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Making sense of business failure: a social psychological perspective on financial and legal judgments in the context of insolvency

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Citation
Strohmaier, N. (2020, July 1). *Making sense of business failure: a social psychological perspective on financial and legal judgments in the context of insolvency. Meijers-reeks*. Retrieved from https://hdl.handle.net/1887/123186

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Note: To cite this publication please use the final published version (if applicable).

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Author: Strohmaier, N.
Title: Making sense of business failure: a social psychological perspective on financial and legal judgments in the context of insolvency
Issue Date: 2020-07-01

Making Sense of Business Failure

Making Sense of Business Failure

A social psychological perspective on financial and legal judgments in the context of insolvency

PROEFSCHRIFT

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 1 juli 2020
klokke 16.15 uur

door

Niek Strohmaier

geboren te Harderwijk

in 1987

Promotor:	prof. dr. J.A.A. Adriaanse
Co-promotor:	dr. H. Pluut
Promotiecommissie:	prof. dr. I. Giesen (Utrecht University)
	prof. dr. J. Knobe (Yale University, New Haven, USA)
	prof. dr. J.I. van der Rest
	prof. dr. M.A.H. van der Woude

Omslagontwerp: Primo!Studio, Delft
Opmaak binnenwerk: Anne-Marie Krens – Tekstbeeld – Oegstgeest

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"Perhaps the path appears straight when we look back at it. On the way, we often feel lost."

Sir Philip Anthony Hopkins,
as Pope Benedict XVI in The Two Popes

Preface

Here I am, writing the final bits of my dissertation. It appears that I will successfully complete my PhD research within the allotted timeframe. The prospect of finishing my PhD fills me with feelings of relief, satisfaction, contentedness, and possibly even happiness. But am I to deserve praise for this accomplishment? Was it truly me who accomplished this, at times, daunting task? Or was it largely a shared effort between myself as the one who had to put in the work, my supervisors who (occasionally) pushed me to generate output, my colleagues who made the past four years an enjoyable experience, the heads of my department who always supported me to attend international conferences and other important (and quite costly) events abroad, and my friends and family who provided me with emotional support and a solid foundation, just to name a few factors? What if one of these elements were to have been absent, would I still have been able to pull it off? I could go even further back in time and look at the events leading up to my decision to pursue a PhD in the first place. Was I solely responsible for these events as well? Or, I could look at other essential ingredients such as having sufficient IQ, social skills, a stable situation in the private sphere, self-discipline, motivation, etc. How much credit can I take for such ingredients and all the past events ultimately leading up to this moment? In my view, very little at best and probably none at all. In that sense, is me completing my PhD not a mere stroke of luck, for which I can be very grateful, but for which I do not deserve any praise in any real sense, and for which feelings such as pride would be (grossly) out of place?

The questions posited above are perhaps more interesting in the context of failure. That is, in the scenario in which I would have failed to complete my PhD. Would that have been my own fault? Would I even have been a deserving recipient of blame? Would it have truly been me who failed, or would it have required a series of events and multiple ingredients over which I could not have exerted much control? What if my supervisors would not have been so supportive in providing the funds necessary to collect all the data that I did, what if there would have been a toxic working environment at my department, what if my friends and family actually disapproved of me pursuing a lengthy and risky academic exercise with very little job security given the competitive and tight academic labour market? What if I would have been less emotionally resilient and could not have handled the stress and occasional pressure? What if I suffered from frequent existential crises hamper-

ing my productivity? Would I then still have been deserving of blame, or would me ultimately failing have been a mere stroke of very bad luck?

Fortunately, if I indeed were to have failed my PhD project, this would have been rather inconsequential in the grand scheme of things and very few people other than myself would have actually spent any time wondering about the question of who or what was to blame for that failure. However, in many cases, people do have very strong opinions about who is to blame for a certain event and in such cases opinions do have relevant consequences. For example, an important aspect of our criminal justice system is that we blame and punish people who judges believe have broken the law. In part, punishing wrongdoers is done for consequentialist reasons such as deterrence, preventing recidivism, and protecting society. However, another part is retributive in nature in that society believes wrongdoers should be punished simply because they *deserve* to be punished. Hence the frequent criticism of Dutch penitentiaries for being too nice and comfortable. Criminals should not have a comfortable and humane existence, right?

Questions about responsibility and, related, blame and praise have fascinated me for as long as I can remember. To what extent do we, as humans, ever truly deserve praise for our achievements and, more importantly, to what extent are we truly deserving of blame and punishment in case of transgressions or when things go wrong. To find an answer to such fundamental questions, one can turn to the longstanding debate on free will. Arguably, if we have no free will, we can never be truly deserving of praise or blame. What might the implications of such a position be for how we organize legal justice systems or even our daily lives? Given that the debate on free will has been going on for several millennia, it is out of this dissertation's scope to reflect on this, however much I would have liked to.

Nonetheless, the topic of free will and people's moral judgments did end up being an important part of my dissertation. Little did I know when I started my PhD that I would ultimately circle back to this 'hobby' of mine. I was fortunate enough to be granted lots of freedom in terms of the topic of my dissertation. I explored several different avenues to figure out what I am most interested in. The result of this exploration is that there is less focus in this dissertation than there perhaps might have been if I would have started off with a clearly defined research topic and question. The upside is that I have been able to learn a lot about different fields and research traditions. There is some cognitive psychology in there, some experimental philosophy, social psychology, applied research, theoretical research, lab based research, and vignette based research. When looking at a PhD trajectory as a period meant for learning, I could not have asked for much more.

In this learning process, I have been able to identify the kind of research that I enjoy doing most. In its essence, I have come to appreciate and enjoy bringing together research from psychology and philosophy and use it to shed light on pressing issues in the legal domain. More specifically, I see great value

in particularly moral psychology and moral philosophy in terms of their potential impact on legal systems and procedures. Psychological research increasingly shows how automatic and often unconscious processes shape our thoughts and behaviours and how our moral intuitions play a prominent role in the way we make sense of the world around us. Even though there is already a world to be gained by simply applying what is already known in moral psychology and philosophy to legal issues – if only to show practitioners they are susceptible to the same psychological phenomena as non-lawyers – I have tried, and aim to keep doing so after my PhD research, to also advance our understanding of such psychological phenomena.

Overall, my PhD journey has been very rewarding and I look forward to continuing the kind of research that benefits both legal scholarship and legal practice, as well as psychological science and philosophy. I have come to fully enjoy and appreciate interdisciplinary research and have committed myself, at least for the foreseeable future, to a research path on the cross-section of law, psychology, and (legal) philosophy. In contrast to my preconceptions about lawyers and law schools, I have found our faculty to have a very open and supportive environment where people are keen to learn about other disciplines and to teach non-lawyers like myself about the law. I hope to stay involved with Leiden University's Law School to keep collaborating with and learning from lawyers and scholars from other disciplines and to foster truly collaborative and interdisciplinary research. For now, I wish the reader lots of reading pleasure. I trust you will find this dissertation interesting and useful.

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1 The Psychology of Making Sense of Business Failure

An Introduction

1.1 Setting the Stage

In many instances, people's assessments of the causes of failures or adverse events, as well as subsequent judgments of responsibility and blame, have direct and important implications. Think for example of currently pressing issues such as immigration and climate change. In these cases, widely differing opinions exist regarding who or what is to blame and what should be done to solve these issues. Some suggest that many current societal issues (e.g., intolerance, social unrest, crime rates) are for an important part the result of the relatively uncontrolled immigration Europe has seen over the past decades and particularly in the past few years. In contrast, others consider the same problems to be primarily the result of xenophobic and nationalist sentiments and therefore believe immigration is not a problem at all. Rather, according to this group, the solution is not to put an end to immigration, but instead to adopt a more tolerant stance towards immigrants and embrace cultural differences and foster inter-cultural interaction and inclusion.

