants' whistleblowing intentions in reporting the misconduct presented to them in the different case scenarios evaluated. The highest and the lowest whistleblowing intentions

(means) were observed in the reward incentive contract condition, when the potential whistleblower was not close (highest intentions at mean = 4.13) and when the potential whistleblower was close (lowest intentions at mean = 3.12) to the perpetrator. The general level of whistleblowing intentions across the sample was 3.87 (mean), with a standard deviation of 1.11, meaning that overall people would probably report misconduct.

In 5 conditions the whistleblowing intentions' mean was at least 4.00 (meaning that participants indicated that they would 'probably report the misconduct'): a) when the perpetrator was someone **not close** and the type of incentive contract was a **reward** (4.13); b) when the perpetrator was **someone with a higher/lower status** than the whistleblower and the type of incentive contract was a **penalty** (4.05 for both); when the perpetrator was someone with a **higher status** than the whistleblower and the type of incentive contract was a **combination of rewards and penalties** (4.05); and c) when the perpetrator was someone **not close** and the type of incentive contract was a **combination of rewards and penalties** (4.00).

Table 22 - Correlation Matrix

	Whistleblowing Intention	Work Experience	Educational Level	Ethical Level	Age Level	Symbolization	Internalization
Whistleblowing Intention	—						
Work Experience	-0.03	—					
Educational Level	-0.05	-0.09	—				
Ethical Training Level	0.14 **	-0.07	0.26 ***	—			
Age	-0.03	0.90 ***	0.03	-0.03	—		
Symbolization	0.16 **	-0.15 **	0.12 *	0.21 ***	-0.06	—	
Internalization	0.21 ***	0.11 *	-0.04	-0.04 *	0.10*	0.30 ***	—

Note. * p < .05, ** p < .01, *** p < .001

Source: Elaborated by the author.

As you can see in the correlation matrix (table 22), whistleblowing intentions had a positive and significant correlation, although weak, with moral identity internalization (p < .001), ethical training level (p < .01), and moral identity symbolization (p < .01). The mean moral identity internalization level of

the sample was 4.41, while means for ethical training level and moral identity symbolization levels were 5.4 and 3.25, respectively.

4.4 Hypotheses Testing

4.4.1 Are people more willing to report misconduct when there is a contract that combines rewards and penalties compared to a reward/penalty-only contract?

My first two hypotheses state the following: (**H1**) Employees will be more willing to report misconduct when there is a contract that combines rewards and penalties compared to a rewards-only contract under expectancy theory and prospect theory, and (**H2**) employees will be more willing to report misconduct when there is a contract that combines rewards and penalties compared to a penalty-only contract, under expectancy theory. To test these hypotheses, I performed two 2 x 1 ANOVAs. The first one comparing the whistleblowing intentions between the reward and combined incentive contract groups as follows in tables 23, 24, and 25:

Table 23 - Incentive Type Predicting Whistleblowing Intention under Reward versus Combined

	F	**df1**	**df2**	**P**
Whistleblowing Intention	1.72	1	258	0.190

Source: Elaborated by the author.

Table 24 - Group Descriptives for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined

	Incentive Type	**N**	**Mean**	**SD**	**SE**
Whistleblowing Intention	Reward	130	3.73	1.12	0.0982
	Combined	130	3.92	1.15	0.1007

Source: Elaborated by the author.

Table 25 - Tukey Post-hoc Test for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined

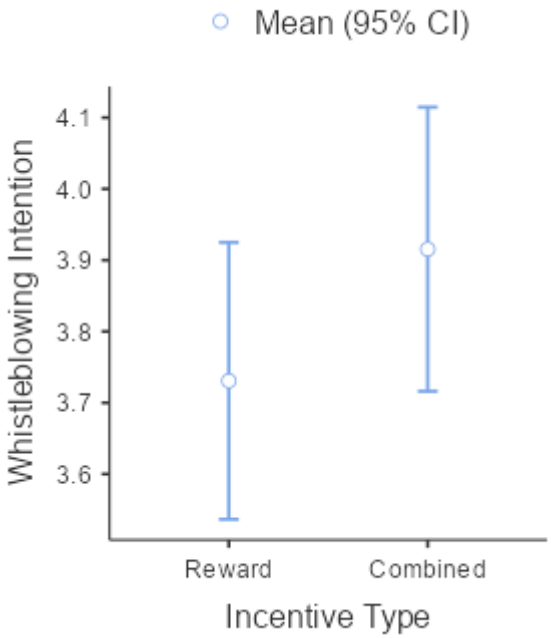
		Reward	Combined
Reward	Mean difference	—	-0.185
	p-value	—	0.190
Combined	Mean difference		—
	p-value		—

Note. * p < .05, ** p < .01, *** p < .001

Source: Elaborated by the author.

Although the mean willingness to blow the whistle was higher in the combined incentive contract group compared to the reward incentive contract group (3.92 vs. 3.73), the difference was not statistically significant, as shown in Table 23 and Figure 8. We thus **do not find support for H1**.

Figure 8 - Descriptive plot Incentive Type Predicting Whistleblowing Intention under Reward versus Combined



Source: Elaborated by the author.

The second ANOVA aimed to test if there was a significant difference in the whistleblowing intentions of individuals in the penalty versus the combined incentive contract groups (tables 26, 27, 28, and figure 9).

Table 26 - Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined

	F	df1	df2	p
Whistleblowing Intention	0.0322	1	264	0.858

Source: Elaborated by the author.

Table 27 - Group Descriptives for Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined

	Incentive Type	N	Mean	SD	SE
Whistleblowing Intention	Penalty	148	3.94	1.05	0.0864
	Combined	130	3.92	1.15	0.1007

Source: Elaborated by the author.

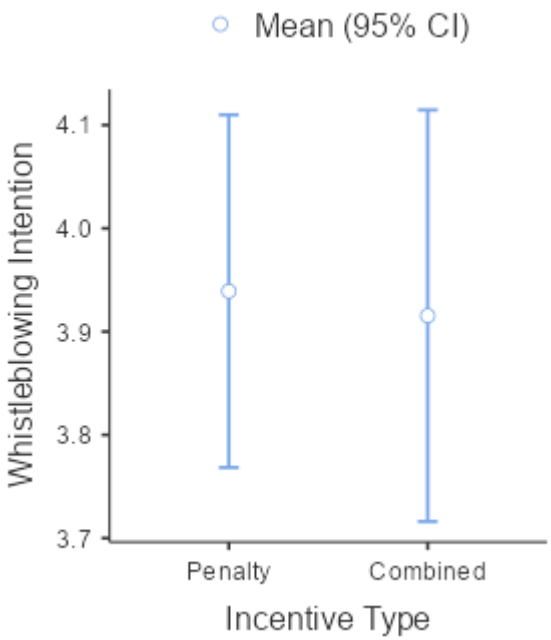
Table 28 - Tukey Post-hoc Test for Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined

		Penalty	Combined
Penalty	Mean difference	—	0.0238
	p-value	—	0.857
Combined	Mean difference		—
	p-value		—

Note. * p < .05, ** p < .01, *** p < .001

Source: Elaborated by the author.

Figure 9 - Descriptive plot for Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined



Source: Elaborated by the author.

The results indicated that there was also no significant difference in the willingness to blow the whistle between a penalty (Mean = 3.94) and a combined (Mean = 3.92) incentive contract. We thus **do not find support for H2** which predicted that employees will be more willing to report misconduct when there is a contract that combines rewards and penalties compared to a penalty-only contract, under expectancy theory. Instead, our findings align with prospect theory, which would predict that there would be no significant difference between people's intentions under a combined and a penalties-only contract.

4.4.2 What is the difference between reporting under a contract that combines rewards and penalties compared with a reward/penalty-only contract depending on the closeness of the perpetrator?

Our third hypothesis (**H3**) states that the difference between reporting under a contract that combines rewards and penalties compared with a reward-only contract will be higher when the whistle-blower has a close relationship with

the perpetrator compared to when the whistle-blower does not have a close relationship with the perpetrator under expectancy and prospect theory.

To test this prediction, I compared the whistleblowing intentions of individuals in the reward and combined incentive contract groups when the perpetrator was someone close (versus not close) to the participant. I performed the ANOVA test (tables 29-32 and figure 10), and the results are the following:

Table 29 - Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Closeness

	Sum of Squares	Df	Mean Square	F	p
Incentive Type	0.608	1	0.608	0.470	0.495
Closeness	10.773	1	10.773	8.328	0.005**
Incentive Type ✻ Closeness	1.909	1	1.909	1.476	0.228
Residuals	107.366	83	1.294		

Note: * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: Elaborated by the author.

Table 30 - Post Hoc Comparisons for Incentive Type

Comparison							
Incentive Type		Incentive Type	Mean Difference	SE	Df	t	p_{tukey}
Reward	-	Combined	-0.169	0.246	83.0	-0.685	0.495

Note. Comparisons are based on estimated marginal means
Source: Elaborated by the author.

Table 31 - Post Hoc Comparisons for Closeness

Comparison							
Closeness		Closeness	Mean Difference	SE	Df	t	p_{tukey}
Close	-	Not Close	-0.711	0.246	83.0	-2.89	0.005

Note. Comparisons are based on estimated marginal means
Source: Elaborated by the author.

