



# Whistleblowing as a means to detect and prevent fraud:

## Four essays from different behavioral and economic perspectives

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*“Tue ich das Richtige? Tue ich etwas, weil es richtig ist, oder nur, weil es möglich ist? [...] Stellen wir den Menschen mit seiner Würde und in all seinen Facetten in den Mittelpunkt oder sehen in ihm nur den Kunden, die Datenquelle, das Überwachungsobjekt? [...] Es gehört dazu, dass wir Missstände nicht als unsere Normalität akzeptieren.”*

Dr. Angela Merkel, Bundeskanzlerin der Bundesrepublik Deutschland, Auszug aus ihrer Rede zur 368. Graduationsfeier der Harvard University, 30. Mai 2019, Cambridge, USA



## Articles in this cumulative dissertation

Chwolka, A. & Oelrich, A. (2020). Whistleblowing als Mittel zur Prävention und Detektion von Wirtschaftskriminalität in Deutschland - Zwischen Helden- und Denunziantentum. *Betriebswirtschaftliche Forschung und Praxis*, 72(4), 445-471.

Throughout this dissertation referred to as „Chapter 2“.

Oelrich, S. (2019). Making regulation fit by taking irrationality into account: The case of the whistleblower. *Business Research*, 12(1), 175-207. DOI 10.1007/s40685-019-0094-6

Throughout this dissertation referred to as „Chapter 3“.

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Oelrich, S. (2020). Intention without action? Differences between whistleblowing intention and behavior on corruption and fraud. Under minor revision at *Business Ethics, the Environment & Responsibility*.

Throughout this dissertation referred to as „Chapter 5“.

Changes in regard to published articles, page numbers and reference format are of cosmetic nature only, in order to increase readability.



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# Chapter 1

## Introduction

In September 2018, the firm Wirecard was valued at 24 billion €<sup>1</sup> and part of the Deutscher Aktienindex (DAX), which encompasses the 30 largest and most liquid German firms on the stock exchange (Deutsche Börse Group 2020). Less than two years later, Wirecard filed for bankruptcy, after a special audit uncovered 1.9 billion € in cash to be missing, which makes it one of the largest financial frauds in Germany ever (McCrum 2020). In 2016, auditor EY was apparently made aware of potential fraud schemes by an internal whistleblower (Storbeck 2020) and in early 2019, the German Ministry of Finance and the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) allegedly received tips from a whistleblower about this very financial fraud (Jennen & Comfort 2020). However, the information was not used until *Financial Times* newspaper reports – possibly using the same source – followed by pressure of investors, led to the appointment of auditor KPMG for a special audit and the subsequent fraud detection.

This is only the latest in a long list of scandals and financial frauds, who made (inter)national headlines, including Enron, WorldCom, GlaxoSmithKline, UBS, PricewaterhouseCoopers, but also numerous smaller scandals, e.g., Volkshochschule Berlin Lichtenberg, Deutsche Bank, DZ Bank.<sup>2</sup> The common ground for all these events is how they were uncovered: Namely with the help of whistleblowers, who reported these misconducts internally or externally, and who had to deal with severe forms of retaliation in the aftermath. These cases illustrate what many company surveys (for recent studies see for example ACFE 2020; Bussmann et al. 2018; Bussmann et al. 2021; Hauser et al. 2019) and research (Bowen et al. 2010; Call et al. 2018; Wilde 2017) agree upon: whistleblowers can be a major source of

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<sup>1</sup> With 123,565,586 stock valued at approximately 196€. <https://www.onvista.de/aktien/unternehmensprofil/Wirecard-Aktie-DE0007472060>

<sup>2</sup> For the German cases see for example: ansTageslicht (2020); for international cases e.g., National Whistleblower Center (2020) or Phillips & Cohen LLP. (2020).

information to uncover financial frauds and, more generally, misconduct in firms in a timely manner.

The role of accounting is, among others, to provide “decision usefulness”, for which it needs to provide a certain degree of reliability of the provided information (Wagenhofer & Ewert 2015: 5f). In my dissertation, I understand whistleblowing as a corporate governance mechanism, a means to provide such reliability, and thus a tool for accountability. As such, I focus primarily on misconduct related to financial fraud, but my results have wider applicability, for example in light of the ‘#MeToo’ movement concerning sexual harassment and transgressions, environmental accountability, or even human rights in regard to supply chains.<sup>3</sup> This wide view of whistleblowing is also mirrored in the common definition by Near & Miceli (1985: 4), who “define whistle-blowing to be the disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action.”

However, in order to effectively use whistleblowing as a tool for accountability in corporate governance, we need to understand the process that underlies the decision to blow the whistle on fraud and misconduct. And although research on whistleblowing has been extensive (for recent reviews see for example Culiberg & Mihelič 2017; Gao & Brink 2017; Lee & Xiao 2018), there are still many unknowns which need further study.

In my dissertation, I draw on several levels of analysis in order to answer some questions about the whistleblowing process. An attempt to sort the Chapters according to their level of analysis is shown in Fig. 1.1. Individual whistleblowing (behavior or intention) is of course a micro-level event. However, in order to understand whistleblowing, we need to look at other levels of analysis.<sup>4</sup>

Chapter 2 “Whistleblowing als Mittel zur Prävention und Detektion von Wirtschaftskriminalität in Deutschland – Zwischen Helden- und Denunziantentum” focuses mainly on aspects on a micro- und macro level, i.e., attitudes and cultural norms. Chapter 3 “Making regulation fit by taking irrationality into account: The case of the whistleblower” is predominantly concerned with macro- and meso level variables, i.e., legal norms and to some extent organizational systems. Whereas Chapter 4 “When deviants talk: The Moderating Roles of Dark Triad Traits and Moral Reasoning on Whistleblowing on Fraud” moves away from the

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<sup>3</sup> This is not too-far off from a perspective of accounting either, as these issues are already part of the non-financial information some large companies are to report as supplement to their annual financial statements (HGB §289b and c).

<sup>4</sup> Miceli and Near (1988) and Near and Miceli (1985) for example distinguish between individual, situational and organizational factors, mirroring my notion of micro and meso levels of analysis.

macro level and concentrates on micro-level and meso-level aspects and their interactions, i.e., how personality traits affect influences of organizational sanctions. Chapter 5 “Intention without action? Differences between whistleblowing intention and behavior on corruption and fraud.” turns to a meta-level methodological approach. It critically assesses the methodological approaches prior Chapters and much of whistleblowing research have used. Of course, all four Chapters do not attempt to have a clear-cut separation between these concepts and show aspects of other levels.

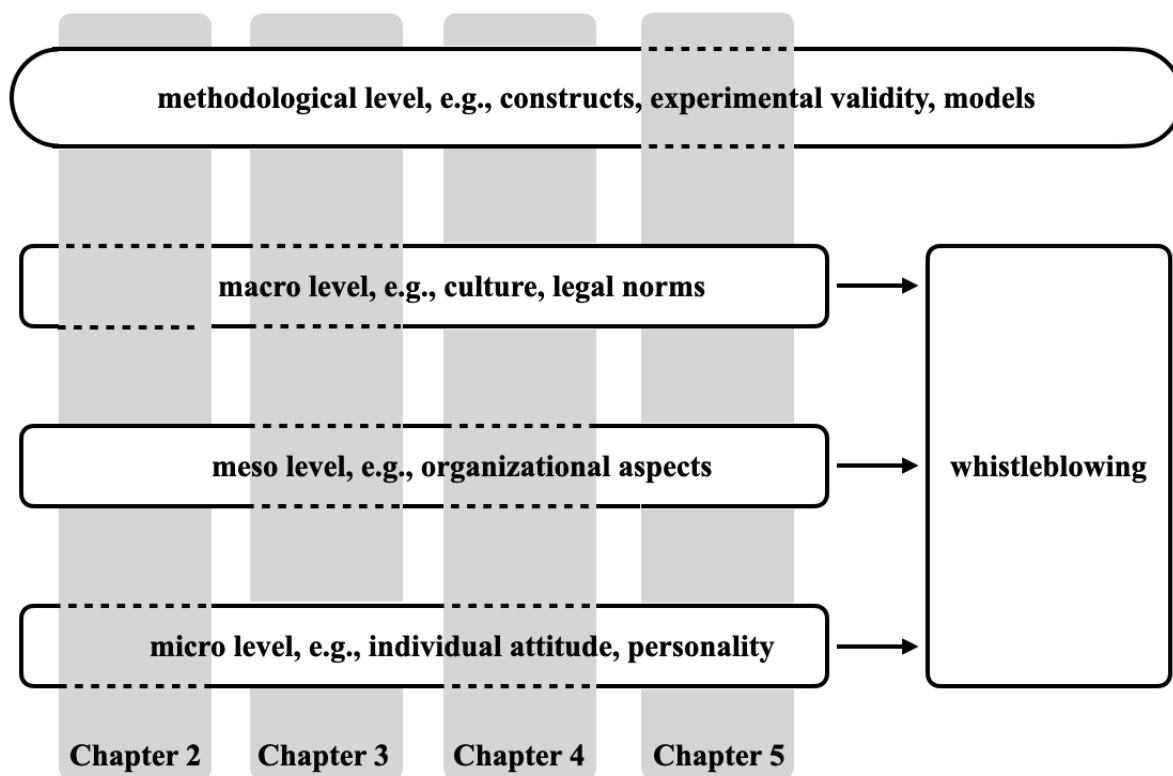


Fig. 1.1: Chapter focus overview.

Researchers have argued that whistleblowing may be different across different cultures and countries (e.g., Brown et al. 2014; Park et al. 2008; Park & Blenkinsopp 2009). In particular, researchers have traced these different cultural attitudes back to prior experiences with whistleblowing as denunciation in other contexts (e.g., Gibeaut 2006; Grant 2002; Rauhofer 2007). However, research using US samples still dominates, and the call for more diverse and cross-cultural studies increases (e.g., Brown et al. 2014; Culiberg & Mihelič 2017; Park et al. 2008). This second Chapter was published in 2020 in co-authorship with Prof. Dr. Anne Chwolka as “Whistleblowing als Mittel zur Prävention und Detektion von Wirtschaftskriminalität in Deutschland - Zwischen Helden- und Denunziantentum” in the

journal *Betriebswirtschaftliche Forschung und Praxis*, 72(4), 445-471 (Chwolka & Oelrich 2020). In this Chapter 2 I first look at the current legal and cultural situation and heritage in Germany, before using the theory of planned behavior to understand the general whistleblowing (intention) process, using a German sample. This is then contrasted against findings from other countries and cultures. The main contribution of this Chapter is that, in regard to general whistleblowing intention, attitude plays the largest role for German respondents, while meso- and macro-level factors are not as relevant and only indirectly influence the process. This finding is in line with suggestions by other researchers (Park et al. 2008) that individualistic cultures are less influenced by subjective norms and tend to put more emphasis on their own attitudes than for example collectivistic cultures. This study is a first attempt to consolidate and explain conflicting findings on whistleblowing in different cultures, by giving a ‘German perspective’ and introduce the reader to the complex German history and scattered legal landscape in regard to whistleblowing.

In the aftermath of the Enron and WorldCom scandals, the US congress passed the Sarbanes-Oxley Act in 2002 (SOX) and the Dodd-Frank-Act in 2010 (DFA). The former includes protection, while the latter introduces reward systems for external whistleblowers (Mogielnicki 2011). Recently, the European Parliament passed a new directive in late 2019 meant to protect “persons who report breaches of Union law” (European Parliament 2019). This protection-only approach is mirrored in many European countries (Oelrich 2019) already.

In Chapter 3, originally published in 2019 under single-authorship as “Making regulation fit by taking irrationality into account: The case of the whistleblower” in the journal *Business Research*, 12(1), 175-207 (Oelrich 2019), I ask whether this preference in European legislation is arbitrary and political in nature or actually the more effective way to foster whistleblowing. By drawing on prospect theory and using an experimental approach adapted from Abdellaoui et al. (2016), I am able to model the inherent uncertainty of external whistleblowing<sup>5</sup> in a context of different legal systems. My results suggest that, under these conditions of uncertainty, people prefer protection over monetary rewards by a large magnitude, in line with prospect theory. In addition, retaliation has a stronger negative impact on a person’s whistleblowing intention than a reward of the same individual *magnitude* has a positive effect. In this sense, loss aversion impacts whistleblowing twice. This finding is important in the context of whistleblowing legislation, as it supports the direction the European Union has now

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<sup>5</sup> At the same time, we know that such legislation does not provide certainty: Only few whistleblowers in the US were protected under SOX in court rulings (Moberly 2007: 3.6 per cent) and only 64 whistleblowers (fiscal years 2011 to 2019) were granted rewards under DFA by the SEC since the program’s introduction, given more than 33,300 tips (SEC 2020). External whistleblowers seem to be confronted with severe uncertainty even in countries where comprehensive legislation exists.

uniformly taken. It can also serve as a guide for corporate governance or compliance management systems, when companies decide what models to adopt. My findings and use of prospect theory in the field of legislation are also an answer to Barberis (2013) who criticized prospect theory as a descriptive theory without real application. In contrast, my application of prospect theory indicates that a reward system such as German Finance Minister Olaf Scholz recently proposed in the wake of the Wirecard scandal (Schäfers 2020) might not be as effective as he hopes.

“The motives of the reporting persons in reporting should be irrelevant in deciding whether they should receive protection.” This statement is part of the EU directive on whistleblowing (European Parliament 2019: Art. 32) and in direct contrast to other definitions, for example one proposed by De Maria (2008: 866) who states that the report should be “totally or predominantly motivated by notions of public interest”. While this can be seen as a question of who *should* be considered whistleblower, it could also be a question of who *would* blow the whistle, given certain circumstances? In Chapter 4, originally co-authored with Prof. Dr. Anne Chwolka as “When deviants talk: The moderating roles of dark triad traits and moral reasoning on whistleblowing on fraud” (Oelrich & Chwolka 2020), I address this question from the view of deviance: whistleblowing could be framed as dissidence, which could be criminal or virtuous. Looking at whistleblowing from this wide angle allows to incorporate different reasons why people would come forward and thus the option that a whistleblower need not be virtuous, but could also have a “darker” personality. This perspective is used to look at how different personalities might be more likely to whistle blow, especially in the presence of possible retaliation, lack of protection, and negative cultural social or workplace norms (recall how Chapter 2 and 3 look at cultural legal differences). On the one hand, I look at Dark Triad personalities, Machiavellianism, narcissism, and psychopathy, and on the other hand on the “virtuous” people, employees with higher moral reasoning. In line with thoughts by O’Sullivan and Ngau (2014) and Jalan (2020), I find that such vastly different personalities are nonetheless both more likely candidates to whistle blow – although the motivations could be arguably different. This is because certain ‘dark triad’ personalities as well as employees with higher moral reasoning are less influenced by fears of retaliation and lack of protection.

This Chapter aims to stimulate research that moves away from the pro-social aspect of whistleblowing (e.g., Seifert et al. 2010), towards a more pragmatic and inclusive approach that is able to incorporate the diversity present in modern working environments (for first steps towards this perspective see Chen & Lai 2014; Jalan 2020; Kölbel & Herold 2017; Smaili & Arroyo 2019; Watts & Buckley 2017).

Methodologically, the former three Chapters rely on intention data. That is, respondents were given hypothetical dilemma situations and were asked on their intention to, for example, report an alleged fraud internally. It is probably the most common form of research on this topic (for a review see Culiberg & Mihelič 2017). However, it may be problematic to infer from intention data to actual behavior. One needs only think of situations they find themselves in: most of us probably have the intention to not lie, but how often do we not adhere to this principle? It therefore comes as no surprise, that using intention data as proxy for real behavior is questioned.<sup>6</sup> This issue is addressed in Chapter 5, which is under minor revision at Business Ethics, the Environment & Responsibility, in single-authorship under the name “Intention without action? Differences between whistleblowing intention and behavior on corruption and fraud” (Oelrich 2020). I use a cross-cultural sample of employees who were surveyed on their intention and behavior in regard to whistleblowing. I gained access to this sample through my work at a DFG-funded research project on corruption and fraud, headed by Prof. Dr. Kai-D. Bussmann.<sup>7</sup> Chapter 5 can thus best be described as a critical assessment of Chapters 2 to 4 and whistleblowing research in general, as it questions the generalizability of (my) prior findings.

Using different approaches, my results suggest that a major difference between the intention to and actually blowing the whistle lies not in the influencing variables, but in their effect sizes. In fact, the general influence process seems to be similar across cultures, whereas employees underestimated the prohibiting and aiding factors in the process alike. This Chapter also concludes my dissertation.

Hopefully, these Chapters and this dissertation as a whole can serve as a basis for future whistleblowing studies, as I contribute by giving new explanations to differences in prior studies, a guide towards evidence-based policies on whistleblowing, and open up new questions and approaches for future research on whistleblowing, both methodologically and theoretically.

If one were to ask what I have learned in the course of writing these Chapters, or what my main takeaway from this dissertation is (in fact, I have been asked this several times already), I would sum it up in the following way:

First, there is not one type of whistleblower. Whistleblowing is a complex process, full of unknowns, despite more than 40 years of extensive research and thousands of studies on the subject in vastly different areas, including accounting. There is still much to learn that will help us to more effectively support whistleblowers and whistleblowing programs. We need to take

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<sup>6</sup> For a thorough discussion of prior literature see Oelrich (2020) or Chapter 5.

<sup>7</sup> For a full account of the project see for example Bussmann et al. (2021).



into account the corporate and cultural context, legal and social norms, different organizational roles, occupations, and even the many specific situations of misconduct, including not only illegal but also forms of immoral behavior and misconduct.

Second, here in Germany we have just started to value the whistleblower as an ally in the fight for more accountability and move away from the notion of the denunciator. With the introduction of a new whistleblowing legislative in 2021, the German government will lay a foundation for how we treat whistleblowers in the years to come. This is a significant event, as it will shape how researchers, practitioners and the general public will recognize whistleblowing. It will also be a great opportunity for European researchers to study and understand how these laws will affect the whistleblowing process in each country.

Third, accounting has served to cover (not *uncover*!) misconduct and severe wrongdoing through its discursive character (Francis 1990; Funnell 1998). Standard setters, interest groups, and researchers have always thrived to design accounting in such a way that it is a corporate governance mechanism of accountability. With whistleblowing, we have a governance tool connected to accounting that may be able to effectively counter the shortcoming that we are otherwise unable to rectify – if we find the right ways to listen to these people.

My fourth and last takeaway is more of an impression I got through presentations, colloquia, discussions with colleagues and teaching than what can be found in the Chapters of this dissertation. In the words of Francis (1990: 7): “accounting is also a moral practice” I agree with the European Parliament (2017: Art. 10) that we need more ethics education in our business school curricula if we are to move forward toward a sustainable, inclusive and *virtuous* accounting profession.<sup>8</sup> Especially since research, including some in this dissertation, proposes that such principled moral reasoning could foster whistleblowing (e.g., Arnold & Ponemon 1991; Brabeck 1984; Liyanarachchi & Newdick 2009; Oelrich & Chwolka 2020).

I would like to conclude by citing famous whistleblower Edward Snowden, as his words similarly capture some of this dissertation’s findings while challenging the basic concept of my research: “As for labeling someone a whistleblower, I think it does them—it does all of us—a disservice, because it “otherizes” us.”<sup>9</sup>

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<sup>8</sup> The word *virtuous* is adopted from Francis (1990). But it can also be found in the definition syllabus offered by the Certified Public Accounting Board: “A profession, the members of which, by virtue of their general education and professional training, offer to the community their services [...]” (as cited in Wildman 1916: 1). In parts, my call is similar to Oelrich et al. (2020) who state in regard to value creation, that business education needs to include ethics into their curricula, if business schools want to address the needs and interests of business students in the years to come.

<sup>9</sup> <https://www.thenation.com/article/archive/snowden-exile-exclusive-interview/>

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## Chapter 2

# Whistleblowing als Mittel zur Prävention und Detektion von Wirtschaftskriminalität in Deutschland - Zwischen Helden- und Denunziantentum.<sup>†</sup>

***Abstract.** Whistleblowing wird in den USA spätestens seit den Skandalen um Enron als ein wichtiges Mittel zur Prävention und Detektion von Wirtschaftskriminalität verstanden. In Deutschland suggerieren Literatur und Medien, dass Whistleblowing durch die Konnotation als “Denunziantentum” weniger Potential birgt. Vor dem Hintergrund der aktuellen Diskussion wird ein Überblick über regulative Neuerungen gegeben und mit Hilfe einer Befragung untersucht, inwiefern die Einstellung des Individuums und dessen Handlungsmöglichkeiten sowie die Einstellung der Gesellschaft die Verhaltensintention beeinflusst, beobachtete wirtschaftskriminelle Aktivitäten zu melden. Die Analyse zeigt, dass lediglich die eigene Einstellung signifikant auf die Verhaltensintention des Whistleblowers wirkt. Zwischen der Einstellung, Verhaltensintention und Verhaltenskontrolle treten aber signifikante Interaktionseffekte auf. Der Vergleich zu Studienergebnissen anderer Kulturkreise weist zudem auf die Bedeutung kultureller Unterschiede hin. Implikationen für Forschung und Praxis werden speziell im deutschen Kontext diskutiert.*

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<sup>†</sup> This chapter has been published as Chwolka, A., & Oelrich, S. (2020). Whistleblowing als Mittel zur Prävention und Detektion von Wirtschaftskriminalität in Deutschland - Zwischen Helden- und Denunziantentum. *Betriebswirtschaftliche Forschung und Praxis*, 72(4), 445-471.

## 2.1 Einleitung

Als einer der bedeutendsten wirtschaftskriminellen Skandale der letzten Jahrzehnte erschütterte im Jahr 2001 der Fall Enron aus den USA und die darauffolgende Auflösung der Wirtschaftsprüfungsgesellschaft Arthur Andersen die Märkte und die allgemeine Öffentlichkeit. Maßgeblich an der Aufdeckung beteiligt war die unternehmensinterne Finanzmanagerin, Sherron Watkins, die 2002 zusammen mit zwei weiteren Whistleblowern<sup>10</sup> das Time Magazin Cover als “Person of the Year” zierte. Im Zuge dieser Skandale wurde in den USA 2002 mit dem Sarbanes Oxley Act<sup>11</sup> ein Gesetz verabschiedet, das Whistleblower schützen und damit die Prävention und Detektion wirtschaftskrimineller Aktivitäten vorantreiben sollte. 2010 wurde dieses Gesetz mit dem Dodd-Frank Act<sup>12</sup> (DFA) um einen Passus erweitert, der finanzielle Anreize und weitergehenden Schutz für Whistleblower vorsieht (Mogielnicki 2011). Zuvor schon war eine finanzielle Vergütung von Whistleblowern, sofern diese eine illegale Schädigung des Staates aufgedeckt hatten, in den USA durch den False Claims Act nach dessen Reform 1986 (wieder) möglich (Callahan & Dworkin 1992). Dagegen ist in Deutschland bislang kein allgemein verbindliches Gesetz zum Schutz von Whistleblowern verabschiedet worden, obwohl auch hier das Potential zur Vermeidung von Schäden sehr hoch zu sein scheint.

Laut Bundeskriminalamt (BKA) verursachen in Deutschland Wirtschaftskriminaltatsbestände betragsmäßig die Hälfte der ermittelten finanziellen Gesamtschäden, während sie mit etwa einem Prozent nur einen sehr geringen Teil der Gesamtkriminalfälle ausmachen (BKA 2016). International und in der Wirtschaftsprüfungspraxis wird Wirtschaftskriminalität auch als „Fraud“ bezeichnet.<sup>13</sup> Laut einer Studie der Association of Certified Fraud Examiners (ACFE) verursacht die Falschbilanzierung (financial accounting fraud) mit durchschnittlich etwa 1 Million USD pro Fall die größten finanziellen Schäden (ACFE 2016: 12).

Da die Detektion wirtschaftskrimineller Taten ebenso besonderer Kenntnisse des Wirtschaftslebens bedarf wie die Begehung selbst,<sup>14</sup> scheint der Einsatz von Whistleblowern zur Aufdeckung und zur Verhinderung von Wirtschaftskriminalität grundsätzlich sinnvoll zu sein. Dass es sich bei den eingangs genannten Fällen nicht um Einzelbeispiele handelt und

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<sup>10</sup> Cynthia Cooper von WorldCom und Coleen Rowley vom FBI.

<sup>11</sup> Vgl. Sarbanes Oxley Act, Sec. 806 (2002).

<sup>12</sup> Vgl. Dodd-Frank Wall Street Reform and Consumer Protection Act, Sec. 922 (2010).

<sup>13</sup> Wir schließen uns hier der Definition von Bologna et al. (1993) an, die mit Fraud sowohl die Manipulation von Rechnungswesendaten als auch andere kriminelle Handlungen bezeichnen; das Institut der Wirtschaftsprüfer (IDW) hingegen definiert Fraud als beabsichtigte Verstöße, die zu falschen Angaben in der Rechnungslegung führen. Vgl. IDW PS 210 (Stand: 12.12.2012), Tz. 6f.

<sup>14</sup> Vgl. §74c Abs. 1 S. 1 Gerichtsverfassungsgesetz.



ebenfalls ein Potential für Deutschland besteht, zeigt u.a. die Studie von Bussmann et al. (2016). Die befragten deutschen Unternehmen gaben an, dass fast die Hälfte aller Taten durch interne Hinweise entdeckt werden. Unklar ist allerdings, ob ein besserer gesetzlicher Schutz in Deutschland dieselben Wirkungen hätte wie in den USA und dieser zu einer größeren Bereitschaft zum Whistleblowing führen würde. In Deutschland ist die Haltung zum Whistleblowing eher ablehnend oder zumindest allgemein gespalten. Dies zeigt sich nicht nur im fehlenden gesetzlichen Schutz der Whistleblower, sondern verdeutlicht auch die Diskussion in den Medien.<sup>15</sup>

Wissenschaftliche Arbeiten zum Whistleblowing gibt es hauptsächlich aus dem US-amerikanischen Raum.<sup>16</sup> In diesen wird u.a. auf die Notwendigkeit weiterer Studien für andere Länder hingewiesen, um die Wirkungsweise des Whistleblowing besser zu verstehen, insbesondere auch mit Blick auf die unterschiedlichen Rechtslagen und Kulturen (Wated & Sanchez 2005; Park et al. 2008; Park & Blenkinsopp 2009; Brown et al. 2014). Gleichzeitig sind die bisherigen Studien meist experimenteller Natur und erfragen direkt die Bereitschaft zum Whistleblowing, wodurch aufgrund des sogenannten *self reporting bias* nicht unbedingt auf das tatsächliche Verhalten geschlossen werden kann (Mesmer-Magnus & Viswesvaran 2005; Ahmad et al. 2014). Deutschsprachige, wirtschaftswissenschaftliche Arbeiten wie Briegel (2009), Donato (2009) oder Pittroff (2011) diskutieren Whistleblowing vorrangig unter dem Gesichtspunkt der vorteilhaften Potentiale für Unternehmen.

In der rechtswissenschaftlichen Behandlung des Themas wird regelmäßig suggeriert, dass Whistleblowing im Kontext der deutschen Kultur aufgrund der besonderen deutschen Vergangenheit (Nationalsozialismus und DDR) weniger effektiv sein könnte als beispielsweise im US-amerikanischen Raum (bspw. Müller, 2002; Tinnefeld & Rauhofer 2008; Momsen et al. 2011). Was in diesen Beiträgen jedoch vernachlässigt wird, ist eine nähere Analyse, wie die Entscheidung, Whistleblower zu werden, von den Einstellungen zum Verhalten konkret abhängt, d.h. inwiefern die Entscheidung zum Whistleblowing durch die eigene, persönliche Einstellung zum Verhalten, aber auch die Sichtweise anderer relevanter Personen und Gruppen sowie die wahrgenommenen eigenen Handlungsmöglichkeiten beeinflusst wird. Dieser essentielle Zwischenschritt der Argumentation findet in der Literatur zum Whistleblowing insbesondere im deutschsprachigen Raum unseres Wissens bislang noch keine ausreichende Berücksichtigung.

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<sup>15</sup> Vgl. Braeuer (2014): „Verräter oder Held“; Strack (2014): „Denunziation oder Zivilcourage“.

<sup>16</sup> Für strukturierte Übersichten zur Literatur vgl. Gao und Brink (2017); Lee und Xiao (2018).

Ziel unseres Beitrags ist es daher, durch eine empirische und modellgestützte Arbeit diese konzeptionell und intentional, analytisch aber nicht verknüpften Ideen der negativen Wahrnehmung des Denunzianten und dem Verhalten des potentiellen Hinweisgebers zu verbinden. Dies erlaubt es, das Potential von Whistleblowing zur Eindämmung von Wirtschaftskriminalität insbesondere in Deutschland zu diskutieren. Die Erkenntnisse sind unter anderem auch für Wirtschaftsprüfer und Gesetzgeber hilfreich, z.B. für die Beurteilung und/oder Gestaltung des EU-Kommissions-Richtlinienvorschlags (Europäische Kommission 2018). Der Beitrag schließt damit eine Forschungslücke in der deutschsprachigen Literatur, die bisher die Beeinflussung der Intention des Whistleblowers nicht betrachtet, und berücksichtigt gleichzeitig die Forderung, aufgrund kultureller Unterschiede Whistleblowing für verschiedene Länder zu untersuchen (Park et al. 2008; Brown et al. 2014).

Wir haben unsere Studie mit 136 Studierenden der Wirtschaftswissenschaften einer deutschen Universität durchgeführt. Das genutzte Strukturgleichungsmodell basiert auf den Annahmen der Theorie des geplanten Verhaltens (Theory of Planned Behavior, TPB) von Ajzen (1991). Hierbei wird annahmegemäß das Verhalten von der eigenen Einstellung, den gesellschaftlichen Normen sowie der wahrgenommenen Verhaltenskontrolle zum Verhalten beeinflusst. Unsere Ergebnisse zeigen, dass lediglich die eigene Einstellung zum Verhalten signifikant auf die Entscheidung des Whistleblowers wirkt. Damit ist nur die eigene Einstellung für die Weiterleitung von Informationen über wirtschaftskriminelles Verhalten an Dritte direkt relevant. Zwischen den anderen Faktoren (Einstellung, subjektive Norm, wahrgenommene Verhaltenskontrolle) treten jedoch signifikante Interaktionseffekte auf. Daher scheinen gesellschaftliche Normen und wahrgenommene Handlungsbarrieren (wie Repressalien) oder Handlungsmöglichkeiten (wie gesetzlicher Schutz) Whistleblowing zumindest indirekt zu beeinflussen. Schlussfolgernd kann eine Zunahme von Meldeaktivitäten nicht direkt durch gesetzliche Neuerungen oder anderweitige Beeinflussung von Handlungsbarrieren, sondern vielmehr durch eine Änderung in der Einstellung zum Whistleblowing erreicht werden. Dieses Erkenntnis ist insbesondere im deutschen Kontext von großer Relevanz, da eine negative Grundeinstellung zum Whistleblowing postuliert wird. Die Ergebnisse divergieren darüber hinaus zu vergleichbaren Studien aus anderen Kulturkreisen, was eine Affirmation der oftmals geäußerten These, kulturelle Unterschiede seien beim Whistleblowing relevant, darstellt (Park et al. 2008; Brown et al. 2014). Zukünftige Forschung sollte diese Divergenz der Kulturräume weiter betrachten, um so auch eine eventuell ineffektive „one-size-fits-all“-Lösung zu vermeiden.

Im Folgenden wird zunächst der Whistleblowing Prozess dargestellt, ein kurzer Literaturüberblick zu dieser Thematik gegeben und die besondere Situation des Whistleblowers in Deutschland aufgezeigt. Danach werden in Abschnitt 3 die Theorie des geplanten Verhaltens nach Ajzen (1991) vorgestellt und darauf aufbauend die Hypothesen entwickelt. Die Erhebung, das Untersuchungsdesign sowie der zugehörige Fragebogen werden in Abschnitt 4 erläutert. Im vorletzten Abschnitt wird auf die Ergebnisse des Strukturgleichungsmodells und die Robustheitstests eingegangen. Die Resultate werden abschließend in Abschnitt 6 kritisch diskutiert, wobei auch Implikationen für Forschung und Praxis mit besonderem Blick auf Deutschland aufgezeigt werden.

## **2.2 Whistleblowing**

### **2.2.1 Überblick**

Whistleblowing wird von Near/Miceli (1985) allgemein als das Aufdecken von unmoralischen, illegalen oder illegitimen Handlungen eines Mitglieds der Organisation gegenüber Personen oder Stellen, die diese Handlung beeinflussen können, beschrieben.<sup>17</sup> Wir beschränken uns hier auf das Aufdecken von dolosen Handlungen, also vorsätzliche oder grob fahrlässige Handlungen von Mitarbeitern im unternehmerischen Bereich, die zu Schädigungen von Unternehmen oder Dritten führen.

Die grundlegende Prozesskette des Whistleblowings ist in Abbildung 2.1 dargestellt: Ein Täter begeht eine dolose Handlung. Der potentielle Whistleblower kann diese direkt oder indirekt beobachten, wobei er sich nicht sicher sein muss, ob es sich tatsächlich um einen wirtschaftskriminellen Akt handelt. Er hat die Handlungsoptionen „Reden“, „Austritt“ und „Schweigen“. Endet die bisherige Handlungsfolge mit „Austritt“ oder „Schweigen“, findet kein Whistleblowing statt. Erst „Reden“ führt zum eigentlichen Whistleblowing. Hierbei können die Charakteristika intern oder extern, formal oder informell, anonym oder personalisiert in jeder Kombination unterschieden werden (Park et al. 2008). Welche Form gewählt wird, entscheidet der Whistleblower in Abhängigkeit von seinen Präferenzen und Möglichkeiten, welche u.a. durch die Unternehmenssituation, wie z.B. die konkrete Ausgestaltung des Anti-Fraud-Managementsystems, determiniert werden.

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<sup>17</sup> Vgl. Near und Miceli (1985: 4) “the disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action”.

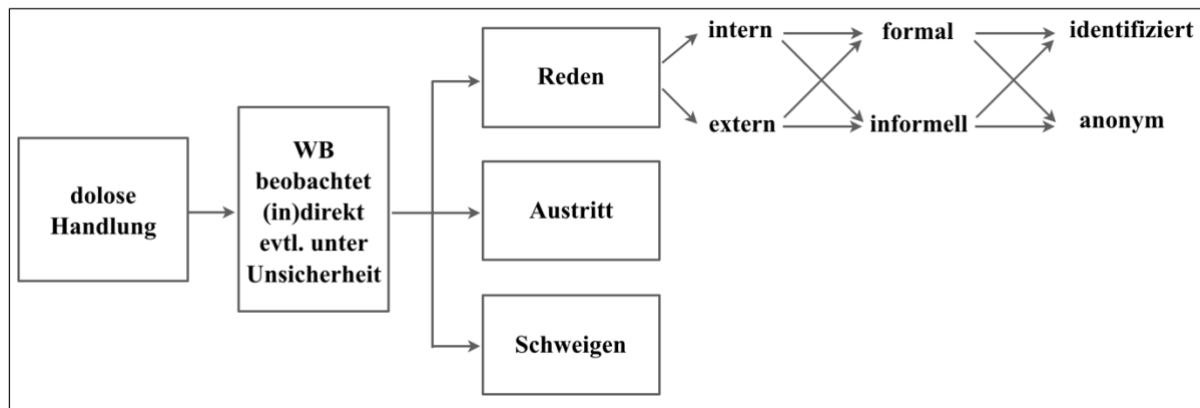


Abb. 2.1: Erweiterter Whistleblowing Prozess nach Miceli und Near (1992), Park et al. (2008).

Wie effektiv Whistleblower bei der Detektion und Prävention sein können, zeigen neue Studien aus dem US-amerikanischen Raum. Gemäß Wilde (2017) sind bei den Unternehmen, in denen wirtschaftskriminelles Verhalten durch Whistleblower aufgedeckt worden ist, in der Folge signifikant weniger Falschbilanzierungen und Bilanzmanipulationen (financial misreporting) zu beobachten gewesen und die betroffenen Unternehmen haben eine weniger aggressive Steuerplanung betrieben. Dieser Effekt blieb sogar mehrere Jahre bestehen.<sup>18</sup> Unternehmen werden laut Call et al. (2018) zu signifikant höheren Geldstrafen und (Executive) Manager zu längeren Gefängnisstrafen verurteilt, wenn Whistleblower zur Detektion eines Falls beigetragen haben. Darüber hinaus reagieren Behörden in diesen Fällen zeitnaher mit den Ermittlungen. Cordis und Lambert (2017) zeigen zudem, dass Whistleblowing Gesetze eine abschreckende Wirkung auf Wirtschaftskriminalität haben. Potentielle Betrüger sehen sich wohl mit einer erhöhten Entdeckungsrate und damit höheren Kosten der Korruption konfrontiert.

Diese Ergebnisse für den US-amerikanischen Raum stehen im Einklang mit Umfragen unter deutschen Unternehmen. Etwa ein Drittel der befragten Unternehmen war der Auffassung, dass Wirtschaftskriminalität durch mangelnde Kontrollen gefördert wird (Bussmann et al. 2016). Wenn die „Angst“ vor Whistleblowern hoch ist, würde sich dies präventiv abschreckend auf die wirtschaftskriminelle Handlung auswirken. Whistleblower könnten hiernach also auch in deutschen Unternehmen eine Kontroll- und Aufsichtsfunktion erfüllen.

Konzeptionell kann dieser präventive Effekt anhand des sogenannten Fraud-Triangles nach Cressey (1953) illustriert werden. Zu Fraud kann es kommen, wenn im Unternehmen alle drei Voraussetzungen des Fraud Triangles aus Sicht des möglichen Täters gleichzeitig gegeben

<sup>18</sup> Hierbei handelt es sich um Fälle, in denen der Whistleblower das Vergehen extern gemeldet hat, vgl. Wilde (2017).

sind, d.h. die Gelegenheit zur Durchführung, der Anreiz/Druck für die Durchführung und die innere Rechtfertigung für die Handlung.<sup>19</sup> Es gibt Fraud-Risikofaktoren, auf die das Unternehmen keinen oder nur geringen Einfluss hat, wie z.B. im Bereich der innerlichen Rechtfertigung. Andere sind besser beeinflussbar, wie z.B. diejenigen Risikofaktoren, die einem potenziellen Täter Gelegenheit für wirtschaftskriminelle Handlungen bieten, wobei wirksame Kontrollen eine besondere Rolle bei der Vermeidung spielen (Chwolka & Zwernemann 2012).

In Abbildung 2.2 ist das klassische Fraud Triangle um die Beeinflussung der möglichen Gelegenheiten durch das Whistleblowing ergänzt worden. Bei dem Risikofaktor “Gelegenheit” trifft der potentielle Täter eine Nutzen-/Kosten-Abwägung, zu der auch die Wahrscheinlichkeit der Entdeckung zählt. Letztere hängt wie in der Abbildung verdeutlicht u.a. kritisch von der Bereitschaft der anderen Mitarbeiter im Unternehmen zum Whistleblowing ab.

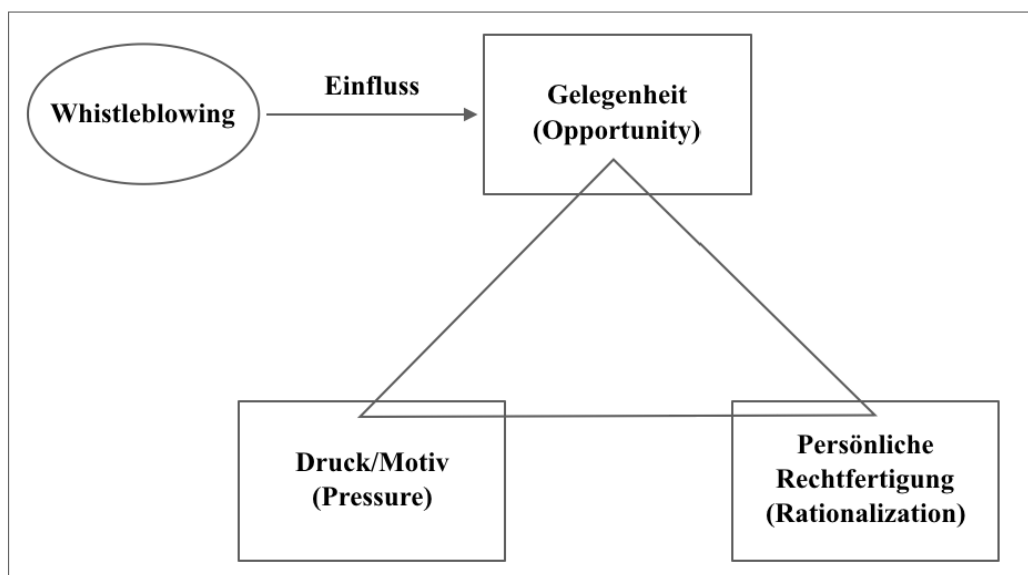


Abb. 2.2: Modifiziertes Fraud Triangle.

Will das Unternehmen also wirksam Fraud verringern, müsste die Bereitschaft der Mitarbeiter zum Whistleblowing gestärkt werden. Häufig jedoch müssen Whistleblower massive Repressalien und Vergeltung fürchten. Laut der Global Business Ethics Survey des Ethics Research Centers (ERC) sehen sich etwa 36 % aller Whistleblower Vergeltungsmaßnahmen wie Kündigung oder Mobbing ausgesetzt. In Deutschland trifft dies sogar jeden Zweiten (ERC 2016).

<sup>19</sup> Vgl. Kümpel et al. (2016) im Hinblick auf Fraud nach IDW.