A similar conflict in causal attributions and proposed solutions can be found in the climate change debate. Most people are certain that recent climate change can be ascribed to human activity and therefore can be stopped (or at least slowed down) by limiting human-caused emissions of greenhouse gases (e.g., CO_2). In contrast, a growing minority is more sceptical about the causes of climate change and therefore consider it to be bad policy to allocate large sums of money to reducing CO_2 emissions, particularly when this would be at the expense of addressing other societal needs (e.g., education, housing, health care).

As a final example, think of the public's perception of the causes of the global financial crisis. That catastrophic event has frequently been portrayed as being primarily the fault of greedy Wall Street bankers. Indeed, a Google search for Lewis Ranieri (a former vice president of investment bank Salomon Brothers and the 'father' of mortgage-backed securities) brings one to an article by TIME magazine titled "25 People to Blame for the Financial Crisis" with an attached poll titled "Who Deserves the Most Blame?"[1] Preventing future

1 TIME magazine. "25 People to Blame for the Financial Crisis. Retrieved on 5 December 2019, from: http://content.time.com/time/specials/packages/article/0,28804,1877351_1877350_1877339,00.html

financial crises could therefore be achieved by simply getting rid of the bad apples and thus firing and possibly even jailing the responsible managers and traders, right? As appealing as such relatively simple explanations and solutions might sound, one can question whether it really was that simple. To what extent was the global financial crisis perhaps also the result of financial deregulations and the lack of adequate government supervision? And to what extent were consumers themselves to blame for taking on increasing amounts of debt to finance their (sometimes multiple) houses and lifestyles? Or how about the numerous investors who invested in financial products they did not really understand? Despite the appeal of 'silver bullets' typically put forward by the general public, reality is usually more complex, and dire situations more often than not result from a complex interplay of a multitude of factors.

I present these examples to illustrate that people's perceptions of the causes of certain societal issues determine their beliefs regarding who or what is to blame and what a suitable solution ought to be. In pressing issues such as immigration, climate change, and the functioning of the global financial system, people's sentiments can dominate public debates and even result in public uproar and (violent) demonstrations, as we have recently seen in the Netherlands from workers in both the agricultural and building industries in response to climate saving measures. Hence, the conclusions people reach after having tried to make sense of adverse events are important. But how can it be that people's perceptions of events such as in the examples used differ by such large margins? How do people go about making sense of adverse events in the first place? To what extent are people actually able to accurately and objectively analyse the causes of highly complex events? That is, to what extent might emotions, feelings of moral outrage, and perhaps even unconscious factors cloud people's judgments of sensitive events?

Understanding how sense-making processes might go awry due to certain psychological influences is not only important when it comes to highly visible debates that receive a lot of public scrutiny. Indeed, the implications of causal attributions and related judgments have perhaps even more direct and concrete implications in the legal domain. That is, in legal decision making, sense-making processes surrounding legal transgressions play a key role in determining legal blame, liability, and punishment. For example, to determine the appropriate legal sentences in criminal cases, judges need to determine whether a defendant knowingly or even purposefully committed a certain crime and whether there are any exculpatory circumstances. Likewise, in civil cases, judges need to determine whether or not there is a causal link between a tortfeasor's actions and the damages suffered by the plaintiff in order to determine whether compensatory damages have to be paid. Moreover, judges need to assess to what extent a certain adverse event could reasonably have been foreseen, as judges can reduce the amount of compensatory damages awarded to the plaintiff if they believe part of the damages incurred could not have reasonably been foreseen by the tortfeasor. In sum, causal attributions

specifically and sense-making processes more generally play a key role in the legal discourse and have direct implications for legal rulings.

Even though legal professionals are most likely more appreciative of the innate complexity of the causes and circumstances surrounding legal and moral transgressions, one can wonder to what extent their judgments might still be affected by the same emotions, feelings of moral outrage, and unconscious factors that tend to affect the general public. It goes without saying that it is of vital importance for elements such as procedural justice, legal certainty, and ultimately people's human rights and the public's trust in the legal justice system that legal professionals in general and legal decision makers in particular can and do accurately and objectively analyse legal cases, free of unwanted psychological influences (e.g., emotions, unconscious bias, logical fallacies).

Before discussing both classic and more recent research in psychological science that provide ground for why legal professionals might in fact be subject to certain psychological processes that affect their sense-making processes and legal judgments in ways that deviate from the rational ideal, I will first demarcate the specific legal context that is the focus of this dissertation. After having discussed the legal context and the psychological processes that might influence legal reasoning, I will end this introduction by synthesizing this dissertation's primary goals and by briefly introducing each of the subsequent chapters that contribute to these goals.

1.2 Defining the Legal Context: Business Failure and Insolvency Law

The legal context of this dissertation is that of business failure and insolvency law. For lawyers, specializing in restructuring and insolvency is known to offer an interesting career path due to the diversity of the work (e.g., restructuring distressed businesses, negotiating with stakeholders, negotiating complex transactions, conducting liability investigations) and its combination of different legal fields, such as contract law, liability law, financial law, corporate law, property law, etc. For psychologists, the same holds true in that many different psychological phenomena, theories, and insights can be applied to the context of business failure and insolvency law. Given the endless number of examples of situations that legal professionals can encounter in the context of corporate insolvency in which psychological phenomena may play an important role, I will limit myself to illustrating only those situations that will be dealt with in the remainder of this dissertation. It is therefore important to note that the topics discussed here are in that sense not exhaustive.

When a company has become insolvent, three courses of action can be differentiated. First, an insolvency lawyer (or trustee or insolvency practitioner, depending on the jurisdiction) needs to assess whether it is possible to restructure the business in such a way that it can continue to exist in its current form.

The business would then be 'rescued' and liquidation would be avoided. Second, when restructuring efforts have failed or were deemed unfeasible, an insolvency lawyer needs to assess how the company can be liquidated in an orderly fashion and whether certain assets can be transferred as a 'going concern' to a new legal entity, either owned by the same shareholders or under new ownership. Finally, an insolvency lawyer can (and sometimes has to, such as under Dutch law) investigate the causes of the company becoming insolvent, as directors can be held personally liable when a company's demise, and hence the damages suffered by creditors, is for an important part the result of 'mismanagement' on behalf of those directors. I will first zoom in on this latter element and discuss which key judgments need to be made in such investigations. I will then describe lawmakers' recent shift towards business rescue (as opposed to liquidation) and the investigations and judgments that are becoming increasingly important as a result.

1.2.1 Directors' liability in case of insolvency

Under Dutch law, trustees (i.e., insolvency lawyers appointed by a bankruptcy judge to govern the administration of an insolvent estate) are under the legal obligation to conduct an investigation into the causes of a company's bankruptcy. It is the trustee's duty to investigate whether any irregularities can be identified as the cause of a company's failure and/or or whether fraud has been committed (Article 68(2) Dutch Bankruptcy Act). In case a trustee comes to the conclusion that mismanagement by a particular director or board of directors is an important cause of a company's downfall, the director(s) can be held personally liable for any deficit in the company's estate (Article 2:138/248(2) DCC). Hence, trustees need to investigate a company's management's conduct in hindsight, and assess whether key business decisions were reasonable in light of the circumstances at the time those decisions were made, or whether these were in fact gross misjudgments that can be labelled as negligence and/or mismanagement. In this light, trustees need to determine to what extent the unwanted consequences of such key business decisions were in fact foreseeable and whether a causal link exists between directors' mismanagement and their company's bankruptcy.