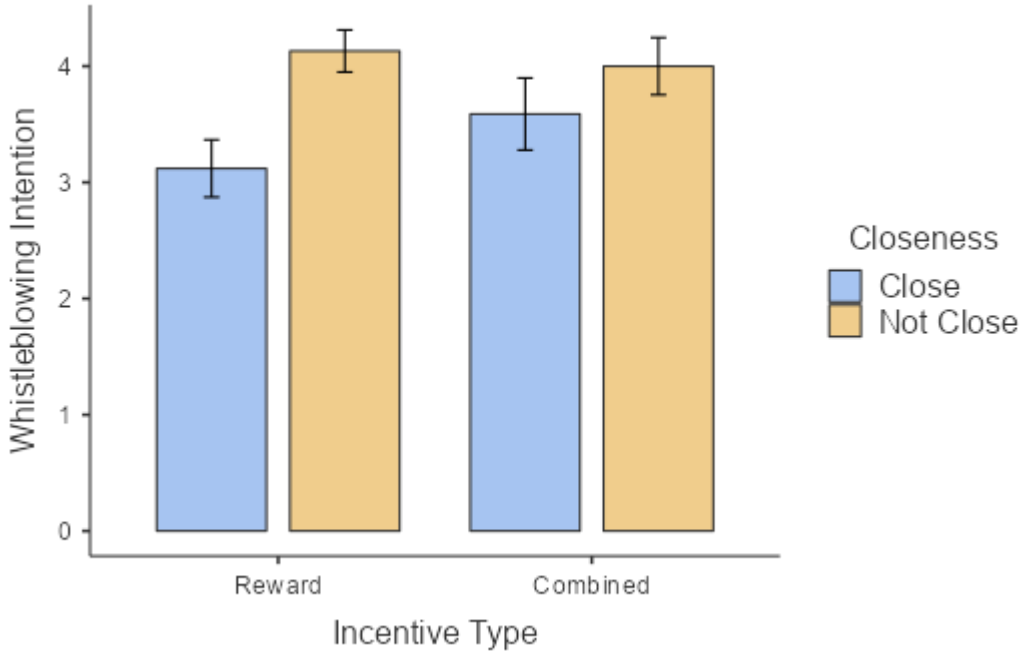
Table 32 – Post Hoc Comparisons for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Closeness

Comparison									
Incentive Type	Closeness		Incentive Type	Closeness	Mean Difference	SE	df	t	p_{tukey}
Reward	Close	-	Reward	Not Close	-1.010	0.329	83.0	-3.075	0.015*
		-	Combined	Close	-0.468	0.358	83.0	-1.310	0.559
		-	Combined	Not Close	-0.880	0.332	83.0	-2.647	0.047
	Not Close	-	Combined	Close	0.542	0.364	83.0	1.490	0.448
		-	Combined	Not Close	0.130	0.339	83.0	0.385	0.981
Combined	Close	-	Combined	Not Close	-0.412	0.367	83.0	-1.121	0.678

Note[1]: * p < 0.05, ** p < 0.01, *** p < 0.001.
Note[2]: Comparisons are based on estimated marginal means.
Source: Elaborated by the author.

Table 29 shows that there was no significant difference in the whistleblowing intentions of participants in the reward versus the combined incentive group (p = 0.495). We did find a significant difference in whistleblowing behaviour depending on the closeness of the perpetrator with the potential whistle-blower (p = 0.005), confirming past results where participants were less likely to blow the whistle when the perpetrator of the misconduct was a close colleague/friend (King, 1997; Miller & Thomas, 2005). However, the hypothesized interaction between incentive type and closeness was not found to be significant (p = 0.228), which **rejects hypothesis H3**.

Figure 10 - Descriptive bar plot for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Closeness



Source: Elaborated by the author.

In order to examine the significant main effect of closeness (observed in table 29), I carried out post hoc comparisons between the incentive type and the closeness of the perpetrator (table 32), which showed that there were significant differences between specific experimental conditions in the directions predicted. In particular, the findings showed that in the reward-only condition, participants showed greater intentions to blow the whistle when they were not close to the perpetrator compared to when they were close to them (t = -3.075 and p = 0.015; see table 32 and figure 6). In addition, participants showed significantly greater intentions to blow the whistle in the combined incentive contract condition and when the perpetrator was not close to them, compared to when they would only receive a reward and the perpetrator was a close colleague/friend from work (t = -2.647 and p = 0.047; see table 32 and figure 6).

However, the results show that when a penalty is introduced alongside a reward contract (i.e., when we compare reward versus combined contracts),

there is no significant difference in whistleblowing intentions if the perpetrator is someone close or not to the whistleblower (t = -1.121 and p = 0.678; see table 31 and figure 6).

H4 states that the difference between reporting under a contract that combines rewards and penalties compared with a penalty-only contract will be higher when the whistle-blower has a close relationship with the perpetrator compared to when the whistle-blower does not have a close relationship with the perpetrator under expectancy theory.

The second ANOVA that I performed compares the penalty and combined incentive contract groups when the perpetrator was someone close to the participant versus when they were not close (tables 33-35 and figure 11), and the results are the following:

Table 33 - Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined and Moderated by Closeness

	Sum of Squares	df	Mean Square	F	p
Incentive Type	0.135	1	0.135	0.0932	0.761
Closeness	2.563	1	2.563	1.7642	0.187
Incentive Type ⁎ Closeness	0.181	1	0.181	0.1249	0.725
Residuals	146.711	101	1.453		

Source: Elaborated by the author.

Table 33 shows that there was no significant difference in the intention to blow the whistle according to the incentive type (p = 0.761), closeness (p = 0.187) – different from table 29, or the interaction between both (incentive type and closeness) (p = 0.725).

Table 34 - Post Hoc Comparisons for Incentive Type

Comparison							
Incentive Type		**Incentive Type**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Penalty	-	Combined	-0.0748	0.245	101	-0.305	0.761

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

Table 35 - Post Hoc Comparisons for Closeness

Comparison							
Closeness		**Closeness**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Close	-	Not Close	-0.325	0.245	101	-1.33	0.187

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

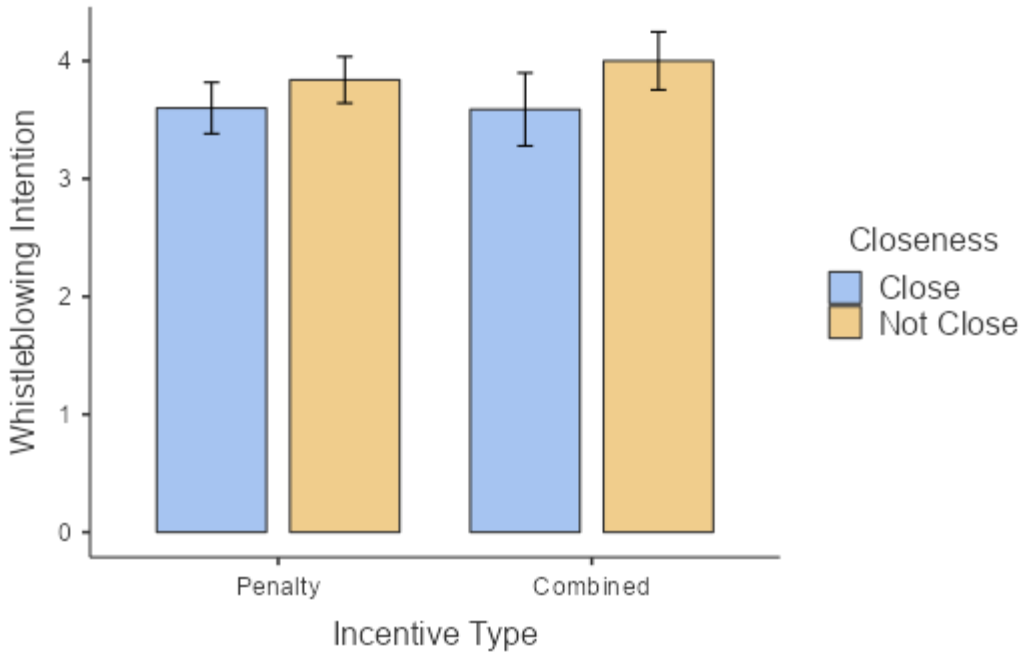
Table 36 - Post Hoc Comparisons for Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined and Moderated by Closeness

Comparison									
Incentive Type	**Closeness**		**Incentive Type**	**Closeness**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Penalty	Close	-	Penalty	Not Close	-0.2387	0.297	101	-0.8030	0.853
		-	Combined	Close	0.0118	0.356	101	0.0330	1.000
		-	Combined	Not Close	-0.4000	0.328	101	-1.2198	0.616
	Not Close	-	Combined	Close	0.2505	0.364	101	0.6886	0.901
		-	Combined	Not Close	-0.1613	0.336	101	-0.4801	0.963
Combined	Close	-	Combined	Not Close	-0.4118	0.389	101	-1.0580	0.716

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

Figure 11 - Descriptive bar plot for Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined and Moderated by Closeness



Source: Elaborated by the author.

I also carried out post hoc comparisons (table 36) which, different from table 32, showed that there were no significant differences between specific experimental conditions. The findings show that there was not any difference comparing the different combinations between the incentive type (penalty vs. combined) and the closeness with the perpetrator (table 36). Table 36 shows that in a penalty-only situation, it did not matter if the person was close or not with the perpetrator, whistleblowing intentions remained the same (t = -0.8030 and p =0.853), and the same happened when we consider a combined contract situation (t = -1.0580 and p = 0.716). **These results reject H4** and show that, in accordance with prospect theory, there was no significant difference in reporting under a contract that combines rewards and penalties compared with a penalty-only contract, regardless of the closeness of the perpetrator.

4.4.3 What is the difference between reporting under a contract that combines rewards and penalties compared with a reward/penalty-only contract depending on the status of the perpetrator?

H5 states that the difference between reporting under a contract that combines rewards and penalties compared with a rewards-only contract will be higher when the wrongdoer has high status compared to when the wrongdoer has low status under expectancy theory and prospect theory.

The ANOVA results (tables 37-40) comparing the incentives type contracts (reward versus combined) and the status of the perpetrator (high status versus low status) are the following:

Table 37 - Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Status

	Sum of Squares	df	Mean Square	F	p
Incentive Type	1.75260	1	1.75260	1.38747	0.241
Status	0.00132	1	0.00132	0.00104	0.974
Incentive Type ✻ Status	0.34486	1	0.34486	0.27302	0.602
Residuals	152.84253	121	1.26316		

Source: Elaborated by the author.