Trotz des aufgezeigten positiven Einflusses von Whistleblowing auf die Prävention und Detektion von Wirtschaftskriminalität kann insbesondere in Deutschland noch nicht von einem umfassenden gesetzlichen Schutz für Whistleblower gesprochen werden. Der neueste Entwurf zum Schutz von Whistleblowerin in Deutschland<sup>20</sup> kam 2014 auf Parlamentsebene von der Fraktion Bündnis 90/Die Grünen. Danach sollte §612a BGB geändert, und §612b BGB hinzugefügt werden, um ein Anzeigerecht für Hinweisgeber und damit einhergehend einen rechtlich zugesicherten Schutz vor etwaigen Benachteiligungen zu gewährleisten.<sup>21</sup> Dieser Entwurf wurde aber schon ein Jahr später abgelehnt.<sup>22</sup> Auf EU-Ebene lag 2016 der Richtlinienentwurf “Whistleblower Protection in the Public and Private Sector in the European Union” vor, der weitreichenden Schutz vor jedweder Form von Vergeltung oder Benachteiligung bieten sollte.<sup>23</sup> Teile dieses Vorschlags aus 2016 übernehmend, hat die EU-Kommission im April 2018 einen neuen Richtlinienentwurf eingereicht, der den Schutz von Whistleblowern EU-weit vorsieht (Europäische Kommission 2018).

Nur vereinzelt existieren verbindliche Regelungen zum Whistleblowing in Deutschland. So hat die Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) seit 2016 im Zuge der Einführung des §4d FinDAG eine identitätsgeschützte Hinweisgeberstelle eingerichtet. Jedoch sind 2016 hier lediglich 124 Hinweise eingegangen, wovon nur die Hälfte relevante Inhalte hatte.<sup>24</sup> Dagegen erhielt beispielsweise die SEC 2017 4.484 Hinweise und zahlte 50 Millionen USD an 12 Personen aus (SEC 2018). Laut IDW QS1 ist in einer Wirtschaftsprüferpraxis (WP-Praxis) ein Hinweisgebersystem einzuführen.<sup>25</sup> Dabei soll ein Hinweis anonym(isiert) an interne oder externe Dritte ermöglicht werden, um potentielle oder tatsächliche Verstöße gegen die Berufspflichten, strafbare Handlungen oder Ordnungswidrigkeiten innerhalb der WP-Praxis aufzuzeigen, ohne dass Nachteile für den Whistleblower entstehen.<sup>26</sup>

Andere Regelungen in Deutschland sind weniger verbindlich. Z.B. ist der Deutsche Corporate Governance Kodex (DCGK) im Zuge der verbesserten Compliance 2017 in Ziffer

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<sup>20</sup> “Entwurf eines Gesetzes zur Förderung von Transparenz und zum Diskriminierungsschutz von Hinweisgeberinnen und Hinweisgebern” vgl. Ströbele et al. (2014) bzw. BT-Drs. 18/3039 (2014).

<sup>21</sup> Vgl. Ströbele et al. (2014). Eine erste Version aus der 16. Wahlperiode hatte lediglich eine Änderung des §612a vorgesehen und war vom BMJ, BMAS und BMELV gemeinsam eingereicht, jedoch nicht weiterverfolgt worden, vgl. Ausschussdrucksache 16(10)849. Eine erste überarbeitete Version hatte die Fraktion Bündnis 90/Die Grünen 2012 eingereicht. Dieser Gesetzentwurf wurde aber abgelehnt, vgl. BT-Drs. 17/9782 (2012).

<sup>22</sup> Im Zuge der Empfehlung BT-Drs. 18/5148 (2015).

<sup>23</sup> Es reicht aus, wenn der begründete Verdacht beim Whistleblower auf beispielsweise eine wirtschaftskriminelle Tat vorliegt. Jedoch wird hierbei explizit die interne und externe Meldung als mögliche Form des Whistleblowings angegeben, und keine Einschränkung aufgezeigt, wann eine externe Meldung erfolgen darf, vgl. Abazi et al. (2016).

<sup>24</sup> Vgl. BaFin Jahresbericht (2016), sowie schriftliche Auskunft der BaFin auf Nachfrage.

<sup>25</sup> Vgl. IDW QS 1 4.5 i.d.F.v. 09.06.2017.

<sup>26</sup> Vgl. §59 Nr. 3 BS WP/vBP i.d.F.v. 12.06.2016. Im IDW QS 1 steht dazu, dass durch die Anonymität davon ausgegangen werden kann, dass der Schutz gegeben sei.

4.1.3 um die Forderung erweitert worden, Beschäftigten und Dritten die Möglichkeit einzuräumen, geschützte Hinweise auf Rechtsverstöße im Unternehmen zu geben. Der Schutz vor Repressalien wird aber nicht explizit gefordert. Ein geschützter Hinweis muss zudem nicht anonym sein. Darüber hinaus ist der DCGK nicht verpflichtend und mit einer Entsprechenserklärung gemäß §161 AktG einfach zu umgehen.

Der bislang fehlende umfassende Schutz von Whistleblowern zeigt schon an dieser Stelle eine eher ablehnende Haltung in Deutschland gegenüber Whistleblowing.

### **2.2.2 Held oder Denunziant**

Die Einstellung zum Whistleblowing in den USA scheint eher positiv geprägt zu sein.<sup>27</sup> Hier genießen Whistleblower nicht nur gesetzlichen Schutz, sondern werden sogar durch finanzielle Anreizsysteme ermutigt (Mogielnicki 2011). Dagegen wird der Whistleblower in anderen Kulturen nicht so positiv wahrgenommen (Grant 2002). In Südafrika wird bspw. jede Art des Einander-Verratens auch bei illegalen Aktivitäten von Nachbarn oder Kollegen stark abgelehnt (Gibeaut 2006). Diese diametralen Auffassungen implizieren, dass es in der Einstellung zu Whistleblowing kulturelle Unterschiede zu geben scheint.<sup>28</sup> Insofern ist es nicht verwunderlich, dass in Deutschland das Weitertragen von illegalem, unmoralischem oder illegitimem Verhalten nicht nur positiv wahrgenommen wird. Gibeaut (2006, S. 10) argumentiert, dass in Deutschland eine eher negative Einstellung vorherrscht, da die Erinnerungen an die Erfahrungen aus der Zeit des Nationalsozialismus sowie der DDR Vergangenheit, als der Staat das “Verpfeifen” der Kollegen, Nachbarn und Verwandten aktiv förderte, immer noch präsent sind.

Aktuell ist die Haltung in Deutschland allgemein gespalten, wie insbesondere auch der Blick in die Medien verdeutlicht. Auf der einen Seite wird die Notwendigkeit gesehen, doloses Verhalten zu melden, z.B. von der Wirtschaftsprüferkammer (WPK).<sup>29</sup> Auf der anderen Seite wird bei Whistleblowern oft abfällig von “Denunzianten” gesprochen, was eine negative Einstellung zum Verhalten impliziert.<sup>30</sup> Heimann (2011) bezeichnete Whistleblower in der Süddeutschen Zeitung als “Netzbeschmutzer” und titelte: “Denunzianten vom Dienst” (Heimann 2011). In der Wirtschaftswoche äußerte sich Wybitul (2014) negativ über Anreize

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<sup>27</sup> Hartman et al. (2009: 264) resümieren beispielsweise: “It suggests that the American community now not only supports whistleblowers but it honors them as well.”

<sup>28</sup> Zu diesem Schluss kommen beispielsweise auch Cheng et al. (2015); Liu (2014); Park et al. (2008); Grant (2002).

<sup>29</sup> Vgl. <https://www.wpk.de/mitglieder/praxishinweise/internes-hinweisgebersystem-whistleblowing/>.

<sup>30</sup> So äußert sich beispielsweise auch der Arbeitgeberverband BDA negativ zu einem Schutz von Whistleblowern, vgl. Bundesvereinigung der Deutschen Arbeitgeberverbände (2017).

und Prämien für Whistleblower und postulierte, eine Förderung dieses Verhaltens würde das Arbeitsklima negativ beeinflussen und den Unternehmen schaden. Genau dieser Eindruck wird auch durch die Rechtsprechung und den fehlenden Schutz durch den Gesetzgeber untermauert.

Statt mit Schutz rechnen zu können, verletzt der Arbeitnehmer im Falle des externen Whistleblowing das Vertrauensverhältnis und das Direktionsrecht gegenüber seinem Arbeitgeber (Tinnefeld & Rauhofer 2008; Lutterbach 2010; Momsen et al. 2011). Aus Sicht der Arbeitgeber können durch Whistleblowing sensible Daten preisgegeben werden und vertrauliche Informationen an Konkurrenten gelangen, mit entsprechenden negativen Konsequenzen und finanziellen Schäden für die Unternehmen (BDA 2017). Der Whistleblower dagegen hat eventuell Informationen zum Wohle der Allgemeinheit und zur Bekämpfung von wirtschaftskriminellem Verhalten. Gemäß Tinnefeld & Rauhofer (2008: 719) hat dieser Interessenskonflikt „des Whistleblowers [...] eine grundsätzliche Diskussion über den möglichen Widerspruch zwischen seinem Recht auf Meinungsfreiheit und seiner Verantwortung auf der einen und seiner speziellen Position, seiner Treue- bzw. Solidaritätspflicht auf der anderen Seite ausgelöst.“

Für Deutschland hat das Bundesarbeitsgericht in mehreren Fällen entschieden, dass die (verhaltensbedingte) Kündigung wegen Whistleblowing durchaus gerechtfertigt ist.<sup>31</sup> Europaweit hingegen scheint die Sicht eine andere zu sein. So wurde in einem Fall durch den Europäischen Gerichtshof für Menschenrechte (ECHR) festgestellt, dass die Kündigung einer Whistleblowerin in Deutschland, die zuerst intern und schließlich extern versucht hat, auf Missstände im Unternehmen aufmerksam zu machen, nicht rechtmäßig gewesen ist.<sup>32</sup> Auch im Gesetzentwurf der Fraktion Bündnis 90/Die Grünen wird dieses Problem der negativen Einstellung in Deutschland, der Assoziation von Whistleblowing mit Denunziantentum, angesprochen, und erwähnt, dass die Gegner der Gesetze zum Schutze von Whistleblowing befürchten, ein solcher rechtlicher Schutz führe zu negativem Arbeitsklima und weiteren Nachteilen für die Unternehmen.<sup>33</sup>

Viele Autoren im deutschsprachigen Raum kommen zu dem Schluss, dass diese ablehnende Grundhaltung auch bei Whistleblowern, die wirtschaftskriminelle Aktivitäten melden könnten, greift.<sup>34</sup> So hat nach Meinung dieser Autoren keine positive Begriffsbildung um den Whistleblower stattgefunden, und es bleibt lediglich der negativ konnotierte Begriff des Denunzianten, was mögliche Whistleblower von der Meldung abhalten könnte.

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<sup>31</sup> Vgl. BAG, 2 AZR 400/05, Urteil vom 7.12.2006, sowie BAG 2 AZR 235/02, Urteil vom 3.7.2003.

<sup>32</sup> Für eine detaillierte Fallerläuterung vgl. Momsen et al. (2011).

<sup>33</sup> Vgl. BT Drs. 18/3039, S. 12; Bundesvereinigung der Deutschen Arbeitgeberverbände (2017).

<sup>34</sup> In den letzten Jahren insbesondere diskutiert durch Müller (2002); Schmidt (2005); Rauhofer (2007); Tinnefeld & Rauhofer (2008); Pittroff (2011).



Allerdings haben die genannten Beiträge zum Whistleblowing in Deutschland die implizite Annahme gemein, dass das Verhalten möglicher Whistleblower von dieser negativen Einstellung, den sozialen Normen und der wahrgenommenen Verhaltenskontrolle im Sinne des fehlenden rechtlichen Schutzes beeinflusst wird. Studien zum Einfluss auf das Verhalten gibt es zu diesem Sachverhalt in Deutschland unseres Wissens nach noch keine. Um aber effektive Möglichkeiten der Förderung von Whistleblowing finden zu können, ist es nötig zu prüfen, ob erstens diese negative Grundeinstellung zum Whistleblowing existent ist, und zweitens dieser Zusammenhang zwischen Haltung und Verhalten tatsächlich besteht. So schlussfolgern Hartman et al. (2009: 261) “effective policies and procedures must be adapted to cultural differences manifest in factors such as legal environment, history, social norms, experience and logistics.” US-amerikanische Gesetze müssen daher in Deutschland nicht dieselbe Wirksamkeit entfalten, wenn eine negative Einstellung zum Whistleblower tatsächlich dessen Verhalten negativ beeinflussen sollte.

## **2.3 Theorie und Hypothesenentwicklung**

### **2.3.1 Theorie des geplanten Verhaltens (TPB)**

Allgemein wird in der Literatur zu den Einflussfaktoren des Whistleblowing fast ausschließlich mit Experimenten gearbeitet, da empirische Beobachtungen aus der Praxis schwer möglich sind.<sup>35</sup> Mit den Experimenten wird allerdings lediglich die Bereitschaft zum Whistleblowing einer Person abgefragt, nicht aber das tatsächliche Verhalten.<sup>36</sup> Ein Problem hierbei ist, dass die Selbstauskunft zum geplanten Verhalten nicht mit dem tatsächlichen Verhalten übereinstimmen muss. Auf die Problematik einer solchen Verzerrung (*self reporting bias*) verweisen Miceli und Near (1984) schon sehr früh; sie sehen aber keine andere Möglichkeit, bessere Daten zu erhalten.<sup>37</sup> Auch Chiu (2003) diskutiert diese Probleme von behauptetem und tatsächlichem Verhalten. Die Ergebnisse der Meta-Analyse von Mesmer-Magnus und Viswesvaran (2005) implizieren, dass tatsächliches Verhalten und selbsteingeschätztes geplantes Verhalten beim Whistleblowing nicht selten divergieren.

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<sup>35</sup> Zu den wenigen Ausnahmen zählen Miceli und Near (2002). Vgl. auch Mesmer-Magnus und Viswesvaran (2005) für einen Überblick zu diesem Thema.

<sup>36</sup> Für einen Überblick zu aktuellen Experimenten zum Whistleblowing vgl. Gao und Brink (2017) sowie Lee und Xiao (2018) im Accounting Bereich.

<sup>37</sup> Vgl. Miceli und Near (1984: 703) “although self-reported data may be flawed, it is not known how better data can be obtained practically”.

In unserer Untersuchung lösen wir dieses Problem mit Hilfe der Theorie des geplanten Verhaltens, die den Schluss von Verhaltensintention auf tatsächliches Verhalten erlauben soll.<sup>38</sup> Hiermit können wir prüfen, ob und wie gesellschaftliche Normen, die eigenen Einstellungen sowie die wahrgenommene Verhaltenskontrolle einen Einfluss auf das Whistleblowing Verhalten haben. Der Zusammenhang ist schematisch in Abbildung 2.3 dargestellt.

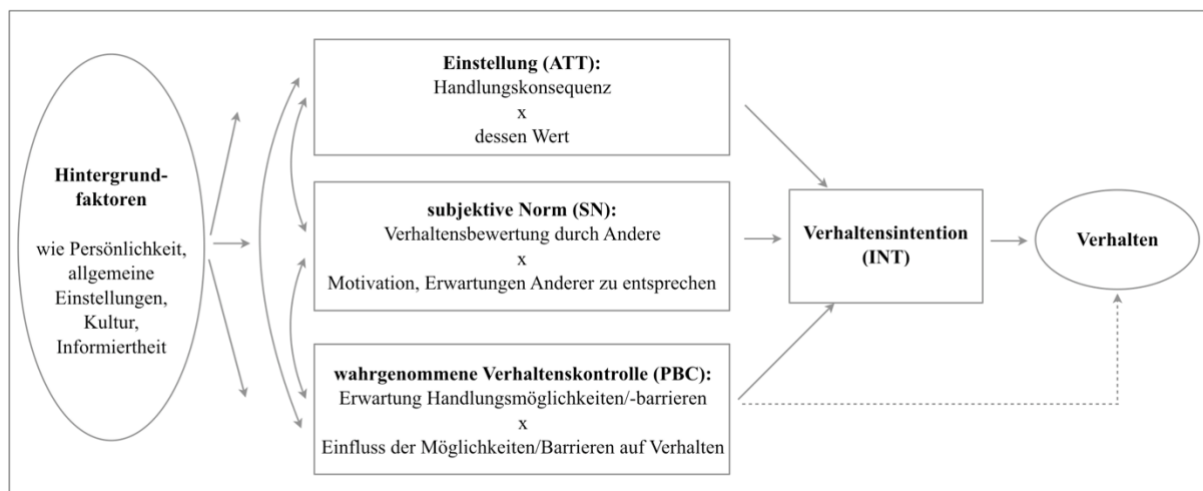


Abb. 2.3: TPB nach Ajzen (1991) in Anlehnung an Kessler und Fritsche (2018).

Die abhängige Variable Verhaltensintention (INT) beschreibt, wie sehr Menschen bereit sind, ein Verhalten auszuüben, bzw. wie wichtig es aus ihrer Sicht ist, eine Handlung zu vollbringen. Diese wird von den zugrundeliegenden Faktoren (Einstellung ATT, subjektive Norm SN, wahrgenommene Verhaltenskontrolle PBC) beeinflusst. Tatsächliches Verhalten nach Ajzen (1991) ist demzufolge eine Funktion aus der Intention und der Möglichkeit ein Verhalten ausüben zu können, also der wahrgenommenen Kontrolle über das eigene Verhalten. Im Folgenden wird auf die beeinflussenden Faktoren und deren Berechnung nach der TPB detaillierter eingegangen.

Einstellung (engl. attitude ATT) wird als die Stärke der positiven oder negativen Wahrnehmung des zu untersuchenden Verhaltens oder Objektes verstanden.<sup>39</sup> Als Approximation zur Einstellung schlägt Ajzen (1991) vor, die erwartete Konsequenz oder Bewertung einer Aktion, d.h. die "belief strength" ( $b_j$ ), mit der subjektiven Bewertung "subjective evaluation" ( $e_j$ ) dieser zu multiplizieren. In der Summe bilden diese bewerteten

<sup>38</sup> Vgl. Ajzen (1991: 181): "a theory designed to predict and explain human behavior in specific contexts". Die TPB ist eine Erweiterung der Theorie des überlegten Handels (Theory of Reasoned Action) von Fishbein und Ajzen (1975).

<sup>39</sup> Vgl. Ajzen (1991: 188) "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question".

Handlungskonsequenzen ein Maß für die Einstellung. Die tatsächliche Einstellung ist demnach direkt proportional zu dieser Kennzahl.

Die subjektive Norm (engl. subjective norm SN) gibt den Einfluss von relevanten Referenzpersonen oder -gruppen wieder. Die Messgröße wird als Summe der jeweiligen Produktwerte aus der Verhaltensbewertung Anderer (normative belief -  $n_j$ ) und der Motivation deren Erwartungen zu entsprechen (motivation to comply -  $m_j$ ) angegeben. Ajzen (1991: 188) beschreibt die subjektive Norm als “the perceived social pressure to perform or not to perform the behavior”. Die Summe der Produkte  $n_j \times m_j$  bildet die subjektive Norm als *SN* ab.

Die wahrgenommene Verhaltenskontrolle (engl. perceived behavioral control PBC) wird durch das Vorhandensein (oder Fehlen) notwendiger Ressourcen und Gelegenheiten bestimmt. Es ist die Erwartung darüber, eine Handlung erfolgreich abschließen zu können, oder ob Handlungsbarrieren zu erwarten sind. Diese Wahrnehmung der Kontrolle kann dabei durch eigene Erfahrungen in Verbindung mit dem Verhalten beeinflusst werden, aber insbesondere auch durch Informationen aus zweiter Hand, also durch die Erfahrungen von Freunden und Kollegen oder Informationen in der Presse und Medien.<sup>40</sup> PBC wird gemessen als Summe der Handlungsmöglichkeiten und -barrieren, also der Erwartung von Handlungsmöglichkeiten und -barrieren (control beliefs -  $c_j$ ), multipliziert mit dem erwarteten Einfluss dieser Möglichkeiten oder Barrieren (perceived power -  $p_j$ ) auf das Verhalten, woraus sich der Wert für die wahrgenommene Verhaltenskontrolle als *PBC* ergibt (Kessler & Fritsche 2018).

Dabei können alle drei Faktoren Interaktionseffekte untereinander aufweisen (Ajzen 1991). Auch wenn die Verhaltensintention stark ist, muss ein bestimmtes Verhalten nicht zwangsläufig die Folge sein, wenn z.B. die Handlungsbarrieren als zu groß wahrgenommen werden. Wenn beispielsweise ein Mitarbeiter eine Unregelmäßigkeit beobachtet, über die er eigentlich berichten möchte, aber nicht glaubt, dass sein Vorgesetzter reagieren wird, dann unterlässt er eventuell das Whistleblowing trotz starker Intention. In diesem Fall ist die wahrgenommene Verhaltenskontrolle gering, da die Barrieren hoch sind. Die wahrgenommene Verhaltenskontrolle weist daher zusätzlich einen direkten Einfluss zum tatsächlichen Verhalten auf. Zusammenfassend sind die Faktoren noch einmal in der Form der TPB und ihre jeweilige mathematische Berechnung in Abbildung 2.4 dargestellt.

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<sup>40</sup> Vgl. Ajzen (1991: 188) PBC “refers to the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles”.

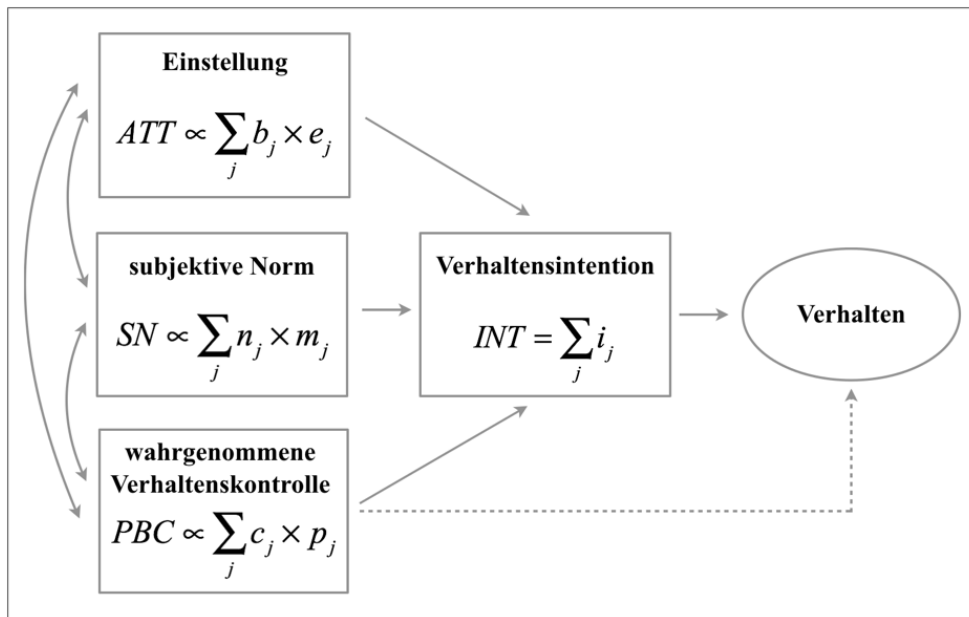


Abb. 2.4: TPB mit Berechnung der Faktoren nach Ajzen (1991).

Dass die TPB besonders für Fragen ethischer oder moralischer Natur geeignet ist, belegen nicht nur die vielen Studien in den ersten Jahren nach der Veröffentlichung (Ajzen 1991), sondern auch aktuelle Publikationen im Bereich des Abfallmanagements<sup>41</sup>, der Public Accounting Profession (Buchan 2005) sowie zum Verhalten bei der Steuerehrlichkeit (Bobek & Hatfield 2003). Da Whistleblowing regelmäßig auch als komplexer, psychologischer Prozess bezeichnet (Gundlach et al. 2003) und die moralische Komponente diskutiert wird (Bouville 2008), scheint die Theorie des geplanten Verhaltens prädestiniert zur Untersuchung von Whistleblowing zu sein.<sup>42</sup>

Bisher existieren zwei Studien, die die TPB auf diese Thematik anwenden. Park und Blenkinsopp (2009) untersuchen die Verhaltensintention südkoreanischer Polizisten zum Whistleblowing. Brown et al. (2016) führen eine Studie unter Professional Accountants in den USA durch, und verbinden hierfür die TPB für das Whistleblowing mit dem Fraud Triangle nach Cressey (1953). In beiden Arbeiten wird auf die Notwendigkeit weiterer Forschung insbesondere in anderen Ländern und weiteren kulturellen Räumen hingewiesen, um so ein besseres Verständnis zur Verhaltensbildung zu generieren.

<sup>41</sup> Vgl. Liobikienė/Mandravickaitė/Bernatoniė (2016); Abreu Romero et al. (2018).

<sup>42</sup> Passend hierzu schreibt Ajzen (1991: 180) "cognitive self-regulation plays an important part [in TPB]".

### 2.3.2 Hypothesentwicklung

#### 2.3.2.1 Einstellung

Wenn eine Person Whistleblowing als moralisch richtig und wichtig erachtet, sollte sich auch die Intention erhöhen, ein derartiges Verhalten selbst auszuüben. Eine solche Beziehung zeigt beispielsweise Chiu (2003) auf. Dieser Einfluss wird auch von der TPB allgemein postuliert (Ajzen 1991) und von Brown et al. (2016) bestätigt. Park und Blenkinsopp (2009) finden lediglich für internes Whistleblowing bei Befragten aus Südkorea einen signifikanten Einfluss. Brink et al. (2015) können einen positiven Einfluss der jeweiligen ethischen Position und Stikeleather (2016) der wahrgenommenen moralischen Verpflichtung auf die Whistleblowing Intention nachweisen. Bei einer positiven eigenen Einstellung zum Whistleblowing sollte die Person also eher gewillt sein, das Verhalten auszuüben:

*H1: Die Verhaltensintention des Whistleblowing wird von der Einstellung zum Verhalten positiv beeinflusst.*

#### 2.3.2.2 Subjektive Norm

Die wahrgenommene Meinung der Gesellschaft oder relevanter Personen(gruppen) kann in diesem Zusammenhang als subjektive Norm verstanden werden, die das eigene Verhalten beeinflussen könnte. Einerseits scheint es vorstellbar, dass sich ein Whistleblower von der Meinung anderer beeinflussen lässt, andererseits ist es auch möglich, dass der Drang, die Information preis zu geben, in jedem Fall überwiegt. Dies würde aber einen Einfluss dennoch nicht ausschließen. Einerseits bestätigt diesen Zusammenhang eine Studie aus Südkorea (Park & Blenkinsopp 2009), andererseits findet eine Studie aus den USA keinen Zusammenhang (Brown et al. 2016). Laut Hofstede Insights (2018) ist Südkorea ein stark kollektivistisch geprägtes Land, wohingegen die US-amerikanische Kultur sehr stark individualistisch geprägt ist. Deutschland kann zwischen diesen beiden Ländern verortet werden.<sup>43</sup> Es scheint daher durchaus möglich, dass in Deutschland die Intention nicht so stark von der Meinung anderer abhängt. Die Unternehmenskultur kann hierbei als eine solche soziale Norm innerhalb des Unternehmens oder einer Bezugsgruppe verstanden werden. Deren positiven Einfluss auf die Whistleblowing Intention stellen beispielsweise Kaptein (2011) in

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<sup>43</sup> Gemäß Hofstede Insights (2018) hat Deutschland einen Wert von 67, Südkorea 18 und die USA einen Wert von 91. Wobei ein höherer Wert auf der Skala für stärkere Individualismus-Prägung und ein niedrigerer für eine kollektivistischere Prägung steht. Wir danken einem anonymen Reviewer für diesen essentiellen Hinweis.

den USA und Busmann und Niemeczek (2019) für Manager in Deutschland heraus. Eine gänzliche Insignifikanz kann daher für Deutschland nicht angenommen werden:

*H2: Die Verhaltensintention des Whistleblowing wird von der subjektiven Norm gegenüber dem Verhalten positiv beeinflusst.*

### **2.3.2.3 Wahrgenommene Verhaltenskontrolle**

Die wahrgenommene Verhaltenskontrolle ist beim Whistleblowing naturgemäß mit Vergeltungsmaßnahmen bzw. deren Nichtvorhandensein verbunden (Park & Blenkinsopp 2009; Brown et al. 2016), weshalb wir den Fokus auf Handlungsbarrieren legen. Die Literatur hat sich schon lange mit dem Einfluss von Vergeltung beschäftigt. Zwar zeigen einige Ergebnisse einen eindeutigen negativen Zusammenhang zur Intention auf (Miceli & Near 2002; Liyanarachchi & Newdick 2009; Brown et al. 2016; Dhamija & Rai 2018), andere Studien aber finden keinen signifikanten Einfluss (Keenan 2002; Park & Blenkinsopp 2009 für externes Whistleblowing; Wainberg & Perreault 2016). Mesmer-Magnus und Viswesvaran (2005) zeigen, dass Vergeltung lediglich einen Einfluss auf die Intention, nicht aber auf das tatsächliche Whistleblowing hat. Da Repressalien wie Kündigung, Drangsalierung am Arbeitsplatz oder Schadensersatzforderungen auch in Deutschland keine Seltenheit sind<sup>44</sup>, wird angenommen, dass diese in die Kalkulation des Whistleblowers einfließen:

*H3: Die Verhaltensintention des Whistleblowing wird negativ von den wahrgenommenen Handlungsbarrieren beeinflusst.*

## **2.4 Experiment**

### **2.4.1 Untersuchungsdesign**

Der Fragebogen wurde an 182 Studierende der Wirtschaftswissenschaft einer deutschen Universität ausgeteilt, von denen 136 vollständig ausgefüllt wurden. Die demographischen Angaben wurden am Ende des Fragebogens zusätzlich auf freiwilliger Basis abgefragt, um die Ergebnisse nicht zu verfälschen.<sup>45</sup> Die übrigen Fragen unterlagen zufällig variierenden Reihenfolgen, um den sogenannten *order effect bias* (Reihenfolgeeffekt) zu vermeiden (Ahmad et al. 2014). Zu Beginn der Befragung wurde jedoch jedem Teilnehmer immer erst der Fall

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<sup>44</sup> Vgl. ERC (2016) sowie unsere vorherigen Ausführungen.

<sup>45</sup> Die Anonymität sollte glaubhaft zugesichert werden. Daher ist eine Abfrage der demographischen Daten am Ende der Befragung üblich.

gezeigt und die Aufgabe erklärt. Der kurze Fall stellt einen Mitarbeiter eines großen Unternehmens vor, der zufällig an Informationen gekommen ist, die auf wirtschaftskriminelles, illegales Verhalten im Unternehmen hindeuten. Die Einbettung eines Falls soll den Befragten helfen, die Situation realistischer wahrzunehmen (Ahmad et al. 2014). Von den vollständig ausgefüllten Fragebögen sind 47,8 % von männlichen, 51,5 % von weiblichen Teilnehmern mit einem insgesamt durchschnittlichen Alter von 22,79 Jahren ausgefüllt worden. 26,5 % haben angegeben, bereits einen Bachelor oder Master Abschluss zu haben. Im Durchschnitt haben die Befragten 2,29 Veranstaltungen im Bereich Accounting erfolgreich abgeschlossen. Zur Auswertung unserer Hypothesen nutzen wir AMOS Structural Equation Modelling (SEM), um das Strukturgleichungsmodell mit Maximum Likelihood Schätzung zu generieren.

Bei einer solchen Befragung besteht die Gefahr einer Verzerrung der Antworten aufgrund des sogenannten *social desirability bias* (soziale Erwünschtheit-Verzerrung). Die Verzerrung kommt zustande, weil Personen von anderen als moralisch besser wahrgenommen werden möchten als sie in der Realität tatsächlich handeln, selbst wenn es sich um anonyme Befragungen handelt. Dieser Effekt wird beispielsweise von Ahmad et al. (2014) ausführlich im Kontext des Whistleblowing diskutiert. Als Lösung wird von den Autoren vorgeschlagen, die Fragen nicht als Selbstreflexion, sondern als Fremdwahrnehmung zu gestalten (Was denken Sie, wie er/sie sich in dieser Situation verhält?). Diese Anregungen übernehmend stellt unsere Arbeit hier methodisch eine Verbesserung zu den Studien von Park und Blenkinsopp (2009) und Brown et al. (2016) dar, die zwar beide die TPB nutzen, aber die Probanden direkt nach ihrer eigenen Intention fragten. Zudem präsentieren wir unseren Teilnehmern eine Fallstudie, die zum besseren Verständnis sowie zu einer realistischeren Einschätzung des Verhaltens in der abgefragten Situation beitragen kann (Ahmad et al. 2014). Auch dies ist neu im Vergleich zu vielen bisherigen Whistleblowing Untersuchungen.

Wie von Fishbein und Ajzen (2010) und Ajzen (1991) für die Datenerhebung vorgeschlagen, wurden die relevanten Antwortmöglichkeiten in einer ersten offenen Befragung festgelegt (Pre-Test), in der die Studierenden angeben sollten, welche Überlegungen zum jeweiligen Faktor für sie von Relevanz waren. Die relevanten Items wurden dann in den Fragebogen übernommen und werden in den folgenden Unterkapiteln (2.4.2-2.4.5) für ein besseres Verständnis abgebildet. Im Zuge des Pre-Tests wurde zudem auf Verständlichkeit und Konsistenz von Formulierungen der Fragestellungen und des vorgestellten Falls getestet. Daraufhin wurden leichte Änderungen für den finalen Test übernommen.<sup>46</sup> Obwohl Ajzen

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<sup>46</sup> Insbesondere ging es darum, bei einer Likert-Skala ein erhöhtes Auswählen absoluter Aussagen zu verhindern. Zudem haben wir hierbei auch auf einen *social desirability bias* getestet. Der vorgestellte Fall wurde leicht angepasst und etwas mehr ausgeführt. Zur Durchführung eines Pre-Tests vgl. Fishbein und Ajzen (2010: 451).

(1991) offenlässt, wie die Likert-Skala genau genutzt wird, gibt er eine Präferenz zur bipolaren Verteilung an. Wir haben daher eine 7-Punkte-Likert-Skala gewählt, die jeweils von -3 bis +3 verläuft. Für die Auswertung wurden diese Werte unipolar umgeschrieben, wobei -3 dem Wert 1 entspricht und +3 dem Wert 7. Gründe hierfür sind ausschließlich mathematischer Natur, da die Items jeweils multipliziert und aufsummiert werden.<sup>47</sup> Im Folgenden werden daher nur Werte auf Basis der umcodierten Antworten dargestellt.

#### 2.4.2 Verhaltensintention und Verhalten

Von den Probanden wird nach der Fallvorstellung durch mehrere Fragen zum Fall die Verhaltensintention bestimmt, also wie sehr sie bereit sind oder planen, das Verhalten auszuüben. Im offenen Pre-Test haben sich dabei insbesondere sechs verschiedene Aussagen ( $i_j$ ) als Ausprägung der Intention Whistleblowing zu betreiben herausgestellt, welche die Befragten dann auf einer 7-Punkte-Likert-Skala von “stimme ich überhaupt nicht zu” (1) bis “stimme ich vollkommen zu” (7) bewerten. Die Summe der Einzelbewertungen ergibt dann die Variable *INT*. Die deskriptive Statistik sowie die Aussagen sind in Tabelle 2.1 gelistet. Der Aufbau entspricht dem anderer Studien, in denen die Probanden nach ihrer Whistleblowing Intention befragt wurden (Park & Blenkinsopp 2009; Brown et al. 2016; Brink et al. 2017).

	M	SD	st.FK
$i_1$ : Er hat vor, die Vorkommnisse zu melden.	4,73	1,542	0,703
$i_2$ : Er wird die Vorkommnisse melden.	3,93	1,378	0,824
$i_3$ : Er ist bereit, die Vorkommnisse zu melden.	4,92	1,481	0,471
$i_4$ : Er plant, die Vorkommnisse zu melden.	4,57	1,464	0,608
$i_5$ : Er hält es für seine Pflicht, die Vorkommnisse zu melden.	4,81	1,417	0,474
$i_6$ : Es macht ihn zu einem besseren Menschen, wenn er die Vorkommnisse meldet.	4,74	1,606	0,249
<i>INT</i>	27,70	5,700	

Tabelle 2.1: Deskriptive Statistik zur abhängigen Variable Verhaltensintention.

Note. M=arithmetisches Mittel, SD=Standardabweichung, st.FK=standardisierte Faktorladung.

<sup>47</sup> Vgl. hierzu auch Fishbein und Ajzen (2010).



### 2.4.3 Einstellung

Im offenen Pre-Test konnten 6 Merkmale für den Faktor Einstellung als relevant identifiziert werden. Die Teilnehmenden haben diese in der Befragung auf einer 7-Punkte-Likert-Skala von „überhaupt nicht wichtig“ (1) bis „sehr wichtig“ (7) für die erwarteten Handlungskonsequenzen ( $b_j$ ), beziehungsweise mit “stimme ich überhaupt nicht zu” (1) bis “stimme ich vollkommen zu” (7) für die jeweilige Evaluierung ( $e_j$ ), bewertet. Aus der Summe der Produkte  $b_j \times e_j$  über alle 6 Items ergibt sich die Maßzahl für die Einstellung,  $ATT$ ; die deskriptive Statistik hierzu ist in Tabelle 2.2 gegeben.

	M	SD	st.FK*
Einstellung: Handlungskonsequenz ( $b_j$ )			
$b_1$ : Es würde helfen, Schaden vom Unternehmen abzuwenden.	4,66	1,620	0,369
$b_2$ : Es würde helfen, die Integrität und Werte des Berufszweigs zu erhalten.	5,23	1,605	0,638
$b_3$ : Es wäre die moralisch angemessene Reaktion.	5,91	1,302	0,656
$b_4$ : Es wäre die Verpflichtung des Mitarbeiters.	5,19	1,513	0,653
$b_5$ : Es wäre im Interesse der Allgemeinheit.	5,54	1,445	0,678
$b_6$ : Es würde helfen, Korruption einzudämmen oder zu verhindern.	5,8	1,387	0,667
Einstellung: Wert der Handlungskonsequenzen ( $e_j$ )			
$e_1$ : Schaden vom Unternehmen abzuwenden, ist für ihn ...	5,03	1,241	0,369
$e_2$ : Die Integrität und Werte des Berufszweigs zu erhalten, ist für ihn ...	4,86	1,410	0,638
$e_3$ : Die moralisch angemessene Reaktion zu wählen, ist ihm ...	5,43	1,158	0,656
$e_4$ : Die Verpflichtungen eines Mitarbeiters einzuhalten, ist ihm ...	5,35	1,172	0,653
$e_5$ : Das Interesse der Allgemeinheit zu wahren, ist ihm ...	5,25	1,428	0,678
$e_6$ : Korruption einzudämmen oder zu verhindern, ist ihm ...	4,68	1,233	0,667
$ATT$	168,02	47,227	

Tabelle 2.2: Deskriptive Statistik zur Variable Einstellung.

Note. M=arithmetisches Mittel, SD=Standardabweichung, st.FK=standardisierte Faktorladung.

\*Faktorladung für  $b_j \times e_j$ , nicht einzelne Teilwerte.

### 2.4.4 Subjektive Norm

Bewertet wurden die durch den Pre-Test ermittelten relevanten Bezugsperson(en) bei der Verhaltensbewertung ( $n_j$ ) mit “trifft gar nicht zu” (1) bis “trifft vollkommen zu” (7) sowie zur Motivation, den jeweiligen Erwartungen entsprechen zu wollen ( $m_j$ ), mit “überhaupt nicht wichtig” (1) bis “sehr wichtig” (7), begleitet von der Frage “Wie wichtig wäre Ihnen die

Meinung der folgenden Personen?“. Hierbei wurden 6 Referenzpersonen bzw. -gruppen ausgewählt, wie in Tabelle 2.3 zu sehen ist. Die Summe der Produkte  $n_j \times m_j$  über alle 6 Personengruppen bildet dabei die subjektive Norm als *SN* ab.

	M	SD	st.FK*
Subjektive Norm: Verhaltensbewertung durch Andere ( $n_j$ )			
$n_1$ : Sein direkter Vorgesetzter denkt, dass er den Vorfall berichten sollte.	4,30	1,467	0,342
$n_2$ : Der Abteilungsleiter denkt, dass er den Vorfall berichten sollte.	4,40	1,526	0,323
$n_3$ : Kolleg/innen denken, dass er den Vorfall berichten sollte.	4,74	1,394	0,399
$n_4$ : Freunde denken, dass er den Vorfall berichten sollte.	5,25	1,534	0,793
$n_5$ : Familienmitglieder denken, dass er den Vorfall berichten sollte.	5,35	1,513	0,942
$n_6$ : Der Partner/Die Partnerin denkt, dass er den Vorfall berichten sollte.	5,46	1,414	0,894
Subjektive Norm: Motivation, den Erwartungen Anderer zu entsprechen ( $m_j$ )			
$m_1$ : direkter Vorgesetzter	5,76	1,453	0,342
$m_2$ : Abteilungsleiter	5,63	1,282	0,323
$m_3$ : Kolleg/innen	4,82	1,299	0,399
$m_4$ : Freunde	5,68	1,166	0,793
$m_5$ : Familienmitglieder	5,98	1,297	0,942
$m_6$ : Partner/in	6,29	1,199	0,894
<i>SN</i>	171,75	50,098	

Tabelle 2.3: Deskriptive Statistik zur subjektiven Norm.

Note. M=arithmetisches Mittel, SD=Standardabweichung, st.FK=standardisierte Faktorladung.

\*Faktorladung für  $n_j \times m_j$ , nicht einzelne Teilwerte.