Crucially, as will elaborately be discussed in Chapter 5 of this dissertation, judging in hindsight while being aware of the negative consequences of certain actions makes it particularly difficult to accurately and objectively assess those actions. It is rather difficult for people to go back in time, as it were, and truly view a certain decision in light of the circumstances at that moment in time and thus mentally undo or at least ignore any knowledge they have of how a certain course of action ultimately resulted in bankruptcy. Trustees therefore risk judging business decisions too harshly and unjustly putting forward liability claims against directors. As a consequence, directors may face a ban

on taking on any leadership positions for up to five years. Moreover, being held liable for a company's downfall can have detrimental effects on a director's personal well-being (Jenkins, Wiklund, & Brundin, 2014; Kesteren, Adriaanse, & Rest, 2017; Ucbasaran, Shepherd, Lockett, & Lyon, 2013). Moreover, reputations are at risk and creditor claims on the bankrupt estate in some cases far exceed insurance coverage and can therefore lead to dire financial circumstances in the private sphere. Therefore, an accurate assessment of a director's conduct in relation to the company's insolvency is paramount.

One specific ground for directors' liability in case of insolvency is that of wrongful/fraudulent trading, as defined under UK law (Insolvency Act 1986, Section 214), among others. Although differences exist across jurisdictions in terms of specific duties bestowed upon directors in the vicinity of insolvency (see for an overview INSOL International, 2017), the central theme is that directors ought to be reluctant to take on any new debt when their company is approaching insolvency as they risk not being able to pay back those debts, thereby damaging their creditors as a result. Under Dutch law, directors need to comply with the so-called Beklamel norm,[2] which states that directors face personal liability in tort under Article 6:162 DCC when "a director has entered into an agreement on behalf of the company, even though (s)he knew or should reasonably have known that the company would not, or at least not within reasonable time, be able to fulfil its obligations under this agreement and would not provide for sufficient assets against which recourse could be taken" (INSOL International, 2017, p. 714). In light of such laws and regulations, trustees and/or insolvency practitioners need to determine in hindsight how likely it was that a company was going to become insolvent at the time the company took on new debt and whether directors ought to have known they would not be able to fulfil their contractual duties following these new agreements. Considering such judgments also need to be made in hindsight, the same worry arises as described earlier. That is, to what extent might legal professionals be affected in their judgments by their knowledge of how a particular company's fate ultimately unfolded (i.e., insolvency)? Can it be that the likelihood of failure is overstated in hindsight?

In addition to assessing the likelihood of insolvency, trustees need to assess the responsible directors' mental states at the time of incurring new debt to be able to dissociate between wrongful trading and fraudulent trading. Specifically, when a director incurs debt with the purpose of damaging creditors, this constitutes fraudulent trading. In contrast, taking on new debt while 'merely' failing to appreciate the company's dire financial state and resulting inability to pay back those debts constitutes wrongful trading (also called negligent trading). Hence, in addition to determining the likelihood of insolvency, legal professionals need to assess directors' mental states in the sense that they need to assess whether a director acted intentionally, knowingly, recklessly, or

2 Dutch Supreme Court 6 October 1989, NJ 1990, 286, (Beklamel).

'merely' negligently. Indeed, even in the absence of an intent to defraud creditors, it matters whether a director did not know but should have known about his/her company's dire financial situation and gloomy prospects, or whether that same director incurred debts knowing full well (s)he would not be able to offer recourse. Chapter 6 of this dissertation deals with the question whether or not legal professionals are affected by extra-legal factors when determining (in hindsight) a company's likelihood of insolvency and directors' mental states.

To summarize, following a company's insolvency, legal professionals typically conduct investigations into the causes of a company's downfall and under Dutch law are even obliged to do so. Such investigations typically centre around the conduct of a company's directors who may face personal liability for any deficit of the bankrupt estate if it can reasonably be established that they are to be blamed for their company's downfall (e.g., due to mismanagement). Hence, in hindsight, legal professionals need to make sense of a company's demise and the role played by its management. As argued in section 3 of this introduction (and more in depth in Chapters 5 and 6), a range of psychological factors make it difficult to accurately analyse the past when an individual is fully aware of how certain key business decisions ultimately turned out.

1.2.2 A shift towards business rescue

In recent years, a shift has occurred in both Dutch and EU insolvency law in that these now show an increased focus on restructuring and business rescue instead of liquidation (Boon & Madaus, 2017). Specifically, similar to Chapter 11 proceedings in the US in which debt restructurings allow businesses to continue as a going concern, other countries are adopting laws and regulations with the aim of providing businesses with a second chance. For example, the UK has its so-called "scheme of arrangements" (Companies Act, 2006) in which the court arranges debt restructurings and forms agreements between shareholders and creditors with the goal of facilitating a fresh start. Similar procedures are found in for example Australia (Corporations Act, 2001) and South Africa (Companies Act, 2008). Likewise, the European Committee is actively working on harmonizing its nation states' bankruptcy laws with the purpose of enabling business rescues to run more smoothly. A thorough analysis of the reasons for this shift falls outside the scope of this dissertation, but in essence it is believed that much economic value is lost in case of liquidation and that this can be prevented by identifying business failure at an early stage when sufficient time and resources are still available to restructure a business, thereby preventing insolvency and unnecessary (job) losses.

As a result of the shift towards business rescue, insolvency practitioners and other legal professionals are confronted with several key issues in pre-

insolvency arrangements. First, the causes of a company's decline need to be determined as this has direct consequences for perceptions regarding the company's viability. For example, if a company showed substantial decline as a result of mismanagement but the company itself has ample opportunity for growth and a sound business model, changing senior management might suffice to turn the company around. In contrast, if a business suffered significant losses due to an outdated business model, industry wide issues, or general economic turmoil, administrators will probably be more sceptical about the company's viability. In that case, continuation of the business would require a major strategic overhaul which might prove difficult.

Second, irrespective of the causes of a company's decline, it needs to be established what a company's future outlook is. If restructured, will the company be able to survive and hence represent a higher economic value than if the company were to be liquidated?

Third, following directly from the second point, a comparison needs to be made between a company's liquidation value and its value as a going concern. As a result, valuation issues are becoming increasingly common. A too optimistic going concern valuation risks continuation of that business while in reality it has very little chance of surviving, which might then result in further losses for creditors. Alternatively, a too pessimistic valuation risks liquidation while in reality the company would have had a solid chance to survive and thrive. But to what extent are legal professionals able to determine the accuracy and quality of the work of business valuators? Might it be that legal professionals are affected by unwanted psychological factors when evaluating a company's outlook and the work of business valuators? Chapter 4 of this dissertation deals with this question.

In addition to legal professionals, in many circumstances financiers also need to determine the causes of a company's decline and its future outlook. For example, when evaluating the options of liquidation versus restructuring, creditors (e.g., banks) often need to determine whether they are willing to take a 'hair-cut' (i.e., a write-down on their claims against the company) to reduce the company's debt burden and/or whether they are willing to extend further credit to finance a turnaround or whether to use their legal right to terminate financing. Commercial banking contracts include this type of clauses to protect against the debtor's insolvency. Similar to legal professionals, financiers' decisions will be based for an important part on their perceptions of the causes of a business' decline and its future outlook, as well as their perceptions of the role of the management. Given the complexity of making sense of the past and predicting the future, could financiers also be affected by certain psychological processes that causes them to make suboptimal decisions? Chapter 3 of this dissertation deals with this question.