Table 38 - Post Hoc Comparisons for Incentive Type

Comparison							
Incentive Type		Incentive Type	Mean Difference	SE	df	t	p_{tukey}
Reward	-	Combined	-0.245	0.208	121	-1.18	0.241

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

Table 39 - Post Hoc Comparisons for Status

Comparison							
Status		**Status**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
High Status	-	Low Status	0.00671	0.208	121	0.0323	0.974

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

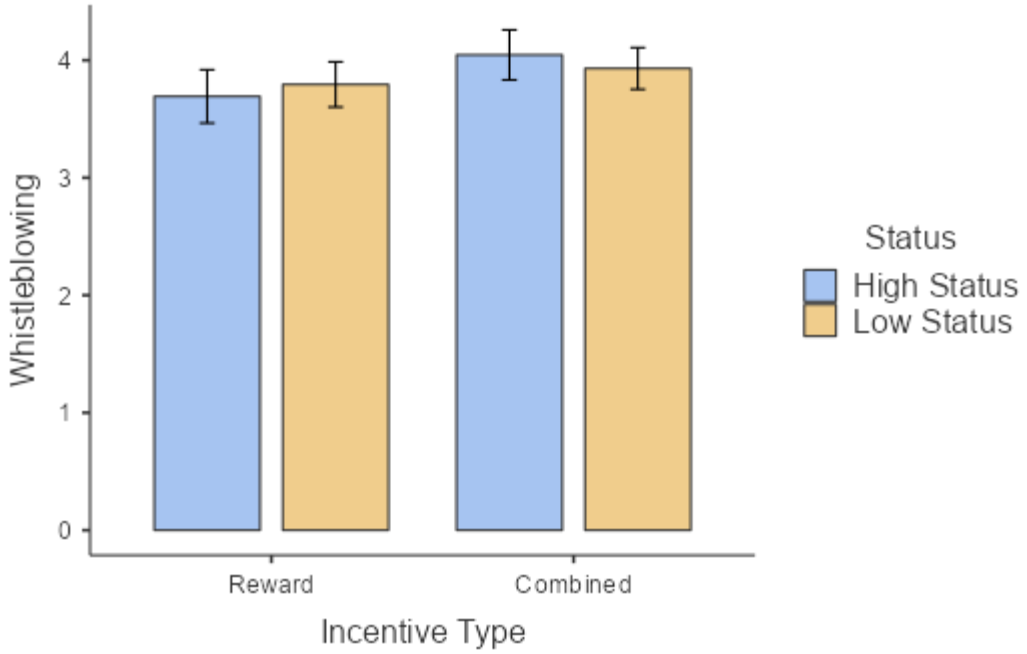
Table 40 - Post Hoc Comparisons for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Status

Comparison									
Incentive Type	**Status**		**Incentive Type**	**Status**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Reward	High Status	-	Reward	Low Status	-0.102	0.293	121	-0.348	0.985
		-	Combined	High Status	-0.353	0.326	121	-1.085	0.700
		-	Combined	Low Status	-0.238	0.279	121	-0.852	0.829
	Low Status	-	Combined	High Status	-0.251	0.308	121	-0.817	0.846
		-	Combined	Low Status	-0.136	0.258	121	-0.528	0.952
Combined	High Status	-	Combined	Low Status	0.115	0.295	121	0.391	0.980

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

Figure 12 - Descriptive bar plot for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Status



Source: Elaborated by the author.

In table 37, you can see that there was no significant difference in the whistleblowing intentions according to the incentive type (reward vs. combined, p = 0.241), the status of the perpetrator (high or low, p = 0.974), and the interaction between these (p = 0.602). The results comparing the wrong-doer status go against the literature, which has previously found that the fear of retaliation decreases whistleblowing intentions when the perpetrator is someone in a higher status position than the whistleblower when compared to a co-worker (Berger et al., 2017; Gao et al., 2015; Miceli et al., 1991, 1999; Rose et al., 2018; Teichmann & Falker, 2020).

In addition, the post hoc comparisons (table 40) also showed no significant differences between the conditions. This means that regardless of the contract type (reward or combined) and the status of the perpetrator (high or low), whistleblowers' willingness to report misconduct does not significantly differ. **These results lead us to reject hypothesis H5.**

H6 states that the difference between reporting under a contract that combines rewards and penalties compared with a penalty-only contract will be higher when the wrongdoer has high status compared to when the wrongdoer has low status under expectancy theory.

The ANOVA results (tables 41-44) to see if there was any significant difference between the whistleblowing intentions according to the incentive-type contracts (penalty versus combined) and the status of the perpetrator (high status versus low status) are the following:

Table 41 - Incentive Type Predicting Whistleblowing Intention under Penalty versus Combined and Moderated by Status

	Sum of Squares	df	Mean Square	F	p
Incentive Type	0.379	1	0.379	0.360	0.550
Status	2.43e-4	1	2.43e-4	2.31e-4	0.988
Incentive Type ✻ Status	0.379	1	0.379	0.360	0.550
Residuals	118.866	113	1.052		

Source: Elaborated by the author.

Table 42 - Post Hoc Comparisons for Incentive Type

Comparison							
Incentive Type		Incentive Type	Mean Difference	SE	df	t	p_{tukey}
Penalty	-	Combined	0.118	0.197	113	0.600	0.550

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

Table 43 - Post Hoc Comparisons for Status

Comparison							
Status		**Status**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
High Status	-	Low Status	-0.00300	0.197	113	-0.0152	0.988

Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

Table 44 – Post Hoc Comparisons for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Status

Comparison									
Incentive Type	**Status**		**Incentive Type**	**Status**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Penalty	High Status	-	Penalty	Low Status	-0.121	0.288	113	-0.421	0.975
		-	Combined	High Status	1.35e-15	0.309	113	4.35e-15	1.000
		-	Combined	Low Status	0.115	0.269	113	0.429	0.973
	Low Status	-	Combined	High Status	0.121	0.288	113	0.421	0.975
		-	Combined	Low Status	0.236	0.244	113	0.969	0.767
Combined	High Status	-	Combined	Low Status	0.115	0.269	113	0.429	0.973

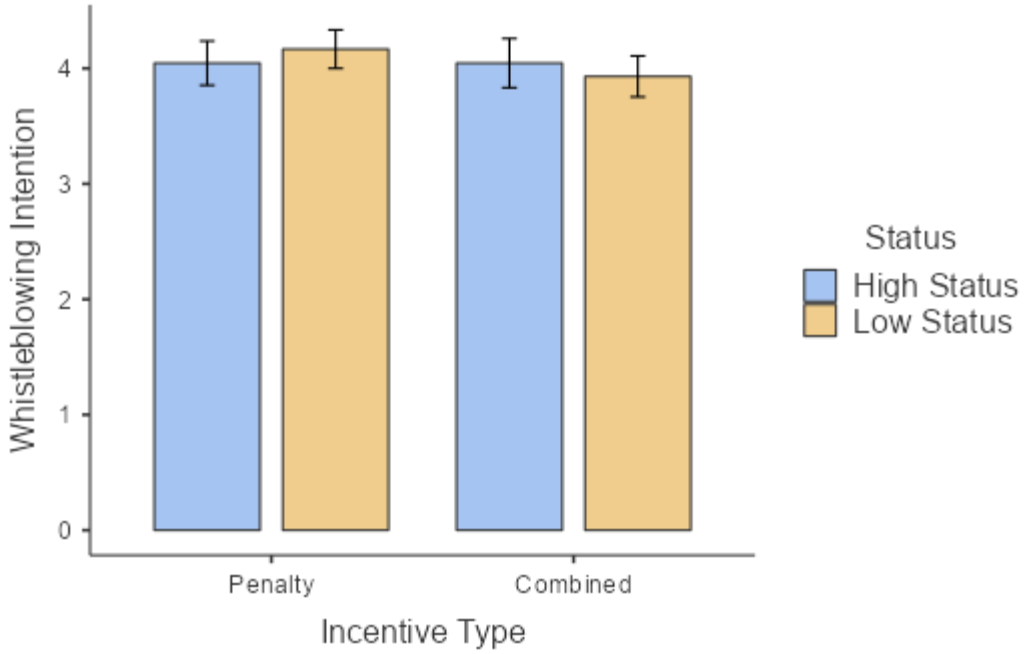
Note. Comparisons are based on estimated marginal means

Source: Elaborated by the author.

In table 41, you can see that there was no significant difference in the whistleblowing intentions according to the incentive type (p = 0.550) and the status of the perpetrator (p = 0.988), nor was there a significant interaction between these factors (p = 0.550). In addition, you can see in figure 9 the average whistleblowing intentions between incentive contract and status.

The post hoc comparisons (table 44) also showed no significant differences between whistleblowing under the different conditions. This means that regardless of the contract type (penalty or combined) and the status of the perpetrator (high or low), whistleblowers' willingness to report misconduct did not significantly differ. **These results lead us to reject H6.**

Figure 13 - Descriptive bar plot for Incentive Type Predicting Whistleblowing Intention under Reward versus Combined and Moderated by Status



Source: Elaborated by the author.

4.4.4 How do moral identity internalization and symbolization affect whistleblowing intentions?

H7 states that there will be a significant direct relationship between moral identity internalization and whistleblowing regardless of the incentive condition. First, I performed a linear regression (tables 45 and 46), as you can see in the following tables:

Table 45 - Model Coefficients – Whistleblowing Intention

Predictor	Estimate	SE	t	p
Intercept	2.259	0.385	5.87	< .001***
Internalization	0.364	0.086	4.22	< .001***

Note: * p < .05, ** p < .01, *** p < .001
Source: Elaborated by the author.

Table 46 – Model Fit Measures Moral Identity Internalization Predicting Whistleblowing Intention

Model	R	R^2
1	0.205	0.0419

Source: Elaborated by the author.

Table 45 shows that moral identity internalization is **significantly associated** with whistleblowing intentions ($t = 4.22$, $p < 0.001$). Table 46 shows a R^2 of 0.0419, which is a small effect size, meaning that moral identity internalization accounts for approximately 4.2% of the variance in whistleblowing intentions. These results provide support for **hypothesis 7**. Additionally, I performed an ANCOVA, to see if moral identity internalization is more strongly associated with whistleblowing than the incentive type. The results (tables 47 and 48) indicate that moral identity internalization is more **strongly associated** ($F = 17.95$, $p < 0.001$) with whistleblowing intentions than incentive conditions ($F = 1.55$, $p = 0.214$):

Table 47 - Moral Identity Internalization Predicting Whistleblowing Intention

	Sum of Squares	Df	Mean Square	F	P
Internalization	21.01	1	21.01	17.95	<0.001***
Incentive Contract	3.60	2	1.81	1.55	0.214
Residuals	473.08	404	1.17		

Note: * p < .05, ** p < .01, *** p < .001

Source: Elaborated by the author.

Table 48 - Post Hoc Comparisons for Incentive Type

Comparison							
Incentive Contract		**Incentive Contract**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Reward	-	Penalty	-0.2059	0.130	404	-1.584	0.254
	-	Combined	-0.1981	0.134	404	-1.475	0.304
Penalty	-	Combined	0.0079	0.130	404	0.061	0.998

Note: Comparisons are based on estimated marginal means.
Source: Elaborated by the author.