#### 2.4.5 Wahrgenommene Verhaltenskontrolle

Im offenen Pre-Test konnten zum Faktor wahrgenommene Verhaltenskontrolle 5 Merkmale als relevant identifiziert werden. Die erwarteten Handlungsbarrieren ( $c_j$ ) werden von den Befragten von “überhaupt nicht wichtig” (1) bis “sehr wichtig” (7) mit den jeweiligen Einflüssen auf das Verhalten ( $p_j$ ) mit “sehr unwahrscheinlich” (1) bis “sehr wahrscheinlich” (7) eingeordnet. Da so höhere Werte für mehr Vergeltung und geringere wahrgenommene Kontrolle generiert werden, wurden diese Werte umcodiert<sup>48</sup>, so dass ein Vergleich mit den anderen Items möglich und die wahrgenommene Verhaltenskontrolle abgebildet wird. Die so erhaltenen Werte sind in Tabelle 2.4 dargestellt. Die initiale Codierung wurde gewählt, da die

<sup>48</sup> D.h. bei der Skala von  $n = 1, \dots, 7$  wird jede Zahl  $n$  mit  $(-1)$  multipliziert und mit 8 addiert.

Befragten es leichter empfinden, “Vergeltung” im Vergleich zu “nicht-Vergeltung” einzuschätzen (Fishbein & Ajzen 2010: 450f). Diese umcodierten Werte für  $c_j$  sowie  $p_j$  wurden multipliziert und aufsummiert, woraus sich der Wert für die wahrgenommene Verhaltenskontrolle als *PBC* ergibt.

	M	SD	st.FK*
Wahrgenommene Verhaltenskontrolle: Erwartung Handlungsbarrieren ( $c_j$ )			
$c_1$ : Vergeltungsmaßnahmen durch den Abteilungsleiter halte ich für ...	3,63	1,567	0,587
$c_2$ : Vergeltungsmaßnahmen durch Kolleg/innen halte ich für ...	4,04	1,639	0,733
$c_3$ : Vergeltungsmaßnahmen durch das Unternehmen halte ich für ...	3,26	1,554	0,258
$c_4$ : Vergeltungsmaßnahmen durch die Aufsichtsbehörden halte ich für ...	3,85	2,029	0,389
$c_5$ : Vergeltungsmaßnahmen durch die Organisation halte ich für ...	3,21	1,453	0,389
Wahrgenommene Verhaltenskontrolle: Einfluss der Barrieren auf Verhalten ( $p_j$ )			
$p_1$ : Angst vor Vergeltung durch seinen Abteilungsleiter würde die Meldung erschweren.	2,07	1,224	0,587
$p_2$ : Angst vor Vergeltung durch seine Kolleg/innen würde die Meldung erschweren.	3,02	1,473	0,733
$p_3$ : Angst vor Vergeltung durch das Unternehmen würde die Meldung erschweren.	1,97	1,167	0,258
$p_4$ : Angst vor Vergeltungsmaßnahmen durch Aufsichtsbehörden würde die Meldung erschweren.	3,11	1,690	0,389
$p_5$ : Angst vor Hürden durch die Organisation würde die Meldung erschweren.	2,99	1,453	0,389
<i>PBC</i>	49,72	26,005	

Tabelle 2.4: Deskriptive Statistik zur wahrgenommenen Verhaltenskontrolle.

Note. M=arithmetisches Mittel, SD=Standardabweichung, st.FK=standardisierte Faktorladung.

\*Faktorladung für  $c_j \times p_j$ , nicht einzelne Teilwerte.

## 2.5 Ergebnisse

In Tabelle 2.5 werden die Cronbach's Alpha Werte zur Messung der internen Konsistenz der Items Intention (INT), Einstellung (ATT), subjektive Norm (SN) sowie wahrgenommene Verhaltenskontrolle (PBC) in Fettdruck gezeigt.<sup>49</sup> Zudem sind jeweils darunter die Korrelations-Koeffizienten angegeben. Die interne Konsistenz ist höher als die

<sup>49</sup> Die Cronbach's Alphas liegen für alle Konstrukte in akzeptablen Bereichen mit  $\alpha > 0,7$ .

Korrelation Faktor-übergreifend. Die Konstrukte können also als getrennt voneinander angesehen werden (Churchill 1979).

<i>n</i> = 136	INT	ATT	SN	PBC
INT	<b>0,713</b>			
ATT	0,365*** (,000)	<b>0,824</b>		
SN	0,129 (,134)	0,413*** (,000)	<b>0,780</b>	
PBC	0,061 (,483)	0,189** (,027)	0,067 (,436)	<b>0,710</b>

Tabelle 2.5: Inter- und Intrakorrelationsmatrix.

Note. Cronbach's Alpha in Fettdruck. Pearson Korrelationen darunter. p-Werte in Klammern.

\*\*\* Korrelation ist auf dem Niveau von 0,01 (2-seitig) signifikant. \*\* Korrelation ist auf dem Niveau von 0,05 (2-seitig) signifikant.

Die Ergebnisse des Stukturgleichungsmodells sind in Abbildung 2.5 aufgeführt. Dabei ist lediglich ein signifikant positiver Zusammenhang zwischen Einstellung und Intention zu erkennen, was Hypothese 1 bestätigt. Hypothese 2 und 3 können nicht bestätigt werden, hier ist kein signifikanter Einfluss von wahrgenommener Verhaltenskontrolle und subjektiver Norm auf die Intention zu sehen. Zudem treten signifikante Interaktionseffekte zwischen allen 3 Faktoren ATT, SN und PBC auf.

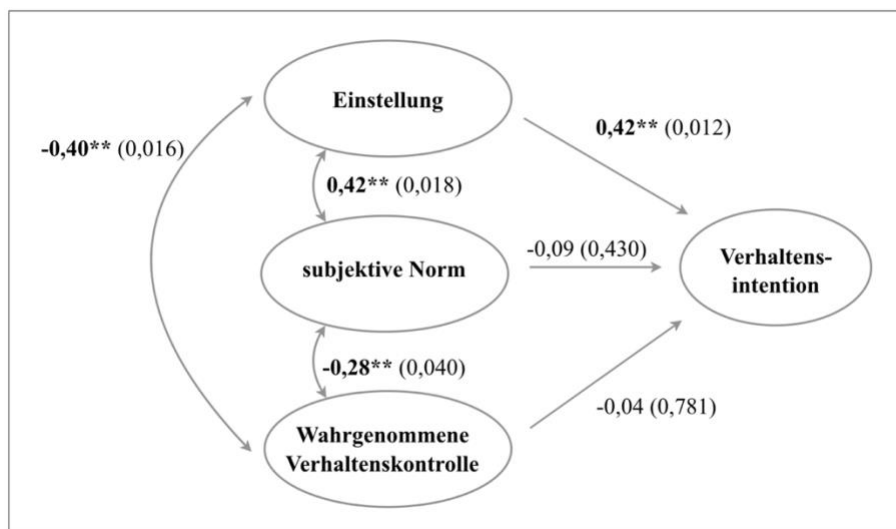


Fig. 2.5: Strukturgleichungsmodell mit Ergebnissen.

Die Gütemaße  $RMSEA = 0,10$  sowie  $CFI = 0,70$  liegen in akzeptablen Bereichen, wobei die Schwächen auch durch die relativ geringe Stichprobengröße bedingt sein werden (Browne & Cudeck 1993; Hu & Bentler 1999; Awang 2012).<sup>50</sup>

Als zusätzlichen Robustheitstest wurde eine lineare Regression mit Verhaltensintention als abhängige Variable und Einstellung, subjektiver Norm sowie wahrgenommener Verhaltenskontrolle als unabhängige Variablen durchgeführt,

$$INT = \beta_0 + \beta_1 ATT + \beta_2 SN + \beta_3 PBC + \varepsilon,$$

Die Ergebnisse in Tabelle 2.6 ähneln denen des Strukturgleichungsmodells. Wieder wird die Hypothese gestützt, dass die Einstellung zum Verhalten einen signifikant positiven Effekt auf die Verhaltensintention hat. Gleichzeitig kann weiterhin kein signifikanter Einfluss der beiden anderen Faktoren auf die Intention zum Whistleblowing erkannt werden. Das Bestimmtheitsmaß zeigt, dass unser Modell einen Beitrag zur Erklärung der Intention liefert.

Variable	Koeffizient	T	Signifikanz
Konstante	21,169	8,914	,000***
SN	-0,004	-0,350	,727
ATT	0,045	4,165	,000***
PBC	-0,008	-0,442	,659

Tabelle 2.6: Lineare Regression.

Note.  $R = 0,368$ ;  $R^2 = 0,135$ ;  $adj. R^2 = 0,115$ ;  $df = 3$ ;  $F = 6,873$ .

\*\*\* Korrelation ist auf dem Niveau von 0,01 (2-seitig) signifikant.

Als weiteren Robustheitstest wurde das lineare Modell um Faktoren erweitert, die in der Literatur zum Teil bereits als Einflussfaktoren identifiziert worden sind. So wird Geschlecht (gender) beispielsweise von Mesmer-Magnus und Viswesvaran (2005) und Brown et al. (2016) als signifikant auf die Intention wirkend, erfasst. Wohingegen Wen und Chen (2016) und Dhamija und Rai (2018) keinen Einfluss feststellen. Das Fachwissen (knowledge)<sup>51</sup> wird von

<sup>50</sup> Der MSA (measure of sampling adequacy) der einzelnen Faktoren liegt bei  $MSA > 0,5$ . Da die obigen Werte grundsätzlich auf den Freiheitsgraden (df) fußen, ist der Erklärungsgehalt dieser Anpassungsgütestests prinzipiell kritisch zu sehen. Wir haben daher auch zusätzlich einen Robustheitstest mit einer linearen Regression durchgeführt. Zur generellen kritischen Diskussion der Sample Größen, sowie der Aussagekraft von Anpassungsgüte-Indizes vgl. Wolf et al. (2013); Kenny et al. (2015); Sayin (2016). Gleiche Ergebnisse erzielen wir auch bei einem Bootstrapping ( $n = 2000$ ).

<sup>51</sup> Hier abgebildet durch die Anzahl der belegten Accounting Vorlesungen kann es auch als Proxy für das Wissen um wirtschaftskriminelles Verhalten interpretiert werden.

Miceli und Near (1984) als beeinflussender Faktor identifiziert, wobei Dhamija und Rai (2018) hier keinen Einfluss ausmachen. Auch in diesem erweiterten linearen Modell,

$$INT = \beta_0 + \beta_1 ATT + \beta_2 SN + \beta_3 PBC + \beta_4 gender + \beta_5 knowledge + \varepsilon,$$

bleiben die Ergebnisse, wie in Tabelle 2.7 zu sehen ist, robust.

Variable	Koeffizient	T	Signifikanz
Konstante	20,882	7,724	,000***
SN	-0,004	-0,390	,697
ATT	0,045	4,028	,000***
PBC	-0,007	-0,354	,724
gender	0,078	0,079	,937
knowledge	0,772	0,778	,438

Tabelle 2.7: Lineare Regression, erweitert um Kontrollvariablen.

Note.  $R = 0,372$ ;  $R^2 = 0,139$ ;  $adj.R^2 = 0,104$ ;  $df = 5$ ;  $F = 3,961$ . gender ist eine Dummy Variable mit 1=männlich; 2=weiblich. knowledge ist eine Dummy Variable mit 0 < 3 Veranstaltungen abgeschlossen, ansonsten 1.

\*\*\* Korrelation ist auf dem Niveau von 0,01 (2-seitig) signifikant.

## 2.6 Diskussion

Ein zentrales Ergebnis unserer Untersuchung ist, dass nur die Einstellung des potentiellen Whistleblowers die Verhaltensintention und darüber auch das Verhalten signifikant beeinflusst. Entsprechend scheint für den potentiellen Whistleblower nur die eigene Einstellung zum Verhalten zu zählen und die eher ablehnende Haltung in der Gesellschaft sowie der unzureichende rechtliche Schutz vor Repressalien nur eine geringe Rolle zu spielen. Auch können Interaktionseffekte zwischen der eigenen Einstellung, der sozialen Norm und der wahrgenommenen Verhaltenskontrolle nachgewiesen werden, wonach eine gegenseitige Beeinflussung vorliegen kann. Insofern wird die Intention indirekt durch diese anderen Faktoren geformt.

Die Reliabilität der Ergebnisse ist durch die relativ kleine Stichprobe begrenzt, sowie durch die Tatsache, dass lediglich Studierende einer deutschen Universität aus dem wirtschaftswissenschaftlichen Bereich befragt worden sind. Obwohl der Fall realitätsnah gestellt ist, kann auch hier durch die Interpretation einiger Befragter eine Verzerrung verursacht

worden sein. Zudem kann auch ein *self reporting* und *social desirability bias* trotz der Anonymität und dem Abfragen in der dritten Person nicht vollkommen ausgeschlossen werden.

Aus den Ergebnissen der Untersuchung kann impliziert werden, dass insbesondere rechtliche Neuerungen zum Schutz von Whistleblowing weniger euphorisch betrachtet werden sollten und von den Gegnern solcher Reformen weniger kritisch. Oft wird suggeriert, ein rechtlicher Schutz vor Repressalien würde Whistleblowing einseitig fördern. Die Analyse zeigt allerdings, dass diese Einschätzung kritisch gesehen werden muss, da lediglich die eigene Einstellung zum Verhalten Whistleblowing direkt beeinflusst. Diese ist es also, die es maßgeblich zu beeinflussen gilt, wenn eine Veränderung des Verhaltens gewünscht wird. In diesem Zusammenhang stellt sich die Frage, was Schutzmechanismen nützen, wenn keine Intention besteht, das Verhalten auszuüben. Vielmehr muss Whistleblowing erst als moralisch korrektes Verhalten wahrgenommen werden, um eine Intention zum Verhalten zu schaffen.

Durch die signifikanten Interaktionseffekte von Einstellung, sozialer Norm und Verhaltenskontrolle können aber zumindest die beiden letzteren Faktoren über die Beeinflussung der Einstellung indirekt das Verhalten ändern. Die soziale Norm kann gleichzeitig als die Meinung von konkreten Bezugsgruppen wie Freunden, Familienangehörigen und Kollegen, etwas weiter gefasst als Unternehmenskultur, oder aber als gesellschaftliche Normen interpretiert werden. Da Whistleblowing in Deutschland oft negativ konnotiert als Denunziantentum verstanden wird, kann diese soziale Norm, insbesondere dann, wenn Kollegen Whistleblowing als Denunziantentum verstehen, die eigene Einstellung zum Verhalten negativ beeinflussen. Geringere Repressalien, d.h. geringere Handlungsbarrieren, wirken laut unseren Ergebnissen nicht positiv auf die Einstellung. Cordis und Lambert (2017) zeigen analog, dass in den USA ein expliziter Schutz vor Repressalien die Wahrscheinlichkeit zum Whistleblowing sogar reduziert. Ein gesetzlicher Schutz vor Repressalien kann somit die Einstellung und damit indirekt die Intention zum Whistleblowing sogar negativ beeinflussen.

Obwohl Whistleblowing grundsätzlich das Potential zur Detektion und Vermeidung von Wirtschaftskriminalität hat, muss die Frage gestellt werden, wie gut dies aktuell im deutschen Kontext genutzt werden kann. Mit einer vergleichsweise negativen Grundhaltung zum Verhalten im sozialen Umfeld ist Whistleblowing aufgrund des negativen Einflusses auf die eigene Einstellung in Deutschland wohl unwahrscheinlicher als in anderen Ländern, in denen ein spezieller rechtlicher Schutz und eine positive gesellschaftliche Meinung zum Verhalten existieren.

Ein rechtlicher Schutz könnte vielleicht auch in Deutschland grundsätzlich die Einstellung zum Verhalten beeinflussen. Hierzu zeigt Yeoh (2014), dass die Teile des SOX und

DFA, die Whistleblowern Schutz und Belohnung bieten, die Sensibilität für das Thema erhöhen. Meinungsbildend könnten neben Gesetzen beispielsweise die Unternehmenskultur im Unternehmen sein (Bussmann 2009; Kaptein 2011; Bussmann & Niemeczek 2019), die Whistleblowing als positives Merkmal von Angestellten hervorhebt und damit den Faktor Einstellung über die soziale Norm beeinflussen kann. Denn allein anonymisierte Berichtskanäle, wie die BaFin sie eingeführt hat, scheinen ausgehend von der geringen Meldezahl im Vergleich zu anderen Ländern nicht ausreichend. Hier zeigt sich, dass die negative Einstellung zum Verhalten die Annahme und damit die Effektivität von Hinweisgebersystemen mindert. Das Potential von Whistleblowing für die Aufdeckung und Prävention von Wirtschaftskriminalität scheint daher in Deutschland längst nicht ausgeschöpft.

Die Ergebnisse dieser Studie divergieren zu denen von Brown et al. (2016), wonach sowohl die Einstellung als auch die wahrgenommene Verhaltenskontrolle einen signifikanten Effekt auf die Verhaltensintention haben.<sup>52</sup> Park und Blenkinsopp (2009) zeigen mit ihren Ergebnissen sogar einen signifikanten Einfluss von allen drei Faktoren auf die Intention, wenn auch nur für internes Whistleblowing; bei externem Whistleblowing ist lediglich die subjektive Norm signifikant.<sup>53</sup> Brown et al. (2016) führten die Befragung in den USA durch, während Park und Blenkinsopp (2009) südkoreanische Polizisten befragten. Diese starke Divergenz in den Ergebnissen untereinander und verglichen mit der hiesigen Untersuchung kann möglicherweise mit Unterschieden in den Kulturen begründet werden, wie schon in der Hypothesenbildung zur subjektiven Norm diskutiert worden ist. Besonders interessant ist hierbei, dass in Südkorea die Gesetze scheinbar weniger auf die Verhaltensintention wirken als in den USA. Eine Erklärung für dieses Phänomen könnte sein, dass die gesellschaftliche Meinung in einem Land wie den USA oder Deutschland weniger relevant ist für die Verhaltensabsicht als in Südkorea. Dies wäre mit den bekannten Kulturdimensionen nach Hofstede konsistent, nach denen die USA und Deutschland eher individualistisch und Südkorea stärker kollektivistisch geprägt sind (Hofstede Insights 2018). Schon Park et al. (2008) schlussfolgern, dass Kultur einen starken Effekt auf Whistleblowing hat, dieser aber komplex wirkt und nicht verallgemeinert werden kann.<sup>54</sup> Eine „one-size-fits-all“-Lösung scheint es daher nicht zu geben.

Insgesamt muss die Notwendigkeit zukünftiger Forschung betont werden. Diese sollte sich weiter mit dem deutschen Raum beschäftigen und eine größere Befragung unter Praktikern im Bereich von beispielsweise Wirtschaftsprüfung oder Compliance Management durchführen.

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<sup>52</sup> Allerdings finden auch sie signifikante Interaktionseffekte zwischen den drei Faktoren ATT, SN und PBC.

<sup>53</sup> Dabei ist anzumerken, dass die Autoren lediglich eine lineare Regression durchführen und keine komplexere Betrachtung durch ein Strukturgleichungsmodell anwenden.

<sup>54</sup> Park et al. (2008: 937) „the relation between cultural orientation and attitudes toward whistleblowing cannot be generalized across countries“.



Auch ein Vergleich zwischen den Disziplinen oder sogar ein interkultureller Vergleich würde das Verständnis dieses komplexen Zusammenwirkens weiter vorantreiben. Wenn Whistleblowing im deutschen Raum effektiv gefördert werden soll, dann müsste grundsätzlich zuerst die Einstellung der potentiellen Whistleblower zum Verhalten positiv beeinflusst werden. In welcher Form dies neben den hier diskutierten Ansätzen möglich ist und sinnvoll geschehen kann, ist eine Frage, der sich Praxis und weitere Forschung widmen müssen.

## **2.7 Zusammenfassung**

In dieser Studie wurden 136 Studierende der Wirtschaftswissenschaft in Deutschland zum Thema Whistleblowing befragt. Mit Hilfe der Theorie des geplanten Verhaltens wurden Einflussfaktoren auf die Intention Whistleblower zu werden, untersucht. Die Ergebnisse zeigen, dass lediglich die Einstellung des potentiellen Whistleblowers die Verhaltensintention und darüber das Verhalten signifikant beeinflusst. Diese Ergebnisse suggerieren, dass für den potentiellen Whistleblower im deutschen Kulturraum nur die eigene Einstellung zum Verhalten von direkter Relevanz ist.

Zudem implizieren die Ergebnisse das Vorhandensein von Interaktionseffekten zwischen der eigenen Einstellung, der sozialen Norm und der wahrgenommenen Verhaltenskontrolle, wobei eine gegenseitige Beeinflussung vorliegen kann. Insofern ist die Intention indirekt durch diese Faktoren geformt. Gesetzliche Neuerungen und eine Änderung der allgemeinen Wahrnehmung in der Gesellschaft könnten demzufolge zumindest indirekt das Verhalten des Whistleblowers beeinflussen. Die eher ablehnende Haltung in der Gesellschaft, die Whistleblowing als „Denunziantentum“ begreift, sowie der dargestellte unzureichende rechtliche Schutz, spielen also nur indirekt über die Beeinflussung der eigenen Einstellung eine Rolle. Auch die Relevanz der Gesetzesinitiative der EU Kommission muss daher kritisch gesehen werden.

Da die hier aufgezeigten Ergebnisse von denen aus anderen Kulturräumen abweichen, kann ein starker kultureller Einfluss auf die Verhaltensintention nicht ausgeschlossen werden und sollte in zukünftigen Studien besondere Beachtung finden. Auch andere Lösungsansätze zur effektiven Nutzung des Whistleblowing, abseits von Gesetzen für die Praxis, sollten näher analysiert werden, wobei insbesondere die Unternehmenskultur als Form der sozialen Norm Potential hat.

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## Chapter 3

# Making regulation fit by taking irrationality into account: The case of the whistleblower.<sup>†</sup>

**Abstract.** *Prospect theory describes people as bounded rational decision maker. What sparked widespread discussion after its initial introduction in 1979 is today criticized for lack of applicability. I use the debate about whistleblowing laws to show that prospect theory may be applied prescriptively in economics as a tool to design effective legislation. Whistleblowing is often seen as an important way to uncover fraud, which causes billions of USD in damages annually. I first examine the fragmented legal landscape across Europe, showing that it can be framed as one favoring rewards or the prevention of losses. I conduct an experiment with 39 university students, wherein legislative incentives are evaluated under a prospect theoretical frame in a setting of ambiguity and high stakes. Results suggest that people exhibit the typical s-shaped value function and loss aversion in line with prospect theory. In addition, their intention to whistleblow is more heavily reduced by losses than increased by gains. The study adds to the scarce literature of prospect theory on decisions in ambiguous contexts – as well as to the applicability of the theory as a prescriptive instrument in designing institutional frames. For whistleblowing in particular, a protection-based approach seems most promising.*

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### 3.1 Introduction

Prospect theory has garnered widespread attention after its first introduction in 1979 by Kahneman and Tversky. However, “it is curious, then, that so many years after the publication of the 1979 paper, there are relatively few well-known and broadly accepted applications of prospect theory in economics” (Barberis, 2013, p.173). Tversky and Kahneman (1992, p. 317) explain this lack of applicability by stating that “rationality in economic theory is commonly justified [...] [by] the fear that any treatment that abandons rationality will be chaotic and intractable” (Tversky and Kahneman, 1992, p. 317). Although there are some applications especially in management and finance literature that use prospect theory to explain *observed* behavior, it is rarely used as a *prescriptive* tool (Barberis 2013). In this paper I show a first solution to this issue as I use prospect theory to evaluate laws that explicitly work in a dichotomous framing of gains and losses. Whistleblowing laws are used as an example to show the applicability in a legal economics context that need not only be descriptive, but should indeed be prescriptive, resulting in more effective laws.

Governments and companies have long sought to bring about successful measures to detect cases of economic crime. Accounting departments are scrutinized by external auditors to assure investors of compliant behavior with law. However, large scandals at companies such as Enron, WorldCom, Siemens, and Deutsche Bank occurred despite these actors (Ball 2009). According to the Association of Certified Fraud Examiners (ACFE), the average firm loses five per cent of revenue to fraud annually, amounting to 3.7 trillion USD worldwide (ACFE 2016). Without taking into account the costs for loss of reputation, trust, and efficiency due to fraudulent behavior (MacNeil and Li 2006; Charreire Petit and Cusin 2013).

Fraud is most frequently detected by non-traditional actors, such as employees (Dyck, Morse and Zingales 2010; ACFE 2016). Whistleblowing therefore is an essential tool in uncovering fraud within private and public institutions (Wilde 2017; Call et al. 2018). It can be utilized not only to uncover (re-active), but also to prevent (pro-active) such fraudulent behavior, preventing much of the negative consequences (Bussmann 2015; Cordis and Lambert 2017). While whistleblowing is shown to be an effective tool, it is still being under-utilized by much of economics (Villena and Villena 2010). Whistleblower often experience retaliation, especially in countries without whistleblowing laws (ERC 2016). In Europe for example, only half of the countries have such laws in place. In addition, these are rooted in moral arguments, instead of being evaluated by their effectiveness in an economic frame (see part 2.2).

I start by evaluating whistleblowing laws across Europe, taking the recent initiative for a directive proposal by the European Commission as a starting point. I find that only half of the

countries have designated laws in place, where a recurring theme is the protection from retaliation and a clear lack of a reward structure. One of the few countries worldwide, the United States has introduced a comprehensive reward scheme for whistleblower with the Dodd-Frank Act in 2010, after previously providing protection to whistleblower with the introduction of the Sarbanes-Oxley Act in 2002. This clear dichotomy between rewards or bounties and protection from losses, e.g. retaliation or sanction, is a recurring theme in whistleblowing laws. While much whistleblowing research has focused on individual and situational factors (Lee and Xiao 2018), few have taken laws specifically into account. What has so far, to my knowledge, not been done, is an evaluation of the effectiveness of such laws using prospect theory.

I execute a laboratory experiment with 39 university students with an economic background. In a first stage, each participants' value function is assessed in a whistleblowing case under high stakes and ambiguity. This is done using a method recently developed by Abdellaoui et al. (2016) that makes the entire value function in prospect theory observable. In a second stage, their general whistleblowing intention and their specific changes in intention according to different situations and prospects based on their answers in the first part are assessed.

The results show that the majority of participants exhibit the typical s-shaped value function as proposed by prospect theory. They are risk seeking (averse) in the domain of losses (gains) and show a convex (concave) value function. This also implies that framing is important, as people evaluate outcomes in terms of gains and losses from a neutral reference point (reference dependence). They show loss aversion of a magnitude similar to prior studies for risk and uncertainty. The value function as well as the loss aversion are not correlated to whistleblowing intention, which provides further proof that this is a typical behavioral trait (Tversky and Kahneman 1992). However, participants showed stronger intention decrease when faced with a loss prospect of the same value-magnitude change from the reference point than for an increase in intention for a change towards a gain. In addition, an uncertain loss decreases whistleblowing less than a certain loss of the same value, whereas there is no difference between a certain and an uncertain gain. Participants show the typical traits proposed by prospect theory that losses loom larger than gains and therefore a loss impacts their intention to whistleblow stronger than a gain. A result of this finding is that mitigating the loss side of the value function should be the priority in any legislative effort for whistleblowing. That is, a protective scheme, even if it does not fully or certainly protect, is more relevant in the decision process than a significantly higher gain.

A more generalized implication of this finding is the application to incentive systems in law overall. Prospect theory can provide valuable insights into how people can be (dis)incentivized to take action. Designing legislation with this knowledge in mind can further increase the effectiveness of a legislative effort, especially when outcomes can be framed as losses and gains. For our understanding of prospect theory, this paper provides insight into the application for uncertainty (ambiguity) and high stakes, where literature is still scarce (Abdellaoui et al. 2016). It shows that prospect theory holds for situations under uncertainty, as well as high (hypothetical) outcomes.

The rest of the paper is structured as follows. Part two describes whistleblowing (research) and gives an overview on the scattered legislation across Europe. I then briefly describe prospect theory and relate my research to the literature, addressing shortcomings and issues of applicability. Hypotheses are developed from the discussion here. The fourth part contains the experimental setup and execution. The fifth part presents the results. The last part discusses the findings and avenues for future research.

## **3.2 Whistleblowing and the law**

### ***3.2.1 Whistleblowing research***

Near and Miceli (1985, p. 4) describe whistleblowing as a “disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action”. This definition is used widely across academic literature. Whistleblowing is characterized as a highly complex decision process (Chiu 2003), including a multitude of situational, individual, as well as institutional factors (Near and Miceli 1996; Mesmer-Magnus and Viswesvaran 2005; Lee and Xiao 2018). Although no formal model has emerged as of today (Lee and Xiao 2018), the general structure of the process can be characterized as shown in Figure 3.1. The internal agent observes what might or might not be an actual case of fraud by another person of the organization. The potential whistleblower can now choose to speak up, thus exercising “voice”, remain “silent”, or leave the organization, choosing “exit” (Hirschman 1970). This decision is highly dependent on various factors of individual, situational and institutional nature. Choosing any other option but “voice” ends the process and the agent never becomes a whistleblower. Choosing “voice” instead, there are two options for her to choose from in the next stage of the

process. She can blow the whistle either internally or come forward to an external channel.<sup>55</sup> The disclosure of information to any third party will evoke one of three reactions by that party: sanction, reward, ignorance, or a combination thereof (Near and Miceli 1985). Depending on the outcome, the whistleblower will either accept or return to the previous stage, repeating the process. For example, in the case of internal whistleblowing: after no action followed the disclosure, the whistleblower might be compelled to take her claims outside of the organization (Callahan and Dworkin 1994; Gray 2004). At the same time, the person accused of the fraudulent act might be compelled to take actions if she becomes aware of the disclosure and the whistleblowers' identity.

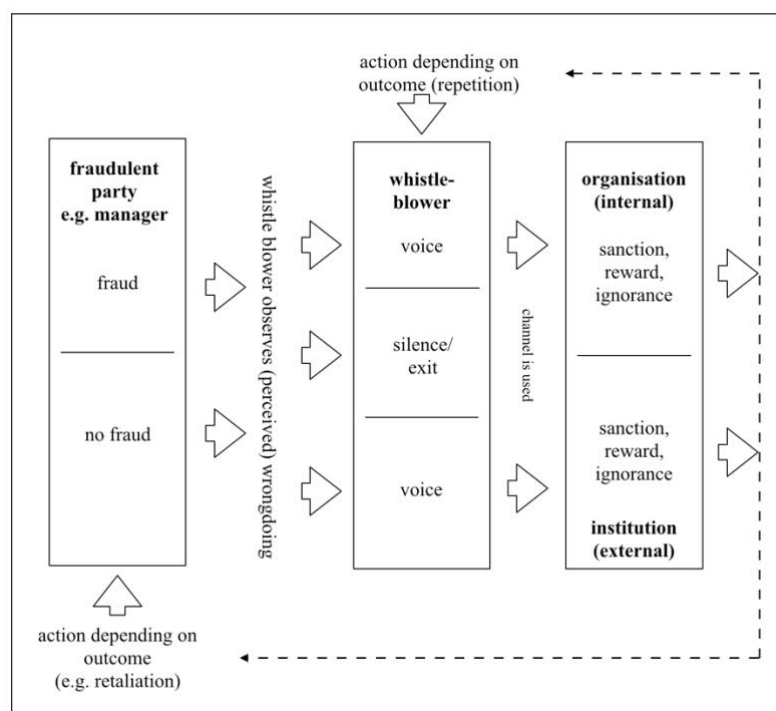


Fig. 3.1: Whistleblowing process.

*Note.* Whistleblowing process where the potential whistleblower observes fraud and can choose between voice, silence, and exit, which evokes reactions by other internal or external parties of rewards, sanctions, or ignorance.

To understand this process and especially the influential factors, has been at the core of academic research for decades. Research in the field of social sciences and behavioral economics started with individual and situational factors such as gender, age, occupation and type of wrongdoing (Miceli and Near 1984; Near and Miceli 1985; Dworkin and Baucus 1998). The last two decades saw a rise in studies concentrating on institutional factors such as culture

<sup>55</sup> Examples for internal channels are ombudspersons, talking to management, or specifically established e-mail addresses or hotlines. While external channels might be designated agencies, media, or the public.

as defining characteristics. Mixed results suggest that the influence of culture cannot easily be depicted (Sims and Keenan 1999; Keenan 2002, 2007; Park et al. 2008; Cheng, Karim and Lin 2015). Literature outside of the US on this topic is scarce, which is why scholars argue that research originating from other countries is necessary to advance our understanding of the whistleblowing process (Vinten 2004; Brown et al. 2014; Gao and Brink 2017).

### ***3.2.2 Regulation overview***

It is usually the United States that is associated with strong whistleblowing laws. The Enron scandal can be seen as a starting point in the development of laws for whistleblower, although the False Claims Act of 1986 already rewarded people who spoke out externally when the government was fraudulented by a private entity (Callahan and Dworkin 1994). After the famous Enron case and the subsequent collapse of auditing firm Arthur Andersen, the Sarbanes-Oxley Act 18 U.S.C. § 1514A (SOX) was introduced in 2002 as part of a reformed capital market regulation (Dworkin 2007). Members of the organization in which the alleged fraud, such as bank fraud, securities fraud or any breach of regulation of the Securities and Exchange Commission (SEC) occurred, may report to a designated third party (superior, congress member, SEC). The plaintiff (whistleblower) is entitled to compensation for discharge or discrimination following the disclosure (SOX 18 U.S.C. § 1514A(a)). Scholars such as Dworkin (2007) argue that the protection is inefficient and unlikely to increase reports. Moberly (2007) shows that in the first three years after the introduction of SOX only 3.6 per cent of whistleblower won relief through the initial process, concluding that SOX is misapplied to the disadvantage of whistleblower.

The Dodd-Frank Wall Street Reform and Consumer Protection Act 15 U.S.C. §78u-6 (DFA) was passed in 2010. While restricting the capital markets after the financial crisis, Section 922 provides additional regulation in relation to SOX. The DFA overlaps with the SOX in some regards of protection but introduces a reward-based incentive for whistleblower (15 U.S.C. §78u-6(a)). Tips to the SEC concerning violations of securities laws resulting in successful actions against the person or organization charged may be compensated, if the monetary sanctions recovered from the convicted party exceed one million USD. Then the whistleblower is eligible to a reward between 10 and 30 per cent (15 U.S.C. §78u-6(b) also in general Mogielnicki 2011).

Europe on the other hand can be separated in two equally large camps. The first one does not have designated whistleblowing laws, while the second does. Figure 3.2 shows a map

where countries within the European Union and adjacent ones of particular interest are classified according to their whistleblowing laws.<sup>56</sup>



Fig. 3.2: Overview of whistleblowing laws in Europe and select other countries.

Those countries that do not have designated laws usually have some degree of protection scattered across other laws, most prominently labour law. Internal (formal) channels to go to with information do exist unevenly, and often in the public sector only, probably to combat corruption.

A reason why some countries have whistleblowing laws, while others do not may be found in their attitude towards that behavior. In Germany for example, a word often used in connection with whistleblower is “Denunziant”. It has a strong negative connotation and can most accurately be translated as tattle-tat or squealer (Rauhofer 2007). The perception of whistleblower in Germany is strongly influenced by history, especially Nazi-Germany and later again in the former East, the GDR. Here, spying on neighbors, friends, colleagues and family was encouraged and even demanded by state authorities such as the Stasi and Gestapo (Gibeaut 2006; Rauhofer 2007). This negative view on whistleblowing is still very much alive, as recent

<sup>56</sup> A detailed list of where to find the specific law for each country is given in the appendix (A3.1). Whenever possible, a translated version of the law was used.



surveys suggest. Bussmann, Nestler and Salvenmoser (2013) find that of companies that have a whistleblowing system established, 48 per cent believe that it fosters “squealing”. A similar history shaped the negative view in South Africa. In India, whistleblower are under threat to be killed (Gibeaut 2006). This negative view might also be a factor in other countries that do not have whistleblowing laws in place. In countries like the US on the other hand, that do have whistleblowing laws, they are sometimes referred to as heroes (Grant 2002; Hartman et al. 2009).

<i>Country</i>	<i>enacted</i>	<i>protection</i>	<i>reward</i>	<i>internal</i>	<i>external</i>	<i>public sector</i>	<i>private sector</i>	<i>in good faith</i>
<i>(Australia)</i>	2013	✓	X	✓	✓	✓	✓	X
<i>Belgium</i>	2013	✓	X	✓	X	✓	X	?
<i>France</i>	2018	✓	X	✓	✓	✓	✓	✓
<i>Hungary</i>	2014	✓	X	X	X	✓	✓	✓
<i>Ireland</i>	2014	✓	✓	✓	✓	✓	✓	✓
<i>Italy</i>	2017	✓	X	✓	X	✓	✓	?
<i>Luxembourg</i>	2011	✓	X	✓	X	✓	✓	?
<i>Malta</i>	2013	✓	X	✓	✓	✓	✓	?
<i>Netherlands</i>	2016	X	X	✓	X	✓	✓	?
<i>(Norway)</i>	2005	✓	X	✓	✓	✓	✓	✓
<i>Romania</i>	2004	X	X	✓	✓	✓	X	✓
<i>Slovakia</i>	2015	X	X	✓	X	✓	✓	?
<i>Slovenia</i>	2010	✓	X	✓	✓	✓	✓	✓
<i>Sweden</i>	2017	✓	X	✓	✓	✓	✓	?
<i>United Kingdom</i>	1998/2013	✓	X	✓	✓	X	X	X(since 2013)
<i>(USA)</i>	2002/2010	✓	✓	✓	✓	✓	✓	X
<i>EU-C. proposal</i>	-	✓	X	✓	✓	✓	✓	X

Table 3.1: Whistleblowing law comparison.

*Note.* Whistleblowing law comparison of European countries, select other countries are presented in brackets, “?” means that the provision could not be elicited from scanned regulation material, a cross shows that this is not part of the law and a tickmark shows that this is part of the law.

Countries that do have designated laws are shown in more detail in Table 3.1. Most laws are relatively new, passed within the last decade. An exception is the United Kingdom. The Public Interest Disclosure Act (PIDA), enacted 1998 provides employees with protection against retaliation if they make a disclosure in the public interest. However, the law is often

characterized as lacking real protection from retaliation, being flawed and inefficient (Bowden 2006; Latimer and Brown 2008). Many countries abandon the “in good faith” provision in whistleblowing laws in favor of a “in public interest” definition. The test whether a whistleblower is protected under the law is therefore less strict: as long as the disclosure is made under reasonable belief of a wrongdoing that is thought to harm the public. The “in good faith” test on the other hand often led to courts waiving protection eligibility (Dworkin 2007). Most laws state that internal channels have to be exhausted before making external disclosures. Only a handful of countries allow the public and media as valid external recipients. Ireland is the only country that could - at least indirectly - be considered as having a reward provision. Whistleblower may receive a compensation up to 5 times their annual salary. However, that compensation is only paid in an unfair dismissal case and reduced if the intention was not made in good faith.

In April 2018, the European Commission published a draft directive for the European Parliament on the protection of whistleblower (European Commission 2018). This directive would be in line with international best practice, as it does enable whistleblower to report the misconduct externally even to media and the public. It would be a purely protection-based legislation, which prohibits any form of retaliation if the whistleblower reported the incident to the best of her knowledge and the disclosure is in the public interest.

The effects of legislation have been analyzed more prominently after the introduction of the Sarbanes Oxley Act in 2002 and mostly with a focus on the US. Dworkin (2007) doubts that SOX would foster whistleblowing due to its ineffective protection. Moberly (2007) shows that only 3.6 per cent of whistleblower won relief after experiencing retaliation through SOX within the first 3 years after its introduction. This is emphasized again by Yeoh (2014) who argues that neither the US (SOX and DFA), nor the UK’s PIDA bring actual whistleblower protection. Schmidt (2005) argues that rewards and protection granted for external whistleblowing may lead to opportunistic behavior that reduces organizational efficiency. He concludes that laws such as the UKs PIDA or the SOX (and in extension the then not yet introduced DFA) cannot claim legitimacy. Experimentally, Brennan and Kelly (2007) show that protection increased external whistleblowing intention for accounting students in Ireland. While Wainberg and Perreault (2016) find that explicit protection statements in internal channels (hotlines) increase the perceived threat to retaliation and thereby decrease whistleblowing intention.

Mogielnicki (2011) argues that the extension by the DFA would incentivize whistleblower by utilizing rewards for external whistleblowing. This is in line with the

experimental findings by Andon et al. (2018) who show with a group of professional auditors that financial rewards lead to higher external (e.g. authorities) whistleblowing intention. However, this effect is mediated by the seriousness of the wrongdoing. That is, rewards are less significant when the seriousness is high enough. Whereas Stikeleather (2016) only finds a positive influence on internal whistleblowing. Similar results by Brink, Lowe and Victoravich (2017) show that monetary attitude leads to increased whistleblowing intention, although they find no difference between internal and external channels. Rose, Brink and Norman (2018) only find an influence for very high rewards. A different perspective is given by Cordis and Lambert (2017) who find that whistleblowing laws have a deterrent effect on fraud, which they attribute to the higher perceived detection rate by companies or (potential) wrongdoers.