1.2.3 Summarizing the legal context

When companies face substantial decline or have even become insolvent, both legal professionals and third parties such as financiers need to make consequential judgments and decisions that will, for an important part, determine the fate of that company and its directors. Pre-insolvency, the focus of their judgments is primarily forward-looking and will ultimately be used to assess whether it makes economic sense to avoid liquidation. In contrast, post-insolvency these judgments will centre around the causes of a company's downfall and in particular the roles played by the company's directors. In both pre-insolvency and post-insolvency situations, legal professionals and financiers are faced with a highly complex task that involves taking innumerable different factors and uncertainties into account. To what extent is it realistic to expect humans, and even highly trained experts, to be able to make sense of such a complex event as a company's demise in an objective and unbiased manner? Is it not far more likely that such sense-making processes are riddled by psychological factors that obfuscate the objective assessment of a company's history and likely future? As alluded to several times in this introduction, advances in psychological science suggest it is likely that a wide range of psychological processes tend to affect people's perceptions and predictions in such instances. The next section of this introduction discusses this point in more detail.

1.3 The Unconscious Mind and its Flaws

The workings of the unconscious mind have fascinated philosophers and scientists alike ever since the time of the ancient Greeks (e.g., Plato and Aristotle). In more modern history, it was Sigmund Freud (founding father of psychoanalysis) who popularized the unconscious mind in psychological science (e.g., Freud, 1989) and who attributed a prominent role of the unconscious in human cognition and motivation. Even though Freud's theories have largely been discredited, psychological science has seen a continued interest in the role of the unconscious brain (e.g., Bargh & Chartrand, 1999; Bargh, Lee-Chai, Barndollar, Gollwitzer, & Trötschel, 2001; Hassin, Uleman, & Bargh, 2005). Even though there are some who consider the conscious will to be an illusion altogether (e.g., Lamme, 2011; Wegner, 2002), in general dual-process models are considered more mainstream, which typically allocate some functionality to both conscious and unconscious processes (for reviews, see for example Osman, 2004; Pennycook, 2017). A full history and overview of the science surrounding the role of the unconscious in human cognition and behaviour would be well beyond the scope of this dissertation. The key takeaway for now is that an important part of our thoughts, feelings, and actions are influenced by factors outside of conscious awareness and control.

Despite the widespread acknowledgement within psychological science of the significant role our unconscious mind plays in the way we make sense of the world and in the way we form judgments and make decisions, this notion has not yet fully reached other disciplines. For example, economic models typically still rely on the human concept of the *homo economicus*. This model, which is central to for example game theory, typically portrays humans as perfectly rational agents who are self-interested and who pursue their goals and interests in an optimal manner. However, most modern economists acknowledge this portrayal is inaccurate and that economic models fare better when taking at least some degree of human irrationality into account.

Arguably, two key developments can be accredited for the increased acceptance in economics and other social sciences of the limitations imposed on human rationality. First, Nobel laureate Herbert A. Simon introduced the concept of *bounded rationality*, which in essence proposes that boundaries exist for human rationality due to humans' limited cognitive capacities, time constraints, and the limited information typically available concerning a particular decision problem (Simon, 1957). Second, and perhaps even more impactful, psychologists Amos Tversky and Daniel Kahneman (the latter of whom also received the Nobel Prize in Economic Sciences in 2002) developed their *Prospect Theory* and further popularized the notions of *heuristics and biases* (e.g., Kahneman, 2011; Kahneman & Tversky, 1979). Combined, these concepts challenged the traditional rational choice theory by demonstrating that people frequently deviate from the rational ideal in a non-random, systematic fashion. In a nutshell, heuristics are mental shortcuts or 'rules-of-thumb' that under ideal circumstances allow mental processes to operate quicker, thereby facilitating fast judgments and decision making. Indeed, the unconscious processing of information in general is not problematic in and of itself, quite the contrary. However, under certain circumstances those same heuristics can lead judgments astray.

In their landmark paper, Tversky and Kahneman provided several examples of how heuristics and biases operate (Tversky & Kahneman, 1974). They listed three heuristics that are involved in judgments concerning the probability of events and related predictions. Specifically, they discussed the representativeness heuristic, availability heuristic, and the adjustment and anchoring heuristic. As an illustration, I will briefly discuss the representativeness heuristic. In short, this heuristic is used when people make judgments concerning the probability that a certain event (A) caused another event (B). For such judgments, people assess to what extent A is representative of B. For example, when considering the likelihood that a series of random coin tosses (assuming a fair coin) will produce a particular sequence of heads and tails, people judge the sequence H-T-H-T-T-H to be more probable than the sequence H-H-H-T-T-T, even though both have the same probability of occurring. People believe that the former sequence is more representative of a random sequence than the latter and therefore overestimate its probability of being true. Even

though the heuristic of using information regarding whether an event (A) is stereotypical of some broader phenomenon (B) can be useful to inform probability estimates, that same heuristic can bias our judgments when other pieces of information, such as the statistical probability of a certain event, are given insufficient weight or are even ignored.

Applied to the context of business failure and insolvency, legal professionals and financiers might for example be confronted with a particular director of a now insolvent business who they perceive to be, or perhaps is even known to be, a highly narcissistic person who greatly values his social status. He might run a tight ship and not appreciate his staff questioning his authority and vision. Moreover, this director is very materialistic and spends most of his wealth on lavish homes and exclusive cars. Now, how representative would people consider this director to be of someone who mismanages his company? Or of someone who is likely to commit fraud or to cut corners to benefit his own company at the expense of creditors? Might it be that at least some legal professionals and financiers will overestimate the probability that this director has been involved in fraudulent actions or mismanagement because that director fits their image or preconception of the way immoral and incompetent directors typically are? Chapter 6 of this dissertation takes this discussion further.

Another striking example of a cognitive bias is the well-known framing effect (Tversky & Kahneman, 1981), which suggests that people's aversion to incurring losses is typically stronger than their motivation to acquire gains of the same magnitude. In their classic demonstration of this effect, Tversky and Kahneman presented participants with a scenario describing an anticipated outbreak of a rare disease expected to kill 600 people. Participants were asked to choose between two alternative courses of action to combat the disease. The first option was presented as a certainty (i.e., 400 people will die), whereas the second option was presented as a probability (i.e., 1/3 probability that nobody will die, 2/3 probability that all 600 will die). Importantly, for half of the participants, these two alternatives were framed in terms of how many people would die (see above), whereas for the other half the same options were framed in terms of how many lives would be saved (i.e., "200 people will be saved" for option 1 and "1/3 probability that everyone will be saved, 2/3 probability that no people will be saved" for option 2). Thus, participants were presented with exactly the same alternatives, only the way these were *framed* differed. The results showed that when the two alternatives were framed in terms of lives saved, the majority (72%) opted for the option providing certainty (i.e., 200 lives will be saved). When the alternatives were framed in terms of lives lost, the majority (78%) opted for the risky alternative (i.e., 1/3 probability that nobody will die, 2/3 probability that all 600 will die). Hence, people's preferences shift from risk aversion to risk taking when the frame shifts from gains to losses.

Since Tversky and Kahneman's initial work, a whole field of research focused on cognitive biases emerged, resulting in the identification of many different biases to which humans can succumb. Tversky and Kahneman's work even resulted in the emergence of an entire new academic discipline, behavioural economics, which deals with how economic decisions specifically are affected by (unconscious) psychological factors, among others. Given that the subsequent chapters of this dissertation discuss a range of different biases in depth, I will refrain from providing more examples or evidence at this stage. For now, it is important to realize that ample evidence exists for the role our unconsciousness plays in our judgments and decisions and that these unconscious influences can bias our judgments in systematic and undesirable ways.