H8a states that moral identity symbolization will be a stronger predictor of whistleblowing intentions in a reward-only financial incentive condition compared to a penalty-only incentive condition. A regression analysis showed that controlling for moral identity internalization, moral identity symbolization was indeed a significant predictor of whistleblowing intentions in the reward-only condition ($B = 0.37$, $p < 0.01$), while moral identity symbolization was not a significant predictor of whistleblowing intentions in the penalty only condition, again controlling for moral identity internalization[3] ($B = 0.02$, $p = 0.84$).

In addition, ANCOVA analyses (table 49) showed that moral identity symbolization significantly interacted with (rewards-only/penalty-only) incentive contract in shaping whistleblowing behaviour ($F = 4.04$, $p < 0.05$). These findings provide **support for hypothesis H8a**.

[3] Note that the results were essentially the same whether or not internalization was included as a control.

Table 49 – Moral Identity Symbolization predicting Whistleblowing under Rewards versus Penalties

Source	Type III Sum of Squares	df	Mean Square	F	Sig
Corrected Model	16.985[a]	3	5.662	5.003	0.002**
Intercept	144.079	1	144.079	127,326	< .001***
Incentive Contract	6.398	1	6.398	5.654	0.018*
Symbolization	12.436	1	12.436	10.900	0.001***
Incentive Contract * Symbolization	4.570	1	4.570	4.039	0.045*
Error	310.051	274	1.132	-	-
Total	4,430.00	274	-	-	-
Corrected Total	327.036	277	-	-	-

[a]. $R^2 = 0.052$ (Adjusted $R^2 = 0.042$)
Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Source: Elaborated by the author.

We next turn attention to **H8b** which predicted that moral identity symbolization will be a stronger motivator of whistleblowing intentions in a combined (rewards and penalty) condition than in a penalty-only condition. Regression analysis showed that controlling for moral identity internalization, moral identity symbolization was not a significant predictor of whistleblowing intentions in the combined (rewards and penalty) condition ($B = 0.12$, $p = 0.31$) unlike in the reward-only condition, as reported above.

An ANCOVA analyses (table 50) also found that moral identity symbolization did not significantly interact with (combined/penalty-only) incentive contract in shaping whistleblowing behaviour ($F = 0.31$, $p = 0.58$). Therefore, **I did not find support for hypothesis H8b**.

Table 50 - Moral Identity Symbolization predicting Whistleblowing under Penalties versus Combined

Source	Type III Sum of Squares	df	Mean Square	F	Sig
Corrected Model	4.780[a]	3	1.593	1.332	0.264
Intercept	245.968	1	245.968	205.611	< 0.001***
Symbolization	4.598	1	4.598	3.836	0.051
Incentive Contract	0.391	1	0.391	0.327	0.568
Incentive Contract * Symbolization	0.365	1	0.365	0.305	0.581
Error	327.781	274	1.196	-	-
Total	4,622.00	278	-	-	-
Corrected Total	332.651	277	-	-	-

[a]. $R^2 = 0.014$ (Adjusted $R^2 = 0.004$)
Note: * p < 0.05, ** p < 0.01, *** p < 0.001
Source: Elaborated by the author.

4.5 Additional Analysis

While we have examined combined financial incentives versus reward/penalty-only incentive contracts in the previous section of the findings (testing H1-H6), a final piece of the jigsaw concerns whether there are any differences in whistleblowing intentions when reward-only versus penalty-only contracts are in use. Therefore, to provide this additional perspective, I performed analyses aimed to test if there were significant differences in the whistleblowing intentions between incentive contract groups (reward vs. penalty), closeness (close vs. not close), status (high status vs. low status), and if closeness or status would have a moderating effect on whistleblowing intentions depending on the incentive type (reward vs. penalty) conditions.

Tables 97, 98, and 99, and figure 15, in the appendix, show that there was no significant difference in whistleblowing intentions when we compare reward-only (mean = 3.73) versus penalty-only (mean = 3.94) incentive contracts (F = 2.54, p = 0.112).

Tables 51-52 and figure 14 show the ANOVA test that compares whistleblowing intentions across conditions, where participants were close versus not close to the perpetrator. As you can see, there was a **significant**

difference between the groups (F = 8.00, p = 0.005). The results indicate a significant effect of closeness with the perpetrator on whistleblowing intentions. The mean whistleblowing intention when the perpetrator was someone close to the whistleblower was 3.44, while when the perpetrator was not close, it was 3.97. Figure 14 shows that this difference is significant at a 95% confidence interval level.

Table 51 - Closeness Predicting Whistleblowing Intention

	F	df1	df2	p
Whistleblowing Intention	8.00	1	146	0.005**

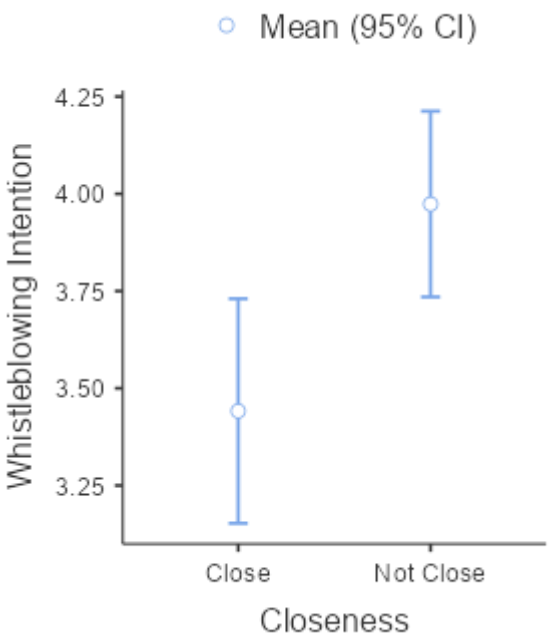
Note: * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: Elaborated by the author.

Table 52 - Group Descriptives for Closeness Predicting Whistleblowing Intention

	Closeness	N	Mean	SD	SE
Whistleblowing Intention	Close	77	3.44	1.27	0.145
	Not Close	76	3.97	1.05	0.120

Source: Elaborated by the author.

Figure 14 - Descriptive plot Closeness Predicting Whistleblowing Intention



Source: Elaborated by the author.

Tables 100-101 and figure 16 (Appendix) test the whistleblowing intention difference when the perpetrator was someone with a higher status than the whistleblower (mean = 3.91), compared with when they were the same status (mean = 3.95), as the whistleblower. Results show that there was no significant difference regarding blowing the whistle depending on perpetrator status (F = 0.0580; p = 0.810).

Tables 53-56, through an ANOVA test, show the interaction effect of incentive type (reward vs. penalty) and the closeness with the perpetrator (close or not close) regarding the whistleblowing intention of the participants. There was no significant interaction effect (p = 0.080). However, in the same direction as tables 51-52 and figure 14, we observe a **significant (direct) effect of closeness** condition (F = 8.155; p = 0.005) as outlined in table 55 and table 57.

Table 53 - Incentive Type Predicting Whistleblowing Intention under Rewards versus Penalties and Moderated by Closeness

	Sum of Squares	df	Mean Square	F	p
Incentive Type	0.246	1	0.246	0.185	0.668
Closeness	10.813	1	10.813	8.155	0.005**
Incentive Type ⁎ Closeness	4.127	1	4.127	3.113	0.080
Residuals	145.842	110	1.326		

Note: * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: Elaborated by the author.

Table 54 - Post Hoc Comparisons for Incentive Type

Comparison							
Incentive Type		Incentive Type	Mean Difference	SE	df	t	p_{tukey}
Reward	-	Penalty	-0.0941	0.219	110	-0.430	0.668

Note: Comparisons are based on estimated marginal means.
Source: Elaborated by the author.

Table 55 - Post Hoc Comparisons for Closeness

Comparison							
Closeness		Closeness	Mean Difference	SE	df	t	p_{tukey}
Close	-	Not Close	-0.625	0.219	110	-2.86	0.005**

Note[1]: * p < 0.05, ** p < 0.01, *** p < 0.001.
Note[2]: Comparisons are based on estimated marginal means.
Source: Elaborated by the author.

Table 56 - Post Hoc Comparisons for Incentive Type Predicting Whistleblowing Intention under Rewards versus Penalties and Moderated by Closeness

Comparison					Mean Difference	SE	df	T	p_{tukey}
Incentive Type	**Closeness**		**Incentive Type**	**Closeness**					
Reward	Close	-	Reward	Not Close	-1.010	0.333	110	-3.037	0.016*
		-	Penalty	Close	-0.480	0.302	110	-1.592	0.387
		-	Penalty	Not Close	-0.719	0.310	110	-2.322	0.099
	Not Close	-	Penalty	Close	0.530	0.309	110	1.716	0.320
		-	Penalty	Not Close	0.292	0.317	110	0.921	0.794
Penalty	Close	-	Penalty	Not Close	-0.239	0.284	110	-0.841	0.835

Note[1]: * p < 0.05, ** p < 0.01, *** p < 0.001.
Note[2]: Comparisons are based on estimated marginal means.
Source: Elaborated by the author.

Table 56 shows specifically that there was a **significant difference in whistleblowing intention when we compare the closeness of the perpetrator in the reward-only incentive contract** (t = -3.037, p = 0.016). At the same time, there was no difference when we look at the penalty-only incentive contract condition (t = -0.841, p = 0.835).

Tables 102-105 (Appendix) show if there was any significant difference comparing the incentive type (reward vs. penalty), and the status of the perpetrator (high-status or low-status) regarding whistleblowing intention. There was no significant difference in the whistleblowing intention regarding the incentive type (p = 0.071), the status (p = 0.576), and the interaction (p = 0.961).

The post hoc comparisons (table 105) also showed no significant differences between whistleblowing under the different conditions. This means that independently of the contract type (reward or penalty) and the status of the perpetrator (high or low), whistleblowers' willingness to report misconduct did not significantly differ.

5 Discussion

Before I start this discussion, I would like to draw the reader's attention to table 57, which summarizes the findings for each hypothesis. Hypotheses H1 to H6, and H8b were **rejected**, and hypotheses H7 and H8a were **supported**. This means that no significant difference was found between reporting under a contract that combines rewards and penalties, compared to a reward/penalty-only contract, even when the perpetrator was a close friend compared to when he/she was not and when he/she had higher status than the whistleblower compared to when he/she was a peer. Conversely, moral identity internalization had a significant positive relationship with whistleblowing intentions regardless of the incentive contract in use. Finally, moral identity symbolization was a stronger predictor of whistleblowing when there was a rewards-only incentive contract than when there was a penalties-only one.