This analysis shows that the dichotomy of “rewards vs protection” is a recurring theme in legislation and academic research. It is evident that people seem to evaluate whistleblowing laws within these two frames. This is paramount when prospect theory is applied on this issue in the subsequent chapter. Especially a protective approach aims to minimize or prevent retaliation. The influence of retaliation on whistleblowing has long been studied. Most research finds that whistleblowing intention is reduced by an increase in retaliation likelihood or severity (e.g. Miceli and Near 1984; Mesmer-Magnus and Viswesveran 2005; Liyanarachchi and Newdick 2009; Mayer et al. 2013, Caillier 2017; Dhamija and Rai 2017). Interestingly, Wainberg and Perreault (2016) find that explicit protection statements in internal channels (hotlines) increase the perceived threat to retaliation and thereby decrease whistleblowing intention.<sup>57</sup>

### **3.3 Prospect theory and hypothesis development**

#### ***3.3.1 Prospect theory recap***

Prospect theory was introduced by Kahneman and Tversky in 1979 as a descriptive model of decisions under risk. It gives experimental evidence that people tend to value changes in terms of deviations from a reference point (reference dependence), for example a status quo. From this point, deviations can be classified into gains and losses, where people tend to be risk averse towards gains and risk seeking towards losses, while the latter effect is more pronounced than the former and is called loss aversion (Kahneman and Tversky 1979). Contrary to what

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<sup>57</sup> For further insights, Gao and Brink (2017) and Lee and Xiao (2018) provide comprehensive overviews on whistleblowing, including retaliation aspects for previous whistleblowing studies.

economists usually refer to as the “homo oeconomicus”, Kahneman and Tversky find that instead of being purely rational, people can more accurately be described as bounded rational. However, their actions are not completely irrational, that is, they do evaluate options within constant frames and patterns (Kahneman and Tversky 1979, Tversky and Kahneman 1992). While this original version was limited in several regards, a revised version was introduced in 1992, solving issues of stochastic dominance violations, the limitation to two-non-zero outcomes that could be examined, as well as extending the theory from decisions under risk to uncertainty. In addition, decision weights can now be assessed separately for gains and losses (Tversky and Kahneman 1992).

The generally known function of expected utility is the sum of probability  $p$  of an outcome multiplied by the outcome value  $x$  for all outcomes, where the added probabilities are 1. In prospect theory this function is altered in several regards. A value  $v$  is assigned to an outcome  $x$ :  $V(x)$ , and a decision weight  $w$  is assigned to the probability  $p$  of an outcome:  $W(p)$ . The decision weight may vary for gain and loss prospects, respectively, thus  $w^{+,-}(p)$ . A typical value function under prospect theory is shown in Figure 3.3. The laws introduced in the previous chapter are added to this value function according to their influences: protection-based legislation is added to the loss (prevention) side and rewards are added to the gain side of the value function.

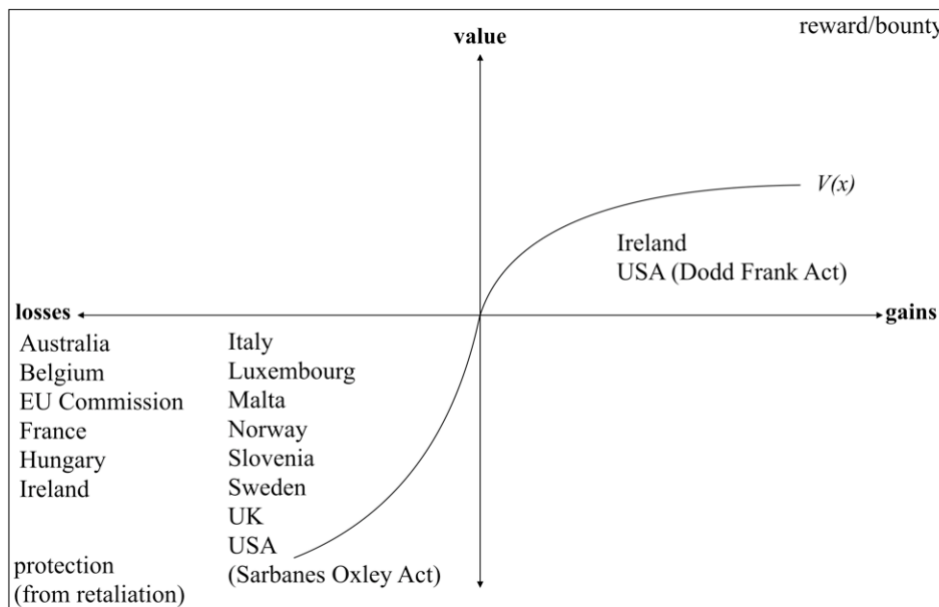


Fig. 3.3: Typical value function in prospect theory.

*Note.* Typical value function in prospect theory where an outcome  $x$  is weighted by a value  $v$  and the origin represents the reference point or status quo; legislation is added to the corresponding quadrant.

The origin can be interpreted as the status quo or the neutral reference point. The function for positive (negative) outcomes is concave (convex), and the function for losses is steeper than for gains, depicting loss aversion. The value function in parametric form can be written as

$$v(x) \begin{cases} x_j^\alpha & x \geq 0 \\ -\lambda(-x_j)^\beta & x < 0 \end{cases},$$

where  $\lambda$  is the parameter signifying loss aversion, if  $\lambda > 1$ . This “new version” (1992) has been shown to give better results in regard to explaining human behavior not only compared to the original version (Fennema and Wakker 1997), but also in comparison to other versions of utility descriptions (Kothiyal, Spinu and Wakker 2014).

Prospect theory’s introduction has sparked numerous academic research that tries to apply it to economic problems. Most notably in the area of management research, especially strategic management, organizational behavior and human resource management, targeting executive compensation, negotiations, relations between organizational risks and return and firm risk-taking behavior. However, Holmes et al. (2011) find in their review of these studies, that most either misconstrue prospect theory or only apply aspects of it on the issue. Outside of management, an obvious application is the behavior of people in finance, in relation to portfolio and investment decisions and insurance contexts, especially insurance schemes and preferences (for a review see Barberis 2013). More recent studies try to extend these applications to other areas. Yang et al. (2017) use prospect theory to explain traveler’s choices under travel time variability. Weingarten, Bhatia and Mellers (2019) use it to show that a positive deviation in one area (exams) does not compensate for a failure in another area. However, research mostly uses prospect theory to describe observed behavior, instead of using it in a prescriptive way (Barberis 2013). Its application lack outside of pure economic contexts is staggering. Thus, the actual impact of prospect theory is still out for debate, even 40 years after its initial introduction.

### ***3.3.2 Reference point discussion***

One reason for lack of applicability may be due to the vague definition of the reference point (Köszegi and Rabin 2007, Barberis 2013). Literature refers to it mainly as the current wealth or status quo (Kahneman and Tversky 1979; Samuelson and Zeckhauser 1988; Tversky and Kahneman 1992), as expectations (Cherry, Ordonez and Gilliland 2003; Köszegi and Rabin

2007) or goals (Weingarten, Bhatia and Mellers 2019). For whistleblowing in particular, it may be interpreted as expectations about what would happen under “normal” circumstances, a continuation of the current state of nature, that is expectations about the future: the person goes to work and does her job. To discover a fraud case is most likely unexpected or unanticipated. The subsequent consequences of going public with that information are a deviation from the expectation about the future. It involves a deviation from the expected or current wealth, e.g. her salary and employment position.

### ***3.3.3 Risk and ambiguity***

A second reason for the lack of applicability might be the common understanding of prospect theory as decision under risk - and not under uncertainty, which captures a wider variety of actual problems (Kothiyal, Spinu and Wakker 2014). Originally, prospect theory was devised as a theory to describe decisions under risk. However, due to Tversky and Kahneman's (1992) extension of prospect theory, it is able to capture situations under uncertainty, also called ambiguity in the Knightian sense (Knight 1921). Ellsberg (1961, p. 657) famously showed that people prefer risk over ambiguity, which he defines as “a quality depending on the amount, type, and 'unanimity' of information, and giving rise to one's degree of 'confidence' in an estimate of relative likelihoods”. However, as Kothiyal, Spinu and Wakker (2014, p. 2) lament, “there is still a widespread misunderstanding that prospect theory could only be applied to risk. The popularity of prospect theory for risk may have contributed to this misunderstanding.” Which may be one of the reasons why there are so few experiments of prospect theory under ambiguity. Notable exceptions are Kothiyal, Spinu and Wakker (2014), Abdellaoui et al. (2016) and Baltussen, van den Assem and van Dolder (2016), which I will refer to in the experimental section.

Whistleblowing seems to be better described by a situation under ambiguity than under risk. Risk proposes that the probabilities within a prospect are known. However, this is highly unlikely for a whistleblowing scenario - or any real-life problem. For example, the US SOX on paper gives a 100 per cent protection from retaliation if certain conditions are met. Moberly (2007) shows that only 3.6 per cent of whistleblower won relief. The US SEC awarded rewards to 46 individuals between 2012 and 2017 only, even though they received over 4400 tips in 2017 alone (SEC 2018). Many of these whistleblower probably genuinely believed they would be eligible for a reward. This contributes to the interpretation that probabilities are unknown or hard to estimate. Every fraud and whistleblowing case is unique and comparing one's own case

to that of another whistleblower is problematic. In this paper, the situation is therefore interpreted as a decision under ambiguity. In addition, this helps to advance our understanding of the validity of prospect theory for ambiguous contexts and adds to the scarce experimental literature in this area.

### ***3.3.4 High stakes and payoffs***

A third issue is whether prospect theory is a laboratory phenomenon or an actual behavioral trait (Tversky and Kahneman 1992; Barberis 2013). Laboratory experiments often use low stakes and small amounts of money, while they are also hypothetical decision problems and mostly restricted to monetary outcomes. However, it has repeatedly been shown that this way of decision making stays constant across different problems, such as decisions involving monetary outcomes (Hershey and Schoemaker 1980) as well as human lives (Tversky and Kahneman 1981). Kachelmeier and Shehata (1992) show that there are no significant differences between hypothetical and real payoffs, or large and small amounts of money. Studies found no significant differences between a flat compensation of the participants in the experiments and a payoff-based pay (Camerer 1989, Kachelmeier and Shehata 1992). However, literature on large amounts of money remains scarce, a point where this study aims to provide further inside, using high (hypothetical) payoffs that seem more realistic in the whistleblowing context (rewards: SEC 2018, losses: ERC 2016).

Prospect theory seems very much suited to evaluate whistleblowing decision making. Considering the framing of legislation in terms of losses (protection) and gains (reward). Each whistleblowing case is highly individual and therefore outcomes are ambiguous. The reference point as the expectation of the future or status quo and the detection of fraud as an unexpected deviation seems reasonable.

### ***3.3.5 Hypotheses***

Given the implications of prospect theory and the laws framed as protection and reward-based incentive structures, I assume that people exhibit - in general - in a whistleblowing scenario a similarly s-shaped value function, that is convex (concave) for losses (gains). They evaluate outcomes in terms of gains and losses, with losses weighting stronger than gains of the same magnitude (loss aversion).



*H 1.1 Participants exhibit an s-shaped value function, that is convex (concave) for losses (gains) in a whistleblowing scenario.*

*H 1.2 Participants exhibit pronounced loss aversion, which means that losses weigh heavier than gains of the same monetary (dis)value.*

This general behavior should be irrelevant of the person's intention to whistleblow, since loss aversion is assumed to be a "general" behavioral trait in humans (Tversky and Kahneman 1992).

*H 2 Whistleblowing intention is independent of loss aversion.*

However, the application of prospect theory also implies that if losses weigh heavier than gains, then a protection from a loss, e.g., retaliation or sanction, should influence a whistleblower stronger than a reward of the same monetary value.

Not only loss aversion in prospect theory suggests that losses should have a stronger impact on people than gains, but also results of whistleblowing research discussed earlier. In particular, the many studies that suggest retaliation to have a strong influence on the whistleblowing intention and the findings by Andon et al. (2018) and Rose et al. (2018) in relation to the rather mixed influence of rewards substantiate the idea that losses weigh heavier than gains. Thus, a loss is a stronger dis-motivation to whistleblow, than a gain increases intention to whistleblow.

*H 3.1 A loss decreases whistleblowing intention, while a gain increases whistleblowing intention.*

*H 3.2 A loss has a stronger impact on intention than a gain in equal value magnitude.*

### **3.4 Experiment description**

The experiment was conducted in a university's experimental laboratory. 46 university students were chosen at random from a pool of almost 700 valid subjects. Due to strong violations in their answering pattern, 7 participants had to be excluded after the data collection<sup>58</sup>, leaving a valid sample of 39. The experiment aimed at eliciting their respective

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<sup>58</sup> They often and early on in the experiment violated stochastic dominance and gave contradictory answers repeatedly.

value function through a process of questions, using a method developed by Abdellaoui et al. (2016). 25 participants of the original sample were invited for a second experiment, where they were asked for their whistleblowing intention in respect to their answers from the first experiment. One participant belonged to the excluded group, resulting in a second sample of 24 subjects.<sup>59</sup> The participants' mean age was 22.74 (22.25) for the sample with 39 (24) students. They consisted of 48.7 (50) per cent women and had on average participated in 31-35 (31-35) economic courses in the course of their studies.

For the purpose of this experiment, let  $S$  be a set of states of nature and subsets of  $S$  events  $E$ , where  $1 - E$  is the complement of  $E$ .  $E$  is always assigned to the larger payoff, and  $1 - E$  to the smaller one. The events are weighted, just as probabilities would be, by a decision weight  $W$ , which may differ for gains and losses.  $X$  is a set of consequences, also called outcomes.  $X$  contains a neutral outcome  $x_0$  and all other outcomes are monetary gain (loss) payoffs higher (lower) than  $x_0$ . There are pure gain- and loss-, as well as mixed prospects, with a maximum of 2 outcomes per prospect. A mixed prospect would therefore be depicted as  $W^+(E)V(x^+) + W^-(1 - E)V(x^-)$  and a sure gain prospect would simply be  $W^+(E)V(x^+)$  where  $W^+(E) = 1$  and  $E = 1$ , thus  $W^+(E)V(x^+) = V(x^+)$ .

An overview of the experimental stages is given in Table 3.2. As a starting point (part 0), participants were given the short case description about the fraud they observed and that subsequent questions would show them several alternatives between which they would have to give values (in monetary terms) for which they are indifferent between the alternatives (prospects). The ambiguity in this context was also explained, as well as test questions to help participants get acquainted with the experimental design. A translation of the case and the description of ambiguity can be found in the appendix (A3.2). The original case was repeatedly shown throughout the experiment to remind participants of the situation they were to imagine.

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<sup>59</sup> The reason for splitting the sessions was the fear that a single session would take too long and thus lead to less reliable data. The reason for only inviting a subsample for the intention-questions was due to budgetary restraints. However, results are highly significant despite the small sample sizes. Tversky and Kahnemann (1992) for example used only 25 subjects in their entire sample.

		value elicited (verbal)	value elicited	decision problem
part 0		explanation of case, ambiguity (uncertainty) context, alternatives and test questions		
part 1	1.1	loss $L_1$ , given: gain $G=60,000$ EUR	$L_1$	$x_0 \sim G L_1$
	1.2	first positive outcome $x_1^+$	$x_1^+$	$G x_0 \sim x_1^+$
	1.3	first negative outcome $x_1^-$	$x_1^-$	$L_1 x_0 \sim x_1^-$
part 2	2.1	loss $L_2$ , given: loss $l=9,000$ EUR	$L_2$	$l x_0 \sim x_1^+ L_2$
	2.2	second to sixth positive outcome $x_j^+; j \in \{2, \dots, 6\}$	$x_j^+$	$x_{j-1}^+ l \sim x_j^+ L_2$
part 3	3.1	gain $G_1$ , given: gain $g=9,000$ EUR	$G_1$	$g x_0 \sim G_1 x_1^-$
	3.2	second to sixth negative outcome $x_j^-; j \in \{2, \dots, 6\}$	$x_j^-$	$g x_{j-1}^- \sim G_1 x_j^-$
part 4		fourth outcome $x_4^+$ (again, as control)	$x_4^+$	$x_3^+ l \sim x_4^+ L_2$
part 5		demographic questions	gender, age, lectures taken, ...	

Table 3.2: Experimental stages and elicitation procedure.

*Note.* Experimental stages and elicitation procedure following Abdellaoui et al. (2016); value elicited in monetary terms.

Each stage of the experiment consisted of two prospects. One outcome in one of the prospects was not given. For this outcome, or payoff, the participant had to decide on the monetary value for which she would be indifferent between the two given prospects. In several stages, losses  $(L_j, l, x_j^-)$  and gains  $(G, g, x_j^+)$  were given or to be set by the participant. Table 3.2 gives an overview. For example, in part 1.1 the two prospects  $x_0$  and  $G; L_1$  were presented.  $x_0$  is a sure prospect, while  $G; L_1$  is an ambiguous prospect, where either  $G$  (a gain) or  $L_1$  (a loss) realizes. This is given as  $x_0 \sim G L_1$ . The payoff value for  $L_1$  was to be elicited, meaning that the participant had to decide for which payoff  $L_1$  she would be indifferent between the prospect  $G; L_1$  and the sure outcome  $x_0$ . Mathematically, this can be written as  $W(1)V(x_0) = W^+(E)V(x^+) + W^-(1-E)V(x^-)$ , where  $x^+$  is  $G$  and  $x^-$  is  $L_1$  and  $W(1) = 1$ . Recall that in prospect theory the probability, or in this case the ambiguity, is weighted by a decision weight  $W$ , which may differ between positive and negative outcomes, thus  $W^+$  and  $W^-$ , respectively. Each elicitation took four stages. In the first, an estimate of the monetary outcome was elicited by giving seven outcome options spaced in equal difference. This starting value for the outcome was then used to calculate and present seven refined options in the second stage. In the third, the participant was given a range based on her previous answers in which a value had to be entered manually. The fourth stage showed the two prospects again with the elicited payoff inserted. Participants had to confirm that they were now indifferent between the two prospects. If they were not indifferent, the procedure would start again in stage 1. This procedure is based

on the experiments by Tversky and Kahneman (1992) and Abdellaoui et al. (2016). An example of this procedure is given in the appendix (A3.3).

As shown in Table 3.2, part 1 elicits the first gain and loss outcome, respectively and part 2 (3) elicits the gains (losses) two to six. The corresponding value function of the outcomes is a ratio scale, in which each subsequent outcome has the same value difference. Without imposing any parametric restrictions, I can measure the entire value function through the reference point. Why this holds is formally shown in the appendix (A3.4). It mainly utilizes the work by Abdellaoui (2000) and Abdellaoui et al. (2016), who develop this method to make the value function observable for risk and ambiguity.

In part 4, subjects were asked to elicit a payoff value from part 2 again to control for inconsistency in the answering pattern. The Wilcoxon test (Wilcoxon 1945) shows no significant difference ( $p = .795$ , 2-sided). There is high correlation (Kendall's tau .859,  $p < .001$  and Spearman's rho .962,  $p < .001$ ) between both elicitations, indicating that both times the elicited values did not differ and therefore the decision pattern is indeed consistent. This can be seen as a validation of the procedure used in this experiment (Abdellaoui et al. 2016).

### 3.5 Results

#### 3.5.1 Value curvature

The value function in prospect theory is s-shaped: for positive (negative) outcomes it is concave (convex). To measure the curvature of the function,  $v(x)$  can be normalized to 1 by scaling  $V(x_6^+) = 1$  ( $V(x_6^-) = -1$ ) and for any other value  $V(x_j^+) = j/6$  ( $V(x_j^-) = -j/6$ ) for all  $j \in \{1, \dots, 5\}$  (Abdellaoui et al. 2016).<sup>60</sup> As an example, the mean function over all subjects normalized is shown in Figure 3.4 and without normalization in Figure 3.5. When figure 3.5 is compared to Figure 3.3, one can already see that the shape is very similar to that of the typical value function proposed in prospect theory.

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<sup>60</sup> This can only be done if  $-x_j^-/x_6^-$  and  $x_j^+/x_6^+$  iff  $x_j^- \geq x_6^-$  and  $x_j^+ \leq x_6^+$  (Abdellaoui et al. 2016).

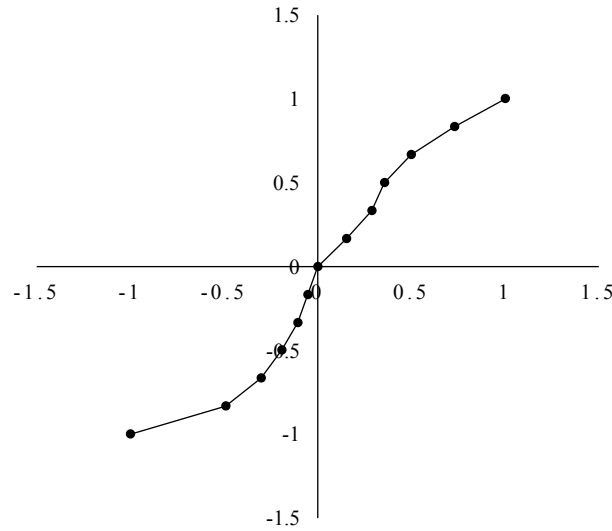


Fig. 3.4: Normalized value function over all subjects' average elicited gain and loss outcomes.

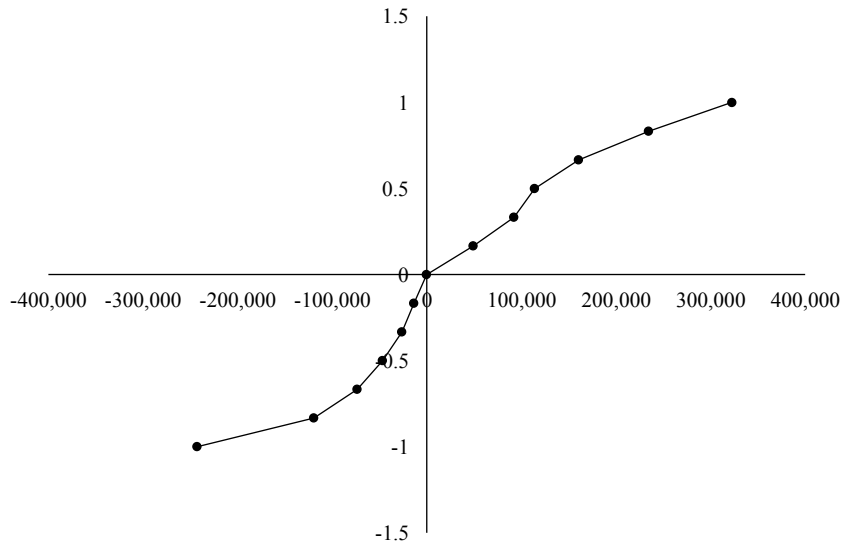


Fig. 3.5: Value function over all subject's average elicited outcomes.

The area under the normalized curve for gains (losses) can more accurately be measured and interpreted for each subject individually as  $\int_0^1 f(x^+)dx$  ( $-\int_{-1}^0 f(x^-)dx$ ), where an area  $< .5$  indicates a convex (concave),  $= .5$  linear (linear) and  $> .5$  concave (convex) shape. The results are shown in Table 3.3. Almost half of the subjects (46.2 per cent) can be classified according to prospect theory's s-shaped value function, while only 15.4 per cent acted according to the traditional idea of constant risk aversion. Almost 70 per cent changed their risk preferences at the reference point, further validating prospect theory's idea of reference dependence. Results are similar to previous studies (Tversky and Kahneman 1992; Abdellaoui et al. 2016).

		losses			
		<i>concave</i>	<i>convex</i>	<i>linear</i>	<i>total</i>
gains	<i>concave</i>	6	<b>18</b>	0	24
	<i>convex</i>	7	4	0	11
	<i>linear</i>	2	0	2	4
	<i>total</i>	15	22	2	<b>39</b>

Table 3.3: Value curvature shape of the participants.

Note. Value curvature shape of the participants, where concave gain and convex loss curves are in line with prospect theory.

This can be seen as a confirmation of hypothesis 1.1, that participants would exhibit behavioral traits consistent with prospect theory in terms of the shape of the value function: it is s-shaped for a majority of subjects and almost half of the students show concave (convex) value functions in the area of gains (losses).

### 3.5.2 Loss aversion

Several ways to measure loss aversion have emerged over the years. The original method proposed by Kahneman and Tversky (1979) (K/T) assumes loss aversion when  $V(x) < -V(-x)$  for all  $x > 0$ . Since  $V(x_j^+) = -V(-x_j^-)$ ,  $x_j^+ > -x_j^-$  implies that  $V(x_j^+) < -V(-x_j^+)$  holds. This can be measured using a Wilcoxon test for all  $x_j$  (Table 3.4).

Wilcoxon test	$-x_1^-; x_1^+$	$-x_2^-; x_2^+$	$-x_3^-; x_3^+$	$-x_4^-; x_4^+$	$-x_5^-; x_5^+$	$-x_6^-; x_6^+$
Z based on positive ranks	-5.106	-3.916	-3.256	-2.900	-3.181	-2.454
asymptotic significance	.000***	.000***	.001**	.004**	.001**	.014*
2 sided						

Table 3.4: Wilcoxon difference test between gains and losses for all elicited outcomes.

Note. \*\*\* significant on a level of  $p < .001$ ; \*\* significant on a level of  $p < .01$ ; \*significant on a level of  $p < .05$ .

The difference is significant for all  $x_j^+ > |x_j^-|$  and the effect is very pronounced ( $r = |Z/\sqrt{n}| > .5$  for all Z, is considered a strong effect, while  $> .3$  is considered a medium effect and  $> .1$  is a small effect according to Cohen 1988). Loss aversion can be assumed to be present based on the K/T measure (Kahneman and Tversky 1979).

Another measurement was introduced by Tversky and Kahneman (1992) (T/K) by calculating the loss aversion parameter  $\lambda$  :

$$v(x) \begin{cases} x_j^\alpha & x \geq 0 \\ -\lambda(-x_j)^\beta & x < 0 \end{cases}.$$

Given that  $\alpha$  and  $\beta$  are found to be equal across many studies (see Bromiley 2010 for a review), then positive outcomes (ordinate) divided over the absolute values of the negative outcomes (abscissa) for the respective  $x_j$ , makes  $\lambda$  observable with  $x_j^+ = \lambda(-x_j^-)$ . This also holds because  $V(x)$  is a ratio scale with known values (Abdellaoui et al. 2016). A function can be elicited by linear interpolation with the origin as reference and starting point of the function, shown in Figure 3.6, where  $\lambda = 2.5336$ . This is in line with prior studies who found  $\lambda$  to be between 2.3 (Abdellaoui et al. 2016) and 2.83 (Baltussen, van den Assem and van Dolder 2016) for ambiguity. For risk, Tversky and Kahneman (1992) elicited a value of 2.25. Other studies found values for risk of 2.47 (Abdellaoui, L'Haridon and Paraschiv 2011), 2.21 (Abdellaoui et al. 2016) and 1.86 (Baltussen, van den Assem and van Dolder 2016). This deviation between the values for ambiguity and risk may be attributed to the effect found by Ellsberg (1961) that people in general exhibit higher aversion towards uncertainty over probability. Thus, pronounced loss aversion can be assumed to be present based on the T/K measure.

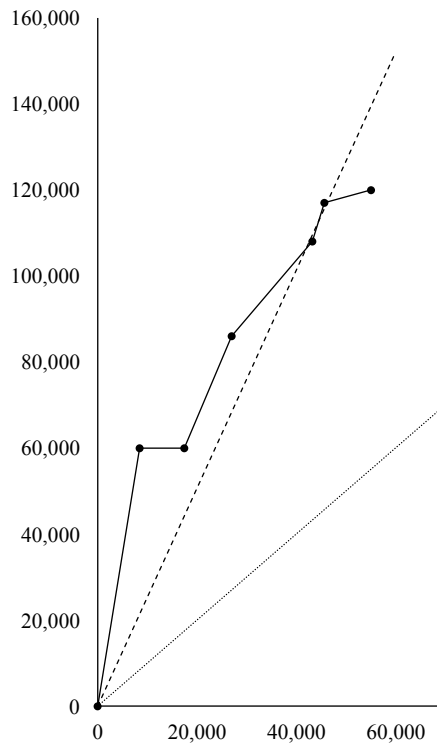


Fig. 3.6: Loss aversion elicitation according to the T/K test.

*Note.* Loss aversion elicitation according to the T/K test for  $\lambda$ , where the dashed line is the linearly interpolated function for loss aversion and the dotted line is a function of  $y = x$  for reference, that is if  $\lambda$  were 1.

A third method proposed by Köbberling and Wakker (2005) (K/W) measures the kink at the reference point, thus the left derivative over the right derivative at the reference point as  $V'_\uparrow(0)/V'_\downarrow(0)$ . Abdellaoui et al. (2016) simplify this assumption by arguing that the first gain and loss payoffs elicited may be used. Then  $\lambda = V'_\uparrow(0)/V'_\downarrow(0) = V(x_1^-)/x_1^- / V(x_1^+)/x_1^+$  and since  $V(x_1^-) = -V(x_1^+)$ , one can simply calculate  $x_1^+/-x_1^-$ . Doing this individually for all 39 subjects, the median (mean) value is 4.7619 (9.5858). Using the median (mean) values for  $x_1$  over all subjects for gains and losses respectively, gives a loss aversion of 7.1429 (3.6527). These values are arguably higher than the one produced by the T/K method. A simple explanation is that the K/W method only takes into account the initial elicited values of the function in either direction. Whereas the T/K method measures the entire function. The latter is thus less influenced by outliers and seems more robust. Regardless of method used, participants in general exhibit strong loss aversion. A loss weighs more than twice as heavy as a gain of the same absolute monetary value. This is a confirmation of the hypothesis 1.2 that people exhibit strong loss aversion. H 1.1 and 1.2 show that the reference point is important for people to value payoffs in terms of gains and losses in a law context. The results suggest that this holds for high payoffs and ambiguity.

### 3.5.3 Whistleblowing intention

A subsample of the first group ( $n = 24$ ) was invited to participate in a second part of the experiment. Here, the intention to whistleblow was measured, using five questions ( $int_j$ ) that asked for the intention to actually come forward with the information in different ways. This is a normal procedure often used in whistleblowing research (Park et al. 2008, Park and Blenkinsopp 2009, Brown, Hays and Stuebs 2016). A 7 point likert scale (1, ..., 7) was used where 1 equals “I do not agree at all” and 7 “I fully agree”. The translated questions and their descriptive statistics are given in Table 3.5.



item	statement	M	SD	Var
$int_1$	I intend to report the case externally.	5.25	1.42	2.02
$int_2$	I will report the case externally.	4.71	1.33	1.78
$int_3$	I am willing to report the case externally.	5.33	1.49	2.23
$int_4$	I plan to report the case externally.	5.42	1.35	1.82
$int_5$	I believe it is my duty to report the case externally.	5.13	1.62	2.64
$int_{sum}$		25.83	6.22	38.67

Table 3.5: Intention questions and descriptive statistics.

Note. M=mean, SD=standard deviation, Var=variance,  $int_{sum}$  is the sum of all 5  $int_j$  answers. 1 equals “I do not agree at all”. 7 equals “I fully agree” on a 7 point likert scale. Internal consistency: cronbach’s alpha =0.911.

The questions showed very high internal consistency (*cronbach’s alpha* = .911), indicating that the questions actually measured the same underlying aspect. The same case as in the first part of the experiment was given. Each participant was subsequently confronted with her alternatives from the first test, and her (individually elicited) payoffs. For each alternative the participant had to score on a 7 point likert scale her intention to actually whistleblow, given each prospect. As example, recall part 1.1 Table 3.2. Two prospects were given:  $x_0$  and  $G; L_1$ . The elicited value for  $L_1$  from the first experiment was inserted and the participant had to state her intention to whistleblow given the prospect  $x_0$  and her intention for the situation where either  $G$  or  $L_1$  realizes.

The correlation for the overall intention to whistleblow with loss aversion was identified, using the individual loss aversion parameters  $W/K$  and  $T/K$  elicited in the first experiment for each subject and their overall whistleblowing intention ( $int_{sum}$ ) measured as the sum of each participant’s  $int_j$  answer. As shown in Table 3.6 there is no significant correlation between the intention and loss aversion for either measures ( $p > .05$ ), indicating that these are separate concepts and not influenced by each other.

Rank sum test	Variable for $n = 24$	measure	Loss aversion measure: W/K	Loss aversion measure: T/K
Kendall's tau	$int_{sum}$	<i>Correlation coefficient</i>	-0.289	-0.099
		<i>Significance 2-sided</i>	.057	.514
Spearman's rho	$int_{sum}$	<i>Correlation coefficient</i>	-0.399	-0.153
		<i>Significance 2-sided</i>	.053	.475

Table 3.6: Intention and loss aversion measures correlation.

Note. Intention and loss aversion measures correlation using rank sum tests Kendall's tau and Spearman's rho.  $int_{sum}$  is the sum of the 5 individual  $int_j$  values.

\*\*\* significant on a level of  $p > .001$ ; \*\* significant on a level of  $p < .01$ ; \* significant on a level of  $p < .05$ .

This is in line with hypothesis 2 that assumed whistleblowing intention and behavior according to prospect theory, namely loss aversion, to be separate concepts. However, intention should nonetheless change according to the “laws” of prospect theory. That is, a loss should decrease intention to whistleblow stronger than a gain would increase it, as proposed by hypothesis H 3.1 and 3.2.

Next, the change of intention to whistleblow is measured when moving along the value function. Since the value difference (recall that  $V(x)$  is a ratio scale and that the intention to whistleblow was elicited for each prospect) between subsequent outcomes is equal, it is possible to compare the intention at given points along the value function. This also holds for changes since equal changes in magnitude along the value function can be measured. For reasons of simplicity the value for the observed loss (gain) is set to -1 (1). The value at the reference point is 0 by definition (Tversky and Kahneman 1992). Thus, a change from the reference point in either direction is in magnitude equal to 1 as well. Intention at the reference point is given as  $int_{ref}$ , for the sure loss (gain) as  $int_{neg}$  ( $int_{pos}$ ) and for the uncertain loss (gain) as  $int_{neg\_unc}$  ( $int_{pos\_unc}$ ). The intention change was calculated when moving from the reference point (prospect: sure  $x_0$ ; part 1.1) to a sure loss (prospect: sure loss  $x_1^-$ ; part 1.2) as  $int_{neg\_change}$ , as well as from the reference point to a sure gain (prospect: sure  $x_1^+$ ; part 1.3) as  $int_{pos\_change}$ . Similar for a change from the reference point to an uncertain loss (gain), prospect: 1.3 (prospect: 1.2), as  $int_{neg\_unc\_change}$  ( $int_{pos\_unc\_change}$ ). These positions and changes in intention to whistleblow were then evaluated using a Wilcoxon test. Table 3.7 shows the comparisons of positions in intention.

Wilcoxon test variables	$int_{pos};$ $int_{ref}$	$int_{neg};$ $int_{ref}$	$int_{pos\_unc};$ $int_{ref}$	$int_{neg\_unc};$ $int_{ref}$	$int_{pos};$ $int_{unc\_pos}$	$int_{neg};$ $int_{unc\_neg}$	$int_{neg};$ $int_{pos}$
Z	-2.549 <sup>a</sup>	-3.946 <sup>b</sup>	-1.794 <sup>a</sup>	-2.524 <sup>b</sup>	-1.730 <sup>a</sup>	-2.217 <sup>b</sup>	-4.087 <sup>b</sup>
asymptotic significance 2-sided	.011*	.000***	.073	.012*	.084	.027*	.000***

Table 3.7: Intention position differences using a Wilcoxon test.

Note. <sup>a)</sup> based on negative ranks; <sup>b)</sup> based on positive ranks.

\*\*\* significant on a level of  $p < .001$ ; \*\* significant on a level of  $p < .01$ ; \*significant on a level of  $p < .05$ .

Intention to whistleblow changes significantly with a change of the outcome from the reference point towards a sure loss (gain). However, the effect is stronger for a change towards a loss ( $r = .81$ ) than a gain ( $r = .52$ ). This effect realizes although the monetary value for a gain is already on average more than twice as high as the absolute value of the loss. The change towards an uncertain outcome from the reference point is only significant for losses, not for gains. The change from a certain to an uncertain outcome (recall that the value of the outcome remains at 1), is only significant for losses, not for gains. This can be interpreted as that an uncertain loss increases whistleblowing intention compared to a certain loss. Whereas whistleblowing intention is not significantly increased by an uncertain gain towards a certain one, keeping the value of the outcome constant.

Wilcoxon test variables	Z	asymptotic significance 2-sided
$int_{neg\_change} - int_{pos\_change}$	-2.508 <sup>a</sup>	.012*
$int_{pos\_change} - int_{pos\_unc\_change}$	-1.730 <sup>a</sup>	.084
$int_{neg\_unc\_change} - int_{neg\_change}$	-2.217 <sup>b</sup>	.027*

Table 3.8: Intention changes differences using a Wilcoxon test.

Note. <sup>a)</sup> based on negative ranks; <sup>b)</sup> based on positive ranks.

\*\*\* significant on a level of  $p < .001$ ; \*\* significant on a level of  $p < .01$ ; \*significant on a level of  $p < .05$ .

Table 3.8 shows the comparison of changes in intention. There are significant differences between an equal (dis)value change towards the domain of gains against losses from the reference point. An equal value change from the reference point to a loss is felt significantly stronger than one from the reference point to a gain ( $int_{neg\_change}$  vs  $int_{pos\_change}$ ). The effect is strong ( $r = .51$ ) and realizes although the absolute magnitude of the change is 1, and the value function already controls for the person's loss aversion. The impact on intention of a change from the reference point towards a sure loss is found to be significantly stronger than

towards an uncertain loss, but this effect is not significant for gains. Instead of direct intention changes, the percentage change was calculated as a control. E.g. the percentage change from 5 to 7 is less than one from 2 to 4, where the value doubles. The untabulated analysis gives the same results. The asymptotic significance for the difference between an uncertain and certain gain are even less pronounced ( $p = .115$ ;  $Z = -1.577$  based on positive ranks).

Hypothesis 3.1 stated that a loss would decrease whistleblowing intention, while a gain would increase whistleblowing intention. This can partially be shown with the analysis above. Deviations towards losses (gains) decrease (increase) whistleblowing intention, but there is no difference in the intention between a sure gain and an uncertain gain, whereas there is a significant difference for the loss side.

Hypothesis 3.2 stated that a loss has a stronger impact on intention than a gain of the same magnitude. Intention to whistleblow is decreased stronger by a loss than it is increased by a gain. Figure 3.7 illustrates this again graphically for the mean intention positions, where the intentions for the (uncertain) loss and gain are depicted. It can be seen that the impact on the loss side for a decrease in intention is much stronger than the increase of intention for a gain. This is despite the fact that for the same absolute value of the outcome ( $v(x) = 1$ ), the monetary gain on average is already more than twice as high as the absolute loss.

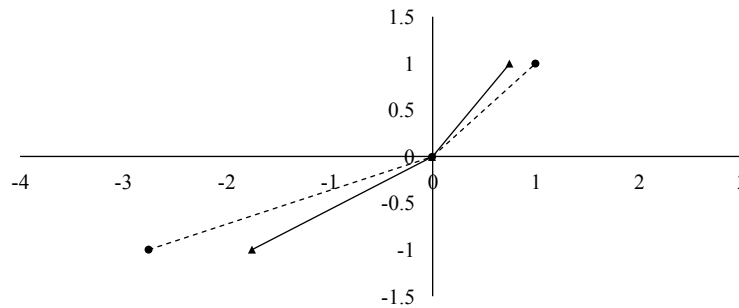


Fig. 3.7: Average intention change.

*Note.* Average intention change for certain (dashed line with dots) and uncertain (straight line with triangles) outcomes.

### 3.6 Discussion

The initial research question was one of applicability of prospect theory and its value as a prescriptive instrument in economics. As an application example, legislation on whistleblowing was used, which is often framed as either promoting rewards or as a prevention of losses, e.g., from sanction or retaliation by protecting whistleblower. In addition, prospect theory was found to be underutilized in its application for ambiguity and high-stake contexts.

The results imply that prospect theory explains behavior in situations under ambiguity and high (hypothetical) payoffs well. The majority of participants showed the typical s-shaped value function, with concave (convex) shape for gains (losses) that changes at the reference point (reference dependence). Participants exhibited loss aversion in a magnitude similar to prior studies for ambiguity. These findings further validate the applicability of prospect theory outside of traditional lottery game frames (Tversky and Kahneman 1992). Limitations obviously stem from the experimental nature of this research. In addition, the measure of whistleblowing intention was previously criticized for not adequately capturing actual whistleblowing (Mesmer-Magnus and Viswesvaran 2005), a general issue that is hard to rectify (Miceli and Near 1984). Although participants were only asked to evaluate the monetary outcomes, they may just as well have interpreted the sanctions with additional losses, such as job loss, retaliation by friends and co-workers, and other negative outcomes, influencing their answers in the experiment.

Nonetheless, results strongly suggest that potential whistleblowers evaluate legislation within a prospect theory frame. Their intention to whistleblow and their loss aversion are not correlated, meaning that this evaluation is independent of intention. However, their intention changes when faced with different prospects. They react stronger to losses than to gains in their intention to whistleblow, where a loss results in a stronger change to not come forward than a similar change toward a gain incentivizes whistleblowing. This effect realizes despite the fact that the monetary value of the gain is on average already twice as high as the absolute loss outcome. Furthermore, a sure gain does not increase the intention over an uncertain gain significantly. A certain loss over an uncertain one, on the other hand, influences the intention to whistleblow: A certain loss decreases whistleblowing intention stronger than an uncertain loss.

This has several implications for whistleblowing legislation. Uncertain rewards, such as the SEC pays whistleblower (SEC 2018), have less of an impact on the intention to whistleblow than a protection—even if it does not protect whistleblower for sure—an unrealistic assumption in general, given that cases usually are decided in court rooms (Moberly 2007).