Given the abundance of evidence for the existence of cognitive biases in people's judgments and decisions that has accumulated over the years, has the legal domain, for which such findings are clearly worrisome, paid much attention to the effects that cognitive biases might have on their reasoning? My answer to this question is: insufficiently, as I argue in the next section.

1.3.1 Cognitive biases in legal reasoning

In the beginning of the last century, legal realism emerged as a new movement that opposed the more traditional doctrine of legal positivism. Whereas legal positivists suggest, in a nutshell, that legal reasoning follows a structured and mechanical approach in which correct decisions can be deduced from predetermined legal rules (e.g., Hart, 1958), legal realists suggest in contrast that legal reasoning and decision making is much less mechanistic and that courts "[…] decide not primarily because of law, but based (roughly speaking) on their sense of what would be 'fair' on the facts of the case" (Leiter, 2003. p. 50). Moreover, realists have argued that "legal rules and reasons figure simply as post-hoc rationalizations for decisions reached on the basis of non-legal considerations" (Leiter, 2003, p. 50, see also Green, 2005). Thus, even though concepts like bounded rationality and heuristics and biases had yet to see the light of day at the time the legal realism movement emerged, there was already some acknowledgment of the idea that judicial decision making might not be perfectly deduced from the law and that it could be influenced by, for example, moral considerations.

Following the doctrine of legal realism, research has been conducted on factors that might (unconsciously) affect legal reasoning and decision making; these will be discussed in subsequent chapters. As an illustration, an important concern has been to what extent courts are able to accurately judge in hindsight in an unbiased manner, thereby recognizing the risk of being affected by hindsight bias. In short, hindsight bias refers to the risk of exaggerating the foreseeability of certain events in hindsight, resulting from people's knowledge

of how a certain course of events ultimately unfolded (Fischhoff, 1975). Thus, what might have been hard to predict in foresight, might in hindsight appear as though it was in fact easily foreseeable. Considering that legal decision making happens almost without exception after the fact, hindsight bias clearly risks causing unfair judgments and in parties unduly being held liable for damages that could not realistically have been foreseen (e.g., Helm, Wistrich, & Rachlinski, 2016; Rachlinski, 1998). Chapter 5 of this dissertation deals with the question whether legal professionals succumb to hindsight bias when evaluating a director's liability in relation to insolvency and whether some might be more susceptible to this bias than others.

Despite the promising work being done in recent years on the cross-section of law and psychology, one could argue that this interdisciplinary field is still in its infancy and that many open questions remain. For example, as will be discussed in Chapter 5, several limitations exist in the literature that make it difficult to generalize previous findings regarding hindsight bias to the specific context of business failure and directors' liability. For example, the literature on hindsight bias among legal professionals is rather scarce and has shown mixed results, which might be due to the low statistical power previous research suffered from. Moreover, the majority of research on hindsight bias has been conducted on 'jury eligible participants', which is a relevant population for jurisdictions that have a jury system (e.g., the United States), but less so for jurisdictions that do not (e.g. the Netherlands, Germany, and many other EU countries). Moreover, in the case of directors' liability, other legal professionals such as trustees, insolvency lawyers, and insolvency practitioners play a more prominent role as they most often lead the investigations into directors' conduct. I therefore believe it to be important to conduct high-powered research on this topic to complement previous work and investigate whether this specific group of legal professionals is affected by hindsight bias.

The same limitations regarding the current state of the literature hold true for other psychological phenomena studied in this dissertation. Indeed, to date only a single study has investigated whether legal professionals (in this case judges) can be affected by extra-legal factors when determining a person's mental state at the time a crucial decision was made (Kneer & Bourgeois-Gironde, 2017). Moreover, no research has yet tested whether moral character inferences specifically can bias legal professionals' judgments of mental states and other relevant legal judgments in the context of insolvency (Chapter 6). Likewise, when it comes to financial decisions made by either legal professionals or bankers, very little work has been done in the context of business failure and how financial judgments in this specific context might differ from investment or credit decision under better circumstances (Chapter 3). Finally, considering the shift towards business rescue is a recent development, no research has yet been devoted to how legal professionals might perceive and evaluate business valuations in this context, and how this might lead to further conflict (Chapter 4).

In addition to limitations in the scientific literature, there is also work to be done when it comes to bridging the gap between science and practice. Specifically, despite advances made in the fields of law and psychology, practitioners are, in my personal experience, typically unaware of these advances and on occasion even deny being affected by unconscious biases altogether. For example, when giving seminars and workshops to legal professionals, I observe that only a small minority is aware of the seminal work by Tversky and Kahneman and that they typically succumb to the 'bias blind spot', i.e. the tendency to recognize or acknowledge biases in others but not in oneself. Moreover, there have been cases at the Dutch commercial court in which the risk of hindsight bias was explicitly mentioned but cast aside by the court relatively easily.[3] Appreciating the somewhat anecdotal nature of the above, it might be that in some jurisdictions or areas of law the possible effects of cognitive biases are more widely acknowledged. There is evidence that at least in some jurisdictions courts have recognized the risk of biased legal judgments and have attempted to adapt and limit the effect these biases might have on their rulings (for a comprehensive and critical review of such adaptations, see Rachlinski, 2000).

In sum, although important work has been conducted on the cross-section of psychology and legal scholarship, more work is needed. Adopting a behavioural sciences approach to studying legal problems is still relatively new and it is therefore not surprising that many open questions remain (for reviews on the developments of behavioural science within legal scholarship, see for example Engel, 2013; Rachlinski, 2000b, 2011; Ulen, 2014). Nonetheless, it is promising to see the increasing attention for this emerging field and the explicit calls that have been made for the further integration of insights from psychological science to legal scholarship (e.g., Jolls, Sunstein, & Thaler, 1998; Ulen, 2014). With this dissertation I aim to answer these calls and contribute to the growing field of empirical legal science.

1.4 Aims of this Dissertation

To reiterate the state of the literature as discussed in the previous section, little research has been aimed at the psychological processes affecting legal professionals' judgments, the research thus far has occasionally shown mixed results, and it typically suffers from low statistical power. Moreover, when it comes to research specifically within the context of business failure and directors' liability, hardly any research has been conducted among legal professionals. Finally, there is still a bridge to cross between academia and legal practice when it comes to informing legal practitioners on advances in the field of bias

3 Case against Fortis N.V. (ECLI:NL:PHR:2013:172) and the case against Meavita (ECLI:NL:GHAMS:2015:4454)

research applied to the legal context. In light of this latter point, furthering our understanding of the mechanisms underlying certain cognitive biases as well as important boundary conditions will be valuable when developing debiasing protocols.

This dissertation aims to attend to the issues raised above. Put succinctly:

> *The primary goal of this dissertation is (1) to investigate whether cognitive biases affect legal professionals' and financiers' judgments in the context of business failure and insolvency, and (2) to improve our understanding of the mechanisms underlying these biases and of boundary conditions.*

In this dissertation, I aim to translate existing knowledge of certain biases to the context of business failure and insolvency, while making theoretical advances by investigating the underlying mechanisms and boundary conditions of these biases. The next, and final, section of this introduction will provide a brief overview of the core questions addressed in each chapter.

1.5 Overview of Chapters

The following chapters vary somewhat in terms of focus; some have a more applied focus (Chapter 4) whereas others are more theoretical (Chapter 2 and Chapter 6), and yet others are a mixture of applied and theoretical advances (Chapter 3, Chapter 5). Despite the clear goal of this dissertation as set out in the prior section, for several reasons it might not always be directly clear to the reader how some chapters contribute to achieving this goal. The first reason relates to my own perspective on this dissertation and the second reason is a reflection of the learning process throughout the past four yours.