Table 57 - Hypotheses status

Hypothesis	Reward vs. Combined	Penalty vs. Combined	Reward vs. Penalty	Moderating/Covariate variable	Status
H1	X	-	-	-	Rejected
H2	-	X	-	-	Rejected
H3	X	-	-	Closeness	Rejected
H4	-	X	-	Closeness	Rejected
H5	X	-	-	Status	Rejected
H6	-	X	-	Status	Rejected
H7	**X**	**X**	**X**	**Internalization**	**Supported**
H8a	**-**	**X**	**X**	**Symbolization**	**Supported**
H8b	-	X	-	Symbolization	Rejected

Source: Elaborated by the author.

Let's start this discussion by considering the results in accordance with past literature. Table 32 shows that in the 'reward-only' condition, there was a significant difference in participants' willingness to blow the whistle when the perpetrator was a close friend compared to when he/she was not known to them. In addition, figure 10 shows that in the context of a 'reward-only' contract, people were less likely to blow the whistle when the perpetrator was a close friend (King, 1997; Miller & Thomas, 2005; Boo et al., 2016). This finding aligns with past literature, which suggests that this happens because the partnership created in the work environment makes the act of blowing the whistle on a close friend feel

like an act of disloyalty, independent of the costs involved (King, 1997; Miller & Thomas, 2005; Boo et al., 2016).

Table 32 also shows that there was no significant difference between reporting someone close under a “reward-only” contract and a “combined” contract, meaning that a penalty combined with a reward was not a “strong” enough incentive to encourage whistleblowing behaviour that may be perceived as an act of disloyalty towards a friend. This finding could represent a risk to the company because even penalties combined with rewards cannot protect the company’s patrimony/equity in this situation. However, table 36 shows that under a ‘penalty-only’ contract there was no significant difference in whistleblowing intentions depending on the closeness of the perpetrator (Boo et al., 2016; Chen et al., 2017; Feldman & Lobel, 2010).

From a company’s perspective, penalty-only incentives do not incur costs associated with substantial rewards but appear equally effective in encouraging whistleblowing regardless of the nature of the relationship between the perpetrator and the potential whistleblower. However, companies must be aware that penalty-only contracts can be seen as unfair and could lead to corruption and cheating (Nosenzo, 2016). Specifically, they may cause resentment or suspicion among employees (Brink & Rankin, 2013), and make employees less willing to work in firms that offer this kind of contract (Nichol, 2019).

Regarding the perpetrator’s status, I found that it did not matter if a ‘reward/penalty-only’ contract or a ‘combined’ contract was used, there was no significant difference in the intention to blow the whistle between the groups (tables 40 and 44, and figures 12 and 13). In addition, the average whistleblowing intention in the high-status conditions in the penalty-only and combined incentive contracts was 4.05, as table 21 shows (the average whistleblowing intention in the reward-only contract was 3.69).

In fact, we can interpret this result as a positive one. Research shows that managers, executives, or owners commit 55% of frauds, and the losses are

up to six times higher compared to those committed by other members of an organization (ACFE, 2022). In addition, results show that intentions to blow the whistle were not significantly affected by the status of the wrongdoer, unlike the findings reported for perpetrator closeness.

Moving onto my hypotheses, it was predicted that employees would be more willing to report misconduct when there was a contract that combined rewards and penalties compared to a reward/penalty-only contract, especially when the perpetrator was a close friend or had a higher status, under expectancy/prospect theory (**H1**, **H2**, **H3**, **H4**, **H5** and **H6**). These hypotheses were not confirmed in my analysis.

Expectancy theory predicts that individuals would be motivated by their expectations regarding the results of their actions (Lobos, 1975; Pepper & Gore, 2014). According to the results, there was no significant difference between participants' expectations when they faced a reward/penalty-only contract compared to a contract that combined rewards and penalties. Therefore, the incentive difference was not enough to change their intentions to blow the whistle. Other factors were probably more important in their decision making than the incentive type, e.g., whether the perpetrator was someone close compared to when they were not.

At the same time, prospect theory states that rewards and penalties are perceived as deviations from a neutral reference point, with rewards being perceived as gains and penalties as losses (Tversky & Kahneman, 1989, 1991). In addition, because the value function for losses is more pronounced than for gains, the discontentment associated with losses is up to twice as intense as the pleasure associated with gains (Kahneman, 1979), causing people generally to show greater behaviour change to avoid a penalty than to receive a reward (Imas et al., 2017; Mahmoodi et al., 2018). Based on the results, the introduction of a penalty (which would bring the effect of a loss) to a reward contract (i.e., a combined contract) does not significantly increase participants' whistleblowing intentions compared to a reward-only situation. Thus, I do not find significant

evidence of loss aversion, or its effect appears to be annulled in the current context.

Gal and Rucker (2018) found that current evidence does not support the hypothesis that losses, in general, have more impact than gains–- as is widely accepted by social scientists. Instead, they suggest there is a need for a more contextualized perspective, where losses could loom larger than gains, or they (losses and gains) could have the same effect, or gains could loom larger than losses. For example, past research found that "when accepting a risky bet is not framed as the sole action option, but as one option in a choice between two action options, no evidence for loss aversion emerges" (p. 505-506).

Gal and Rucker (2018) conducted an experiment in Mturk® where they asked participants to choose between (A) receiving $0 with 100% chance or (B) $15 with 50% chance of losing the same amount. They performed this experiment twice and both times participants chose more often option B (the riskier one). Although some papers have found that higher amounts make participants chose the safer option (Gao & Rucker, 2018), loss aversion should be independent of that (Kahneman, 1979).

According to Gal and Rucker's (2018) research, other studies found that people do not prefer bets with smaller degrees of possible losses and gains to bets with larger degrees of possible losses and gains (Erev et al., 2008; Ert & Erev, 2013; Hochman & Yechiam, 2011; Katz, 1964). In Erev and colleagues' (2008) experiment, 48% of the sample chose the safer option, and 52% chose the riskier option. Yechiam and Hochman's (2013) review found little evidence that losses loom larger than gains in bet contexts. In addition, Regenwetter and colleagues (2021) state that Tversky and Kahneman's original findings show that approximately half of their sample violate their own theory.

I'm not arguing that prospect theory should not be considered, but based on these findings it may be suggested that while losses may often have a greater psychological impact than gains, this principal will not apply on all occasions. Factors including measurement error and boundary conditions may

have an impact on perceptions of loss aversion (Gal & Rucker, 2018). Consistent with past results (Gal & Rucker, 2018; Erev et al., 2008; Ert & Erev, 2013; Hochman & Yechiam, 2011; Katz, 1964; Yechiam & Hochman; 2013; Regenwetter et al., 2022), my additional analysis indicated that there was no significant difference in the willingness to blow the whistle between a reward (Mean = 3.73) and a penalty (Mean = 3.94) incentive contract (table 49 and figure 10).

These findings could argue in favour of organizations implementing a combined incentives contract, because if there is no difference between reporting under a reward/penalty-only contract and a combined one, and reward/penalty-only contracts have side effects (Tenbrunsel & Messick, 1999; Lambert, 2001; Brink & Rankin, 2013; Nosenzo, 2016; Stikeleather, 2016; Berger et al., 2017; Barret et al., 2018; Nichol, 2019; Teichmann & Falker, 2020), an incentive contract that combines rewards and penalties for whistleblowing policies could work. This is because rewards and penalties complement each other providing an incentive for desirable behaviour and, at the same time, a disincentive for undesirable behaviour. In addition, a reward component in a penalty contract could make it more fair in the eyes of employees; this combination can provide motivational advantages and increase cooperation compared with rewards or penalty-only contracts (Luft, 1994; Andreoni et al., 2003; Brink, 2011; Brink & Rankin, 2013; Armantier & Boly, 2015; Chen et al., 2015; Mahmoodi et al., 2018).

Hypotheses 7, 8a, and 8b respectively state that there would be a significant direct relationship between moral identity internalization and whistleblowing, regardless of the incentive condition (H7); that moral identity symbolization would be a stronger predictor of whistleblowing in a reward-only incentive contract condition compared to a penalty-only incentive condition (H8a); and that moral identity symbolization would be a stronger predictor of whistleblowing in a combined incentive contract condition compared to a penalty-only incentive condition (8b). Hypotheses **H7 and H8a were supported**.

These results are in accordance with past research (Khan, et a., 2020; McClain & Seifert, 2018; Proost et al., 2013) that also found a direct association of moral identity on whistleblowing. However, different from most of them (Khan, et a., 2020; Proost et al., 2013), we used moral identity's two dimensions in our analysis: internalization and symbolization.

The results show that moral identity plays an important role in whistleblowing intentions (Tables 46, 47, and 49), similar to the importance of loyalty found by Proost et al. (2013), as also demonstrated in the additional analysis section (Table 51 and Figure 14). High moral identity "internalizers" are driven by their intrinsic desire to act morally, which motivates them to blow the whistle when they witness misconduct, regardless of any extrinsic factors or incentives (McClain & Seifert, 2018). This highlights a significant finding: intrinsic motivation could be a key driver of whistleblowing decisions. Based on this analysis, companies should prioritize hiring individuals with high levels of moral identity internalization. Furthermore, the significant positive correlation observed between higher levels of ethical training and an increased willingness to engage in whistleblowing behaviour (Table 22) suggests that promoting and investing in comprehensive ethical training programs could be a compelling strategy for organizations. By fostering a culture of accountability and integrity through ethical training, companies can enhance their efforts to protect their equity and reputation by encouraging whistleblowing. It should be noted, however, that ethical training levels were observed rather than manipulated in our study design, so further experimental evidence on the impact of ethical training interventions would be beneficial.

The observed correlations between ethical training level, moral identity internalization, and symbolization prompt a nuanced consideration of the dynamics at play. While our findings suggest a positive association between higher levels of ethical training and increased moral identity internalization and symbolization, the direction of causality remains ambiguous. It is plausible that individuals with a predisposition toward moral identity symbolization may be more inclined to seek out and engage in ethical training to reaffirm their moral

standing or to demonstrate their commitment to ethical principles, and probably people with high moral identity internalization would also see it as important to attend.