To address the first research question of whether and how prospect theory may be applied, let me return to the initial Tversky and Kahneman (1992, p. 137) reference: “‘rationality in economic theory is commonly justified [...] [by] the fear that any treatment that abandons rationality will be chaotic and intractable. [...] the evidence indicates that human choices are orderly, although not always rational in the traditional sense of this word.’” Although human behavior may not be fully rational, it is predictable. This may be utilized in order to construct

effective legislation. Any law that aims at incentivizing or discouraging certain behavior may use this insight. If outcomes can be framed as gains and losses from a reference point, reducing the impacts on the loss side should be given priority—or increase of the loss side, in case of discouragement. Barberis (2013) urges to “use the insights of prospect theory in a more prescriptive way: to nudge people toward behaviors that are viewed as more desirable” (Barberis 2013, p. 190). Prospect theory may be applied to current issues not only in a way that explains behavior but more prescriptively, encourages or prevents behavior. I have shown that this can be applied on current issues such as the proposed legislative efforts by the European Union. It lends economic credibility to an otherwise morally grounded reasoning for a law that would protect but not reward whistleblowing. This is not to say that legal literature does not already utilize this logic, but it mainly fails to ground it in a comprehensive theoretical framework such as prospect theory.

The impact of such a legislation especially for whistleblowing may have its limits. As previous research shows, whistleblowing intention is influenced by several factors in a complex way (Chiu 2003; Brown et al. 2014). In particular, culture may influence the decision and practitioners should evaluate regulative efforts carefully. A European law as proposed by the European Commission should, given the results of this experiment, be an adequate solution in fostering whistleblowing. However, such a one-size-fits-all approach comes at the expense of taking into account individual, situational, and cultural differences in countries (Park et al. 2008, p. 937: “the relation between cultural orientation and attitudes toward whistleblowing cannot be generalized across countries”; Brown et al. 2014; Cheng et al. 2015). This is an aspect that needs further evaluation.

Although hard law was used to show that prospect theory can be applied to real and current issues, the results can be applied to several other contexts. For example, compliance management systems, reward structures for management, and agents of control, such as the auditing profession, may benefit from these implications. Companies reward short-term or even self-centered incentivized behavior by management, e.g., with bonuses, that may in the long term not only harm the company and thus the shareholder value, but also the public. They may find themselves outnumbered by whistleblowers who are willing to speak up when comprehensive protection is added to mandatory compliance systems, that are already in place in many companies. Also, companies need not worry as much about laws such as the DFA that rewards external whistleblowing (Schmidt 2005), when an internal whistleblowing system adds efficient protection for people willing to come forward with information.

Future research should explore more avenues for the applicability of prospect theory. There seems much potential for legal research, which has so far mostly ignored this theory. Experiments involving practitioners in the field, such as auditors, could result in more valuable insight into the effectiveness of compliance management and monitoring systems. On a theoretical basis, more research should utilize prospect theory as an instrument for decisions under ambiguity, since most real-world decisions involve not only risk but uncertainty on many levels.

### **3.7 Conclusion**

The initial research question was one of applicability of prospect theory and its value as a prescriptive instrument in economics. As an application example, legislation on whistleblowing was used, which is often framed as legislation either favoring rewards or the prevention of losses by protecting whistleblower. In addition, prospect theory was found to be underutilized in its application for ambiguous and high-stake contexts.

In an experiment with 39 university students I find that participants affirm the assumptions of prospect theory. That is, they exhibit a typical s-shaped value function which is concave (convex) for gains (losses) and changes at the reference point (reference dependence). Participants evaluate outcomes in terms of gains and losses, where losses weigh heavier than gains (loss aversion). In addition, whistleblowing intention is independent of loss aversion, which implies that the value function and its implications are general behavioral traits. However, whistleblowing intention changes with different prospects in a way prospect theory suggests. Whistleblowing intention decreases more for changes toward losses than it increases by changes toward gains of the same value magnitude from a reference point. This is despite the fact that the monetary value of the gain is already twice as high as the absolute loss. An uncertain loss provides higher whistleblowing intention than a certain one, whereas there is no change in intention between a certain gain and an uncertain one. This can be attributed to the evaluation in terms of gains and losses with pronounced loss aversion irrespective of a person's general loss aversion. Effective whistleblowing legislation should therefore focus rather on reducing the effects on the loss side, e.g., protection from retaliation, than on reward structures.

More generally, I show that prospect theory may be used in a prescriptive way, utilizing people's "irrational", yet predictable behavior in order to design effective legislation. This logic may be applied across a range of different issues, not only in the domain of hard law, but

also for compensation structures, compliance management and control systems or for discouraging certain behavior.



## Appendix

country	whistleblowing law/provision	online
Australia	Public Interest Disclosure Act 2013	<a href="http://www.comlaw.gov.au/Details/C2013A00133">http://www.comlaw.gov.au/Details/C2013A00133</a>
Belgium	Law on Reporting a Suspected Integrity Violation in a Federal Administrative Authority by a Staff Member	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
European Union	Proposal for a directive of the European Parliament and of the Council on the protection of persons reporting on breaches of Union law	<a href="https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018PC0218">https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018PC0218</a>
France	SAPIN II Act on transparency	<a href="http://www.legifrance.gouv.fr/eli/loi/2016/12/9/ECFM1605542L/jo#JORFARTI000033558655">www.legifrance.gouv.fr/eli/loi/2016/12/9/ECFM1605542L/jo#JORFARTI000033558655</a>
Hungary	Act on Complaints and Public Interest Disclosures	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
Ireland	Protected Disclosures Act (2014)	The full text of Ireland Protected Disclosures Act 2014 is available at <a href="http://www.irishstatutebook.ie/eli/2014/act/14/enacted/en/html">www.irishstatutebook.ie/eli/2014/act/14/enacted/en/html</a>
Italy	Anti-Corruption Law	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
Luxembourg	Law on Strengthening the Means to Fight Corruption	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
Malta	Protection of the Whistleblower Act	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
Netherlands	House for Whistleblowers Act	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
Norway	Norway, Working Environment Act 2005 (as amended in 2017) Section 2 A-1 The right to notify censurable conditions at the undertaking	An English translation of Norway, Working Environment Act is available at <a href="http://www.arbeidstilsynet.no/contentassets/e54635c3d2e5415785a4f23f5b852849/working-environment-act-october-web-2017.pdf">www.arbeidstilsynet.no/contentassets/e54635c3d2e5415785a4f23f5b852849/working-environment-act-october-web-2017.pdf</a>
Romania	Law on the Protection of Public Officials Complaining about Violations of the Law	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
Slovakia	Act on Certain Measures related to the Reporting of the Anti-social Activities and on amendments of certain laws	The full text of the law (in Slovak) can be found at <a href="http://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2014/307/20160701">www.slov-lex.sk/pravne-predpisy/SK/ZZ/2014/307/20160701</a>
Slovenia	only partially in the Integrity and Prevention of Corruption Act	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
Sweden	Act on Special Protection Against Victimization of Workers who Sound the Alarm on Serious Wrongdoing	<a href="https://www.whistleblower-rights.org/whistleblower-protection-laws-3/">https://www.whistleblower-rights.org/whistleblower-protection-laws-3/</a>
United Kingdom	Public Interest Disclosure Act (PIDA)	<a href="https://www.legislation.gov.uk/ukpga/1998/23/contents">https://www.legislation.gov.uk/ukpga/1998/23/contents</a>
USA	Sarbanes-Oxley Act 18 U.S.C. § 1514A (SOX) / Dodd-Frank Wall Street Reform and Consumer Protection Act 15 U.S.C. §78u-6 Section 922 (DFA)	<a href="https://www.gpo.gov/fdsys/pkg/FR-2015-03-05/html/2015-05001.htm">https://www.gpo.gov/fdsys/pkg/FR-2015-03-05/html/2015-05001.htm</a> and: <a href="https://www.gpo.gov/fdsys/pkg/PLAW-111publ203/html/PLAW-111publ203.htm">https://www.gpo.gov/fdsys/pkg/PLAW-111publ203/html/PLAW-111publ203.htm</a>

Table A3.1: Country law texts.

### **A3.2: Case and ambiguity description**

The original case description was in German. This is a loose translation by the author.

*Imagine you work for an international company in the accounting department. In the course of your daily work you find some peculiar documents that might point towards a case of fraud, in which senior management might be involved, should your thoughts be correct. To report the case internally, is therefore not an option for you. You report externally.*

Ambiguity description:

*The realization probabilities for a specific outcome within an alternative are unknown. You cannot know if the probability for the first outcome within an alternative is 1 per cent, 50 per cent or 99 per cent. However, since one of the two outcomes has to realize, you know that if the likelihood for the first outcome is 30 per cent, then the likelihood for the second outcome is 70 per cent, the adverse probability.*

*Most accurately, the uncertainty within an alternative can be described as follows: the probability for the first outcome is larger than 0 per cent, but smaller than 100 per cent. And the probability for the second outcome is the remaining probability (adverse probability).*

*However, the probability for a sanction and the probability for a reward remains constant over all alternatives in the course of the experiment.*

1. At which monetary value for the sanction in alternative 2 are you indifferent between the two alternatives? [S101]

—  
alternative 1: No change of your situation.

vs.

alternative 2: Reward of 60.000 Euro or sanction of \_\_\_\_ Euro.

- ☐ 20.000
- ☐ 30.000
- ☐ 40.000
- ☐ 50.000
- ☒ 60.000
- ☐ 70.000
- ☐ 80.000

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3. At which monetary value for the sanction in alternative 2 are you indifferent between the two alternatives? [S103]

Your selection was between **60000** and **66000**. Choose the monetary value that most accurately captures your preference within the spread.

—  
alternative 1: No change of your situation.

vs.

☒ alternative 2: Reward of 60.000 Euro or sanction of  Euro.

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2. At which monetary value for the sanction in alternative 2 are you indifferent between the two alternatives?

Here you can refine your answer. [S102]

—  
alternative 1: No change of your situation.

vs.

alternative 2: Reward of 60.000 Euro or sanction of \_\_\_\_ Euro.

- ☐ 51000
- ☐ 54000
- ☐ 57000
- ☐ 60000
- ☒ 63000
- ☐ 66000
- ☐ 69000

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Fig. A3.3: First 3 stages of a sample elicitation process.

Note. The original cases were presented in German. This is a loose translation by the author.

### A 3.4: Value Elicitation

The elicitation procedure is mainly based on Abdellaoui (2000) and Abdellaoui et al. (2016).

Part 1.1:

$$x_0 \sim GL_1 \quad (1.01)$$

$$W^+(E)V(G) + W^-(1-E)V(L_1) = V(x_0) = 0 \quad (1.02)$$

Part 1.2:

$$Gx_0 \sim x_1^+ \text{ and } L_1x_0 \sim x_1^-, \text{ then:} \quad (1.03)$$

Part 1.3:

$$V(x_1^+) = W^+(E)V(G) \quad (1.04)$$

$$V(x_1^-) = W^-(1-E)V(L_1), \text{ thus:} \quad (1.05)$$

$$V(x_1^+) = -V(x_1^-) \quad (1.06)$$

Part 2.1:

$$lx_0 \sim x_1^+L_2, \text{ then:} \quad (1.07)$$

$$W^+(E)V(x_1^+) + W^-(1-E)V(L_2) = W^-(1-E)V(l) + V(x_0) \text{ with } V(x_0) = 0 \quad (1.08)$$

$$V(x_1^+) - V(x_0) = \frac{W^-(1-E)}{W^+(E)}(V(l) - V(L_2)) \quad (1.09)$$

$$\text{Part 2.2: } x_1^+l \sim x_2^+L_2, \text{ then:} \quad (1.10)$$

$$V(x_2^+) - V(x_1^+) = \frac{W^-(1-E)}{W^+(E)}(V(l) - V(L_2)) \quad (1.11)$$

Equations 1.9 and 1.11 yield:

$$V(x_2^+) - V(x_1^+) = V(x_1^+) - V(x_0) \quad (1.12)$$

Thus, a sequence for gains  $\{x_0, x_1^+, \dots, x_6^+\}$  can be elicited, where subsequent  $x_j^+$  have the same value difference. Which means that  $V(x)$  can be written as a value scale with equally spaced values:

$$\text{For all } x_{j-1}^+l \sim x_j^+L_2 \text{ with } j \in (2, \dots, 6): \quad (1.13)$$

$$V(x_j^+) - V(x_{j-1}^+) = V(x_1^+) - V(x_0) \quad (1.14)$$

This is done similarly for part 3 and the outcome elicitation of losses:

Part 3.1:

$$gx_0 \sim G_1 x_1^- \quad (1.15)$$

to obtain  $G_1$  in order to elicit a sequence of losses:

Part 3.2:

$$\{x_0, x_1^-, x_2^-, \dots, x_6^-\} \text{ for all } gx_{j-1}^- \sim G_1 x_j^- \text{ where } j \in (2, \dots, 6) \quad (1.16)$$

Thus, all outcomes  $\{x_6^-, \dots, x_1^-, x_0, x_1^+, \dots, x_6^+\}$  have equal value differences to their successive outcome through the reference point.

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## Chapter 4

# When deviants talk: The moderating roles of dark triad traits and moral reasoning on whistleblowing on fraud.<sup>†</sup>

**Abstract.** Whistleblowing is an effective means to uncover fraud and other misconduct in organizations. However, it is puzzling, why some employees come forward despite numerous disadvantages, severe retaliation and negative social perceptions of the whistleblower.

Drawing on psychology, moral development theory and the theory of planned behavior to explain some of these open questions in prior research, we look at the moderating effect of the dark triad, i.e. Machiavellianism, narcissism, and psychopathy, as well as of moral reasoning on the factors behind the whistleblowing process. Conducting a survey among 244 economics and business majors, we find that the negative impact of perceived retaliation and positive impacts of protection on internal whistleblowing intention is lessened by high psychopathy and high post-conventional moral reasoning. Moreover, the effect of social norms is lessened by all three dark triad personalities, and the influence of attitude on whistleblowing is lessened by high Machiavellianism and psychopathy.

Our research shows that deviant personality characteristics can counteract insufficient protection or negative cultural views on whistleblowing. We contribute to an emerging stream of research that moves away from a purely pro-social view and toward a wider understanding of whistleblowing.

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<sup>†</sup> This chapter is a working paper currently under review at the *Journal of Business Ethics* in co-authorship with Prof. Dr. Anne Chwolka, under the working title: Oelrich, S., & Chwolka, A. When deviants talk: The Moderating Roles of Dark Triad Traits and Moral Reasoning on Whistleblowing on Fraud. Previous versions of this manuscript were presented at ARFA 2019, ARA 2019, EGOS 2020, and EURAM 2020.

## 4.1 Introduction

A whistleblower tipped the German BaFin about irregularities at the payments company Wirecard as early as January 2019<sup>61</sup>, while an internal whistleblower allegedly alerted auditor EY in 2016 about this fraud.<sup>62</sup> In the Wirecard scandal, more than \$2 billion in cash had disappeared<sup>1</sup>, joining ranks with other financial frauds such as Enron, Worldcom and many more. This newest scandal again highlights that despite high auditing efforts and increased compliance requirements, financial statement fraud is one of the costliest forms of fraud and that timely discovery could save millions of US Dollars in potential damages (ACFE 2020).

In the past and as in the Wirecard case, whistleblowers have proven to be an effective instrument to uncover and combat fraud (ACFE 2020; Bowen et al. 2010; Call et al. 2018; Wilde 2017). Nevertheless, whistleblowing is seen critically in some societies (Gibeaut 2006; Grant 2002; Rauhofer 2007), and whistleblowers often suffer disadvantages (Alford 2001).

Here, we address the question which types of managers or employees have a higher willingness to blow the whistle, i.e., to disclose “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: 4). From this perspective, whistleblowing is often portrayed as pro-social behavior (Bereskin et al. 2019; Seifert et al. 2010), driven by employees’ moral reasoning (Arnold & Ponemon 1991; Liyanarachchi & Newdick 2009).

However, from a sociological perspective, whistleblowing could also be understood as deviant behavior (Kölbel & Herold 2019), i.e., as exceptional and not average. This idea is reflected in the positive notion of whistleblowers as “heroes”, highlighting their exceptional sacrifice (Grant 2002), as well as in the negative notion as “dissidents” (Near & Miceli 1985; Rauhofer 2007). Moreover, in economic literature, we find whistleblower modelled as blackmailer, implying negative effects on productive efficiency (Friebel & Guriev 2012). Thus, whistleblowing is also seen as harmful for the corporate governance.

In fact, the ambivalent attitude toward whistleblowing becomes obvious when looking at prominent whistleblowers in the past. For example, Edward Snowden and Chelsea Manning faced harsh criticism, despite a general positive cultural view on whistleblowing in the US (Elm et al. 2009). These cultural norms are even more controversial in other countries (e.g., Chwolka & Oelrich 2020; Gibeaut 2006; Grant 2002; Rauhofer 2007) and this negative attitude also translates and realizes in corporate contexts among colleagues and superiors, who might frame

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<sup>61</sup> <https://www.bloomberg.com/news/articles/2020-06-24/wirecard-whistleblower-tipped-off-german-regulator-in-early-2019?sref=BZOEwUwq>

<sup>62</sup> <https://www.ft.com/content/3b9afceb-eaeb-4dc6-8a5e-b9bc0b16959d?>

whistleblowing as betrayal and stigmatize the whistleblower (Kenny et al. 2019). Regulatory efforts to protect or incentivize whistleblowing are scarce outside the US and in some countries, whistleblowing violates the law (Oelrich 2019), or is not sufficiently protected (Moberly 2007). As a result, many whistleblowers experience retaliation in some form (Alford 2001; ERC 2016; Park et al. 2020).

Given insufficient protection, probable retaliation, and negative attitudes toward whistleblowing either in the corporate or cultural contexts, why does a person come forward with information on fraud? This question is the starting point for our research in this paper. It comes to mind precisely because prior research suggests that these aspects have strong influences on the decision process of whistleblowers (for a literature review see e.g., Culiberg & Mihelič 2017).

The aim of our paper is to give new insights why some people, and which type of people, would come forward internally, when others would not, by drawing on psychological and moral development theories and what this means for corporate governance efforts. Thus, we reframe the prior question and explore which type of person would come forward with information on fraud under these ‘bad’ conditions. This is in line with notions by Chen and Lai (2014), Watts and Buckley (2017) or Smaili and Arroyo (2019), who identify different “types” of whistleblowers. Using the theory of planned behavior, perceived behavioral controls, subjective norms, as well as attitudes should be significant influencing factors as in any given decision-making process (Ajzen 1991). We however go further and analyze if and how they are influenced by personality traits and moral reasoning.

Recently, personality characteristics of managers and employees have gained more attention in the accounting and corporate governance literature, including narcissistic, Machiavellian, and psychopathic traits (e.g., Jalan 2020; Majors 2016; Marquez-Illescas et al. 2018; Olsen et al. 2014; Olsen & Stekelberg 2016; Young et al. 2016). These properties have predominantly been studied individually, although together they form the so called “dark triad” of personality (Jones & Paulhus 2014; Paulhus & Williams 2002). The dark triad is generally judged as deviant behavior, both negative (e.g., Harrison et al. 2018; Zhao et al. 2016) and positive (e.g., Jalan 2020; Shellenbarger 2014; Spain et al. 2014).

Looking at whistleblowing through the lens of deviance, both high moral reasoning and high dark triad characteristics may be relevant factors in the decision-making process of the whistleblower. So far, they have received little attention in the whistleblowing literature. And although “attributes can never be causes” (Holland 1986: 959), they may well alter how other factors influencing the decision-making process, explaining why some people blow the whistle



despite probable retaliation or negative subjective norms. Knowing that these “deviant” personalities exist in organizations, the purpose of our study is to understand how different employee personalities are influenced by lack of legal protection, severe retaliation or negative cultural views.

We administered questionnaires to accounting and business students in the winter term 2018/19. We analyze whether there are moderating effects of their personality traits on the relevance of those factors that should influence the “average” person. According to the theory of planned behavior (Ajzen 1991), these factors are perceived behavioral control, subjective norm, and attitude. Methodologically, we use partial least squares structural equation modelling (PLS SEM), which has so far largely been neglected in accounting and general business research, whereas it has become a “silver bullet” in marketing research (Hair et al. 2011). PLS SEM allows for complex moderation analyses, involving higher order and latent constructs (Hair et al. 2011) and has helped to advance whistleblowing research (Latan et al. 2019). Here, it enables us to model influential factors and their interplay with personalities that are hypothesized to alter the decision-making processes.

The aim of our study is to contribute to the understanding of whistleblowing as a corporate governance means in several ways. First, we add a new dimension by analyzing the influence of different personality traits on the decision-making process to blow the whistle and thus highlight the relevance of moderating effects in the whistleblowing process, which have so far been neglected. We thereby also emphasize the importance of different individual factors in the process, which have been largely discarded during the past decade. Second, we are the first to look at all dark triad personalities in a single study in a whistleblowing context. We show which ‘types’ of whistleblowers may be identified, which completes prior categorizations. Third, we give a new explanation why we may observe whistleblowing, despite severe retaliation or negative corporate and cultural norms. Fourth, our look at whistleblowing from a deviance perspective enables us to incorporate positive and negative employee personalities, which allows us to directly compare different types of employees and their usefulness in the complex corporate world. Moreover, knowing how to incentivize employees with different personalities is key in designing effective corporate governance.

Our analysis begins in the next section with the development of hypotheses. In Section 3 we describe the design of our study and our data collection. In Section 4 we discuss the results and in Section 5 their implications and limitations and future research.

## 4.2 Theory explanation and hypotheses development

### 4.2.1 Theory of planned behavior (TPB) for the average person

The theory of planned behavior (TPB; Ajzen 1991) has been successfully applied in whistleblowing intention research, e.g., by Park and Blenkinsopp (2009) on South Korean police officers' whistleblowing, Brown et al. (2016) on auditors' whistleblowing in the US, Latan et al. (2018) for Indonesian public auditor whistleblowing, or Chwolka & Oelrich (2020) for whistleblowing on accounting fraud in Germany.

According to TPB, behavior is the result of attitude toward the behavior (ATT), which is “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen 1991: 188), subjective norms (SN), “the perceived social pressure to perform or not to perform the behavior” (Ajzen 1991: 188), and perceived behavioral control over the behavior (PBC), i.e., “the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (Ajzen 1991: 188). The TPB model is included in Fig. 4.1, i.e., the items with the solid line.

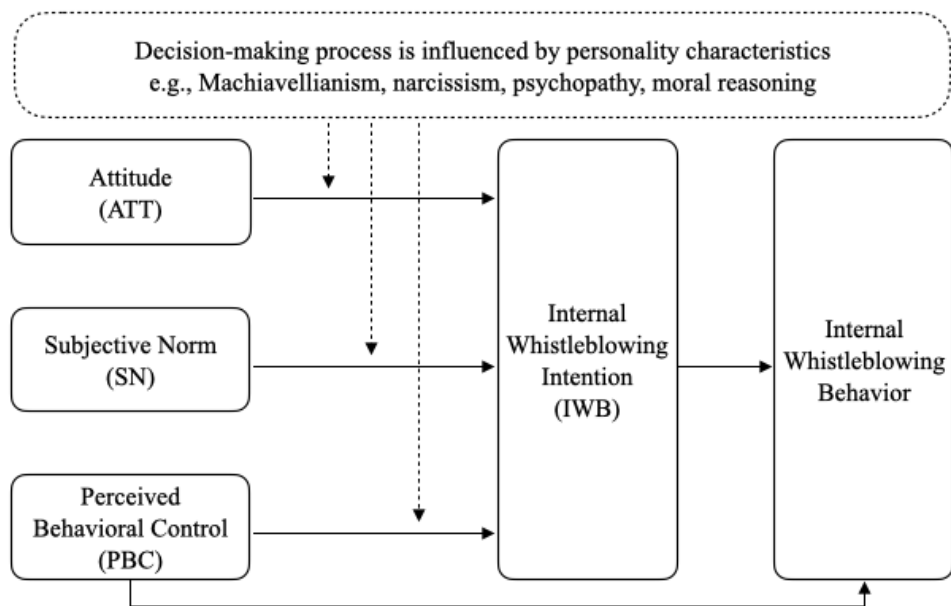


Fig 4.1: Theory of planned behavior with additional moderating factors (hypotheses).

According to TPB, all factors should influence the whistleblowing process. Perceived behavioral control in our context reflects perceived protection and (absence of) retaliation. For retaliation, prior research finds a strong effect on whistleblowing (e.g., Cassematis & Wortley 2013; Oelrich 2019; Park & Lewis 2019), as well as for attitude (e.g., Chwolka & Oelrich 2020,

Latan et al. 2018; Park & Blenkinsopp 2009) and subjective norm (Park & Blenkinsopp 2009), suggesting that TPB is a useful framework in whistleblowing research. For the average person in our sample we therefore assume that the decision-making process is influenced by all three aspects as postulated by TPB. The factors are poled toward a positive relationship, e.g., that higher attitude toward the behavior has a positive influence on internal whistleblowing intention.

*H1a A positive attitude toward whistleblowing has a positive effect on whistleblowing intention.*

*H1b A more positive subjective norm toward whistleblowing has a positive effect on whistleblowing intention.*

*H1c Higher perceived behavioral control has a positive effect on whistleblowing intention.*

For negative control, i.e., perceived retaliation, this effect is of course reversed: Perceived retaliation has a negative effect on whistleblowing intention. We assume these hypotheses hold for the average person. For people scoring high on deviant personality traits, we believe that some of these effects are moderated.

#### ***4.2.2 Influence of dark triad on the factors determining whistleblowing intention***

As first possible moderating factors (cf. Fig. 4.1) we consider now the so called “dark triad of personality”. The ‘dark triad of personality’ consists of three distinct negatively connotated subclinical personality traits, i.e., Machiavellianism, narcissism and psychopathy (Paulhus & Williams 2002), which are found to promote corrupt intention (Zhao et al. 2016), unethical behavior (Harrison et al. 2018) and aggressive reporting in accounting (Majors 2016). All three personalities show strong tendencies toward aggressiveness, self-promotion, and coldness on emotional levels (Paulhus & Williams 2002) and display low trust in others (Engelmann et al. 2019). According to Jones and Paulhus (2014: 30) “ego-reinforcement is the all-consuming motive behind narcissistic behavior, psychopaths and Machiavellians are more motivated by instrumental or material gain.” However, employees exhibiting stronger tendencies of these traits may be beneficial to an organization, as James D. Ratley, former president of the ACFE (Association of Certified Fraud Examiners), said about psychopathic persons: “One of the reasons these people climb so high in the company is that they're very

forceful.”<sup>63</sup> Nevertheless, these ‘dark’ personalities – on a subclinical level – are encountered in firms on all hierarchies (e.g., Amernic & Craig 2010; Boddy 2017; James 2013; Shellenbarger 2014).

#### **4.2.2.1 Machiavellianism**

In line with their manipulative behavior, Machiavellians show characteristics of strategic and calculated planning and coalition formation as well as reputation building (Jones & Paulhus 2014). Positive aspects are that they are skilled negotiators and embrace challenges. Other traits, such as the ability to form alliances which characterizes charismatic leaders, even if only to achieve their goals (Spain et al. 2014), can also be advantageous for the organization. With respect to whistleblowing, Dalton and Radtke (2013) find that Machiavellianism has an indirect negative effect on whistleblowing intention through perceived benefits. Thus, Machiavellians do not directly dismiss whistleblowing as negative but exhibit rational cost-benefit analyses, regarding any action. Since they act cunningly and strategically however, long-run consequences should be incorporated into their decision processes, in line with rational behavior. According to Jones and Paulhus (2014) this aspect of reputation building is essential in the distinction between Machiavellianism and psychopathy. While the former is long-term oriented, the latter is impulsive and not strategic in their decision making. Thus, perceived behavioral control should significantly influence their decision process, more than the decision of an average person.

Machiavellians are manipulative and insensitive toward the needs of others, disregarding other’s views and opinions. Subjective norm should then be less relevant for their decision. Their own attitude might not be as relevant, as the ‘end justifies the means’ – if they think they can form an alliance by (not) blowing the whistle, they would probably act accordingly, irrespective of what they think about the behavior.

*H2a Machiavellian personality traits moderate the positive relationship between attitude and whistleblowing intention such that the influence of attitude on whistleblowing will be weaker.*

*H2b Machiavellian personality traits moderate the positive relationship between subjective norm and whistleblowing intention such that the influence of subjective norm on whistleblowing will be weaker.*

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<sup>63</sup> <https://www.acfe.com/acfe-in-the-news-2014.aspx>

*H3c Machiavellian personality traits moderate the positive relationship between perceived behavioral control and whistleblowing intention such that the influence of perceived behavioral control on whistleblowing will be stronger.*

#### **4.2.2.2 Narcissism**

A narcissistic personality is associated with grandiosity (Jones & Paulhus 2014). This personality trait correlates positively to cognitive ability, but narcissists overestimate their competence, ability and importance for managing tasks successfully (Paulhus & Williams 2002). Narcissists make a good first impression with their self-confidence and decisive characteristics and they appear enthusiastic and charming (Spain et al. 2014).

Narcissistic tendencies can have positive as well as negative effects on a firm. Narcissistic CEOs tend to bias their earnings announcements upward (Marquez-Illescas et al. 2018) and increase corporate tax sheltering (Olsen & Stekelberg 2016), but they also seem to have a positive effect on share prices (Olsen et al. 2014).

Jalan (2020) proposes that narcissistic personalities are more likely to blow the whistle, based on a notion of subjectivity that moves away from the pro-social perspective. The belief of their own grandiosity and importance should simultaneously lead to an emphasis on the narcissist's attitude toward whistleblowing while rather disregarding others' attitudes (subjective norm). The narcissist's overestimation of their importance should also render them immune to signs of retaliation or the fact that protection might be lacking. Perceived behavioral control should therefore be less relevant in their decision process.

*H3a Narcissistic personality traits moderate the positive relationship between attitude and whistleblowing intention such that the influence of attitude on whistleblowing will be stronger.*

*H3b Narcissistic personality traits moderate the positive relationship between subjective norm and whistleblowing intention such that the influence of subjective norm on whistleblowing will be weaker.*

*H3c Narcissistic personality traits moderate the positive relationship between perceived behavioral control and whistleblowing intention such that the influence of perceived behavioral control on whistleblowing will be weaker.*

#### **4.2.2.3 Psychopathy**

Psychopaths are described as callous and impulsive. They are motivated by short-term consequences and rewards, lack of self-control, and disregard possible adverse effects in the long run (Jones & Paulhus 2014), which distinguishes them from Machiavellians. Other aspects are low levels of empathy and anxiety (Paulhus & Williams 2002). According to Spain et al. (2014) they test limits and perceive certain options as feasible that others would not. Bailey (2015) finds that higher psychopathic scores are associated with academic misconduct among academic accountants, suggesting higher fraud tendencies. Boddy (2017) uses a case study of a psychopathic CEO to describe how the organization deteriorated over time.

Due to their lack of empathy, psychopaths should be less influenced by other people's opinion of whistleblowing. Their impulsiveness and disregard for long-run consequences should render possible effects of retaliation or protection (perceived behavioral control) less relevant. In addition, their own attitude toward the behavior should not matter as much as they are motivated by short-term outcomes. If whistleblowing (or silence) leads to a desired short-term outcome, they would act accordingly – regardless of their own attitude toward whistleblowing.

*H4a Psychopathic personality traits moderate the positive relationship between attitude and whistleblowing intention such that the influence of attitude on whistleblowing will be weaker.*

*H4b Psychopathic personality traits moderate the positive relationship between subjective norm and whistleblowing intention such that the influence of subjective norm on whistleblowing will be weaker.*

*H4c Psychopathic personality traits moderate the positive relationship between perceived behavioral control and whistleblowing intention such that the influence of perceived behavioral control on whistleblowing will be weaker.*

#### **4.2.3 Moral reasoning in the theory of Kohlberg**

According to Kohlberg's theory of moral development, moral reasoning can be classified into six stages (Christensen et al. 2016; Kohlberg 1974; Rest et al. 1999). Not every person reaches the higher stages and, according to his theory, people can neither skip stages nor fall back to a former stage. Each stage shown in Table 4.1 represents a different predominant reasoning process of how a person evaluates events, situations, opportunities, or behavior.

Level	description	stage	description
I	<b>Pre-conventional</b>	1	Obedience and punishment oriented
	Moral value is found in needs	2	Egoistic orientation, satisfying needs as a basis for exchanges
II	<b>Conventional</b>	3	Good-boy orientation, conform to others expectations
	Moral value is found in maintaining order and behave according to expectations	4	Authority oriented, conforming to and maintaining (social) order
III	<b>Post-conventional</b>	5	Perceived majority view is respected; contractual legalistic orientation
	Moral value is found in standards that are (universally) agreeable on or by own conscience	6	Principle oriented, universal values and conscience as orientation

*Table 4.1: Kohlberg's moral reasoning stages and levels.*

*Note.* cf. Kohlberg (1974). Where each level consists of two consecutive stages (1 to 6).

On Level I (pre-conventional), evaluation of a moral dilemma situation is based on trouble-avoidance and deference to a superior power and mainly egoistic or reciprocal, e.g., “if you help me, I will help you”. For people on Level II (conventional), approval by others is important, thus one conforms to stereotypical images and majorities. Social order and authority are accepted as important and valued itself. While children predominantly reason on the pre-conventional level, young people and adults think according to the conventional level. On Level III (post-conventional), rights and reflections of others are considered, and rules are accepted when they are the result of a discourse or consideration. As a result, not all rules in a society are accepted as “righteous”. Whereas stage 5 is rather contractual legalistic oriented, the judgement process on stage 6 is conscience or principle oriented. Not social rules are important, but principles abiding to a more universal logic (Kohlberg 1974).

Analyses in the literature suggest that subsequent levels of moral reasoning are associated with higher whistleblowing intention (Arnold & Ponemon 1991; Brabeck 1984; Liyanarachchi & Newdick 2009). However, it is not clear whether this result is due to a direct effect or rather the underlying influence process that leads to these correlations.

People who judge a dilemma according to the post-conventional level should primarily be influenced by their principles or what they judge as fair in a group consensus, depending on the specific stage. As such, attitude should be more important in their decision process than for the average person. Lastly, subjective norm according to Ajzen (1991) consists of beliefs of

significant others. For people who strongly argue in line with Kohlberg's Level III post-conventional reasoning, considerations by others would be relatively more important compared to other stages, as they represent a social consensus about a behavior, regardless of (lack of) legal norms.

For individuals with higher post-conventional reasoning, whistleblowing may be experienced as "choiceless choice" (Alford 2007). In line with a stronger consideration of the rights and needs of others, there is less room for consideration of negative impacts to oneself or if one is discarded by others as denunciator. Consequently, retaliation should play only a minor role, and perceived behavioral control should not be the dominant factor in their decision-making process.

*H5a Higher levels of moral reasoning moderate the positive relationship between attitude and whistleblowing intention such that the influence of attitude on whistleblowing will be stronger.*

*H5b Higher levels of moral reasoning moderate the positive relationship between subjective norm and whistleblowing intention such that the influence of subjective norm on whistleblowing will be stronger.*

*H5c Higher levels of moral reasoning moderate the positive relationship between perceived behavioral control and whistleblowing intention such that the influence of perceived behavioral control on whistleblowing will be weaker.*

## **4.3 Method and design**

### ***4.3.1 Sample description and questionnaire***

Since students have been found to be an adequate substitute for several real-world scenarios (Elliott et al. 2007), and as we are not interested in decisions on specialized scenarios, but rather in the general behavioral processes underlying whistleblowing, we distributed the questionnaire among accounting and business students over one semester in 2018/19 in different lectures. Participation was voluntary, but participants entered in a lottery with cash prizes. The prizes were not associated with the answers given in order to facilitate independent and honest answers. Each session took about 20 minutes and students were identified across questionnaires with randomly generated numbers to ensure anonymity. We have an initial



sample of over 375 observations. After eliminating participants who did not partake in all sessions or did not fill in their assigned numbers, we have a valid sample of  $N = 244$ .

53.3 per cent of these participants were female, the median age was 22. Participants were predominantly from undergraduate study programs (86 per cent) and from the economic and business department with a major in business and accounting (76 per cent).

#### ***4.3.2 Theory of planned behavior and whistleblowing***

The part of our survey concerning the theory of planned behavior consists of question items for each construct of TPB: intention (Table 4.2), attitude (Table 4.3), subjective norm (Table 4.4) and perceived behavioral control (Table 4.5). The latter three consist of two groups of items each, e.g., recall that attitude consists of the factors belief strength or consequence of the behavior (b) and subjective evaluation of these consequences (e). A pre-test was conducted with a small group and slight changes were made to achieve superior construct validity. We also took advantage of already published questionnaire items regarding TPB in whistleblowing, especially Park and Blenkinsopp (2009) and Brown et al. (2016). Each item was assessed using a 5-point response format with anchoring at the extremes. As proposed by Ahmad et al. (2014), we were careful to minimize several response biases and included a vignette instead of a theoretical questionnaire. Item ordering was randomized throughout the questionnaire to reduce response and common method biases. The full questionnaire and descriptive statistics are given in Tables 4.2 to 4.5, the case description can be found in the Appendix A4.1.

#		M	SD
<b>Internal whistleblowing intention</b> (1=strongly disagree; 5=strongly agree)			
IWB1	She is going to report the incident internally.	3.64	1.05
IWB2	She will report the incident internally.	3.21	1.01
IWB3	She is prepared to report the incident internally.	3.63	0.98
IWB4	She plans to report the incident internally.	3.54	1.01
IWB5	She considers it her duty to report the incident internally	3.60	1.11
IWB6	It makes her a better employee if she reports the incident internally.	2.95	1.21

*Table 4.2: Whistleblowing questionnaire.*

#		M	SD
<b>A. Attitude: belief strength (b)</b> (1=strongly disagree; 5=strongly agree)			
To report the incident, ...			
ATT_B1	...would help avoid damage to the company	3.67	0.94
ATT_B2	... would help maintain the integrity and values of the profession.	3.42	1.01
ATT_B3	... would be the morally appropriate response.	3.64	1.00
ATT_B4	... would be the employee's obligation.	3.58	1.04
ATT_B5	... would be in the public interest.	3.31	1.04
ATT_B6	... would help to contain or prevent corruption.	3.89	1.05
<b>B. Attitude: evaluation of these consequences (e)</b> (1=not important at all; 5=very important)			
ATT_E1	To avert damage from the enterprise, is for her ...	3.78	0.93
ATT_E2	Preserving the integrity and values of the profession is for her ...	3.51	0.93
ATT_E3	To choose the morally appropriate reaction is for her ...	3.90	0.97
ATT_E4	To keep the obligations of an employee is to her ...	3.59	0.94
ATT_E5	To protect the interest of the general public is for her ...	3.07	0.93
ATT_E6	To contain or prevent corruption, is for her ...	3.74	0.97

Table 4.3: Attitude questionnaire.

#		M	SD
<b>A. Subjective norm: normative belief over the behavior (n)</b> (1=strongly disagree; 5=strongly agree)			
SN_N1	The direct superior thinks she should report the incident.	4.31	0.85
SN_N2	The department head thinks she should report the incident.	4.07	0.87
SN_N3	Colleagues think she should report the incident.	2.86	1.09
SN_N4	Friends think she should report the incident.	2.42	1.27
SN_N5	Family members think she should report the incident.	2.55	1.35
SN_N6	The partner thinks she should report the incident.	2.92	1.36
<b>B. Subjective norm: motivation to comply (m)</b> (1=not important at all; 5=very important)			
How important would the opinion of the following persons be to you in your decision?			
SN_M1	direct superior	3.79	0.98
SN_M2	head of department	3.81	0.97
SN_M3	colleagues	3.10	0.99
SN_M4	friends	3.07	1.11
SN_M5	family members	3.11	1.15
SN_M6	partner	3.21	1.07

Table 4.4: Subjective norm questionnaire.

#		M	SD
<b>A. Perceived behavioral control: control belief (c)</b> (1=very unlikely; 5=very likely)			
PBC_C1	Retaliatory measures by the direct superior are in my opinion ... <sup>a</sup>	2.35	1.01
PBC_C3	I consider retaliatory measures by the company to be ... <sup>a</sup>	2.04	0.94
PBC_C4	I consider retaliatory measures by top management to be ... <sup>a</sup>	2.05	0.91
PBC_C5	I consider the possibility of anonymous internal reporting to be ...	4.44	0.90
PBC_C6	I consider the possibility of legal protection against retaliation to be ...	4.28	0.89
<b>B. Perceived behavioral control: perceived power over this aspect (p)</b> (1=strongly disagree; 5=strongly agree)			
PBC_P1	Retaliation by the direct superior would complicate her reporting. <sup>a</sup>	3.11	1.15
PBC_P3	Retaliatory measures by the company would complicate her reporting. <sup>a</sup>	2.81	1.14
PBC_P4	Retaliatory measures by top management would complicate her reporting. <sup>a</sup>	2.74	1.19
PBC_P5	The possibility of anonymous internal reporting would make it easier for her to report.	3.58	1.16
PBC_P6	The possibility of legal protection against retaliation would make reporting easier for her.	3.27	1.00

Table 4.5: Perceived behavioral control questionnaire.

Note. <sup>a</sup> Reverse-scored items.

Constructs attitude, subjective norm, and perceived behavioral control are entered as higher order reflective constructs (HOC) into the structural model. Belief strength and evaluation of the consequence each are lower order reflective constructs (LOC) that together form the HOC ATT. The PLS SEM model is given graphically in Fig. 4.2 in the results section. During factor loading and construct validity analysis, we found that perceived behavioral control should be treated as two distinct constructs: one for perceived (absence of) retaliation and one for perceived protection. We therefore analyze both aspects separately in the following analysis. In addition, item 2 of the PBC retaliation construct (Table 4.2) loaded negatively on the construct and was excluded. Construct validity for each TPB construct is given with Cronbach's  $\alpha > 0.7$  except for PBC protection (Sarstedt & Mooi 2019). However, Cronbach's alpha is susceptible to differences in item weights concerning the underlying construct which results in a systematic underestimation of reliability values. An alternative measure is composite reliability, which addresses these concerns by weighting each item's explained variance of the construct. All values are far above the cut-off criteria of  $CR > 0.7$  (Hair et al. 2018).