Regarding the former, my perspective on this dissertation is that it is more akin to a portfolio of the papers I have written in the past four years (i.e., a collection of individual and independent research projects) that combined contribute to this dissertation's primary aim as stated above, rather than a set of chronological and clearly interconnected chapters. The chapters can therefore be read independently and in any order. This approach also explains why I included the research described in Chapter 2 in this dissertation, which I expect will be somewhat technical for those without a background in cognitive psychology. Yet, I do consider the key messages of Chapter 2 to be intriguing and I elaborate on what legal scholars and practitioners can take away from this chapter.

The latter reason for why some chapters might initially feel somewhat removed from the overarching theme of business failure and insolvency relates to the chosen target audience which, for some chapters, is not directly legal scholars or practitioners. I experienced challenges in conducting interdisciplinary research when it comes to choosing a target audience and writing up the

findings accordingly. Specifically, I attempted to conduct research that is both relevant to legal scholarship and practice, as well as for psychological science. As a result, some chapters contain both applied elements such as demonstrating certain biases in legal and financial judgments, while at the same time they incorporate theoretical elements aimed at increasing our understanding of these psychological phenomena. The difficulty of my endeavours is related to determining who the target audience will be and which approach – applied versus theoretical – should receive prominence. For example, a paper targeted at legal scholars and practitioners to advance psychological theorizing may well be received with scepticism, as I have experienced, as the audience is, in general, more interested in the legal context and concrete legal implications than in learning about abstract psychological theory. In contrast, when writing a paper targeted towards psychologists, focusing on the applied element results in this community sometimes questioning the paper's contribution. This group will be less interested in the applied legal context and would rather see advances being made in psychological theories.

Having tried to balance applied and theoretical contributions in the same paper, I have learned that this approach is suboptimal for the reasons mentioned, and that it may be preferable to adopt a clear focus with a clear target audience. Still, the research discussed in Chapter 5 is an example of a paper where I combined both applied and theoretical contributions and which was therefore challenging to write. Having learned this lesson, for the final research project of this dissertation (Chapter 6), I chose to adopt a more theoretical approach, and this chapter is thus targeted towards experimental philosophers. Despite the variation in foci of the subsequent chapters, each has clear contributions for this dissertation's research goal, and I attempt to highlight these in the overview below as well as in each respective chapter.

The first empirical chapter of this dissertation (Chapter 2) provides an illustration of how decisions can be affected by unconscious factors. Specifically, this chapter shows that once people have learned that a certain behaviour results in either a positive or a negative outcome (resulting in strong mental associations between the action and the effect), presenting people with either positive or negative cues automatically triggers the corresponding action (i.e., the 'positive action' in response to positive cues and the 'negative action' in response to negative cues). The key contribution of this chapter is its demonstration of negative cues being able to trigger actions that people have learned to result in negative outcomes. Previously, it was believed that mental processes geared towards approaching rewards and avoiding punishments would overrule the automatic activation of maladaptive (i.e., negative) behaviours when presented with negative cues. This chapter presents data showing that under certain conditions, such adaptive processes (i.e., those geared towards approaching reward and avoiding punishment) can be bypassed, ultimately resulting in a bias for behaviours that were previously learned to result in negative outcomes when faced with negative cues.

This experimental study was conducted in a controlled environment with college students as subjects and was therefore quite far removed from legal practice. Nonetheless, the implication of this chapter for legal practitioners lies in the study's additional evidence for the notion that certain decisions can be affected by automatic and unconscious processes, even when these decisions have been learned to result in unfavourable outcomes. Moreover, the research in this chapter suggests that under conditions in which certain self-control processes are limited, decision biases can be aggravated. Considering that in the context of business failure and insolvency legal professionals and financiers typically operate under conditions of stress, time pressure, and perhaps even sleep deprivation (i.e., all of which hamper self-control), it is possible that these professionals are particularly prone to biases due to such circumstances.

Chapter 3 focusses on an important stakeholder in insolvency proceedings, being businesses' financiers and in this case bankers, specifically. As discussed, when faced with a company in financial distress, bankers need to assess what the most important causes are of the financial decline (i.e., the company's management or external factors outside management's control) and whether they still have trust in the management's ability to turn the company around. In this chapter, I investigate whether bankers succumb to similarity bias in such a way that they are more likely (1) to attribute the cause of a company's decline to external factors, (2) to trust the entrepreneur's ability to save his company from bankruptcy, and (3) to extend additional credit to finance the turnaround, when they perceive the entrepreneur to be more similar to themselves versus when they perceive the entrepreneur as less similar.

Chapter 4 investigates to what extent cognitive biases can affect legal professionals' evaluations of business valuations. As discussed, business valuations have become increasingly important in the light of the shift in EU and Dutch law towards business rescue. However, legal professionals typically hire business valuators to conduct these valuations as they themselves are not equipped for that task. Given the prominent role of business valuations in key decisions in insolvency proceeding (e.g., whether continuation of a business is economically viable or whether liquidation makes more sense), it is important to understand whether cognitive biases can affect legal professionals' perceptions of such business valuations. Specifically, we investigate whether similarity bias, outcome bias, and gender bias can affect legal professionals' perceptions surrounding business valuations.

Chapter 5 deals specifically with the difficulty of judging in hindsight and tests whether legal professionals succumb to hindsight bias (i.e., retrospectively overstating the foreseeability of events) when evaluating a director's role in a company's bankruptcy. Moreover, in this chapter I investigate whether some legal professionals are more susceptible to hindsight bias than others. More specifically, I test whether believing in free will is related to people's susceptibility to hindsight bias and whether this is likely due to variation in people's need to condemn and punish wrongdoers.

Chapter 6 investigates to what extent legal professionals are influenced by moral character inferences when making judgments relevant for determining wrongful/fraudulent trading. More specifically, we tested whether legal professionals' judgments concerning (1) a director's mental state, (2) the likelihood of company's failure, (3) as well as attributions of blame and punishment are affected in such a way that harsher judgments are made for directors with a morally bad character than for those with a morally good character, even though character information should not have any bearing on these judgments.

Finally, Chapter 7 offers a general discussion of this dissertation's key findings and elaborates on what the findings might mean for legal scholarship and legal practice, as well as giving directions for future research and practice.

2 Bypassing the Gatekeeper

Incidental Negative Cues Stimulate Choices with Negative Outcomes[1]

ABSTRACT

The Theory of Event Coding (TEC) predicts that exposure to affective cues can automatically trigger affectively congruent behaviour due to shared representational codes. An intriguing hypothesis from this theory is that exposure to aversive cues can automatically trigger actions that have previously been learned to result in aversive outcomes. Previous work has indeed found such a compatibility effect on reaction times in forced-choice tasks, but not for action selection in free-choice tasks. Failure to observe this compatibility effect for aversive cues in free choice tasks suggests that control processes aimed at directing behaviour towards positive outcomes may overrule the automatic activation of affectively congruent responses in case of aversive cues. The present study tested whether minimizing such control could cause selection of actions that have been learned to result in aversive outcomes. Results showed incidental exposure to aversive cues biased selection of behaviours with learned aversive outcomes over behaviours with positive outcomes.