Conversely, it is also conceivable that participation in ethical training programs may heighten the salience of moral issues for individuals, potentially enhancing their moral identity. Moreover, the relationship between these variables may be bidirectional, with ethical training reinforcing existing moral identities while simultaneously fostering a deeper understanding and internalization of ethical principles. Further exploration of these complex dynamics could shed light on the interplay between ethical training, moral identity, and whistleblowing behaviour, informing more targeted interventions and organizational policies aimed at promoting ethical conduct and accountability.

On the other hand, “symbolizers”, who care how they are seen by others (Aquino & Reed, 2002; Boegershausen et al., 2015) appear to be motivated to blow the whistle when a reward contract is in place because the receipt of a reward is a way of demonstrating their moral identity to those around them. Receiving a reward publicly signals the moral values of a person and can improve social reputation (Henrich & Gil-White, 2001; Jordan et al., 2016; Jordan et al., 2017; Anderson et al., 2020). According to Li and colleagues (2021), “symbolizers” are guided by extrinsic drivers, such as rewards, and therefore, they are willing to participate in moral behaviour only when it will be recognized by others (Winterich et al., 2013). That being so, if companies want to implement reward-only financial contracts to promote whistleblowing, they should look for people with high levels of moral identity symbolization.

While these results provide support for Hypothesis 7, it is important to note that moral identity was measured rather than manipulated in this study. This distinction highlights that the current findings demonstrate associations rather than representing a strong test of causal relationships. Future research could enhance the understanding of causality by manipulating the salience of moral

identity to provide a stronger test of its impact on whistleblowing intentions. However, it is also worth noting that moral identity, encompassing both internalization and symbolization, captures deep-rooted individual differences. These characteristics are inherently stable and may be challenging to manipulate validly in experimental settings. Therefore, any attempts to experimentally alter moral identity must be approached with careful consideration of these complexities.

Moral identity and closeness were found to have a significant effect on whistleblowing. Conversely, the status of the wrong doer (tables 100-101 and figure 16), and the incentive contract type (tables 97-98 and figure 15) largely did not significantly predict whistleblowing behaviour, contrary to past research (Andon et al., 2018; Dyck et al., 2010; Pope & Lee, 2013; Rose et al., 2018; Xu & Ziegenfuss, 2008; Feldman & Lobel, 2010; Boo et al., 2016; Chen et al., 2017; Gao et al., 2015). However, according to self-determination theory (SDT), extrinsic incentives would diminish intrinsic ones (Reiss, 2012). SDT assumes that humans are active organisms, motivated to absorb and collect knowledge and capacities in physical and social environments. SDT started from research on the effects of intrinsic and extrinsic rewards on human motivation, and the results suggested that monetary rewards decreased intrinsic motivation. In addition, positive feedback could increase intrinsic motivation (Deci, 1971; Deci & Ryan, 1980; Deci & Ryan, 1985; Deci & Ryan, 2008; Deci & Ryan, 2012; Ryan, 1995; Vansteenkiste & Ryan, 2013; Adam et al., 2017).

In addition, juxtaposed against these findings is the prevalence of Motivational Crowding Theory (MCT) in explaining whistleblowing behaviour. According to table 6 in chapter 2, MCT is the theory that is most commonly applied to explain whistleblowing behaviour in the presence of incentives. MCT posits that external interventions, such as monetary incentives or punishments, have the potential to either undermine or reinforce intrinsic motivations (Frey & Jegen, 2001). This apparent contradiction underscores the complexity of whistleblowing decisions, wherein internal moral considerations may interact with external incentives in nuanced ways. Further exploration of these dynamics,

informed by both empirical evidence and theoretical frameworks, is crucial for a comprehensive understanding of whistleblowing behaviour and the development of effective intervention strategies.

These findings provide evidence of the importance of intrinsic (moral identity internalization and loyalty, in the case of closeness of the wrongdoer) factors versus extrinsic (incentive contracts) factors as motivators of whistleblowing. Future research examining the importance of social/moral values on whistleblowing could shed further light on this matter. Also, future research could provide additional insights into the impact of intrinsic versus extrinsic factors on whistleblowing intentions.

We already have practical evidence of how reward or penalty-only (financial or not) contracts influence whistleblowing in the corporate environment. This study provides new evidence on the impact of combined incentives contracts on whistleblowing. Perhaps future research could apply this kind of (combined) incentive contract in a company's whistleblowing policy to test its effectiveness in the real world.

This research has some limitations. First, the measurement of whistleblowing is a limitation itself as Cintya and Yustina (2019) argue. The authors discuss that it is very difficult to capture someone's intention to blow the whistle. In addition, this study was conducted in a virtual setting without real consequences in terms of rewards or penalties. Therefore, case studies applying combined incentive contracts in whistleblowing policies could bring more light on the subject.

The scenario adopted could be seen as one of the limitations. According to Gravetter and Forzano (2018), scenarios are not only built to evaluate the respondents' behaviour for that hypothetical situation, but also for similar ones. There are two kinds of experimental scenarios, mundane and realistic. The latter's objective is to provide a situation where the respondent could consider that the scenario provides an impact on the participant's decision, catching the

individual's attention, but without details that simulate reality. While in the former, real-life aspects are introduced. However, this can interfere with the causal interpretation due to the addition of extremely detailed contexts (Haynes & Kachelmeier, 1998; Kadous & Zhou, 2017). In addition, future research could add the impact of reward size on combined incentive contracts and how it affects whistleblowing intention.

The sample is another limitation for two reasons: First, participants were pre-screened to be from the USA, like most of the samples in whistleblowing research, and this could not give us a full picture of whistleblowing behaviour in other parts of the world. Future research could use samples from different nationalities, perhaps from outside the USA and Europe; Second, the sample came from Prolific©. This is likely to be a non-naïve sample, as participants will likely have undertaken many similar types of research in the past and may be able to anticipate what is expected of them, another reason why a case study would be valuable to bring additional light on this subject.

In addition, in the experimental design we chose not to specify the exact amounts of the incentives or penalties involved. Previous research has demonstrated that the magnitude of incentives can significantly influence whistleblowing decisions (Brink et al., 2013; Lee et al., 2020). Thus, the absence of specific amounts may have affected participants' perceptions and responses, potentially limiting the validity of the findings. Future research should address this limitation by incorporating explicit amounts for rewards and penalties in experimental designs to more accurately assess their impact on whistleblowing behaviour. By quantifying the incentives, researchers can better understand the threshold levels at which rewards and penalties become effective in promoting whistleblowing, providing more nuanced insights into the design of incentive mechanisms within organizations. Such research could help to enhance theoretical models and may offer practical guidance for implementing incentive systems that effectively encourage ethical behaviour and accountability.

CHAPTER 4: Conclusion

The whistleblowing literature has seen extensive exploration in recent years, particularly concerning the influence of incentives on whistleblowing intentions (Lee, 2020; Krambia-Kapardis, 2020; Andon et al., 2018; Dhamija & Rai, 2017; Chen et al., 2017; Boo et al., 2016; Stikeleather, 2016; Butler et al., 2019; Farrar et al., 2019; Latan et al., 2019; Li et al., 2021; Rose et al., 2018; Sorensen et al., 2020).

The literature on whistleblowing and financial incentives presents a complex picture characterized by conflicting findings and unresolved questions. While extensive research has examined the influence of rewards and penalties on whistleblowing behaviour, significant gaps persist in our understanding of the optimal incentive structures and their effects on organizational dynamics (Andon et al., 2018; Boo et al., 2016; Chen et al., 2017; Dyck et al., 2010; Teichmann & Falker, 2020).

Existing studies have predominantly focused on the individual effects of rewards or penalties, often overlooking the potential synergistic benefits of combining both approaches (Boo et al., 2016; Chen et al., 2017; Feldman & Lobel, 2010). Moreover, the literature has paid limited attention to the complex interactions between incentive contracts (Scherbarth & Behringer, 2021; Tomo et al., 2020). Consequently, there remains a notable gap in our knowledge regarding the most effective strategies for incentivizing whistleblowing behaviour while mitigating the adverse side effects associated with both rewards and penalties (Berger et al., 2017; Teichmann & Falker, 2020).

Additionally, while some studies have advocated for the adoption of combined incentive contracts as a solution to address the limitations of individual approaches, empirical evidence supporting this assertion remains inconclusive (Boo et al., 2016; Gilligan et al., 2017; Teichmann & Falker, 2020). Thus, there is a pressing need to explore the complexities of whistleblowing incentives within diverse organizational settings and to identify novel

approaches that maximize ethical reporting while minimizing unintended consequences (Andon et al., 2018; Mahmoodi et al., 2018; Pei et al., 2020).

This dissertation aimed to contribute to this field through a systematic literature review and an experimental study, both focused on understanding the dynamics of incentive contracts and their impact on whistleblowing behaviour. In synthesizing the empirical findings and addressing the research questions posed in each paper, several key insights emerge.

The systematic literature review illuminated the literature on whistleblowing research, highlighting the prevalence of monetary incentives and the predominance of experimental methodologies. While monetary rewards emerged as a significant factor in incentivizing whistleblowing, the inclusion of non-monetary rewards and the cultivation of strong working relationships between employees and management were identified as critical factors in enhancing whistleblowing intentions. According to this research, organizations should adopt comprehensive incentive systems that acknowledge the complex interplay between financial and non-financial incentives, tailored to the specific context and the severity of the wrongdoing.

In the experimental study, the effectiveness of combined reward-penalty incentive contracts was scrutinized, revealing that such contracts did not significantly increase whistleblowing intentions compared to reward-only or penalty-only contracts. However, factors such as the closeness of the potential whistleblower to the wrongdoer and the moral identity of the potential whistleblower were found to significantly influence whistleblowing intentions. These findings underscore the complexity of whistleblowing motivations and advocate for a complex approach that considers both intrinsic and extrinsic factors.