### ***4.3.3 Dark triad***

We measure each dark triad aspect with the self-administered short dark triad instrument developed by Jones and Paulhus (2014), which incorporates many aspects of the ‘gold-standards’ of tests for these traits without straining the participants excessively. Answers are given on a five-point response format with anchoring at the extremes. The full questionnaire and descriptive results are shown in Table 4.6. Construct reliability as Cronbach’s alpha (Table 4.7) is almost exactly as reported in Jones and Paulhus (2014). Composite reliability is above 0.7, except for narcissism (0.656).

#		M	SD
<b>A. Machiavellianism</b>			
MACH1	It's not wise to tell your secrets.	3.31	1.05
MACH2	I like to use clever manipulation to get my way.	2.25	1.13
MACH3	Whatever it takes, you must get the important people on your side.	3.12	1.10
MACH4	Avoid direct conflict with others because they may be useful in the future.	3.33	1.10
MACH5	It's wise to keep track of information that you can use against people later.	2.84	1.16
MACH6	You should wait for the right time to get back at people.	2.22	1.27
MACH7	There are things you should hide from other people to preserve your reputation.	3.32	1.04
MACH8	Make sure your plans benefit yourself, not others.	2.89	1.10
MACH9	Most people can be manipulated.	3.91	1.01
<b>B. Narcissism</b>			
NARC1	People see me as a natural leader.	3.90	0.93
NARC2	I hate being the center of attention. <sup>a</sup>	2.95	1.10
NARC3	Many group activities tend to be dull without me.	2.86	1.01
NARC4	I know that I am special because everyone keeps telling me so.	2.43	1.07
NARC5	I like to get acquainted with important people.	3.28	1.06
NARC6	I feel embarrassed if someone compliments me. <sup>a</sup>	2.86	1.16
NARC7	I have been compared to famous people.	1.89	1.05
NARC8	I am an average person. <sup>a</sup>	3.05	1.16
NARC9	I insist on getting the respect I deserve.	3.88	1.04
<b>C. Psychopathy</b>			
PSYCH1	I like to get revenge on authorities.	1.79	0.94
PSYCH2	I avoid dangerous situations. <sup>a</sup>	2.72	1.09
PSYCH3	Payback needs to be quick and nasty.	2.00	1.11
PSYCH4	People often say I'm out of control.	1.61	0.89
PSYCH5	It's true that I can be mean to others.	2.97	1.17
PSYCH6	People who mess with me always regret it.	2.35	1.08
PSYCH7	I have never gotten into trouble with the law. <sup>a</sup>	2.14	1.45
PSYCH8	I enjoy having sex with people I hardly know.	1.92	1.12
PSYCH9	I'll say anything to get what I want.	1.83	0.98

Table 4.6: Short dark triad test developed by Jones and Paulhus (2014).

*Note.* Each participant was asked to state their (dis)agreement with the statements on a five-point response format. Extremes were anchored with 1=strongly disagree and 5=strongly agree. As suggested by Jones and Paulhus (2014), items were kept in the same order.

<sup>a</sup> Reverse-scored items.

#### 4.3.4 Moral reasoning

Moral reasoning is measured with the defining issues test (DIT), a self-administered test developed by James Rest (Rest et al. 1999) which measures a person's moral reasoning according to Kohlberg's moral development levels (pre-conventional, conventional, post-conventional). Here, we use a modified version of the DIT, the accounting-DIT (ADIT) (Welton et al. 1994; Welton & Guffey 2008). In contrast to the DIT, the ADIT test and scoring is freely available. Participants of the test are confronted with four business specific ethical dilemma situations. For example, respondents are asked whether some critical private travel expense reimbursements should be approved by the accountant. Afterwards they are given 12 thoughts and asked to state whether and how much these influenced their decision. E.g., a consideration relevant on the post-conventional level is: "[Decision depends on ...] Would it be fair to other employees [...]?" Importance for each of the 12 considerations per case is recorded on a 5-point answering format with "no" (1), "little" (2), "some" (3), "much" (4), and "great" (5) importance. Participants are then asked to rate the four most important considerations. This is used to calculate the *P-Score*, a measure in DIT research (Bailey et al. 2010). It is an indicator of the relative importance participants give to the post-conventional level. It can take on values of 0 to 95, where a higher value means that more importance is given to stages five and six. Our P-Score mean value of 31.83 ( $SD = 10.28$ ) is comparable to other studies (e.g., Welton & Guffey 2008: 32.10). However, if participants do not indicate a level three consideration as one of their four most important aspects – despite high agreement with this item – it will not be counted toward their P-Score. A second drawback is that if respondents did not complete the questionnaire or did not indicate all their four most important items, the P-Score cannot be calculated. This results in a loss of several responses. We thus used an alternative measure to test the robustness of our results with the P-score. This measure groups respondents according to their dominant Level 1 to 3. Results of this measure are similar to the P-Score results and thus not further discussed, but reported in the Appendix (A4.2.7).

Moral reasoning on a post-conventional level is modeled as a latent construct within the PLS SEM framework with all 15 item responses for stages 5 and 6 as indicators for this construct. We find that reliability measures for stage 5 are slightly lower than stage 6<sup>64</sup>, like the

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<sup>64</sup> For post-conventional level Cronbach's alpha is 0.457 and composite reliability is 0.242. Individually, composite reliability on stage 5 and 6 are 0.230 and 0.751, and Cronbach's alpha stage 5 and 6 are 0.498 and 0.513, respectively.

composite reliability measures for the post-conventional level. We include this measure as supplementary analysis.

#### **4.3.5 Data analysis**

Partial least squares structural equation modeling (PLS SEM) is used as the analytical approach. PLS SEM has the advantage of less restrictive data requirements compared to other approaches, such as covariance-based SEM. Most notably it does not assume normally distributed data and performs well with small sample sizes (Hair et al. 2011). In addition, (higher-order) constructs for latent variables can be modelled adequately (Hair et al. 2011), which for example is not possible in a simple OLS regression. PLS SEM is also the method of choice when prediction of the relationships is the research aim instead of confirmation (Hair et al. 2011). As an additional control however, we test our full model in a covariance-based SEM version (AMOS) and find that commonly reported model fit indicators  $RMSEA = 0.045 < 0.05$  (Browne & Cudeck 1993) and  $X^2/df = 1.747 < 5$  (Kline 2005) are satisfactory, confirming the adequacy of our model.<sup>65</sup>

We use the standard path weighting scheme and a bias corrected accelerated bootstrapping procedure ( $n = 5000$ ) as described by Hair et al. (2018). We model moderation effects for each personality as standardized product indicator, which needs more computing power but uses interactions for each item of the construct. For single item constructs, we use the standardized two-stage approach (Hair et al. 2014: 263-265), i.e., P-Score variables. For each personality, the base TPB model is extended by a direct path of the respective personality and its hypothesized moderation. We use one-tailed p-values for directed hypotheses throughout, although using two-tailed values does not change our results. The base PLS SEM as modelled in smartPLS 3.1, is shown in Fig. 4.2.

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<sup>65</sup> We also add control variables (gender, age, education, study program) to the base TPB model. For these, we establish measurement invariance of the composite models (MICOM) as well as multigroup invariance of coefficients via a multigroup analysis (MGA) (Hair et al. 2018). We find no significant differences within and across groups for compositional invariance (MICOM: all  $p > .05$ ). MGA analyses for each group compared to the general model's path coefficients are not significant (MGA: all  $p > .05$ ) This means that the groups did neither understand the constructs differently, nor are the path coefficients different across for example male and female respondents. Thus, they do not alter the results and are omitted from the discussion.

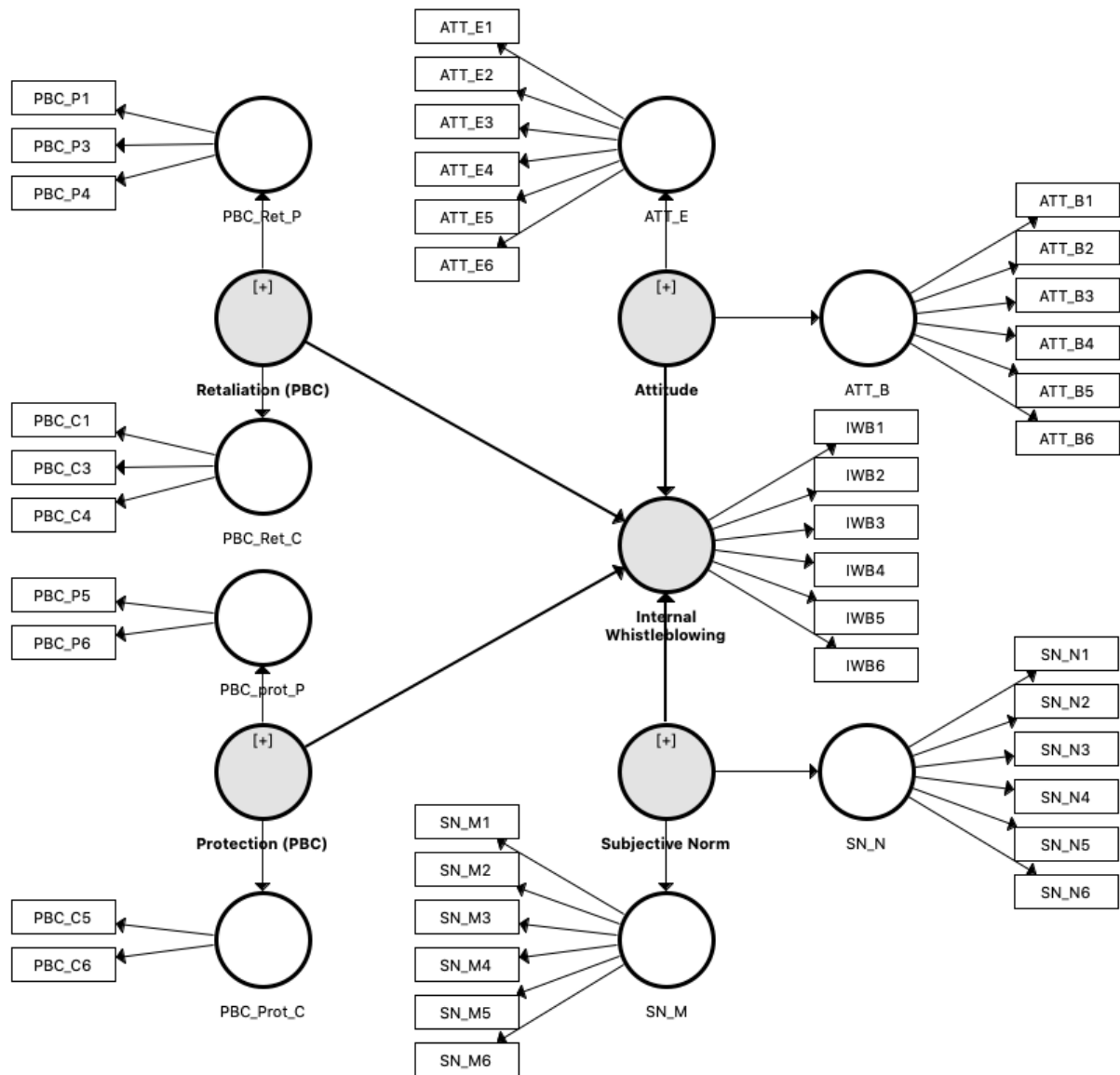


Fig. 4.2: PLS SEM output with smartPLS 3.1.

#### 4.4 Results

Heterotrait-monotrait-ratio (HTMT) values in Table 4.7 (above the diagonal) are all  $<0.85$ , indicating discriminant validity. This is important to ascertain that latent constructs have a stronger relationship with their own indicators than with the ones from other constructs. HTMT outperforms other measures such as Fornell-Larcker criterion (Hair et al. 2018: 60-61). Such construct validity across cultures and other attributes (e.g., gender) has also been reported in a large-scale study on dark triad traits by Rogoza et al. (2020). Narcissism and psychopathy correlate positively, which is not surprising given that the dark triad are found to share a common attribute core (Paulhus & Willams 2002). Retaliation is reverse-scored throughout the analysis, measuring absence of retaliation.



#	construct	1	2	3	4	5	6	7	8	9	10
1	internal whistleblowing	0.714	0.500	0.320	0.239	0.375	0.238	0.232	0.320	0.136	0.297
2	attitude	0.375*** (.000)	0.781	0.433	0.199	0.366	0.269	0.287	0.262	0.099	0.369
3	subjective norm	0.147* (.043)	0.059 (.500)	0.726	0.258	0.350	0.283	0.282	0.272	0.104	0.304
4	PBC retaliation	0.127 (.099)	-0.075 (.337)	-0.027 (.674)	0.782	0.319	0.404	0.232	0.242	0.078	0.243
5	PBC protection	0.226*** (.001)	0.193* (.026)	0.055 (.454)	-0.124 (.141)	0.536	0.235	0.354	0.239	0.134	0.340
6	Machiavellianism	-0.227 (.405)	-0.056 (.634)	-0.032 (.738)	-0.156 (.287)	0.043 (.569)	0.714	0.375	0.617	0.168	0.354
7	narcissism	0.177 (.277)	0.081 (.487)	0.042 (.629)	-0.027 (.744)	-0.035 (.732)	-0.158 (.400)	0.693	0.655	0.173	0.419
8	psychopathy	0.205 (.101)	-0.051 (.488)	0.142 (.080)	0.089 (.411)	-0.030 (.720)	-0.135 (.550)	0.372* (.036)	0.723	0.113	0.367
9	P-Score	0.115* (.048)	0.084 (.160)	0.079 (.104)	0.037 (.513)	0.039 (.492)	0.055 (.533)	-0.034 (.677)	-0.036 (.608)	1.000	0.279
10	post-conventional reasoning	0.193 (.370)	0.164 (.203)	0.045 (.629)	0.082 (.386)	0.048 (.540)	-0.031 (.822)	-0.032 (.751)	0.062 (.613)	0.176 (.177)	0.457

Table 4.7: Correlation and HTMT matrix.

Note. Heterotrait-monotrait-ratio (HTMT) above the diagonal, correlations below with according p values in brackets, and Cronbach's alpha in italic on the diagonal line.

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

As hypothesized, the general model (Table 4.8A) shows that the “average” person exhibits a decision process that involves significant considerations for all TPB factors on internal whistleblowing (IWB). Attitude (H1a) subjective norm (H1b) and perceived behavioral control (H1c for protection as well as absence of retaliation) all play a significant and positive role in the decision to blow the whistle. The model has adequate explanatory power with  $R^2 = 0.213$ ,  $adj. R^2 = 0.200$ ,  $p < .000$ .

Dependent variable internal whistleblowing intention (IWB)				
Structural path	Coef. ( $\beta$ )	SD	p value	hypothesis
<b>A. Direct effects</b>				
attitude → IWB	0.349***	0.069	<.000 <sup>a</sup>	H1a supported
subjective norm → IWB	0.123*	0.060	.020 <sup>a</sup>	H1b supported
retaliation → IWB	0.181**	0.067	.003 <sup>a</sup>	H1c supported
protection → IWB	0.176**	0.062	.002 <sup>a</sup>	H1c supported
<b>B. Dark triad moderation effects</b>				
Machiavell. × attitude → IWB	-0.307*	0.180	.044 <sup>a</sup>	H2a supported
Machiavell. × subj. norm → IWB	-0.332*	0.154	.016 <sup>a</sup>	H2b supported
Machiavell. × retaliation → IWB	0.116	0.219	.297 <sup>a</sup>	H2c not supported
Machiavell. × protection → IWB	0.214	0.217	.162 <sup>a</sup>	H2c not supported
narcissism × attitude → IWB	-0.295	0.211	.081 <sup>a</sup>	H3a not supported
narcissism × subj. norm → IWB	-0.281**	0.103	.003 <sup>a</sup>	H3b supported
narcissism × retaliation → IWB	0.226	0.229	.163 <sup>a</sup>	H3c not supported
narcissism × protection → IWB	0.328	0.335	.164 <sup>a</sup>	H3c not supported
psychopathy × attitude → IWB	-0.292**	0.116	.006 <sup>a</sup>	H4a supported
psychopathy × subj. norm → IWB	-0.247*	0.119	.019 <sup>a</sup>	H4b supported
psychopathy × retaliation → IWB	-0.318**	0.135	.009 <sup>a</sup>	H4c supported
psychopathy × protection → IWB	-0.289*	0.149	.026 <sup>a</sup>	H4c supported
<b>C. Moral reasoning moderation effects</b>				
P-Score × attitude → IWB	0.060	0.066	.184 <sup>a</sup>	H4a not supported
P-Score × subjective norm → IWB	0.010	0.084	.451 <sup>a</sup>	H5b not supported
P-Score × retaliation → IWB	-0.103*	0.062	.049 <sup>a</sup>	H5c supported
P-Score × protection → IWB	-0.002	0.072	.486 <sup>a</sup>	H5c not supported
post-con. level × attitude → IWB	0.381	0.317	.115 <sup>a</sup>	H5a not supported
post-con. level × subj. norm → IWB	0.355	0.230	.062 <sup>a</sup>	H5b not supported
post-con. level × retaliation → IWB	-0.323**	0.123	.004 <sup>a</sup>	H5c supported
post-con. level × protection → IWB	-0.311*	0.142	.014 <sup>a</sup>	H5c supported

Table 4.8: TPB base model and moderation effects.

*Note.* Direct effects of personality characteristics are not significant ( $p > .05$ ) and are omitted along with full tables and goodness of fit statistics to conserve space. Each moderation is calculated using a separate regression, including all TPB factors (ATT, SN, PBC) as well as direct effect of moderator variable and moderation effect. TPB factor effects do not change significantly across any of the models. Full tables are available in the appendix.

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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

#### 4.4.1 Machiavellianism

The moderations (Table 4.8B) of *Machiavellianism*  $\times$  *attitude* and *Machiavellianism*  $\times$  *subjective norm* are both significant. People who are higher on Machiavellianism seem less influenced by their own attitude or subjective norm. This is in line with hypotheses H2a and H2b that Machiavellians are manipulative and unsympathetic toward the needs and interests of others (subjective norm), other people are only a ‘means to an end’. In fact, their own attitude toward the behavior is also less relevant, since ‘the end justifies the means’. If they see an advantage in becoming a whistleblower it does not matter whether they view it as a pro-social behavior or as it being their duty. Perceived behavioral control in the sense of perceived likelihood of protection and absence of retaliation are not significantly affected (H2c), although the effect points towards the hypothesized direction. However, as attitude and subjective norm have less influence in a Machiavellian decision, perceived behavioral control indirectly plays a larger role in the decision-making process. Taken together, these findings are in line with the view that Machiavellians tend to act rational. They evaluate possible consequences more in line with the rational *homo oeconomicus*. Both significant interactions are shown graphically in Fig. 4.3 and 4.4. All values are standardized, include coefficients for direct effects and are calculated for Machiavellianism at low (-1 SD) and high (+1 SD) values.

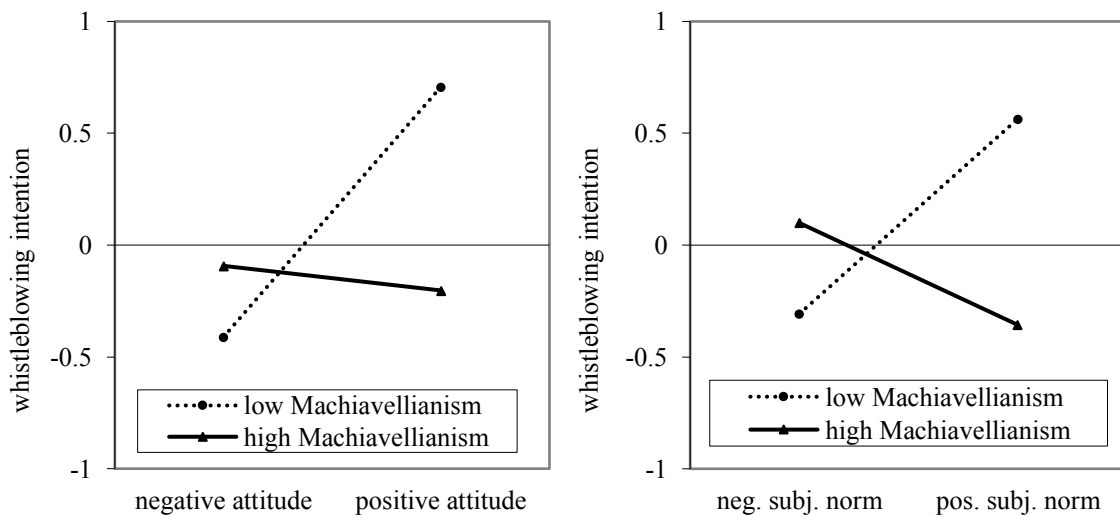


Fig. 4.3 (left): Graphical illustration of Machiavellianism moderation for attitude  $\rightarrow$  whistleblowing intention.

Fig. 4.4 (right): Graphical illustration of Machiavellianism moderation for subjective norm  $\rightarrow$  whistleblowing intention.

#### 4.4.2 Narcissism

Results for narcissism are given in Table 4.8B. The interaction of *narcissism*  $\times$  *attitude* as well as *narcissism*  $\times$  *pbp\_protection* and *narcissism*  $\times$  *pbp\_retaliation* are not significant in contrast to *narcissism*  $\times$  *subjective norm*. A narcissistic personality seems not to be influenced as much by subjective norm. This is in line with our hypothesis that narcissists are less concerned with considerations of what others think (H3b), which we illustrate in Fig. 4.5. We also hypothesized that one's own attitude would be a more relevant factor in the decision process (H3a) and that they would disregard behavioral controls (H3c), which we cannot confirm.

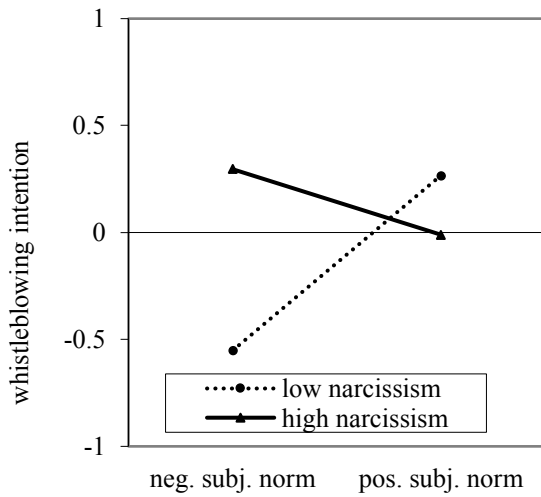


Fig. 4.5: Graphical illustration of narcissism moderation for subjective norm  $\rightarrow$  whistleblowing intention.

#### 4.4.3 Psychopathy

Psychopathic personalities are associated with lack of empathy and short-term orientation as well as impulsive behavior. Therefore, in our hypotheses for psychopathic characters we assumed that all factors should be less relevant in the decision process (H4a to H4c). Table 4.8B shows that all moderation effects *psychopathy*  $\times$  *attitude*, *psychopathy*  $\times$  *subjective norm*, *psychopathy*  $\times$  *pbp\_retaliation*, as well as *psychopathy*  $\times$  *pbp\_protection* are significant and thus support our hypotheses H4a to H4c. Long-term consequences such as retaliation are less relevant, so are all other factors of the theory of planned behavior, in line with their impulsive and erratic character. All four moderation effects are also shown in Fig. 4.6 to 4.9.

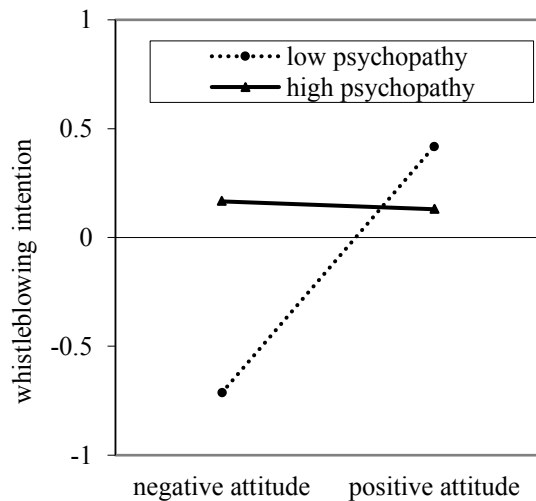


Fig. 4.6 (left): Graphical illustration of psychopathy moderation for attitude → whistleblowing intention.

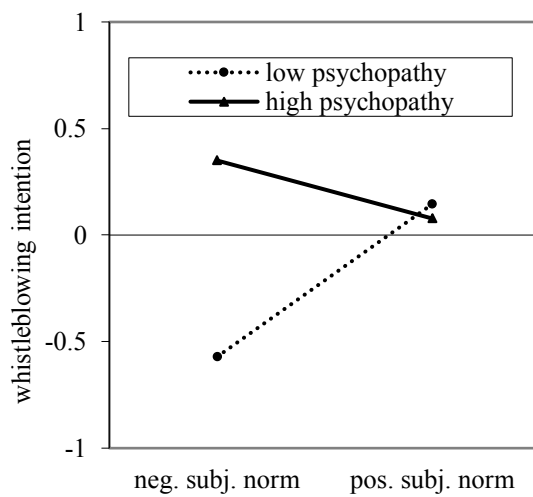


Fig. 4.7 (right): Graphical illustration of psychopathy moderation for subjective norm → whistleblowing intention.

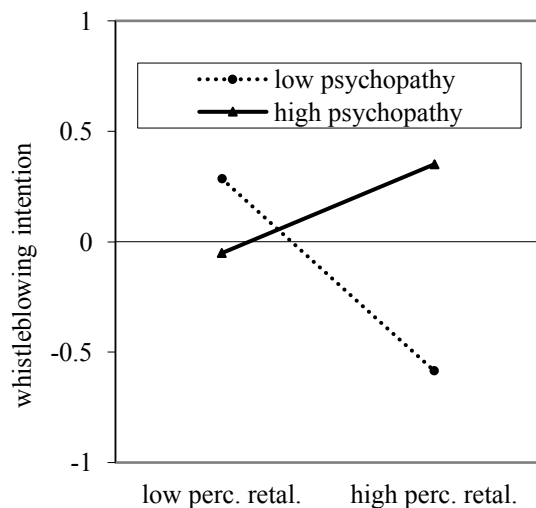


Fig. 4.8 (left): Graphical illustration of psychopathy moderation for retaliation → whistleblowing intention.

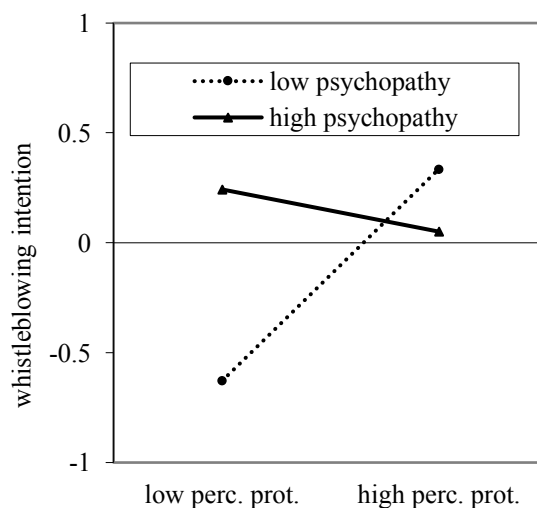


Fig. 4.9 (right): Graphical illustration of psychopathy moderation for protection → whistleblowing intention.

Looking at these figures (Fig. 4.6 to 4.9), we see that managers who score high on each dark triad aspect are rather insensitive or unsusceptible to changes in any of the TPB factors compared to employees who score low on these traits.

#### 4.4.4 Moral reasoning

According to our hypothesis H5c, high levels of moral reasoning should lead to less influence of negative consequences (retaliation) or possibilities for protection. In line with a stronger consideration of the rights and needs of others, there is less room for consideration of

negative impacts to oneself or if one is discarded by others as denunciator. Such a reasoning also puts more emphasis on one's own attitude (H5a) and others' beliefs of what is right, regardless of rules in place (H5b).

Using the ADIT P-Score measure (Table 4.8C) we find no support for H5a and H5b. In regard to H5c, we find that perceived fear of retaliation plays a less relevant role for respondents with higher post-conventional moral reasoning, as the moderation effect of *moral reasoning*  $\times$  *perc\_retaliation* is significant. H5c is only partially supported however, since the interaction with protection is not significant. We caution that the high *p* value may also be due to the smaller sample size for moral reasoning P-Score.

Using the latent construct for post-conventional moral reasoning (Table 4.8C), in addition to the significant negative interaction of *moral reasoning*  $\times$  *perc\_retaliation*, *moral reasoning*  $\times$  *perc\_protection* is also significant and negative, in line with our hypothesis H5c. H5a is not supported using this alternative construct, in line with our previous findings. The interaction effect of *moral reasoning*  $\times$  *subjective norm* could be considered marginally significant with *p* = .062 (one-tailed). Thus, people who strongly argue in line with post-conventional moral reasoning, are more strongly influenced by informal societal norms, regardless of formal legal or corporate norms in place. For graphical effect presentation, we use results from the post-conventional level construct (Fig. 4.10 and 4.11). It becomes clear that, similar to the dark triad plots, people who score high on post-conventional moral reasoning are less susceptible to changes in retaliation or protection.

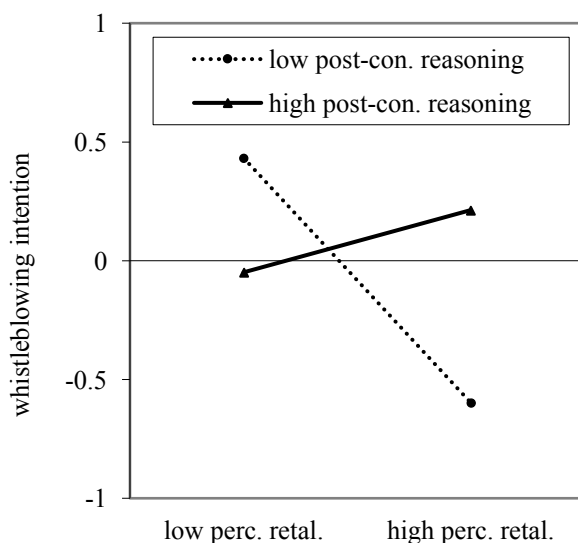


Fig. 4.10 (left): Graphical illustration of post-conventional moral reasoning moderation for retaliation → whistleblowing intention.

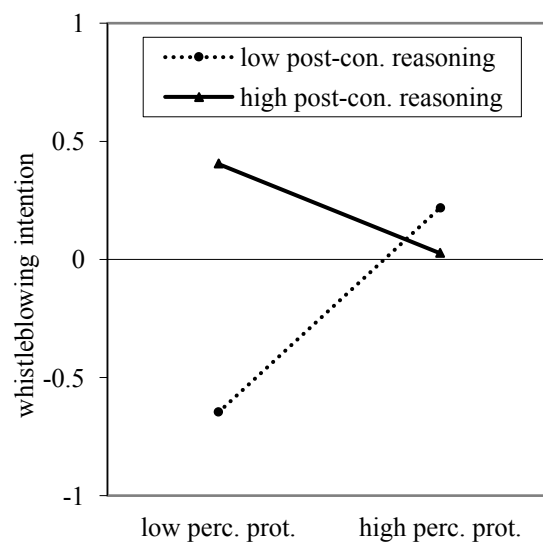


Fig. 4.11 (right): Graphical illustration of post-conventional moral reasoning moderation for protection → whistleblowing intention.

## 4.5 Conclusion

### 4.5.1 Discussion

Whistleblowing is an important tool for corporate governance. So far, many studies postulated that a reduction in retaliation and a positive attitude will increase the willingness to blow the whistle. Simultaneously, it is puzzling to find people willing to come forward, even with missing or insufficient protection and negative cultural, societal, or corporate views. Personalities such as dark triad Machiavellianism, narcissism and psychopathy are often present in the workplace. And so are people with principled moral reasoning, both of which deviate from the average employee. Our study here on dark triad personalities and moral reasoning provides new explanations as to who currently blows the whistle and who does not. To our knowledge, we are the first who systematically evaluate these traits' effects on the relevance of factors in the whistleblowing process.

Drawing on the theory of planned behavior, we find that the 'average' person, deciding to take information forward internally, is influenced by their own attitude toward the behavior, what others think of it, e.g., friends, family, and colleagues, and their perceived fear of retaliation and likelihood of protection or other aids in the process. This is in line with prior research (e.g., Brown et al. 2016; Latan et al. 2018; Park & Blenkinsopp 2009) and confirms other studies who specifically focus on retaliation as a dominant factor in the whistleblowing process (e.g., Cassematis & Wortley 2013; Park & Lewis 2019).

We find that managers who show higher psychopathic traits exhibit less focus on their own attitude toward whistleblowing, which is in line with their short-sightedness and willingness to pursue goals, regardless of the 'means' employed. Employees high on Machiavellianism are also less influenced by their own attitude, as they pursue goals rationally and without regard to their own feelings about the behavior. This mirrors the notion that for Machiavellians the 'end justifies the mean'.

Managers exhibiting higher Machiavellian tendencies are less influenced by corporate attitudes, as they are strategic planner, showing patterns best described as *homo oeconomicus* rational decision maker. In fact, Dalton and Radtke (2013) argue that Machiavellians are only less likely to whistle blow through an indirect relationship with perceived benefits. Our findings suggest that in situations where corporate norms do not value whistleblowing, they are more likely than the average employee to blow the whistle, given that they perceive the act as beneficial for some reason or another. Our results also support the idea that narcissists are self-centered and display a lack of empathy or regard for others. As such, the influence of others'



beliefs and attitudes are less relevant in their decision-making processes. The same is true for psychopathic personalities who show little empathy toward others. Their insensibility and forcefulness might also contribute to the indifference of social or corporate norms.

Due to specific histories and social norms, but also certain corporate cultures, people may not see whistleblowing as a positive behavior, but rather as denunciation. These social norms have a strong influence on an average employees' decision to blow the whistle. A disregard for such norms seems to be the core that all dark triad personalities share. However, their presence in the workplace could be an explanation for whistleblowing in countries with negative cultural norms toward and companies with corporate attitudes against whistleblowing (e.g., Germany or South Africa, see Gibeau 2006 or Rauhofer 2007).

Aspects of perceived behavioral control, i.e., retaliation and protection, have been a major focus in whistleblowing research in the past (for a review see Culiberg & Mihelič 2017), suggesting that fear of retaliation is a major hindrance in whistleblowing. However, our results indicate that this is only partly true. In fact, managers who show higher tendencies of psychopathic traits and higher principled reasoning are both less influenced by PBC factors, although for vastly different reasons. Psychopathic personalities are motivated by short-term consequences, whereas retaliation and especially protection are only relevant in the long run, after the whistle has been blown and the identity of the whistleblower becomes known at some point in the future. They are also reported to be forceful, pursuing their goals relentlessly, resulting in a lack of regard toward such negative consequences.

This last point applies also somehow to employees who strongly argue in line with principled reasoning. They are motivated and guided by beliefs about majority and general rules or imperatives. If whistleblowing is in accordance with their rules and beliefs, they would be more likely to act, regardless the consequences. This goal – or rather rule – pursuit explains why they are less influenced by retaliation or protection. In the workplace, such people would feel more harm when they remain silent and develop feelings of complicity, weighing more heavily than fears of retaliation. This might also explain why prior studies found a direct influence of moral reasoning on whistleblowing (Arnold & Ponemon 1991; Brabeck 1984; Liyanarachchi & Newdick 2009), as they did not control for moderation effects. Rather than a direct effect, principled moral reasoning seems to influence the decision-making process indirectly by moderating the relevance of PBC factors.

In direct contrast to the dark triad core of a disregard for societal norms, post-conventional moral reasoning increases the influence that others have on the decision process, as their views are considered, while formal legal norms are not as important. We caution that

this interpretation is based on suggestive p-values, only, although this contrast between the dark triad and moral reasoning is convincing.

The present study shows that certain personalities might be prone to more whistleblowing than other employees at work, given severe fears of retaliation, absence of protection, and negative attitudes by colleagues. In line with prior literature (i.e., Chen & Lai 2014; Kölbel & Herold 2019; Smaili & Arroyo 2019; Watts & Buckley 2017), we support the idea that whistleblowers are not just a certain type of person and that we do not need to rely on ‘heroes’. Rather, whistleblowers can emerge from a group of complex, diverse personalities with differing motives. The dark triad whistleblower for example may be part of a self-interested (Jalan 2020; Smaili & Arroyo 2019) or rebel group (Chen & Lai 2014) or even constitute an entirely new type. In contrast, the whistleblower who disregards negative consequences because of their principled reasoning belongs to an entirely different group.

More generally, our findings suggest that personalities prone to deviance in both directions can be beneficiary from a corporate governance view and thus draw attention to the idea that such special personalities currently ‘counter’ insufficient protection, severe retaliation, or negative cultural or corporate norms that might hinder other employees from reporting misconduct. There are most likely differences in the specific types of misconduct or scenarios in which these personalities whistle blow. However, this is beyond the scope of this paper.

Our results also suggest that a sole focus of governance efforts on protection from retaliation may not be effective throughout the organization. These special personalities highlighted in this research may also be the reason why many scandals come to light despite lack of protection and severe threat of retaliation. Different types of whistleblowers emerge in these complex corporate and cultural climates and research needs to adequately account for their presence.

#### **4.5.2 Limitations**

We caution that our research is not without limitations. Methodologically, we cannot rule out self-reporting and common-method biases entirely. However, assuring anonymity, administering the test across several lectures, and taking recommendations by Ahmad et al. (2014) into account, we are confident that our results are not driven by these biases, especially since we administered the questionnaire across several sessions.

Our different moral reasoning constructs should also be critically assessed. An explanation why we only see significant differences in protection using the principled construct

rather than the P-Score might arise because this latter score is relative. We also rely on Kohlberg's model of moral development. Although this model dominates business research (Bailey et al. 2010; Christensen et al. 2016), there are alternatives to look at morals, for example from a moral foundation perspective (Andersen et al. 2015).

#### **4.5.3 Future research**

To our knowledge, we are the first to look at all three dark triad personalities as moderators in a single study. With this lack of research on the dark triad as moderation variables, it would be interesting to see how these personalities influence morally ambivalent decision-making processes in other domains of the workplace. Especially interesting would be a further investigation if the influence of social norms depends on the type of whistleblower, as our results suggest. Possible extensions could be external whistleblowing and whistleblowing on different types of misconduct, or acceptance of corporate values and compliance efforts. Could certain personalities be a full substitute for missing corporate governance mechanisms, such as protection schemes for whistleblowers? How do decision-making processes change when the manager, controller, or internal auditor exhibit such dark triad traits, especially as recipients of tips? A more nuanced look at whistleblowing from a deviance perspective, incorporating desirable and undesirable forms of whistleblowing (e.g., O'Sullivan & Ngau 2014), may also be enhanced by personality influences. Theories like the whistleblowing triangle already consider different types of whistleblowers (e.g., Brown et al. 2016), but are yet to integrate findings on personality characteristics into these models.

We also highlight a neglected aspect of the dark triad. While literature is dominated by negative implications, the dark triad employee or manager on a sub-clinical, non-pathological level, may be an asset for firms. There is much potential for future research to explore the bright side of these dark personalities at work (Spain et al. 2014), much like moral reasoning has already been researched extensively in accounting from a positive perspective (e.g., Christensen et al. 2016).

More generally, we show that incorporating different personalities into decision-process models, especially in terms of moderation and mediation, yields new insights and can solve contradictory findings, something which Shafer and Wang (2017) have shown for tax compliance. We argue that research has dismissed individual factors too early (i.e., Culiberg & Mihelic 2017), and that there is still much potential to understand whistleblowing from an individual personality perspective.

## Appendix

### A4.1: Case description

This is a loose translation of the original questionnaire used, as it was only distributed in German.

*Andreas completed his MBA in business administration one year ago. Shortly afterwards, he got a good job within a listed company in the electrical engineering industry and is now part of the accounting department.*

*Today he does some routine tasks, including copying documents for the files. In the photocopier he finds documents that someone has probably not yet picked up. When he takes a look at them, he notices the high fees of various external consultants. He quickly makes copies of these and goes back to his workplace. On closer inspection, he is not sure what this is all about. If his suspicions are correct, it could even be a major case of corruption that could cost the company millions. On the other hand, the receipts could also be genuine. He finds it difficult to follow up on his own because he lacks access to the necessary additional documents.*

#### A4.2: Extended tables for moderation regressions

<b>A. Direct effects</b>			
<b>Structural path</b>	<b>Coef. (<math>\beta</math>)</b>	<b>SD</b>	<b>p value</b>
attitude → IWB	0.349***	0.069	<.000 <sup>a</sup>
subjective norm → IWB	0.123*	0.060	.020 <sup>a</sup>
retaliation → IWB	0.181**	0.067	.003 <sup>a</sup>
protection → IWB	0.176**	0.062	.002 <sup>a</sup>

Table A4.2.1: TPB base model.

Note. Basic PLS SEM model with all TPB factors. IWB=internal whistleblowing. Retaliation is reverse-scored. The model has adequate explanatory power with  $R^2 = 0.213$ ,  $adj. R^2 = 0.200$ ,  $p < .000$ .