The implications for legal practice and for financiers are twofold. First, we provide additional support for the existence of decision biases operating in an automatic fashion, even when the decisions under consideration have been learned to be clearly dysfunctional in that they result in negative outcomes. Second, the findings suggest that under normal circumstances certain decision biases might be countered by parallel processes geared towards driving behaviour towards positive outcomes, but that these functional processes may be bypassed when self-control processes are minimized. Given that much of the work done by legal professionals and financiers is under time pressure, stress, and perhaps a lack of sleep, it could well be that such conditions aggravate cognitive biases among these populations.

1 An adapted version of this chapter is published as: Strohmaier, N., & Veling, H. (2019). Bypassing the gatekeeper: incidental negative cues stimulate choices with negative outcomes. Cognition and Emotion, 33(5), 1059-1066.

2.1 INTRODUCTION

Throughout our lives, we learn that actions have consequences. Once one has learned that certain actions generate positive or negative outcomes, selecting and executing actions with favourable outcomes and avoiding actions with aversive outcomes can be expected (Pavlov & Anrep, 2003; Skinner, 1953). Recent research, however, suggests this need not always be the case. Building on ideomotor theory (for a comprehensive review of contemporary ideomotor theorizing, see Shin, Proctor, & Capaldi, 2010), it has been demonstrated that after a certain behaviour has become associated with negative outcomes, being presented with a negative stimulus or anticipating negative action-effects can result in the activation and execution of the negative outcome producing behaviour (e.g., Beckers, De Houwer, & Eelen, 2002).

A theoretical framework that can account for this intriguing finding is the Theory of Event Coding (TEC; Hommel, Müsseler, Aschersleben, & Prinz, 2001). TEC integrates the common coding hypothesis of Prinz (1990) with the ideomotor principle developed by Lotze (1852) and James (1890). In short, ideomotor theorizing suggests that actions are stored in memory by their sensory effects, and that action planning uses the anticipation of these effects to automatically retrieve the associated action. The common coding hypothesis suggests the cognitive representations of actions and their effects share a common representational domain (i.e., a common code). Hence, TEC assumes that due to the representational integration of actions and their effects, anticipating the outcome of a certain action, or being presented with a stimulus that shares features with learned action effects, will automatically activate the corresponding action due to the bidirectional nature of the action-effect associations.

How TEC can account for the processes fundamental to voluntary action has been demonstrated in an elegant study by Elsner and Hommel (2001), in which they put forward a two-stage model of action control. In their experiments, people first acquire associations between actions and effects through repeated co-occurrences. Next, in the second stage, people use these associations to guide goal-directed behaviour. Specifically, in an acquisition phase (stage 1), participants could freely choose between left and right key presses, which were followed by response-contingent tones of low or high pitch. In a subsequent test phase (stage 2), participants were presented with the same tones and were instructed to press the left or right key. Results showed that the keypresses of which the learned effects were congruent with the presented action-effects (i.e., tones of low or high pitch) were selected faster (in a forced-choice task) and more frequent (in a free-choice task) than incongruent keypresses. Hence, their study demonstrated how the integration of actions and effects into common representational codes allows for the automatic activation of actions by presenting learned action-effects.

Although initial studies provided evidence for TEC using non-affective action-effects (e.g., tones of high or low pitch), Eder, Rothermund, De Houwer, and Hommel (2015) conducted a series of experiments that provide evidence for the idea that the principles of TEC can be extended to affective events as well. Just like non-affective event features (e.g., colour, pitch, spatial orientation), affective event features are also integrated as part of the outcome of one's actions and can thus be used as retrieval cues. The authors showed that when actions and effects become associated through repeated co-occurrences in an acquisition-phase, presenting participants in a subsequent test-phase with response cues (i.e., cues to which participants needed to respond) of either positive or negative valence resulted in faster responses when the previously learned action effects matched the valence of the response cue (see also e.g., Eder, Dignath, Erle, & Wiemer, 2017; Hommel, Lippelt, Gurbuz, & Pfister, 2017). Negative cues prime affectively compatible behaviour even when the consequence is an aversive electric shock (Beckers et al., 2002).

However, almost all experiments to date used forced-choice tasks. Only one experiment of Eder and colleagues (2015) tested whether affective response cues elicit affectively congruent behaviour when people are free to decide which action to perform. Based on instrumental learning theory (Shanks, 1993), they expected that the motivational evaluation of action consequences should constrain ideomotor processes. Consistent with this theory, they found participants executed actions with positive outcomes more frequently in response to positive response cues, but they did not find such a compatibility effect for negative cues. Hence, it appears that motivational processes suppressed the initial activation of the action with negative consequences, preventing the selection and execution of harmful behaviour.

We do not challenge the existence of motivational processes operating in parallel with ideomotor processes. However, it could still be that there are circumstances in which such motivational control of behaviour might be less strong. Specifically, we suggest that previous work investigated the hypothesis while participants were put under conditions where some control can be expected (Eder et al., 2015), because the compatibility effects were studied in the context of a go/no-go- task. Inhibition of motor responses during a go/no-go task is known to instigate controlled processing that influences subsequent tasks such as gambling (proactive control; e.g., Verbruggen, Adams, & Chambers, 2012). Moreover, motor inhibition can suppress processing of simultaneously presented affective cues (so-called inhibitory spillover; Berkman, Burklund, & Lieberman, 2009). It is currently unclear how this go/no-go context exactly influenced these previous results, but it seems plausible that control processes were substantially engaged and may have interacted with the processing of the affective cues.

The present research aims to build upon the work by Eder and colleagues (2015) and investigate whether affective congruency effects following negative cues can be observed when controlled processing of the affective cues is

minimised as much as possible. In our experiment the affective cues were presented incidentally during a simple task in which participants could freely decide to press either a left or right button. By presenting the cues during a basic binary button press task, and by making the affective cues completely task irrelevant, we aimed to minimise controlled processing of these cues. We adopted a similar two-stage experimental design as Eder and colleagues (2015) and Beckers and colleagues (2002), in which participants first learned affective consequences of their actions in an acquisition phase and were then presented with affective cues in the test phase. We expected that participants would be more likely to execute the response associated with positive outcomes when a positive stimulus was presented. More important, we also expected that when a negative stimulus was presented, more responses associated with negative outcomes would be executed, relative to responses associated with positive outcomes.

2.2 Method

2.2.1 Participants

55 students from Utrecht University (32 females) with a mean age of 21.4 (*SD* = 2.5) were recruited and received either course credit or a small monetary reward in exchange. At the time of conducting this study (late 2012), we based our sample size on previous research with similar experimental designs as ours (e.g. Lavender & Hommel, 2007; Eder et al. 2015) and aimed to include 50 participants in our study (we oversampled slightly in anticipation of having to exclude several participants from analysis). We acknowledge that this way of determining sample sizes may be suboptimal in light of recent discussions in the literature (e.g., Anderson, Kelley, & Maxwell, 2017). Post-hoc sensitivity analyses using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) indicated that we had a power of .80 to detect effect sizes of d_z >= .34 and a power of .95 to detect effect sizes of d_z >= .45 in one-sided dependent *t*-tests (i.e., for the simple effects).

2.2.2 Design

A mixed 2 (response outcome: positive vs. negative) x 2 (cue valence: positive vs. negative) x 2 (response window: short vs. long) x 2 (negative cue type: angry vs. sad emoticon) factorial design was used, with only negative cue type as between subjects factor. Response window and negative cue type were incorporated for exploratory purposes.

2.2.3 Apparatus, Stimuli and Procedure

All the stimuli were presented on a white background using 60Hz monitors and QWERTY keyboards. Throughout the acquisition phase (but not in the test phase), participants wore (over-ear) headphones through which spoken words were presented, which served as the affective response outcomes.