The research conducted in this dissertation not only addressed the stated research questions but also significantly contributed to the body of knowledge in the field of whistleblowing and financial incentives. The first paper comprehensively synthesized existing research on the influence of incentives

on whistleblowing intentions, addressing key questions regarding the types of incentives examined, the outcomes associated with different incentive structures, and the methodological approaches employed in analysing this relationship (Andon et al., 2018; Boo et al., 2016; Chen et al., 2017). By identifying predominant trends such as the prevalence of monetary incentives and the use of experimental methodologies, the study provided a comprehensive overview of the current state of knowledge in the field, shedding light on areas of consensus and areas requiring further investigation (Teichmann & Falker, 2020; Vandekerckhove & Lewis, 2012).

In the subsequent experimental study, the second paper delved deeper into the efficacy of combined reward-penalty incentive contracts in influencing whistleblowing intentions compared to individual reward-only or penalty-only contracts, addressing a notable gap in the literature (Boo et al., 2016; Gilligan et al., 2017; Teichmann & Falker, 2020). By examining the moderating effects of various factors such as the closeness of the potential whistleblower to the wrongdoer and the moral identity of the potential whistleblower, the study provided nuanced insights into the complex dynamics underlying whistleblowing decisions (Andon et al., 2018; Mahmoodi et al., 2018; Pei et al., 2020). Overall, the research not only answered critical research questions but also advanced our understanding of whistleblowing behaviour and offered practical implications for organizations seeking to cultivate ethical reporting cultures.

Collectively, the findings of this dissertation contribute to the literature on whistleblowing by providing a comprehensive understanding of the role of incentives in shaping whistleblowing behaviour. By elucidating the interplay between incentive structures, organizational culture, and individual motivations, this research offers practical insights for organizations seeking to enhance their whistleblowing programs. Moreover, the identification of intrinsic factors such as moral identity and ethical training as significant predictors of whistleblowing intentions highlights the importance of fostering ethical awareness and integrity within organizational settings.

While this dissertation advances our understanding of whistleblowing behaviour, several avenues for future research emerge. Further exploration of the interplay between intrinsic and extrinsic motivators, as well as the examination of social and moral values in whistleblowing decisions, could provide deeper insights into the complex dynamics at play. Additionally, longitudinal studies tracking the evolution of whistleblowing intentions over time and across different organizational contexts could offer valuable insights into the effectiveness of whistleblowing policies and interventions.

In conclusion, this dissertation underscores the multifaceted nature of whistleblowing behaviour and emphasizes the importance of holistic approaches that consider both individual and organizational factors. By integrating empirical findings with theoretical insights, this research contributes to the ongoing discourse on whistleblowing and offers actionable recommendations for organizations striving to foster ethical conduct and accountability.

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APPENDIX A - Participants

You can see how the demographics are distributed among the incentive contract groups (reward, penalty and combined) in table 58. In addition, six people were excluded of the final sample because they failed in the attention checks.

Table 58 - Descriptive analysis

	Incentive Contract	Work Experience	Educational Level	Ethical Training Level	Age
N	Reward	130	127	130	129
	Penalty	148	147	148	146
	Combined	130	129	130	127
Missing	Reward	0	3	0	1
	Penalty	0	1	0	2
	Combined	0	1	0	3
Mean	Reward	17.9	2.83	5.62	39.2
	Penalty	17.5	2.76	5.33	39.0
	Combined	19.0	2.61	5.25	39.4
Standard deviation	Reward	11.3	0.918	2.28	12.1
	Penalty	12.3	0.989	2.44	12.2
	Combined	11.1	0.987	2.38	11.5
Variance	Reward	129	0.843	5.21	147
	Penalty	152	0.977	5.95	148
	Combined	123	0.974	5.66	131

Source: Elaborated by the author.

APPENDIX B - Manipulation Checks

In the following you can see the results of the manipulation checks for each experimental design regarding each manipulation applied:

Table 59 - Independent Samples T-Test (Reward versus Combined and Closeness)

		Statistic	df	p
Reward Perception	Student's t	-0.590	85.0	0.556
Penalty Perception	Student's t	-8.303	85.0	< .001

Note. H_a $\mu_{Reward} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 60 - Independent Samples T-Test (Reward versus Combined and Closeness)

		Statistic	df	p
Closeness Perception	Student's t	18.7	85.0	< .001

Note. H_a $\mu_{Close} \neq \mu_{Not\ Close}$

Source: Elaborated by the author.

Table 61 - Independent Samples T-Test (Penalty versus Combined and Closeness)

		Statistic	df	p
Reward Perception	Student's t	-8.3201	103	< .001
Penalty Perception	Student's t	-0.0720	103	0.943

Note. H_a $\mu_{Penalty} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 62 - Independent Samples T-Test (Penalty versus Combined and Closeness)

		Statistic	df	p
Closeness Perception	Student's t	15.8 [a]	103	< .001

Note. H_a $\mu_{Close} \neq \mu_{Not\ Close}$

[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

Source: Elaborated by the author.

Table 63 - Independent Samples T-Test (Reward versus Combined and Status)

		Statistic	df	p
Reward Perception	Student's t	-0.646	123	0.520
Penalty Perception	Student's t	-9.260	123	< .001

Note. H_a $\mu_{Reward} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 64 - Independent Samples T-Test (Reward versus Combined and Status)

		Statistic	df	p
Status Perception	Student's t	14.7 [a]	123	< .001

Note. H_a $\mu_{High\ Status} \neq \mu_{Low\ Status}$

[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

Source: Elaborated by the author.

Table 65 - Independent Samples T-Test (Penalty versus Combined and Status)

		Statistic	df	p
Reward Perception	Student's t	-8.08	115	< .001
Penalty Perception	Student's t	1.17	115	0.246

Note. H_a $\mu_{Penalty} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 66 - Independent Samples T-Test (Penalty versus Combined and Status)

		Statistic	df	p
Status Perception	Student's t	13.8	115	< .001

Note. H_a $\mu_{\text{High Status}} \neq \mu_{\text{Low Status}}$

Source: Elaborated by the author.

APPENDIX C - Preliminary Checks

I tested if there were significant differences in the demographics between the groups using the Student's T-test and chi-squared test as follows:

Table 67 - Independent Samples T-Test (Reward versus Combined)

		Statistic	df	p
Work Experience	Student's t	-0.7956	258	0.427
Educational Level	Student's t	1.7990 [a]	254	0.073
Ethical Training Level	Student's t	1.3033	258	0.194
Age	Student's t	-0.0775	254	0.938

Note. H_a $\mu_{Reward} \neq \mu_{Combined}$

[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

Source: Elaborated by the author.

Table 68 - Contingency Tables (Reward versus Combined)

		Incentive Type		
Gender		Reward	Combined	Total
Male	Observed	71	67	138
	% within row	51.4 %	48.6 %	100.0 %
Female	Observed	58	61	119
	% within row	48.7 %	51.3 %	100.0 %
Total	Observed	129	128	257
	% within row	50.2 %	49.8 %	100.0 %

Source: Elaborated by the author.

Table 69 - χ^2 Tests (Reward versus Combined)

	Value	df	p
χ^2	0.188	1	0.665
N	257		

Source: Elaborated by the author.

Table 70 - Independent Samples T-Test (Penalty versus Combined)

		Statistic	df	p
Work Experience	Student's t	-1.060	276	0.290
Educational Level	Student's t	1.255	274	0.211
Ethical Training Level	Student's t	0.293	276	0.770
Age	Student's t	-0.219	271	0.827

Note. H_a $\mu_{Penalty} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 71 - Contingency Tables (Penalty versus Combined)

		Incentive Type		
Gender		**Penalty**	**Combined**	**Total**
Male	Observed	74	67	141
	% within row	52.5 %	47.5 %	100.0 %
Female	Observed	72	61	133
	% within row	54.1 %	45.9 %	100.0 %
Total	Observed	146	128	274
	% within row	53.3 %	46.7 %	100.0 %

Source: Elaborated by the author.

Table 72 - χ^2 Tests (Penalty versus Combined)

	Value	df	p
χ^2	0.0751	1	0.784
N	274		

Source: Elaborated by the author.

Table 73 - Independent Samples T-Test (Reward versus Combined and Closeness)

		Statistic	df	p
Work Experience	Student's t	-1.302	85.0	0.196
Educational Level	Student's t	1.041 [a]	84.0	0.301
Ethical Training Level	Student's t	1.338	85.0	0.184
Age	Student's t	-0.396	82.0	0.693

Note. H_a $\mu_{Reward} \neq \mu_{Combined}$

[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

Source: Elaborated by the author.

Table 74 - Independent Samples T-Test (Reward versus Combined and Closeness)

		Statistic	df	p
Work Experience	Student's t	0.849	85.0	0.398
Educational Level	Student's t	0.382	84.0	0.704
Ethical Training Level	Student's t	-1.008	85.0	0.316
Age	Student's t	1.548	82.0	0.125

Note. H_a $\mu_{Close} \neq \mu_{Not\ Close}$

Source: Elaborated by the author.

Table 75 - Contingency Tables (Reward versus Combined and Closeness)

		Incentive Type		
Gender		**Reward**	**Combined**	**Total**
Male	Observed	25	20	45
	% within row	55.6 %	44.4 %	100.0 %
Female	Observed	22	18	40
	% within row	55.0 %	45.0 %	100.0 %
Total	Observed	47	38	85
	% within row	55.3 %	44.7 %	100.0 %

Source: Elaborated by the author.

Table 76 - χ^2 Tests (Reward versus Combined and Closeness)

	Value	df	p
χ^2	0.00264	1	0.959
N	85		

Source: Elaborated by the author.

Table 77 - Contingency Tables (Reward versus Combined and Closeness)

		Closeness		
Gender		**Close**	**Not Close**	**Total**
Male	Observed	23	22	45
	% within row	51.1 %	48.9 %	100.0 %
Female	Observed	18	22	40
	% within row	45.0 %	55.0 %	100.0 %
Total	Observed	41	44	85
	% within row	48.2 %	51.8 %	100.0 %

Source: Elaborated by the author.

Table 78 - χ^2 Tests (Reward versus Combined and Closeness)

	Value	df	p
χ^2	0.317	1	0.574
N	85		

Source: Elaborated by the author.

Table 79 - Independent Samples T-Test (Penalty versus Combined and Closeness)

		Statistic	df	p
Work Experience	Student's t	-1.505	103	0.135
Educational Level	Student's t	0.253	102	0.801
Ethical Training Level	Student's t	-0.389	103	0.698
Age	Student's t	-0.438	100	0.662

Note. $H_a\ \mu_{Penalty} \neq \mu_{Combined}$
Source: Elaborated by the author.