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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

<b>A. Direct effects</b>			
<b>Structural path</b>	<b>Coef. (<math>\beta</math>)</b>	<b>SD</b>	<b>p value</b>
(1) attitude → IWB	0.252***	0.061	<.000 <sup>a</sup>
(1) subjective norm → IWB	0.092*	0.046	.021 <sup>a</sup>
(1) retaliation → IWB	0.149**	0.055	.004 <sup>a</sup>
(1) protection → IWB	0.173***	0.055	.001 <sup>a</sup>
(1) Machiavellianism → IWB	-0.148	0.163	.364
<b>B. Moderation effects</b>			
(1) Machiavellianism × attitude → IWB	-0.307*	0.180	.044 <sup>a</sup>
(2) Machiavell. × subj. norm → IWB	-0.332*	0.154	.016 <sup>a</sup>
(3) Machiavell. × retaliation → IWB	0.116	0.219	.297 <sup>a</sup>
(4) Machiavell. × protection → IWB	0.214	0.217	.162 <sup>a</sup>

Table A4.2.2: Machiavellianism moderation effects.

Note. TPB base model extended by Machiavellianism direct and moderation effect. One model calculated per moderation. TPB direct effects do not differ significantly for any model and are only shown for the first model to conserve space. IWB=internal whistleblowing. Retaliations is reverse-scored. Explanatory power: (1)  $R^2 = 0.330$ ,  $adj. R^2 = 0.313$ ,  $p < .000$ ; (2)  $R^2 = 0.360$ ,  $adj. R^2 = 0.344$ ,  $p < .000$ ; (3)  $R^2 = 0.260$ ,  $adj. R^2 = 0.242$ ,  $p < .000$ ; (4)  $R^2 = 0.287$ ,  $adj. R^2 = 0.269$ ,  $p < .000$ .

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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

<b>A. Direct effects</b>			
<b>Structural path</b>	<b>Coef. (<math>\beta</math>)</b>	<b>SD</b>	<b>p value</b>
(1) attitude → IWB	0.273***	0.059	<.000 <sup>a</sup>
(1) subjective norm → IWB	0.105*	0.051	.019 <sup>a</sup>
(1) retaliation → IWB	0.167**	0.056	.002 <sup>a</sup>
(1) protection → IWB	0.172***	0.053	.001 <sup>a</sup>
(1) narcissism → IWB	0.135	0.110	.218
<b>B. Moderation effects</b>			
(1) narcissism × attitude → IWB	-0.295	0.211	.081 <sup>a</sup>
(2) narcissism × subjective norm → IWB	-0.281**	0.103	.003 <sup>a</sup>
(3) narcissism × retaliation → IWB	0.226	0.229	.163 <sup>a</sup>
(4) narcissism × protection → IWB	0.328	0.335	.164 <sup>a</sup>

Table A4.2.3: Narcissism moderation effects.

*Note.* TPB base model extended by Narcissism direct and moderation effect. One model calculated per moderation. TPB direct effects do not differ significantly for any model and are only shown for the first model to conserve space. IWB=internal whistleblowing. Retaliations is reverse-scored. Explanatory power: (1)  $R^2 = 0.325$ ,  $adj. R^2 = 0.307$ ,  $p < .000$ ; (2)  $R^2 = 0.324$ ,  $adj. R^2 = 0.307$ ,  $p < .000$ ; (3)  $R^2 = 0.286$ ,  $adj. R^2 = 0.268$ ,  $p < .000$ ; (4)  $R^2 = 0.348$ ,  $adj. R^2 = 0.331$ ,  $p < .000$ .

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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

<b>A. Direct effects</b>			
<b>Structural path</b>	<b>Coef. (<math>\beta</math>)</b>	<b>SD</b>	<b>p value</b>
(1) attitude → IWB	0.274***	0.060	<.000 <sup>a</sup>
(1) subjective norm → IWB	0.081*	0.048	.046 <sup>a</sup>
(1) retaliation → IWB	0.104*	0.060	.042 <sup>a</sup>
(1) protection → IWB	0.210**	0.071	.002 <sup>a</sup>
(1) psychopathy → IWB	0.148	0.080	.064
<b>B. Moderation effects</b>			
(1) psychopathy × attitude → IWB	-0.292**	0.116	.006 <sup>a</sup>
(2) psychopathy × subj. norm → IWB	-0.247*	0.119	.019 <sup>a</sup>
(3) psychopathy × retaliation → IWB	-0.318**	0.135	.009 <sup>a</sup>
(4) psychopathy × protection → IWB	-0.289*	0.149	.026 <sup>a</sup>

Table A4.2.4: Psychopathy moderation effects.

*Note.* TPB base model extended by Psychopathy direct and moderation effect. One model calculated per moderation. TPB direct effects do not differ significantly for any model and are only shown for the first model to conserve space. IWB=internal whistleblowing. Retaliations is reverse-scored. Explanatory power: (1)  $R^2 = 0.341$ ,  $adj. R^2 = 0.324$ ,  $p < .000$ ; (2)  $R^2 = 0.320$ ,  $adj. R^2 = 0.302$ ,  $p < .000$ ; (3)  $R^2 = 0.359$ ,  $adj. R^2 = 0.342$ ,  $p < .000$ ; (4)  $R^2 = 0.341$ ,  $adj. R^2 = 0.325$ ,  $p < .000$ .

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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

<b>A. Direct effects</b>			
<b>Structural path</b>	<b>Coef. (<math>\beta</math>)</b>	<b>SD</b>	<b>p value</b>
(1) attitude → IWB	0.349***	0.067	<.000 <sup>a</sup>
(1) subjective norm → IWB	0.119*	0.058	.021 <sup>a</sup>
(1) retaliation → IWB	0.173**	0.068	.005 <sup>a</sup>
(1) protection → IWB	0.177**	0.064	.003 <sup>a</sup>
(1) P-Score → IWB	0.073	0.055	.182
<b>B. Moderation effects</b>			
(1) P-Score × attitude → IWB	0.060	0.066	.184 <sup>a</sup>
(2) P-Score × subjective norm → IWB	0.010	0.084	.451 <sup>a</sup>
(3) P-Score × retaliation → IWB	-0.103*	0.062	.049 <sup>a</sup>
(4) P-Score × protection → IWB	-0.002	0.072	.486 <sup>a</sup>

Table A4.2.5: Moral reasoning P-Score moderation effects.

*Note.* TPB base model extended by moral reasoning measured as P-Score direct and moderation effect. One model calculated per moderation. TPB direct effects do not differ significantly for any model and are only shown for the first model to conserve space. IWB=internal whistleblowing. Retaliations is reverse-scored. Explanatory power: (1)  $R^2 = 0.221$ ,  $adj. R^2 = 0.201$ ,  $p < .000$ ; (2)  $R^2 = 0.311$ ,  $adj. R^2 = 0.276$ ,  $p < .000$ ; (3)  $R^2 = 0.226$ ,  $adj. R^2 = 0.206$ ,  $p < .000$ ; (4)  $R^2 = 0.218$ ,  $adj. R^2 = 0.198$ ,  $p < .000$ .

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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



<b>A. Direct effects</b>			
<b>Structural path</b>	<b>Coef. (<math>\beta</math>)</b>	<b>SD</b>	<b>p value</b>
(1) attitude → IWB	0.283***	0.064	<.000 <sup>a</sup>
(1) subjective norm → IWB	0.067 <sup>+</sup>	0.048	.083 <sup>a</sup>
(1) retaliation → IWB	0.150**	0.061	.007 <sup>a</sup>
(1) protection → IWB	0.176***	0.054	.001 <sup>a</sup>
(1) post-con. level → IWB	0.075	0.083	.364
<b>B. Moderation effects</b>			
(1) post-con. level × attitude → IWB	0.381	0.317	.115 <sup>a</sup>
(2) post-con. level × subj. norm → IWB	0.355 <sup>+</sup>	0.230	.062 <sup>a</sup>
(3) post-con. level × retaliation → IWB	-0.323**	0.123	.004 <sup>a</sup>
(4) post-con. level × protection → IWB	-0.311 <sup>*</sup>	0.142	.014 <sup>a</sup>

Table A4.2.6: Moral reasoning post-conventional level moderation effects.

*Note.* TPB base model extended by moral reasoning measured as post-conventional level direct and moderation effect. One model calculated per moderation. TPB direct effects do not differ significantly for any model and are only shown for the first model to conserve space. IWB=internal whistleblowing. Retaliations is reverse-scored. Explanatory power: (1)  $R^2 = 0.360$ ,  $adj. R^2 = 0.344$ ,  $p < .000$ ; (2)  $R^2 = 0.344$ ,  $adj. R^2 = 0.328$ ,  $p < .000$ ; (3)  $R^2 = 0.310$ ,  $adj. R^2 = 0.293$ ,  $p < .000$ ; (4)  $R^2 = 0.290$ ,  $adj. R^2 = 0.251$ ,  $p < .000$ .

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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

<sup>+</sup>  $p < .1$  can be considered marginally significant.

<b>A. Direct effects</b>			
<b>Structural path</b>	<b>Coef. (<math>\beta</math>)</b>	<b>SD</b>	<b>p value</b>
(1) attitude → IWB	0.345***	0.069	<.000 <sup>a</sup>
(1) subjective norm → IWB	0.125*	0.059	.018 <sup>a</sup>
(1) retaliation → IWB	0.170**	0.070	.007 <sup>a</sup>
(1) protection → IWB	0.179**	0.064	.003 <sup>a</sup>
(1) MRL → IWB	-0.113	0.083	.170
<b>B. Moderation effects</b>			
(1) MRL × attitude → IWB	0.068	0.059	.230
(2) MRL × subjective norm → IWB	0.099	0.099	.346 <sup>a</sup>
(3) MRL × retaliation → IWB	-0.265*	0.129	.020 <sup>a</sup>
(4) MRL × protection → IWB	0.029	0.100	.387 <sup>a</sup>

Table A4.2.7: Moral reasoning MRL moderation effects.

*Note.* TPB base model extended by moral reasoning measured as MRL direct and moderation effect. One model calculated per moderation. TPB direct effects do not differ significantly for any model and are only shown for the first model to conserve space. IWB=internal whistleblowing. Retaliations is reverse-scored. Explanatory power: (1)  $R^2 = 0.217$ ,  $adj. R^2 = 0.198$ ,  $p < .000$ ; (2)  $R^2 = 0.311$ ,  $adj. R^2 = 0.276$ ,  $p < .000$ ; (3)  $R^2 = 0.340$ ,  $adj. R^2 = 0.307$ ,  $p < .000$ ; (4)  $R^2 = 0.302$ ,  $adj. R^2 = 0.267$ ,  $p < .000$ .

<sup>a</sup> One-tailed p values, because hypotheses were directional.

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

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## Chapter 5

# Intention without action? Differences between whistleblowing intention and behavior on corruption and fraud.<sup>†</sup>

***Abstract.** Whistleblowing is an effective tool against fraud and corruption in organizations. However, researchers have struggled to acquire data on actual whistleblowers' decision processes. As a substitute they use intention research, which is seen as major limitation. I shed new light on this old dilemma by surveying 1,416 employees from China, Germany, and Russia. I find that individual characteristics have little influence, whereas situational and organizational aspects (i.e., compliance measures and fear of retaliation) have significant effects on both hypothetical and real decisions. The key difference is that effect sizes differ across situations: They weigh more heavily for real decisions on whistleblowing than for hypothetical ones. In particular, employees tend to underestimate the prohibiting effect of fear of retaliation and the aid provided by compliance measures in hypothetical compared to actual situations. As such, reliance on intention research is not inherently problematic, as long as effect sizes are interpreted with caution. In addition, my results suggest that status and power may not be as decisive as previously argued and that the general process and influencing aspects are similar across different cultures. Implications of these findings for theory and practice, as well as their meaning for future research approaches and directions are discussed.*

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<sup>†</sup> This chapter is under minor revision at *Business Ethics, the Environment & Responsibility* as Oelrich, S. (2020). Intention without action? Differences between whistleblowing intention and behavior on corruption and fraud.

## 5.1 Introduction

Fraud and corruption cause not only billions of U.S. dollars in damages annually (ACFE 2018), but also halt the proper functioning of markets. Numerous scandals involve auditing firms and international organizations, which continue to harm trust in our system. Many cases were and are uncovered with the help of whistleblowers, the act being defined as “the disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action” (Near & Miceli 1985: 4). There have been many high-profile media cases surrounding large corruption and fraud scandals, such as Sherron Watkins and WorldCom, Cynthia Cooper and Enron, Edward Snowden and the CIA, or Chelsea Manning and the US military, to name just a few. The first two have even been named “Person of the Year” by the Time Magazine in 2002, increasing public interest in the topic. Research on whistleblowing spans across several professions and disciplines, including auditing (e.g., Curtis & Taylor 2009; Latan et al. 2018), accounting and management (e.g., Andon et al. 2018; Cassematis & Wortley 2013; Keenan 1995), nursing and medicine (e.g., Moore & McAuliffe 2012; Ohnishi et al. 2008), sports (e.g., Erickson et al. 2019), military (e.g., Rehg et al. 2008) and police (e.g., Park & Blenkinsopp 2009).

Whistleblowers have been shown to be an effective way to reduce damages and discipline organizations (Bowen et al. 2010; Call et al. 2018; Wilde 2017). Countries continue to introduce laws that protect or reward whistleblowing (Oelrich 2019), while organizations implement whistleblowing systems (ACFE 2018). However, whistleblowers still face severe negative consequences, such as loss of employment, retaliation by colleagues and superiors or even prosecution (e.g., Alford 2001; Kenny et al. 2019; Park et al. 2020).

While we still try to understand the process that influences people to turn from a silent bystander to a whistleblower, a majority of empirical research measures these decision-making processes in the organizational environment as whistleblowing *intention* (for a discussion see Culiberg & Mihelič 2017; Gao & Brink 2017; Lee & Xiao 2018). That is, the likelihood or propensity to whistleblow, most often by means of a hypothetical dilemma in which someone has to decide on their hypothetical course of action. A typical line found in the limitation section of such papers is as follows: “Students may not actually act as they say they would in the comfort of an anonymous questionnaire setting out hypothetical dilemmas” (Brennan & Kelly 2007: 84). Similar lines accompany studies that do not use students but instead employees as respondents: “Despite our study of “real” professionals in a “real” setting, there may be a

difference between an individual's stated likelihood of whistleblowing and that person actually whistleblowing" (Taylor & Curtis 2010: 34).

The major concern is that hypothetical decision processes on whistleblowing are not predictive of behavior (Miceli et al. 2009: 386) and thus intention results are somewhat limited or produce "unrealistic findings" (Culiberg & Mihelič 2017: 790). After all, according to Kant a "want" is not a "will" to act.<sup>66</sup> However, this concern lacks empirical evidence, yet is repeated throughout many whistleblowing studies.

I address this lingering question by looking at differences and similarities between factors that are thought to influence intention and actual behavior in organizations. For this purpose, I compare survey responses of 1,416 employees from three countries, using z-tests for regression coefficient comparison and structural equation modeling to assess differences between intention and behavior in a single moderated mediation model. I propose that intention results should only differ from actual behavior when differences in perceived and actual behavioral control are present. Such differences may be hindrances (i.e., retaliation) or aiding channels (i.e., compliance programs). That is, people under- or overestimate the influence of hindrances and aids in the decision process when confronted with a hypothetical decision in contrast to actually having to decide. This prediction is consistent with Ajzen's theory of planned behavior, which argues that intention to act and actually performing the behavior differ only when perceived and actual behavioral controls differ (Ajzen 1991). As a result, organizations may be faced with employees' behavior in line with an "intention without action". This research helps to understand differences between hypothetical and actual decision processes on whistleblowing, which is a dilemma that has persisted in literature for decades and that scholars have refrained from advancing our understanding of (notable exception: Mesmer-Magnus & Viswesvaran 2005). This paper will help to push research forward and open new avenues – methodologically and substantively, as it helps to interpret intention research more meaningfully.

In addition to this question, using this large sample of real and diverse employees at private enterprises across China, Germany and Russia allows to investigate some additional important issues that have seen little attention in whistleblowing research. First, the impact of organizational compliance measures can be assessed. As many studies survey students or employees from a single or only few companies (e.g., Latan et al. 2018; Rehg et al. 2008), the effect of implemented measures in real organizations can often not be ascertained. Second, I

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<sup>66</sup> Immanuel Kant distinguished between a mere "want" (*das Möchten*) to do something and the "will" (*der Willen*) to actually act (Kant 1785: G394)."

take a closer look at the status of the employee and ask what influence power plays in the decision process, as few studies surveyed employees from different hierarchies. Third, using a cross-cultural sample opens the opportunity to investigate whether the decision process differs across cultures especially in regard to the role of organizational factors.

The remainder of the paper is structured as follows: First, I discuss prior literature and develop my hypotheses in regard to individual, situational and organizational factors. In particular, I advance the argument that a mis-calibration of behavioral control antecedents, namely compliance measures and retaliation, is present between intention to whistleblow and actually blowing the whistle. I test my hypotheses using survey responses from employees in organizations across three countries and conduct several robustness checks to ensure reliability and validity of findings. These are discussed in regard to implications for practitioners and research.

## **5.2 Literature review and hypotheses development**

### ***5.2.1 Studying actual whistleblowing***

One major reason why researchers draw on intention studies is pragmatic in nature. Conducting research in organizations on actual wrongdoing is difficult to implement, because managers and directors might be reluctant to assist in such research (Chiu 2003; Mesmer-Magnus & Viswesvaran 2005) and locating real whistleblowers beyond the ones involved in scandals cited in newspapers is difficult (Mesmer-Magnus & Viswesvaran 2005; Park & Lewis 2019). Park and Lewis (2019) reveal that it took them four years to identify and contact a sample of 127 whistleblowers. This also explains the reliance on single case studies in actual whistleblowing (e.g., Erickson et al. 2019; Ohnishi et al. 2008) and lack of quantitative approaches which dominate whistleblowing intention research. After an extensive search in commonly used databases, I was only able to identify a handful of research that (truly)<sup>67</sup> measures whistleblowing behavior.

An often-cited paper in the conversation about limitations of whistleblowing intention research is authored by Mesmer-Magnus and Viswesvaran (2005).<sup>68</sup> They conduct a meta study of 26 empirical research results, consisting of intention and behavior samples. Correlation tests

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<sup>67</sup> It is sometimes difficult to understand the difference in research. For example, Chen and Lai (2014) state they compare whistleblowing intention and actual whistleblowing, although their measure of behavior is a variant of intention items and hypothetical answers.

<sup>68</sup> Google scholar lists over 590 citations as of January 2020.

show some significant differences between whistleblowing intention and actual behavior. Their results are somewhat limited, as they were unable to find data on several variables in both sample groups. In addition, their correlation tests are not suited for more complex relationships of dependent and independent factors or even direction of influence (Mesmer-Magnus & Viswesvaran 2005). Their samples stem from several studies which used different research designs. To my knowledge, there is no study that actually compares whistleblowing intention and behavior in a single study design.

I develop my hypotheses along the typical classification of whistleblowing antecedents (Miceli & Near 1988; Near & Miceli 1985): Individual/personal, situational and organizational influences. In particular, I look at the sociodemographic (individual) factors tenure in company, hierarchy in company, age, and gender. Fear of retaliation is included as situational factor and compliance measures constitute as organizational factors.

### ***5.2.2 Individual factors: Tenure, hierarchy, age, and gender***

In general, findings on demographic influences are among the most controversial. Recent reviews on whistleblowing studies conclude that they are not a major antecedent of whistleblowing (i.e., Culiberg & Mihelič 2017; Gao & Brink 2017; Lee & Xiao 2018; Vadera et al. 2009). Rothschild and Miethe (1999) argue that a “demographic profile” of a whistleblower cannot be constructed. Mesmer-Magnus and Viswesvaran (2005) found that demographic variables differed for tenure and gender between intention and actual whistleblowing (explained below in detail) but were unable to find enough studies to compare age.

#### **5.2.2.1 Tenure, hierarchy, and age**

To some extent, tenure, hierarchy, and age are correlated and interconnected. Being more tenured within an organization may afford better chances to climb the internal hierarchy, whereas longer tenure and higher position are associated with older employees. Thus, studies use composite scores to measure the combined effects of these variables (e.g., Miceli & Near 1988; Stansbury & Victor 2009). Other studies did not include all of these variables, which may lead to contradictory findings.

More tenured employees were found to be more likely to actually whistleblow (Mesmer-Magnus & Viswesvaran 2005), while other studies found no significant influence for public sector tenure (Wortley & Cassematis 2013). An argument for a positive influence of tenure and

hierarchy on whistleblowing is that it affords one a better knowledge of the company and its controls (Keenan 2000) and more power in terms of influence due to higher ranks or a more respected position (Mesmer-Magnus & Viswesvaran 2005; Milliken & Morrison 2003; Near & Miceli 1985; Near & Miceli 1995). Whereas an argument against this is that tenure and hierarchy do not protect from negative consequences as the cases around Sherron Watkins (Enron) or Cynthia Cooper (WorldCom) demonstrated. In regard to power dynamics, Kenny and Bushnell (2020) argue that the whistleblower comes from a weak position of power against the organization in any case.

Age is seen as a proxy for power within the organization (Vadera et al. 2009). Employing the same reasoning as above for tenure and hierarchy, one might assume a positive relationship, and some studies confirm this (Miceli & Near 1988; Stansbury & Victor 2009; also Mesmer-Magnus & Viswesvaran 2005 for intention, no data on behavior). On the other hand, as seen in high profile cases, power within the organization did little to aid these whistleblowers. In addition, being older might also contribute to the fact that other obligations emerge (e.g., family) and thus the employee is more cautious in their reporting. This would be in line with other studies that found no influence (Casseematis & Wortley 2013).

It is acknowledged that much research on tenure, hierarchy and age is contradictory and especially intention research indicates that these demographic factors are not a major antecedent of whistleblowing (Culiberg & Mihelič 2017; Vadera et al. 2009). The research hypothesis here is based on the meta study by Mesmer-Magnus & Viswesvaran (2005) and given the high interdependence of these three variables formulated similarly.

*H1: Employees with longer tenure are more likely to whistleblow.*

*H2: Employees in higher ranked positions (hierarchy) are more likely to whistleblow.*

*H3: Older employees are more likely to whistleblow.*

#### **5.2.2.2 Gender**

Research on gender and whistleblowing is often connected to either moral stances (e.g., Brabeck 1984; Near & Miceli 1985) or retaliatory aspects (Liyanarachchi & Adler 2011; Rehg et al. 2008). Near and Miceli (1985) argued that male employees should be more likely to whistleblow, as they inherit more diverse positions in companies and may have higher self-esteem. Only a minority of studies confirmed this hypothesis (e.g., Mayer et al. 2013 in their second study design). In a whistleblowing intention scenario, Liyanarachchi and Adler (2011) find that this effect holds for younger accountants, only. Gender is not a predictor for older

accountants. Cassematis and Wortley (2013) found no differences for gender among public sector accountants. Brabeck (1984) on the other hand conducted an experiment on whistleblowing on professor-errors and found that female students were more likely to whistleblow. However, she points out that her findings on gender differences should be interpreted with caution due to the very small sample size. Such a positive effect is also reported by Mesmer-Magnus & Viswesvaran (2005) in their meta study for actual whistleblowing. Rehg et al. (2008) find a similar positive effect for external whistleblowing among female soldiers in the US. The hypothesis is based on Mesmer-Magnus & Viswesvaran (2005) and their meta-analyses results.

*H4: Female employees are more likely to blow the whistle than male employees.*

### **5.2.3 Situational factors: Fear of retaliation**

Many whistleblowers experience some form of retaliation after reporting misconduct (e.g., Alford 2001). This may range from bullying by colleagues (Park et al. 2020), denouncing whistleblowers as mentally unstable (Kenny et al. 2019) to formal reprisals, or even job loss and legal action taken against them. Thus, fear of such retaliatory actions may prohibit employees from speaking up. Research on fear of retaliation is vast and the majority of studies report that it has a negative effect on whistleblowing (Brown et al. 2016; Culiberg & Mihelič 2017; Liyanarachchi & Adler 2011; Mayer et al. 2013; Mesmer-Magnus & Viswesvaran 2005 for intention; Miceli & Near 1984) across several disciplines, for example in the military (Rehg et al. 2008), accounting (Cassematis & Wortley 2013) or nursing and medicine (Moore & McAuliffe 2012; Ohnishi et al. 2008). Park and Lewis (2019) show that perceived negative consequences even influence the intention to blow the whistle again. Fear of retaliation is therefore thought to negatively influence whistleblowing.

*H5: A higher fear of retaliation by the employee decreases their likelihood to whistleblow.*

### **5.2.4 Organizational factors: Compliance measures**

Organizational factors such as adequate whistleblowing channels (Miceli & Near 1984) or a positive organizational climate toward whistleblowing (Bussmann & Niemeczek 2019; Mayer et al. 2013; Mesmer-Magnus & Viswesvaran 2005) have been shown to have positive



effects on reporting behavior. Erickson et al. (2019) argue that education about whistleblowing and guidance on how to whistleblow would be an enabling factor, in line with Lewis (2011) who concludes that a culture of openness and trustworthiness in established reporting channels would promote whistleblowing. As such, I look specifically at compliance measures taken by companies and known to the questioned employees. These include a designated compliance officer, a code of conduct that gives such guidance, as Erickson et al. (2019) propose, as well as trainings. Such communicated standards teach employees about the “right thing to do” (Moore & McAuliffe 2012), which may give confidence to report misconduct, which is in line with results reported by Curtis and Taylor (2009) who find that “measures of trust” by the employer increase whistleblowing intention. Compliance is also thought of in terms of sanction, where breaches in company values are penalized (Bussmann 2015). Bussmann & Niemeczek (2019) find that research studying the influence of compliance measures on whistleblowing is scarce and needs testing. Given the evidence on the positive effects of soft organizational factors, such as climate and values, I argue that the same should hold true for hard organizational factors, as they are the expression of values (Bussmann 2015). Such expressions of “virtue” by companies were found to positively correlate to whistleblowing (Kaptein 2011).

*H6: More thoroughly implemented compliance measures increase the employee's likelihood to whistleblow.*

### **5.2.5 On differences between intention and action**

Research on whistleblowing has drawn on several models and theories, including several motivation theories (Near & Miceli 1985; expectancy theory: Miceli & Near 1985), social information processing theory (Mayer et al. 2013), the whistleblowing triangle (Brown et al. 2016), prospect theory (Oelrich 2019), as a protracted (Vandekerckhove & Phillips 2019) or influence process (Near & Miceli 1995), moral development theory (Brabeck 1984), or component moral decisions (O'Sullivan & Ngau 2014), among others. In order to examine possible differences between whistleblowing intention and actual whistleblowing, Ajzen's theory of planned behavior (Ajzen 1991) seems most appropriate.

Ajzen proposes that any planned action is based on attitude, subjective norm and perceived behavioral control. Where attitude is one's own attitude toward the behavior and subjective norm describes the perceived pressure by others, e.g., family members or colleagues. Perceived behavioral control “refers to the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and

obstacles” (Ajzen 1991: 188). According to the theory of planned behavior, intention and behavior only differ when perceived and actual behavioral control deviate.

Looking at the variables considered in this study, this may be true for compliance measures as well as retaliation aspects. Both influences may differ between the hypothetical context and the actual one in that a person mis-calibrates *how much* they impact their actual decision. Such an effect was already reported for organizational climate in the meta study by Mesmer-Magnus and Viswesvaran (2005). I therefore expect the effect size of compliance measures and fear of retaliation to differ between hypothetical and real decisions.

*H7: The impact of fear of retaliation on whistleblowing is moderated by whether employees are faced with a hypothetical or real decision.*

*H8: The impact of compliance measures on whistleblowing is moderated by whether employees are faced with a hypothetical or real decision.*

In light of this possible mis-calibration, it is not surprising that Near and Miceli (2016) argue that intention to blow the whistle is reported far more frequently than actual whistleblowing – however, antecedents may still be the same. In line with Near and Miceli (2016) I assume that employees report a higher whistleblowing intention than those faced with a real decision (actually performing the behavior). This is also in line with the limitation sections of many studies cited above, as researchers believe that intention may not be equal to action.

*H9: Reported whistleblowing is higher among the group who states their intention compared to the group that had to make a real decision.*

#### **5.2.6 Control variables**

This sample is drawn from three different countries. Since prior research has suggested that cultural (Chwolka & Oelrich 2020; Park & Blenkinsopp 2009; Park et al. 2008; Patel 2003) and legislative (Oelrich 2019) effects may play a role in the whistleblowing process, I include country dummies as controls. Issues associated with such cross-cultural research are discussed in the limitations section.

## 5.3 Study design and sample selection

### 5.3.1 Sample and data collection

As part of a larger research project on corruption in businesses, employees working in private sector companies in the People's Republic of China, Germany, and Russia were contacted.<sup>69</sup> Such a random field survey design allows to capture responses from multiple sources: Different companies, sizes and sectors, as well as different sociodemographic structures of employees. Table 5.1 gives an in-depth overview for each country.

The countries China, Germany and Russia were selected for their distinct cultural (Hofstede n.d.; House et al. 2004) and economic environments, as research outside of the US is still scarce (Chwolka & Oelrich 2020; Culiberg & Mihelič 2017; Park et al. 2008; Patel 2003). China and Russia have higher levels of corruption, according to the Corruption Perception Index (Transparency International 2019) compared to Germany (see also Graf Lambsdorff 2007). Prior research on Asian countries (e.g., Malaysia and India) also suggested that compared to Western cultures (e.g., Germany, USA, United Kingdom, Australia), people are less inclined to whistleblow (Park & Blenkinsopp 2009; Park et al. 2008; Patel 2003). Prior research questions the effectiveness of control systems especially in Asian cultures due to specific cultural attitudes (Park & Blenkinsopp 2009; Patel 2003). Thus, I am interested in how compliance measures have similar or diverging effects across countries and cultures. As studies are still scarce and mostly rely on intention results, this research will also help to interpret findings in these cultures more meaningfully.

The questionnaire was only distributed among persons 21 years and older and if they worked for a company of 100 or more employees in size. The respondents were assured of confidentiality and remained anonymous. All questions were translated and administered in the respective languages. Questionnaire similarity across languages was ensured using back-to-back translation, although English translations are used throughout this paper for convenience.

After a pre-test round of  $n = 25$  responses per country, small changes to the questionnaire were made and data were gathered throughout 2017. The final sample includes 473 responses from Germany, 468 from Russia, and 475 responses from China. The response statistics in Table 5.1 show that organizations are almost split half between smaller ( $< 500$ ) and larger sizes ( $\geq 500$ ). Employees in Germany are on average the oldest, followed by Russia and China with the youngest average. According to the CIA World Factbook, this is in line with

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<sup>69</sup> I gained access to this sample through my work at a DFG-funded research project on corruption and fraud, headed by Prof. Dr. Kai-D. Bussmann. For a full account of the project see for example Bussmann et al. (2021).

general population statistics (CIA 2019). Average study length is almost double in Germany compared to China and Russia (Knoema 2014), which does explain the divergence in bachelor and master degrees or equivalents. Working population according to gender is also in line with reported economic participation of population in the respective countries, where Germany ranks behind Russia (World Economic Forum 2018). Untabulated results indicate that on average 20 to 25 per cent of companies were listed on a stock exchange, this share being smaller for companies with fewer employees and larger at companies having more employees.

Survey results	Germany		Russia		PR China		Full sample	
	n	%	n	%	n	%	n	%
<b>A. Gender</b>								
male	283	59.8	275	58.8	209	44.0	767	54.2
female	190	40.2	193	41.2	266	56.0	649	45.8
total	473		468		475		1416	
<b>B. Age</b>								
21-25	1	0.2	63	13.5	1	0.2	65	4.6
26-29	40	8.5	98	20.9	91	19.2	229	16.2
30-39	150	31.7	115	24.6	243	51.2	508	35.9
40-49	136	28.8	90	19.2	124	26.1	350	24.7
50-59	113	23.9	82	17.5	15	3.2	210	14.8
60 or older	33	7.0	20	4.3	1	0.2	54	3.8
total	473	100	468	100	475	100	1,416	100
<b>C. Education</b>								
Bachelor degree/equivalent	81	17.1	91	19.4	418	88.0	590	41.7
Master degree/equivalent	392	82.9	377	80.6	57	12.0	826	58.3
total	473	100	468	100	475	100	1416	100
<b>D. Tenure</b>								
less than 2 years	35	7.4	115	24.6	53	11.2	203	14.3
2-3 years	47	9.9	65	13.9	136	28.6	248	17.5
4-5 years	71	15.0	89	19.0	132	27.8	292	20.6
6-7 years	76	16.1	68	14.5	53	11.2	197	13.9
8-9 years	38	8.0	25	5.3	31	6.5	94	6.6
10 or more years	205	43.3	103	22.0	69	14.5	377	26.6
total	472	99.8	465	99.4	474	99.8	1,411	99.6
<b>E. Hierarchy</b>								
secretary	8	1.7	62	13.2	61	12.8	131	9.3
assistant	119	25.2	88	18.8	33	6.9	240	16.9
lower management	138	29.2	116	24.8	123	25.9	377	26.6
upper management	160	33.8	137	29.3	184	38.7	481	34.0
top management	38	8.0	43	9.2	50	10.5	131	9.3
total	463	97.9	446	95.3	451	94.9	1,360	96.0
<b>F. Company size</b>								
101 to 250	143	30.2	156	33.3	181	38.1	480	33.9
251 to 499	79	16.7	81	17.3	149	31.4	309	21.8
500 to 999	124	26.2	57	12.2	79	16.6	260	18.4
1,000 to 4,999	95	20.1	102	21.8	48	10.1	245	17.3
5,000 to 10,000	23	4.9	31	6.6	9	1.9	63	4.4
more than 10,000	9	1.9	41	8.8	9	1.9	59	4.2
total	473	100	468	100	475	100	1,416	100

Table 5.1: Sociodemographic and company characteristics descriptive statistics.

### 5.3.2 Study design

Figure 5.1 illustrates the relevant parts of the questionnaire and categorization procedure. When respondents said they have not witnessed a case of fraud at their workplace before, they were given a hypothetical scenario (Figure 5.1: *situation*) and asked on their intention to report such an incident (*whistleblowing*). Similarly, the group who witnessed a fraud or corruption case was asked on their subsequent behavior. The questionnaire is built in a way that questions for the hypothetical group mirror questions given to the group who witnessed such unethical and illegal behavior as close as possible. Afterwards, they were asked about fears of retaliation (*fear of retaliation*) – either hypothetical or actual fears before deciding (not) to report. Implemented compliances measures were elicited prior to this block of questions (*compliance measures*) and sociodemographic factors were elicited at the end (*tenure, hierarchy, age, gender*).

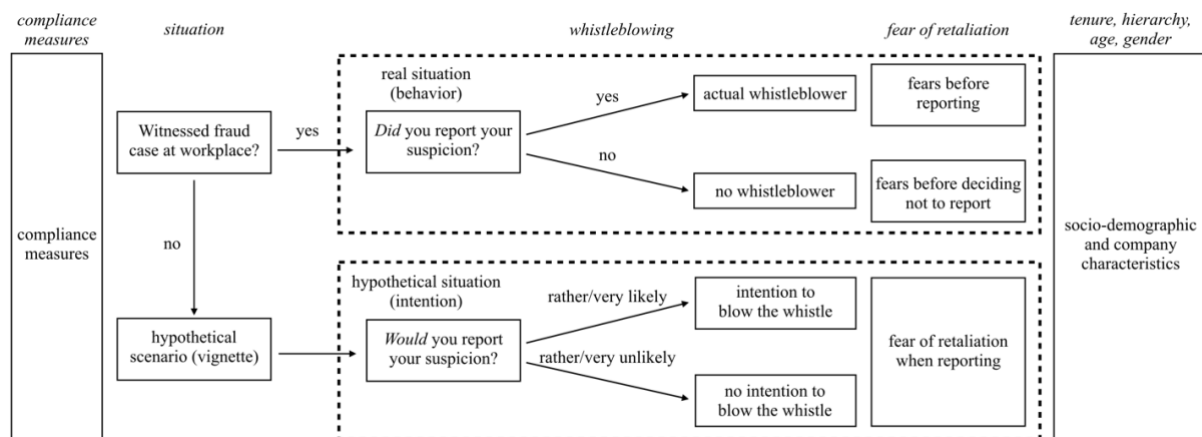


Fig. 5.1: Study and questionnaire design with elicited variables in italic.

*Note.* In a first step, respondents are grouped according to their prior experience with an observed wrongdoing and then asked on their experiences. When no such experience exists, they are given a short hypothetical scenario and asked on their hypothetical decisions and opinions.

### 5.3.3 Measures

#### 5.3.3.1 Intention vs behavior situation

The variable *situation* is used to distinguish between people who faced a real decision to blow the whistle, that is an actual situation, and those who have not been in such a situation. Employees were asked: “Have you ever had a suspicion of a significant economic crime such as fraud or corruption in the working environment of your current company?”, with possible answers of “yes” and “no” and the option not to answer. The emphasis on “serious” was added

to create a reference point, as prior studies have shown that seriousness of wrongdoing (Andon et al. 2018) and potential harm to the company (Chen & Lai 2014) were positively correlated to whistleblowing. To respondents, this reference point clearly indicates that petty crimes such as a colleague stealing a pencil is not of interest here. Answering “yes” classifies respondents as belonging to the “real” group, that is they had to make a real decision, whereas “no” groups them into “hypothetical”, as they have not experienced such a situation before and were given a hypothetical scenario. Non-responses are dropped. *Situation* is coded 0 (real) and 1 (hypothetical) for the respective group.

As shown in Figure 5.2, employees in Germany experience corruption and fraud in their companies the least, while Russian and Chinese employees are approximately on the same level. On average, almost every fifth employee has experienced a case of corruption or fraud in their work environment. This is in line with other dark figure studies on fraud and corruption (ACFE 2018). It is also similar to findings of Mayer et al. (2013) in their study of US employees (second study in their paper). They report that 19 per cent observed wrongdoing in their current workplace.

#### **5.3.3.2 Whistleblowing intention and whistleblowing behavior**

The “real” *situation* group was then asked about that specific incident and whether they did or did not report their suspicion. The answer for the variable *whistleblowing* is a binary choice with “yes” and “no”. If no answer was given, respondents are dropped from the analysis. Using a single, dichotomous item to elicit whistleblowing behavior is common in this area of research (see for example Cassematis & Wortley 2013; Mayer et al. 2013; Mesmer-Magnus & Viswesvaran 2005; Miceli & Near 1985).

The “hypothetical” *situation* group was given a hypothetical scenario and asked to imagine that they observed a significant case of economic crime or fraud in their current workplace – similar to the real situation to increase comparability – as is typical in whistleblowing intention research (Ahmad et al. 2014). Their *whistleblowing* intention, “Would you report your suspicion?”, was recorded with a 1 (very unlikely) to 5 (very likely) response format. Since the *whistleblowing* answer for the “real” situation group is dichotomous, their answers were placed at the respective end of the “hypothetical” *whistleblowing* scale, 1 (no) and 5 (yes). This is also illustrated in the diagram in Figure 5.2. As some respondents chose not to answer these questions, the sample is reduced to 1,168 responses.

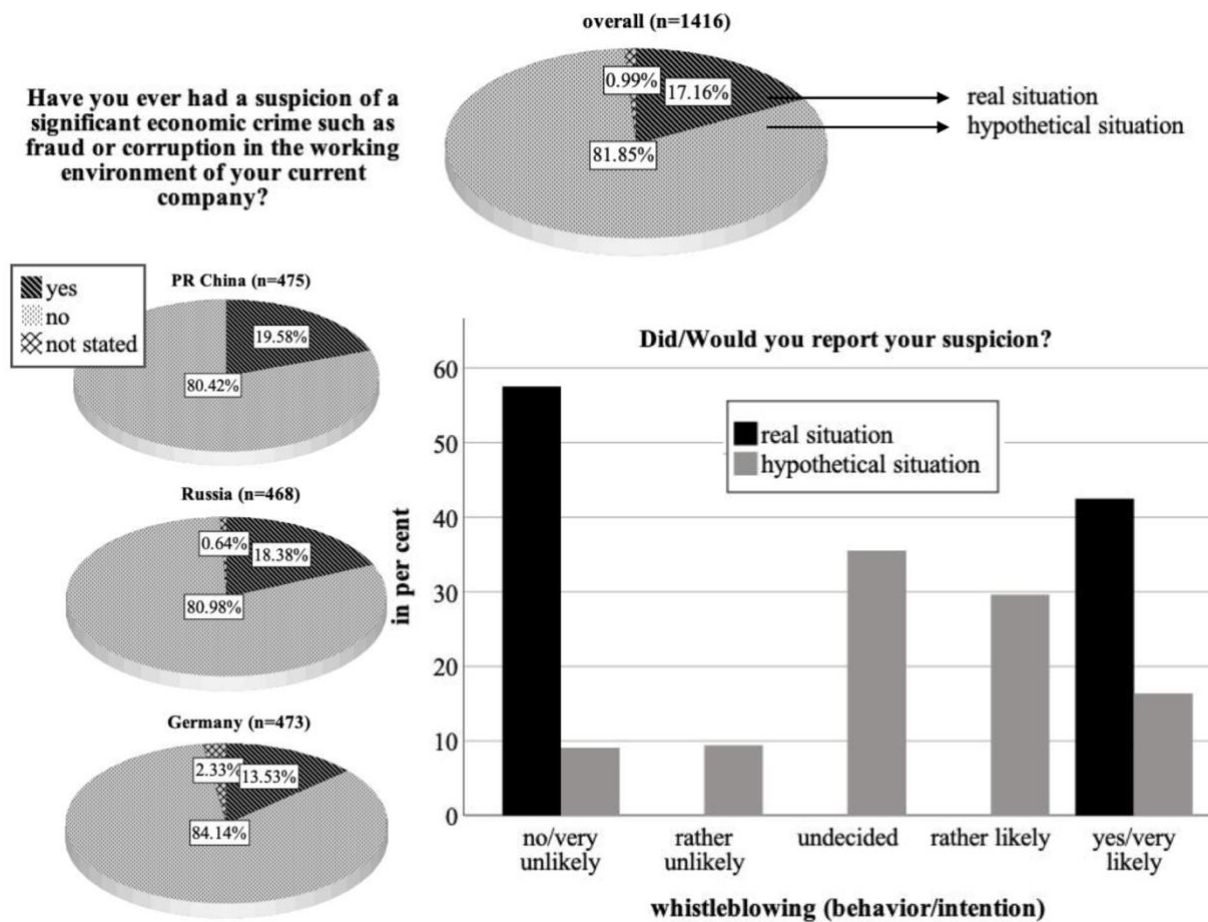


Fig. 5.2: Descriptive results of observed incidents and whistleblowing behavior or intention, respectively.