Table 80 - Independent Samples T-Test (Penalty versus Combined and Closeness)

		Statistic	df	p
Work Experience	Student's t	0.618	103	0.538
Educational Level	Student's t	1.111	102	0.269
Ethical Training Level	Student's t	-0.609	103	0.544
Age	Student's t	0.671	100	0.504

Note. H_a $\mu_{Close} \neq \mu_{Not\ Close}$

Source: Elaborated by the author.

Table 81 - Contingency Tables (Penalty versus Combined and Closeness)

		Incentive Type		
Gender		**Penalty**	**Combined**	**Total**
Male	Observed	31	20	51
	% within row	60.8 %	39.2 %	100.0 %
Female	Observed	34	18	52
	% within row	65.4 %	34.6 %	100.0 %
Total	Observed	65	38	103
	% within row	63.1 %	36.9 %	100.0 %

Source: Elaborated by the author.

Table 82 - χ^2 Tests (Penalty versus Combined and Closeness)

	Value	df	p
χ^2	0.234	1	0.629
N	103		

Source: Elaborated by the author.

Table 83 - Contingency Tables (Penalty versus Combined and Closeness)

		Closeness		
Gender		**Close**	**Not Close**	**Total**
Male	Observed	28	23	51
	% within row	54.9 %	45.1 %	100.0 %
Female	Observed	23	29	52
	% within row	44.2 %	55.8 %	100.0 %
Total	Observed	51	52	103
	% within row	49.5 %	50.5 %	100.0 %

Source: Elaborated by the author.

Table 84 - χ^2 Tests (Penalty versus Combined and Closeness)

	Value	**df**	**p**
χ^2	1.17	1	0.279
N	103		

Source: Elaborated by the author.

Table 85 - Independent Samples T-Test (Reward versus Combined and Status)

		Statistic	**df**	**p**
Work Experience	Student's t	0.385	123	0.701
Educational Level	Student's t	1.576	120	0.118
Ethical Training Level	Student's t	0.495	123	0.622
Age	Student's t	0.678	123	0.499

Note. $H_a\ \mu_{Reward} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 86 - Independent Samples T-Test (Reward versus Combined and Status)

		Statistic	df	p
Work Experience	Student's t	1.423	123	0.157
Educational Level	Student's t	-0.171	120	0.864
Ethical Training Level	Student's t	-0.560	123	0.576
Age	Student's t	1.611	123	0.110

Note. H_a $\mu_{\text{High Status}} \neq \mu_{\text{Low Status}}$

Source: Elaborated by the author.

Table 87 - Contingency Tables (Reward versus Combined and Status)

		Incentive Type		
Gender		**Reward**	**Combined**	**Total**
Female	Observed	26	31	57
	% within row	45.6 %	54.4 %	100.0 %
Male	Observed	34	34	68
	% within row	50.0 %	50.0 %	100.0 %
Total	Observed	60	65	125
	% within row	48.0 %	52.0 %	100.0 %

Source: Elaborated by the author.

Table 88 - χ^2 Tests (Reward versus Combined and Status)

	Value	df	p
χ^2	0.239	1	0.625
N	125		

Source: Elaborated by the author.

Table 89 - Contingency Tables (Reward versus Combined and Status)

		Status		
Gender		**High Status**	**Low Status**	**Total**
Female	Observed	17	40	57
	% within row	29.8 %	70.2 %	100.0 %
Male	Observed	31	37	68
	% within row	45.6 %	54.4 %	100.0 %
Total	Observed	48	77	125
	% within row	38.4 %	61.6 %	100.0 %

Source: Elaborated by the author.

Table 90 - χ^2 Tests (Reward versus Combined and Status)

	Value	**df**	**p**
χ^2	3.26	1	0.071
N	125		

Source: Elaborated by the author.

Table 91 - Independent Samples T-Test (Penalty versus Combined and Status)

		Statistic	**df**	**p**
Work Experience	Student's t	0.646	115	0.520
Educational Level	Student's t	1.394	114	0.166
Ethical Training Level	Student's t	-0.105	115	0.916
Age	Student's t	0.592	115	0.555

Note. $H_a\ \mu_{Penalty} \neq \mu_{Combined}$

Source: Elaborated by the author.

Table 92 - Independent Samples T-Test (Penalty versus Combined and Status)

		Statistic	df	p
Work Experience	Student's t	-0.0681	115	0.946
Educational Level	Student's t	0.3664	114	0.715
Ethical Training Level	Student's t	1.6878 [a]	115	0.094
Age	Student's t	-0.2269	115	0.821

Note. H_a $\mu_{\text{High Status}} \neq \mu_{\text{Low Status}}$

[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

Source: Elaborated by the author.

Table 93 - Contingency Tables (Penalty versus Combined and Status)

		Incentive Type		
Gender		**Penalty**	**Combined**	**Total**
Male	Observed	24	34	58
	% within row	41.4 %	58.6 %	100.0 %
Female	Observed	28	31	59
	% within row	47.5 %	52.5 %	100.0 %
Total	Observed	52	65	117
	% within row	44.4 %	55.6 %	100.0 %

Source: Elaborated by the author.

Table 94 - χ^2 Tests (Penalty versus Combined and Status)

	Value	df	p
χ^2	0.438	1	0.508
N	117		

Source: Elaborated by the author.

Table 95 - Contingency Tables (Penalty versus Combined and Status)

		Status		
Gender		**High Status**	**Low Status**	**Total**
Male	Observed	22	36	58
	% within row	37.9 %	62.1 %	100.0 %
Female	Observed	22	37	59
	% within row	37.3 %	62.7 %	100.0 %
Total	Observed	44	73	117
	% within row	37.6 %	62.4 %	100.0 %

Source: Elaborated by the author.

Table 96 - χ^2 Tests (Penalty versus Combined and Status)

	Value	**df**	**p**
χ^2	0.00515	1	0.943
N	117		

Source: Elaborated by the author.

APPENDIX D - Additional Analysis

Table 97 - One-Way ANOVA (Welch's Reward versus Penalty)

	F	df1	df2	p
Whistleblowing Intention	2.54	1	266	0.112

Source: Elaborated by the author.

Table 98 - Group Descriptives (Reward versus Penalty)

	Incentive Type	N	Mean	SD	SE
Whistleblowing Intention	Reward	130	3.73	1.12	0.0982
	Penalty	148	3.94	1.05	0.0864

Source: Elaborated by the author.

Table 99 - Tukey Post-Hoc Test – Whistleblowing Intention (Reward versus Penalty)

		Reward	Penalty
Reward	Mean difference	—	-0.208
	p-value	—	0.111
Penalty	Mean difference		—
	p-value		—

Note. * p < .05, ** p < .01, *** p < .001

Source: Elaborated by the author.

Figure 15 - Descriptive bar plot for Incentive Type Predicting Whistleblowing Intention under Reward versus Penalty

Source: Elaborated by the author.

Table 100 - One-Way ANOVA (Welc''s High Status versus Low Status)

	F	df1	df2	p
Whistleblowing Intention	0.0580	1	153	0.810

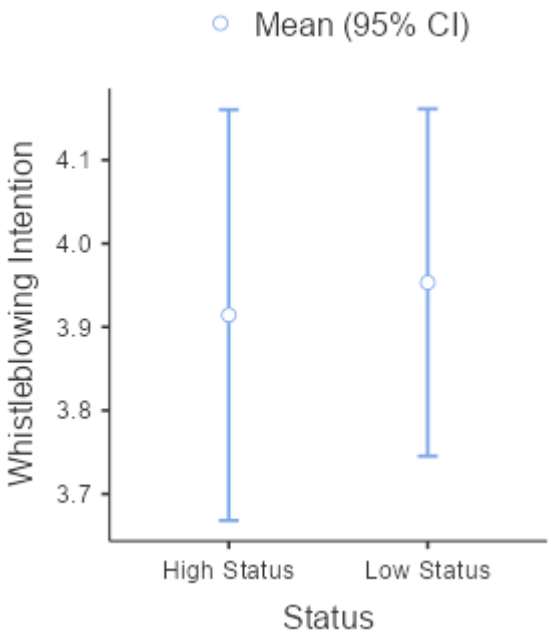
Source: Elaborated by the author.

Table 101 - Group Descriptives (High Status versus Low Status)

	Status	N	Mean	SD	SE
Whistleblowing Intention	High Status	70	3.91	1.03	0.123
	Low Status	107	3.95	1.08	0.105

Source: Elaborated by the author.

Figure 16 - Descriptive bar plot for Incentive Type Predicting Whistleblowing Intention under High versus Low Status



Source: Elaborated by the author.

Table 102 - ANOVA–- Whistleblowing Intention (Reward versus Penalty and Status)

	Sum of Squares	df	Mean Square	F	p
Incentive Type	3.59082	1	3.59082	3.33690	0.071
Status	0.33914	1	0.33914	0.31516	0.576
Incentive Type ✻ Status	0.00257	1	0.00257	0.00239	0.961
Residuals	116.21850	108	1.07610		

Source: Elaborated by the author.

Table 103 - Post Hoc Comparisons–- Incentive Type (Reward versus Penalty and Status)

Comparison							
Incentive Type		**Incentive Type**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Reward	-	Penalty	-0.363	0.199	108	-1.83	0.071

Note: Comparisons are based on estimated marginal means.

Table 104 - Post Hoc Comparisons – Status (Reward versus Penalty and Status)

Comparison							
Status		**Status**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
High Status	-	Low Status	-0.112	0.199	108	-0.561	0.576

Note: Comparisons are based on estimated marginal means.

Table 105 - Post Hoc Comparisons–- Incentive Type ⁎ Status (Reward versus Penalty and Status)

Comparison									
Incentive Type	**Status**		**Incentive Type**	**Status**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Reward	High Status	-	Reward	Low Status	-0.102	0.270	108	-0.377	0.982
		-	Penalty	High Status	-0.353	0.301	108	-1.175	0.644
		-	Penalty	Low Status	-0.474	0.278	108	-1.707	0.325
	Low Status	-	Penalty	High Status	-0.251	0.284	108	-0.885	0.812
		-	Penalty	Low Status	-0.373	0.260	108	-1.434	0.481
Penalty	High Status	-	Penalty	Low Status	-0.121	0.291	108	-0.416	0.976

Note: Comparisons are based on estimated marginal means.