Note. The pie charts show respondents' prior experience observing fraud or corruption in their company. The bar chart compares their reaction either in the real situation (black chart) or their hypothetical decision whether to blow the whistle or not (grey chart).

### 5.3.3.3 Fear of retaliation

Each respondent was asked three questions concerning possible retaliatory measures that were elicited through a response format from 1 (not at all) to 5 (absolutely true): "Did/Would you fear negative consequences on the job?", "Did/Would you fear that the case would not be thoroughly investigated?", and "Did/Would you have doubts about the confidential handling of your identity?" Recall that the question had to be restated between real cases and hypothetical situations. *Fear of retaliation* shows very good internal reliability on all commonly used indicators with  $\alpha = 0.82$ , *composite reliability* = 0.98, and *AVE* = 0.73 (Hair et al. 2017).



### 5.3.3.4 Compliance Measures

*Compliance measures* are defined in respect to prevention and sanction aspects (Bussmann 2015). Prevention aspects are assessed as presence or absence of a compliance officer, a code of conduct, and trainings. Respondents were asked whether they knew if any of these existed in their companies with binary response options (yes, no/I don't know). Respondents were given a fictional scenario about a colleague who accepted a bonus from a client (bribe). They were asked about the consequences should that colleague be caught. Sanction aspects are "likelihood of formal notice or written warning" and "review with management", with response options ranging from 1 (very unlikely) to 5 (very likely). *Compliance measures* classifies as higher order formative construct and does not have any reliability or goodness of fit indicators by design (Hair et al., 2018). In structural equation modeling this can easily be modelled. In linear and logit regressions, it is an ordinal construct with values of 1 (at least one measure) to 5 (all five aspects present). A sanction aspect was recoded as 1 if employees believed this sanction to be "likely" or "very likely" to happen, and 0 otherwise. Descriptive statistics are given in Table 5.2. Companies in Germany seem to show more thoroughly implemented compliance measures compared to China and Russia, which is in line with higher standards and awareness of compliance aspects, although this is now subject to change especially in China (Behr 2015).

CMS responses	Germany		Russia		PR China		Full sample	
	n	%	n	%	n	%	n	%
Compliance officer (yes)	189	40.0	166	35.5	145	30.5	500	35.3
Code of conduct (yes)	241	51.0	118	25.2	121	25.5	480	33.9
Trainings (yes)	184	38.9	118	25.2	154	32.4	456	32.2
Formal notice or written warning	279	59.5	228	51.7	200	42.6	707	51.3
Review with management	363	77.2	176	40.1	154	32.7	693	50.2

Table 5.2: *Compliance measures descriptive statistics.*

*Note.* "Compliance officer", "Code of conduct", and "Trainings" are binary responses (yes, no/I don't know). "Formal notice" and "Review with management" responses were elicited on a 5-point answering format and the total of "very likely" and "rather likely" responses are shown. Per cent calculated on the basis of valid responses.

### 5.3.3.5 Company aspects and socio-demographic variables

*Country* of workplace and nationality<sup>70</sup>, *company size*, *tenure* and *hierarchy* at organization, as well as *age* and *gender* (0 = *male* and 1 = *female*) were retrieved at the end of the survey.

### 5.3.3.6 Comparability, cross country validity and construct equivalence

Cross country research might limit the assessment of causality. To address this concern, validity of measured constructs was ensured first in the concept stage, as all questions were framed in a way that would not be ambiguous in any of the surveyed countries and tested in a pre-test round. Second, established constructs were compared in regard to their internal reliability measures. In addition, country dummies are introduced into the regressions as robustness checks later. At all times, regressions also control for different socio-economic units, as these might be just as relevant as national differences (sub-group cultures). These steps are in line with suggestions by Buil et al. (2012).

Another concern may be that both groups – the hypothetical and actual behavior groups – are not comparable. T-tests for all independent variables indicate no significant differences between group characteristics (e.g., gender, age, position, ...) with  $p > .05$ . Which indicates that both groups do not differ *a priori*, which otherwise might affect results. In addition, employees were asked whether they observed a “significant” economic crime or fraud incident and the hypothetical version was stated similar in a way that employees should imagine observing a “significant” economic crime or fraud. This was done in order to reduce differences in actual cases and hypothetical ones and to increase comparability.<sup>71</sup>

### 5.3.4 Methodology and models

The aim of this research is to investigate whether there are differences between what people say they would do and what they actually do in a whistleblowing scenario. Recall Figure 5.1, which distinguishes between two scenarios (“hypothetical” and “real” *situation*) with two possible outcomes each (“actual whistleblower” and “no whistleblowing”, “intention to blow the whistle” and “no intention to blow the whistle”). I use ordinary least squares regression analyses to compare the “hypothetical” and “real” situation group, where the dependent variable

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<sup>70</sup> As they always matched in this sample, I simply use the variable *country*. Questionnaires were distributed in the respective language and with a number-stem from that country.

<sup>71</sup> I thank an anonymous reviewer for pointing out that such comparability between groups should be established first.

is *whistleblowing* (intention or behavior, respectively). *Whistleblowing* in the real *situation* is a dichotomous variable (no and yes). I use a logit model for each *situation* to corroborate my results.

I compare regression coefficients using z-tests (Paternoster et al. 1998) to assess differences in the (perceived) impact of independent variables on the dependent one (hypotheses 7 and 8). I then use partial least squares structural equation modeling (PLS SEM) to take a closer look at the differences between the two situations (hypothetical and real) in a single model. Using a SEM has the additional advantage of being able to control for mediation effects (Hair et al. 2017). This moderation-mediation model is used to test for specific moderation effects on the structural paths (Becker et al. 2018). In other words, I test whether a relationship is moderated when people think about a behavior (hypothetical) versus being actually faced with the decision (real) to report the observed misconduct. Using PLS alleviates issues of normality assumptions, as it is a parameter free method (Hair et al. 2011). As further robustness analysis, I test whether coefficient differences are also present in the PLS SE model and include country-level controls into the regressions to assess robustness of my findings.

## 5.4 Results

### 5.4.1 Linear and logit regression results

Descriptive statistics are provided in Table 5.3 and regression results in Table 5.4. I conduct regression analyses to compare effects on whistleblowing intention (*situation*: hypothetical) and whistleblowing behavior (*situation*: real), respectively.

Since the dependent variable for the *real situation* is really a binary choice (yes/no), I corroborate my OLS regression findings with logit regressions, similar in approach to the linear regressions. In order to dichotomize *whistleblowing* intention, which was measured with a 5-point scale, the answers to the dependent variable *whistleblowing* are recoded to 0 for “very unlikely” and “rather unlikely”, and 1 for “rather likely” and “very likely”, while “undecided” was dropped (model 4). An alternative approach (*intention\_alt*) is given in model 5, where 0 (very unlikely) and 1 (very likely) only represent the end of the *whistleblowing* intention scale.

Models 1 and 3 depict people who witnessed a case of fraud with the dependent variable *whistleblowing* behavior. Models 2, 4, and 5 reflect responses to the hypothetical scenario, and thus represent *whistleblowing* intention. All variables are entered into the respective regressions at once, as no hierarchy or effect sizes are hypothesized.  $R^2$  and Nagelkerkes  $R^2$  values are

appropriately high. The correct prediction of the logit models was also high, with model (3) 71.6 per cent correct predictions on average, model (4) 73.5 per cent, and model (5) 75.5 per cent.

	M	SD	1	2	3	4	5	6	7
1	whistleblowing (intention/behavior)	3.22	1.37	--	--	--	--	--	--
2	fear of retaliation	3.30	1.19	-0.09**	--	--	--	--	--
3	compliance measures	1.62	1.29	0.32***	0.05 <sup>n.s.</sup>	--	--	--	--
4	situation	0.83	0.38	0.18***	0.01 <sup>n.s.</sup>	-0.07*	--	--	--
5	gender	0.46	0.50	-0.03	0.05*	-0.07*	--	--	--
6	age	4.41	1.17	0.10***	-0.08**	0.12***	-0.10***	--	--
7	tenure	3.61	1.79	0.05*	-0.08**	0.19***	-0.01 <sup>n.s.</sup>	0.46***	--
8	hierarchy	3.18	1.13	0.05 <sup>+</sup>	-0.02 <sup>n.s.</sup>	0.10***	-0.13***	0.17***	0.19***

Table 5.3: Correlation matrix.

Note. M=mean; SD=standard deviation.

<sup>+</sup> $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; <sup>n.s.</sup> not significant with  $p \geq 0.1$

	Linear regressions				Logistic regressions					
	(1) Behavior		(2) Intention		(3) Behavior		(4) Intention		(5) Intention_alt	
	B	SE	B	SE	B	SE	B	SE	B	SE
constant	2.22**	0.65	2.68***	0.21	-1.04 <sup>n.s.</sup>	0.85	-1.18*	0.58	-1.68 <sup>+</sup>	0.90
fear of retaliation	-0.32**	0.09	-0.08*	0.03	-0.40**	0.12	-0.10 <sup>n.s.</sup>	0.07	-0.35**	0.13
compliance measures	0.59***	0.10	0.30***	0.03	0.72***	0.13	0.77***	0.09	0.90***	0.14
age	0.07 <sup>n.s.</sup>	0.12	0.10**	0.03	0.10 <sup>n.s.</sup>	0.16	0.27**	0.10	0.37**	0.15
gender	-0.09 <sup>n.s.</sup>	0.26	0.10 <sup>n.s.</sup>	0.07	-0.06 <sup>n.s.</sup>	0.34	0.31 <sup>n.s.</sup>	0.21	0.63 <sup>+</sup>	0.34
hierarchy	0.12 <sup>n.s.</sup>	0.11	0.01 <sup>n.s.</sup>	0.03	0.17 <sup>n.s.</sup>	0.14	0.05 <sup>n.s.</sup>	0.09	0.14 <sup>n.s.</sup>	0.15
tenure	-0.09 <sup>n.s.</sup>	0.08	-0.04 <sup>n.s.</sup>	0.02	-0.11 <sup>n.s.</sup>	0.10	-0.09 <sup>n.s.</sup>	0.07	-0.12 <sup>n.s.</sup>	0.10
df	6		6		6		6		6	
F/ $\chi^2$	8.99***		24.31***		47.98***		101.99***		68.19***	
R <sup>2</sup> /Nagelkerkes R <sup>2</sup>	0.21		0.14		0.27		0.23		0.35	
adj. R <sup>2</sup> /Cox & Snell R <sup>2</sup>	0.18		0.13		0.20		0.16		0.26	
N	215		906		215		581		229	

Table 5.4: Linear and logit regressions on whistleblowing behavior (real situation) and intention (hypothetical situation).

Note. Models (1) and (3) are the real situation (behavior) with dependent variable whistleblowing 0 = *no* and 1 = *yes*. Models (2), (4), (5) are hypothetical situations with model (2) dependent variable whistleblowing intention 1 = *very unlikely*, 2 = *rather unlikely*, 3 = *undecided*, 4 = *rather likely*, 5 = *very likely*; model (4) with dependent variable whistleblowing intention 0 = *very/rather unlikely*, 1 = *rather/very likely*; model (5) with dependent variable whistleblowing intention 0 = *very unlikely*, 1 = *very likely*, only. SE=standard error.

<sup>+</sup> $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; <sup>n.s.</sup> not significant with  $p \geq 0.1$ .

Looking at the results from the linear regressions, I find that *gender*, *hierarchy*, and *tenure* have no significant effect in either the *real situation* (model 1) or the *hypothetical situation* (model 2). *Age* seems to be a predictor for whistleblowing intention, but not for actual whistleblowing. Results are similar in the logit regressions (models 3 to 5), as none of the sociodemographic variables have a significant influence in the hypothetical and real situation, except for *age*, which is significant for whistleblowing intention. My hypotheses 1, 2, and 4 are not supported. Hypothesis 3 is partially supported, since *age* (model 2:  $B = 0.10, p = 0.003$ ; model 4:  $B = 0.27, p = 0.005$ ; model 5:  $B = 0.37, p = 0.015$ ) seems to be a predictor for whistleblowing intention. Older employees are more likely to have the intention to report misconduct, although this does not translate to behavior ( $p > 0.1$  in models 1 and 3).

*Fear of retaliation* has a significant negative effect on whistleblowing in both situations, hypothetical ( $B = -0.08, p = 0.016$ ) and real ( $B = -0.32, p = 0.001$ ), in the linear regression models. This is also true in the logit regressions, except for model 4 with

whistleblowing intention as dependent variable, where the effect is not significant. *Compliance measures* are significant positive influences on whistleblowing throughout all five models ( $p < 0.001$ ). Both findings are in line with hypotheses 5 and 6 in terms of significance and direction of effects.

#### 5.4.2 Effect sizes

Based on the theory of planned behavior I hypothesized that people may mis-calibrate *how much* behavioral control factors impact their actual decision compared to a hypothetical one. These factors are *fear of retaliation* (hypothesis 7) and *compliance measures* (hypothesis 8), as they are obstacles or aids in performing a behavior. I therefore compare the effect sizes between hypothetical and real decisions for these variables.

*Fear of retaliation* weighs more heavily ( $Z = -2.46, p < 0.01$ ) in the *real situation* (model 1,  $B = -0.32$ ) than in the *hypothetical situation* (model 2,  $B = -0.08$ ). Comparing the logit regression models, my findings are similar. Here too, *fear of retaliation* weighs more heavily in the real situation (model 3,  $B = -0.40$ ) than in the hypothetical one (model 5,  $B = -0.35$ ) with strict assumptions on the dependent variable (answers “rather unlikely”, “undecided”, and “rather likely” are excluded). Using a z-test shows that coefficient differences are not significant ( $Z = -0.27, p > 0.1$ ). In model 4, where whistleblowing intention is not measured as strictly (only “undecided” is excluded), *fear of retaliation* is not a significant influence ( $B = -0.10, p = 0.29$ ), although the coefficient sign is negative and the difference between the coefficients significant ( $Z = -2.21, p < 0.05$ ). These findings rather indicate a support for hypothesis 7, which assumed different effects or impacts for hypothetical and real decisions.

Effects are inconclusive in regard to *compliance measures*. In linear regression, the effect is more pronounced in the real situation (model 1,  $B = 0.59$ ) than in the hypothetical decision (model 2,  $B = 0.30$ ) and the coefficient difference is significant ( $Z = 2.90, p < 0.01$ ). This effect is reversed in the logit regressions, where compared to the real situation (model 3,  $B = 0.72$ ) the coefficient is larger in hypothetical decisions (model 4,  $B = 0.77$ ; model 5,  $B = 0.90$ ). However, this difference is not significant in either comparison (model 3 to 4:  $Z = -0.28, p > 0.1$ ; model 3 to 5:  $Z = -0.89, p > 0.1$ ). Thus, results are somewhat inconclusive. As such, hypothesis 8 is only partially supported as of now.

### 5.4.3 Moderated mediation model results

As a further test and control, I use moderation analysis to test if some specific variables are affected by the distinction between *situations*, hypothetical and real (Hair et al. 2018). In the PLS SEM, I use the same basic model as before, but include possible mediation effects, which is not possible in a simple linear or logit regression. *Age* may have an influence on *tenure* and *hierarchy* and *tenure* may influence *hierarchy*. In my hypothesis development for these variables, I already showed that other studies use composite indicators, as these variables are highly correlated and partially dependent. I also include a mediation effect of *compliances measures* on *fear of retaliation* as control. A compliance program may reduce fears of retaliatory actions, as it lays down rules on how to act according to company codes of ethics. It may also reasonably assure employees that retaliatory actions are not tolerated.

I use the distinction between the hypothetical and real situation as binary moderation variable *situation* on every independent variable, with 0 (real situation) and 1 (hypothetical situation). The dependent variable is *whistleblowing* – both intention and behavior jointly. This makes a single model possible, as the distinction between hypothetical and actual whistleblowing decisions is now captured in the moderation variable *situation*. The results are given in Table 5.4 and separated in direct, mediation and moderation effects, attained by using a bootstrap procedure ( $n = 5000$ ).

Structural path		Coeff. B	SD
<b>A. Direct effects</b>			
compliance measures	→ whistleblowing	0.50***	0.07
age	→ whistleblowing	0.07 <sup>n.s.</sup>	0.10
situation	→ whistleblowing	0.18 <sup>n.s.</sup>	0.19
gender	→ whistleblowing	-0.07 <sup>n.s.</sup>	0.10
hierarchy	→ whistleblowing	0.02 <sup>n.s.</sup>	0.03
fear of retaliation	→ whistleblowing	-0.26**	0.08
tenure	→ whistleblowing	-0.07 <sup>n.s.</sup>	0.11
<b>B. Mediation effects</b>			
compliance measures	→ fear of retaliation	0.05 <sup>n.s.</sup>	0.04
age	→ hierarchy	0.09**	0.03
age	→ tenure	0.46***	0.02
tenure	→ hierarchy	0.15***	0.03
<b>C. Moderation effects</b>			
situation × compliance measures	→ whistleblowing	-0.28**	0.09
situation × age	→ whistleblowing	0.00 <sup>n.s.</sup>	0.09
situation × gender	→ whistleblowing	0.20 <sup>n.s.</sup>	0.20
situation × hierarchy	→ whistleblowing	-0.03 <sup>n.s.</sup>	0.04
situation × fear of retaliation	→ whistleblowing	0.17*	0.07
situation × tenure	→ whistleblowing	0.01 <sup>n.s.</sup>	0.06

Table 5.5: PLS SEM results of moderated mediation analysis.

Note. PLS SEM results with bootstrap  $n = 5000$  and path weighting scheme. Overall model is significant with  $p < 0.000$ . Dependent variable whistleblowing goodness of fit:  $R^2 = 0.18$  and  $adj. R^2 = 0.17$ . Variable situation is coded as 0 = *real situation* (behavior) and 1 = *hypothetical situation* (intention). SD=standard deviation.

<sup>+</sup> $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; <sup>n.s.</sup> not significant with  $p \geq 0.1$ .

Direct effects (Table 5.5, A) are similar to the regression results in Table 5.4, as neither *gender*, *hierarchy* nor *tenure* have a significant influence on whistleblowing. The positive effect of *compliance measures* and the negative influence of *fear of retaliation* are also in line with my prior findings. In this overall model, *age* does not seem to have an influence either, in line with the “real situation” regressions in Table 5.4 (model 1 and 3). The new binary variable *situation* differentiates between the hypothetical (1) and real situations (0) and its direct effect on whistleblowing is also not significant. In structural equation models it is also possible to control for mediation effects (Table 5.5, B). The assumed inter-dependencies, *age-hierarchy*, *age-tenure*, *tenure-hierarchy*, are all significant and positive, except for *compliance measures-*



*fear of retaliation*. It seems that compliance measures have no significant effect on an employees' fear of possible retaliatory aspects.

At the core of this SEM are the moderation effects (Table 5.5, C), as I am interested in whether the effect sizes of the independent variables differ across the two *situations*. Only the effects of *compliance measures* and *fear of retaliation* are significantly moderated by the *situation* variable. Compliance measures is moderated negatively, whereas fear of retaliation is moderated positively in regard to the hypothetical situation, as this was coded with 1. This effect is in line with comparisons of the coefficient differences in Table 5.4. It is best understood graphically, which I plotted<sup>72</sup> in Figure 5.3 for *situation*  $\times$  *compliance measures* and *situation*  $\times$  *fear of retaliation* on whistleblowing, respectively. The two graphs in each diagram show the two *situations*: Hypothetical (dotted line, coded 1) and real (straight line, coded 0). Whistleblowing intention and behavior are shown on the y-axis and the independent variable on the x-axis. The negative moderation effect *situation*  $\times$  *compliance measures* indicates that the slope is less steep for the hypothetical situation than for the real decision situation. Since the initial effect of compliance measures was positive, and the effect of fear of retaliation on whistleblowing is negative, the same result is given by the positive moderation effect *situation*  $\times$  *fear of retaliation*: The slope is less steep for the hypothetical situation compared to the real decision situation. Thus, the same increase in the independent variable – *ceteris paribus* – has a stronger effect on the dependent variable in the real situation compared to the hypothetical one.

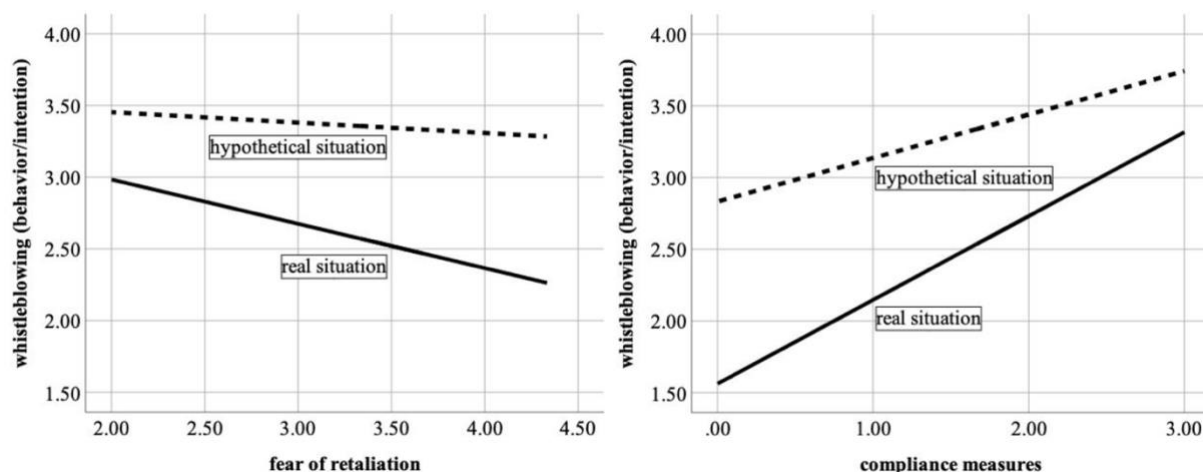


Fig. 5.3: Interaction between compliance measures/fear of retaliation and whistleblowing.

*Note.* Left diagram represents interaction between fear of retaliation and whether employee made a hypothetical or real decision and whistleblowing. Right diagram shows interaction between compliance measures and whether employee made a hypothetical or real decision and whistleblowing. Lines are for graphical interpretation of effects, only. They are plotted using SPSS and PROCESS extension (Hayes 2018).

<sup>72</sup> I use the PROCESS extension for SPSS by Hayes (2018) to show this effect graphically.

#### 5.4.4 A comparison of the dependent variable

Figure 5.3 shows another interesting difference between whistleblowing intention and actual whistleblowing: The hypothetical decision to whistleblow seems to occur more frequently than when people are forced to make that decision in real life, in line with hypothesis 9. I test whether the dependent variables actual whistleblowing and whistleblowing intention are equal across the groups. Recall that since actual whistleblowing decision is a dichotomous variable, and whistleblowing intention is measured on a 5-point scale, I sort actual whistleblowing “yes” (5) and “no” (1) at the extremes of the intention scale.

A simple independent t-test for equal means ( $t(1168) = -6.57, p < 0.000$ ) with unequal variances (Levene-test:  $F = 546.04, p < 0.000$ ) shows that the group who was faced with an actual decision ( $M = 2.70, SD = 1.98, n = 233$ ) was less inclined to blow the whistle than those who were faced with a hypothetical decision ( $M = 3.35, SD = 1.14, n = 935$ ). Results are similar when using dichotomous variables with a non-parametric Mann-Whitney test ( $Z(1166) = -4.07, p < 0.000, r = 0.12$ ). Unreported robustness checks with only extreme values considered in the hypothetical situation (similar to variable *intention\_alt* in Table 5.4, model 5) yield similar results with larger effect sizes.

#### 5.4.5 Robustness checks and additional controls

I conduct additional robustness analyses. First, I include country controls in the regressions from Table 5.4, models 1 and 2. With Germany as reference country, dummy variables for Russia and China are added (Table 5.6). Results are similar for both models from Table 5.4. Only *tenure* shows a negative significant influence on whistleblowing intention (model 3), an effect that was previously not significant. In the real situation with whistleblowing behavior as dependent variable (model 1), none of the country variables has a significant influence. In the hypothetical situation, the “Russian group” shows significantly lower whistleblowing intention compared to the reference country (Germany).

*Hierarchy* in a company was thought to positively influence the decision process due to more power and authority, and thus a belief that concerns are more likely to be acknowledged. However, I found no support in the analyses for this hypothesis. This may be due to the way the variable was set up. I use an alternative binary measure for *hierarchy* where 1 equals upper and top management and 0 secretary, assistant and lower management and enter it in models 1 and 2 in Table 5.4 as *hierarchy\_dummy*. Results are given in Table 5.6, models 2 and 4, which corroborate previous results that hierarchy does not seem to influence the process significantly.

I also use *hierarchy\_dummy* as alternative measure for *hierarchy* in the PLS structural model from Table 5.5. Untabulated results remain unchanged, as the direct effect of *hierarchy\_dummy* on *whistleblowing* ( $\beta = 0.161$ ,  $p = 0.09$ ) as well as the interaction effect of *situation*  $\times$  *hierarchy\_dummy* are not significant ( $\beta = -0.299$ ,  $p = 0.752$ ).

dependent variable (1) is whistleblowing behavior; (2) is whistleblowing intention								
	(1) Behavior		(2) Behavior		(3) Intention		(4) Intention	
	B	SE	B	SE	B	SE	B	SE
constant	2.52**	0.80	2.47***	0.59	3.04***	0.23	2.70***	0.19
fear of retaliation	-0.29**	0.10	-0.31**	0.09	-0.08**	0.03	-0.08*	0.03
compliance measures	0.54***	0.10	0.59***	0.09	0.29***	0.03	0.30***	0.03
age	0.04 <sup>n.s.</sup>	0.12	0.06 <sup>n.s.</sup>	0.12	0.08*	0.04	0.10**	0.03
gender	0.04 <sup>n.s.</sup>	0.27	-0.08 <sup>n.s.</sup>	0.26	0.10 <sup>n.s.</sup>	0.07	0.10 <sup>n.s.</sup>	0.07
hierarchy	0.13 <sup>n.s.</sup>	0.11			0.01 <sup>n.s.</sup>	0.03		
hierarchy_dummy			0.44 <sup>+</sup>	0.25			0.05 <sup>n.s.</sup>	0.07
tenure	-0.08 <sup>n.s.</sup>	0.08	-0.10 <sup>n.s.</sup>	0.08	-0.05*	0.02	-0.04 <sup>n.s.</sup>	0.02
country: Russia	-0.07 <sup>n.s.</sup>	0.35			-0.33***	0.09		
country: China	-0.62 <sup>+</sup>	0.35			-0.15 <sup>n.s.</sup>	0.09		
df	8		6		8		6	
F	7.40***		9.37***		20.20***		24.37***	
R <sup>2</sup>	0.22		0.21		0.15		0.14	
adj. R <sup>2</sup>	0.19		0.19		0.15		0.13	
N	215		215		906		906	

Table 5.6: Additional linear regressions with country and hierarchy dummies.

Note. SE=standard error. Reference country is Germany.

<sup>+</sup> $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; <sup>n.s.</sup> not significant with  $p \geq 0.1$ .

Instead of using z-tests (Paternoster et al., 1998) or moderation analysis to determine whether coefficients differ across the situations, a third option is available in PLS SEM. It provides a non-parametric multigroup analysis approach (MGA) to determine whether the coefficients significantly differ across two groups (Hair et al. 2018; Sarstedt et al. 2011). The model is similar to the previous PLS SEM model in Table 5.5, less the moderation effects. Here, the *situation* variable serves as distinction between the groups, much like in the linear and logit regressions. The absolute differences between coefficients are given in Table 5.7.

multigroup analysis: Structural path		p values for each situation		
		coeff-diff ( Intention - Behavior )	p value (behavior)	p value (intention)
<b>A. Direct effects</b>				
compliance measures	→ whistleblowing	0.10 <sup>+</sup>	<0.000	<0.000
age	→ whistleblowing	0.05 <sup>n.s.</sup>	0.561	0.007
gender	→ whistleblowing	0.06 <sup>n.s.</sup>	0.760	0.168
hierarchy	→ whistleblowing	0.05 <sup>n.s.</sup>	0.400	0.847
fear of retaliation	→ whistleblowing	0.11 <sup>*</sup>	0.001	0.004
tenure	→ whistleblowing	0.00 <sup>n.s.</sup>	0.399	0.106
<b>B. Mediation effects</b>				
age	→ tenure	0.09 <sup>+</sup>	<0.000	<0.000
age	→ hierarchy	0.15 <sup>*</sup>	0.001	0.054
compliance measures	→ fear of retaliation	0.09 <sup>n.s.</sup>	0.239	0.563
tenure	→ hierarchy	0.18 <sup>*</sup>	0.929	<0.000

Table 5.7: Multigroup analysis of PLS SEM with mediation effects.

Note. coeff-diff=coefficient difference.

<sup>+</sup> $p < 0.1$ ; <sup>\*</sup> $p < 0.05$ ; <sup>\*\*</sup> $p < 0.01$ ; <sup>\*\*\*</sup> $p < 0.001$ ; <sup>n.s.</sup> not significant with  $p \geq 0.1$ .

Significant differences in the coefficients are found between the groups for *fear of retaliation*, only. The difference between coefficients for both groups in terms of *compliance measures* would only be significant on a rather lenient cut off criteria ( $p < 0.1$ ). In addition, respective p-values are added to the right for each situation group (hypothetical and real). Significances are similar to the original linear regression models from Table 5.4 and thus corroborate prior findings. The results here are attained with moderation effect controls and using a non-parametric bootstrap procedure ( $n = 5000$ ).

## 5.5 Discussion

### 5.5.1 Contributions and implications

This research was designed to shed new light on an old question in whistleblowing research: Can we use intention data to draw conclusions about actual whistleblowing or do measures based on intention research leave organizations with employees who intend but do not act (intention without action)? In addition, questions about the effectiveness of compliance measures as value conveyors, the role of power within the organization and cross-cultural validity of findings were tackled.

The results suggest that the main difference between the processes of whistleblowing intention and actual behavior cannot be found in the influential factors per se, but rather in the effect sizes of the variables. Negative factors weigh more heavily in the actual decision process than in hypothetical decisions on whistleblowing. Fear of retaliation thus plays an important role in the decision process. This is in line with the theory of planned behavior, in which behavioral control aspects may differ in how they translate from intention to actual behavior. This also holds true to some extent for positive factors, as their aiding effect is underestimated in hypothetical whistleblowing compared to actual whistleblowing. The difference in effect size for compliance measures however does not realize in all tests. This cautions me to assume a strong difference between hypothetical and real decisions on whistleblowing for such a positive behavioral control factor. However, there are several theories in behavioral economics that may explain this difference between negative and positive controls: Most prominently prospect theory, which shows that people weigh negative factors more heavily than positive ones (Tversky & Kahneman 1992). As such, the difference in effect sizes between hypothetical and real decisions may be more pronounced for fear of retaliation than compliance measures.

This central finding has several implications for research. First and foremost, I show that using intention samples instead of real situations yields similar results. In fact, all influential factors seem to be similar, except for age. However, this variable was no longer an influence, nor moderated by the situation distinction, in the more complex structural model. What does differ across hypothetical and actual decisions on whistleblowing seems to be the effect size of influences. Employees in my hypothetical situation sample consistently underestimated negative and – to some extent – positive effects of situational and institutional variables compared to the group who faced a real decision on whistleblowing. This has direct implications for whistleblowing research, as I suggest that intention research may be an adequate substitute for behavior research in whistleblowing, where such data is hard to acquire. However, researchers should be cautious to interpret effect sizes, as they may not reflect the true impact of that particular behavioral control variable. These findings also explain the significant difference between intention to whistleblow and actually blowing the whistle. When effects of hindrances are underestimated, employees more often believe that they would come forward with information. In a real scenario however, given the same fear of retaliation, they are less likely to whistleblow as the true impact of fears is stronger. This is a large step forward in whistleblowing research, which remained static on the issue of whether intention data might be a substitute for real action – and under which conditions – for more than a decade.

My additional findings in particular have broader implications for research and practitioners as well as policy makers. Sociodemographic factors seem to have little influence in the decision processes. Far more important are organizational and situational factors, such as fears associated with different forms of retaliation and compliance measures. This finding adds to the growing literature on the irrelevance of individual factors in the whistleblowing process (for a discussion see Culiberg & Mihelič 2017). Especially gender, tenure and hierarchy are all associated with different positions of power. Their irrelevance in the process indicates that power dynamics and relationships within the organization may not be decisive factors in such decision making overall. This is in line with arguments by Kenny and Bushnell (2020), who suggest that whistleblowers “speak out about injustice from a relatively weak position of power”, regardless of whether they inherit higher or lower positions. Recall Cynthia Cooper, Vice President of Internal Audit at WorldCom or Sherron Watkins, Vice President of Corporate Development at Enron in contrast to Edward Snowden, an average employee: position or hierarchy may not play a decisive role. Near and Miceli (1995: 686) argued that whistleblowing is an influence process, in which the whistleblower believes they change managements’ attitudes. However, this may also be applied the other way: if management wants employees to report misconduct, they would have to set up appropriate influential measures. One way would be through appropriate compliance measures, that influence the employee in their decision-making process – which is shown here to be an effective process in fostering whistleblowing.

On the other hand, situational and organizational factors seem to be relevant, with either prohibiting (fear of retaliation) or supporting (compliance measures) character. Fear of retaliation was found to be a major hindrance in the process across many studies. It remains one of the most challenging aspects for companies and policy makers to control. While many countries have already introduced laws that protect from retaliation, they remain flawed. Finding effective protective measures should be the major goal for organizations and policy makers alike. The mediation analysis suggests that compliance measures have no reductive effect on fears of retaliation. Companies need to acknowledge that it is not actual retaliation, but the perception of future retaliation that influences the decision. Thus, there may be a detachment between measures that actually reduce retaliation and those that are perceived to reduce retaliation. Even if laws are effective in reducing actual retaliation, this does not necessarily translate into a reduced fear of retaliation by colleagues and superiors. Other measures should be employed that are specifically tailored to reduce perception of retaliation likelihood. For example, a focus on an integrity promoting corporate culture seems to have positive effects in this regard (Bussmann & Niemeczek 2019).

Prior studies have not examined compliance measures explicitly. Guidelines, a code of conduct, or training programs, foster whistleblowing directly. They give guidance as to what is perceived as correct behavior in any organization. When employees are educated about these corporate values and (un)wanted behavior, they may be more confident in reporting situations that are not in line with these guidelines. This has direct implications for organizations. A culture of openness and trust, as asked for by Lewis (2011), or company virtues, as Kaptein (2011) calls them, may be effectively communicated through compliance measures. Hess et al. (2019) reported on the issues when colleagues or friends are involved in misconduct and on the importance of compliance systems and company values that incorporate such “complex” situations. Teaching employees about company values directly influences their likelihood to come forward with information about misconduct. As many companies already have mandatory compliance programs in place, they are a cost-efficient way to educate employees about corporate values or “virtues”.

The sample used here is comprised of responses from 3 countries, China, Germany, and Russia, which is of particular interest for two reasons: First, I provide insight outside US samples, which dominate research on whistleblowing (Culiberg & Mihelič 2017; Park et al. 2008; Patel 2003) and second, they differ vastly in their cultural (House et al. 2004) and economic conditions, especially in regard to fraud (Graf Lambsdorff 2007; Transparency International 2019) as well as in their established compliance systems (Table 5.2). Yet, the underlying process is similar and robust across organizations in different countries and cultures. This has direct managerial implications, as it enables companies to employ similar strategies in different countries and subsidiaries. Transporting values through established compliance channels may be an effective way to uncover misconduct in affiliated companies despite different cultural and economic backgrounds. Especially for China, in which such compliance measures seem least established, there is untapped potential to foster whistleblowing. The impetus may come from organizations themselves or policy makers if they are willing to add legal provisions. In line with this, some practitioners observe an increased interest by the Chinese government in compliance with anti-corruption measures (Behr 2015).

### ***5.5.2 Strengths and limitations***

Whistleblowing is broadly defined in regard to actions that may be disclosed: Unethical, illegal, immoral (Near & Miceli, 1985). I looked at a very specific incident, namely fraudulent and corrupt actions. This topic has practical and theoretical value and is of a major concern to

organizations, given the enormous (non)financial impact of fraud and corruption in business and society at large. Generalizing from these findings to other types of whistleblowing may be problematic, as it is possible that different types of misconduct are associated with other factors that influence the potential whistleblower.

Comparing groups of data sets is often difficult. Different studies use different instruments, research designs and demographic groups. An issue that is especially prevalent in meta studies (Mesmer-Magnus & Viswesvaran 2005). In addition, most studies on whistleblowing rely on intention and student samples, which may not be representative of real whistleblowing in organizations. My research eliminates these issues by surveying real employees in real organizations on their whistleblowing behavior and intention, respectively. The research design used here allows me to capture intention and real behavior data through a single survey and data gathering process. However, this does not necessarily eliminate concerns of non-response and common-method bias. After all, I have to rely on the respondents' answers on attitudes and beliefs. Ex-ante, these concerns were mitigated by assuring respondents of their anonymity and confidentiality and they were not asked for personal identifiers (e.g., only age range was asked, not exact age, nor company name or industry sector). Given the large number of questions they were asked in wake of the larger research project, they should have not been able to guess the purpose of this project. Common-method bias does not extend to factual questions, such as implemented compliance measures. Ex-post methods to control for common-method bias (Richardson et al. 2009) were shown to have limited value and were not used here. Non-response or social desirability biases may have also affected the results, although suggestions to minimize these effects were considered (Ahmad et al. 2014). In fact, sample characteristics are broadly in line with gender, age and education combinations in their respective country populations and non-response of participants regarding the survey questions was generally low (e.g., Table 5.1 and 5.2).

Methodologically, I corroborate my initial results with several different approaches and variable variations, which yield similar results. This helps to limit inherent methodological issues in this comparison approach, in particular the binary nature of behavior variables and ordinal data in intention answers.

### ***5.5.3 Future research directions***

The study gives confidence that intention research may be a valuable option when actual behavior in organizations is costly to observe. This introduces new options and avenues to



study: whistleblowing as protracted process (Vandekerckhove & Phillips 2019) for example may be easier to study in controlled environments and repeated experimental setups, as does research on other organizational misconduct, that might be even harder to observe and investigate than fraud, such as sexual harassment and racial discrimination.

While I looked at individual factors such as gender, age or job position, there are many more that might influence the process, for example previous experiences with whistleblowing (Park & Lewis 2019) or personal attitude towards the specific type of misconduct, as there are already many different forms of fraud. Much recent work on whistleblowing explores moral reasoning and values that influence the whistleblowing process from the perspective of the whistleblower (Hess et al. 2019; O’Sullivan & Ngau 2014; Park & Lewis 2019; Park et al. 2020). In this line of research, it would be interesting to understand the other side: how do organizations best communicate their own sets of values and an ethical climate, which have been shown to influence the process (Bussmann & Niemeczek 2019; Latan et al. 2018). That is, which types of compliance measures and company values are effective and how can these measures best be implemented? An attempt to consolidate both of these research directions was undertaken by Cheng et al. (2019) who look at the moderating influence of “moral courage” on ethical leadership and organizational politics, which is similar to the approach taken here, where the mediating role of compliances measures on fear of retaliation was incorporated. All of these questions should be ideally embedded in cultural contexts and comparisons, in order to find best practice approaches tailored to specific needs, especially given that my results suggest that influence processes may not differ significantly across cultures.

## **5.6 Conclusion**

Whistleblowing is an effective tool against fraud and corruption. However, researchers have struggled to acquire data on actual whistleblowers and as a consequence relied mostly on intention research. In this study, I survey employees in China, Germany, and Russia on fraud and corruption at their workplace and subsequent reports of such cases (whistleblowing), with the purpose of answering a significant methodological question: Can we use intention data to draw conclusions about actual whistleblowing or do measures based on intention research leave organizations with employees who intend but do not act? The results of the present study suggest that the influencing factors are similar across both actual behavior and hypothetical intention groups. The key difference between whistleblowing intention and behavior is that employees underestimate the influence (effect sizes) of behavioral control aspects, such as fear

of retaliation and compliance measures in intention scenarios compared to actual situations. Thus, intention research may be an adequate substitute for behavior research in whistleblowing, where such data is hard to acquire. For intention samples however, effect sizes need to be interpreted with caution, as they may not reflect the true impact of that particular behavioral control variable.

In addition, questions about the effectiveness of compliance measures as value conveyors, the role of power within the organization and cross-cultural validity of findings were tackled. I find that individual factors are not major influences, whereas fear of retaliation and compliance measures have a significant negative and positive effect on whistleblowing, respectively. Power dynamics do not seem to be a decisive factor for the potential whistleblower, whereas adequate compliance systems as conveyor of values and “virtues” provide assurance that fosters whistleblowing behavior, as does a reduction in the perception of fears. These findings help researchers to interpret their whistleblowing intention results, while practitioners should pay a closer look at compliance measures and retaliation – regardless of culture and country.

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