2.2.3.1 Stage 1: Acquisition Phase

The acquisition phase consisted of three blocks. Both forced-choice and free-choice blocks were used in the acquisition phase for two reasons. First, the literature is unclear with regard to which method is most successful for acquiring action-effect associations (e.g., Herwig, Prinz, & Waszak, 2007; Pfister, Kiesel, & Hoffmann, 2011). Second, post-hoc we thought it may allow us to examine whether participants prefer actions with positive consequences over negative consequences, which should be expected when motivational processes play a role in these kinds of tasks.

In the first and the third block, (affectively neutral) cues were presented that indicated whether a left or right key-press was required (forced-choice blocks). In the second block participants could freely decide which key to press (left or right), and it was followed by the same action-effects as in the forced choice blocks. In the forced-choice blocks (block 1 and 3), each trial started with a message ("Attention") presented for 750ms, after which a black fixation cross ("+") was presented for 750ms. After the fixation cross, a triangle (equilateral with black sides of 300 pixels) and circle (black border and diameter of 300 pixels) would be presented in a quick, alternating fashion (for 1000ms with each figure being shown five times for 100ms at a time). Directly after the alternating figures, one of both figures would remain presented in the centre of the screen. This procedure was implemented to give the impression that the cues were presented randomly, and to ensure that participants closely attended to the screen. The figure would serve as the response cue and indicate which response was required. Participants were told to press the "z" key with their left index finger when the triangle remained on the screen or the "/" key with their right index finger when the circle remained on the screen (counterbalanced across participants). The response cue was presented for 750ms or until the correct key was pressed.

Participants were instructed that in case of a response, an affectively laden word would be heard through the headphones while simultaneously the border of the response cue would thicken to signal the correct key was pressed. After 1350ms, a blank screen was presented for 1000ms after which the next trial would start. The spoken words were adopted from a list with affective ratings for Dutch words (Hermans & De Houwer, 1994) and consisted of 20 clearly positive (e.g., love, friend, sunshine) and 20 clearly negative (e.g., fear, heartless, murder) words (10 nouns and 10 adjectives each). In case of an incorrect

response or response omission, an error message was shown repeating the required action for both cues. After 750ms, respondents could press either key (i.e., "z" or "/") to continue to the next trial. Erroneous trials were not repeated.

In the free-choice block (block 2) each trial would again start with the 'Attention' message and fixation cross, after which a green bar (width: 1000 pixels, height: 50 pixels) would progressively fill-up at the bottom of the screen in 400ms. Participants were asked to use this time to decide which key they wanted to press, and to only press that key once a response cue was presented. The response cue was a rectangle (colour: cyan) of 256 pixels wide and 192 pixels high containing an exclamation mark with font Calibri (bold) and size 46 in the middle. Participants were asked to not respond according to a specific pattern but to instead respond as randomly as possible, as if each time they mentally flipped a coin to determine which key to press. After participants pressed either key ("z" or "/"), a blank screen was shown for 1350ms while an affectively laden word was presented through the headphones. In case of an incorrect response (omission or key other than "z" or "/"), the instructions were repeated. For a visual presentation of the trial sequences in the acquisition phase, please see Figure 2.1. The forced-choice blocks consisted of 48 trials and the free-choice block of 32 trials with 10 practice trials, resulting in a total of 128 trials (excluding practice trials).

Self-reported measures of action valence

Before continuing to the test phase, participants were asked to indicate on a 7-point scale how pleasant they experienced it to be (1) to *choose* to press the "z" key with their left index finger, (2) to *choose* to press the "/" key with their right index finger, (3) to *press* the "z" key with their left index finger, and (4) to *press* the "/" key with their right index finger. These questions served as a subjective measure of response preference by checking whether keypresses conditioned to be positive were also rated as more positive, and, indirectly, to check whether the action-effect contingencies were successfully formed. Two additional questions were asked for exploratory reasons concerning (1) to what extent participants managed to follow the instructions to only decide which key to press once the blue rectangle was presented (in the free-choice block) and (2) how sure they were of their decisions to press either the "z" or "/" key (in the free-choice block). The order of the post-acquisition phase questions was counterbalanced across participants.

2.2.3.2 Stage 2: Test Phase

Participants were informed there were going to be trials in which they had little time to decide which key to press and trials in which they had plenty of time to decide. Each trial would again start with the "Attention" message (1000ms) followed by the fixation cross (750ms). In the short trials, a positive

or negative emoticon (i.e., the affective cue) was presented above a green bar that was progressively filling up in 400ms. During this time, participants could not respond and were instead instructed to use this brief moment to decide which key they were going to press. Only after the 400ms a grey border would surround the emoticon for 1000ms (50 pixels around each side) indicating participants could press either the "z" or "/" key. Participants were again instructed to not respond according to a fixed pattern, but rather to respond as randomly as possible, as if each time they mentally flipped a coin to determine which key to press. The positive emoticon was a yellow smiling face and the negative emoticon was either a sad or an angry looking face (counterbalanced across participants). The emoticons were 250 pixels wide and 250 pixels high.

In the long trials, the fixation cross was followed by a positive or negative emoticon above an already filled up blue bar. The emoticon and bar had the same dimensions as in the short trial. The emoticon and blue bar were presented for 7000ms, or until the "z" or "/" key was pressed. If no key was pressed after 7000ms, a countdown would start, indicating participants had only 3 seconds left to press either key. Once either key was pressed, or if after 10.000ms (initial 7000ms plus the 3000ms countdown) no response was given, the trial would proceed. No error message was shown in case of an incorrect response (omission or key press other than "z" or "/"), nor were there any response outcomes (i.e., affective spoken words) presented in either the short or long trials of the test phase.

A secondary task was given to check whether participants were attending to the screen during the task. At the end of each trial, an arrow of 200 pixels wide and 200 pixels high pointing either left or right was shown. Participants were asked to indicate the direction of the arrow (press the left key ("z") when the arrow pointed left or the right key ("/") when the arrow pointed right). The arrows were presented for 1500ms or until the left or right key was pressed. In case of a correct response, a green border (50 pixels around each side) surrounded the arrow as a means of positive feedback. No feedback was given in case of an incorrect response. The next trial would start after a blank screen was presented for 1000ms. For a visual presentation of the trial sequences in the test phase, please see Figure 2.1. Participants worked through 10 practice trials and 96 test trials.

Exit questions

At the end, participants were questioned on several aspects of the experiment. First, participants rated the emoticons that were used on several dimensions (i.e., positive, negative, angry, sad, happy) on a 7-point scale (the order was counterbalanced). Second, participants were informed that in the first part of the experiment, both key presses were consistently followed by either positive or negative words and, for exploratory purposes, were asked to indicate on a 7-point Likert scale (1= not at all, 7 = very much) the extent to

which they felt this influenced their decisions in the second part of the experiment ($M = 4.50$, $SD = 1.92$) and to what extent the valence of the emoticons influenced their decisions ($M = 4.34$, $SD = 2.01$). They were also asked to express in a percentage how likely they believed it was that they pressed the key corresponding to the negative outcomes in the first task when a negative (emoticon was presented ($M = 62.47$, $SD = 18.42$) and how likely they believed it was they pressed the key corresponding to the positive outcomes when a positive emoticon was presented ($M = 65.21$, $SD = 17.87$). Finally, participants were presented with the affective words from the acquisition phase (one at a time) and were asked to indicate on a 7-point scale how positive or negative they considered each word to be, with 1 being very negative and 7 being very positive. The negative words were indeed rated as more negative ($M = 2.08$, $SD = 1.04$) than the positive words ($M = 5.92$, $SD = .95$), $t(42) = 13.17$, $p < .001$, $d = 3.8$.

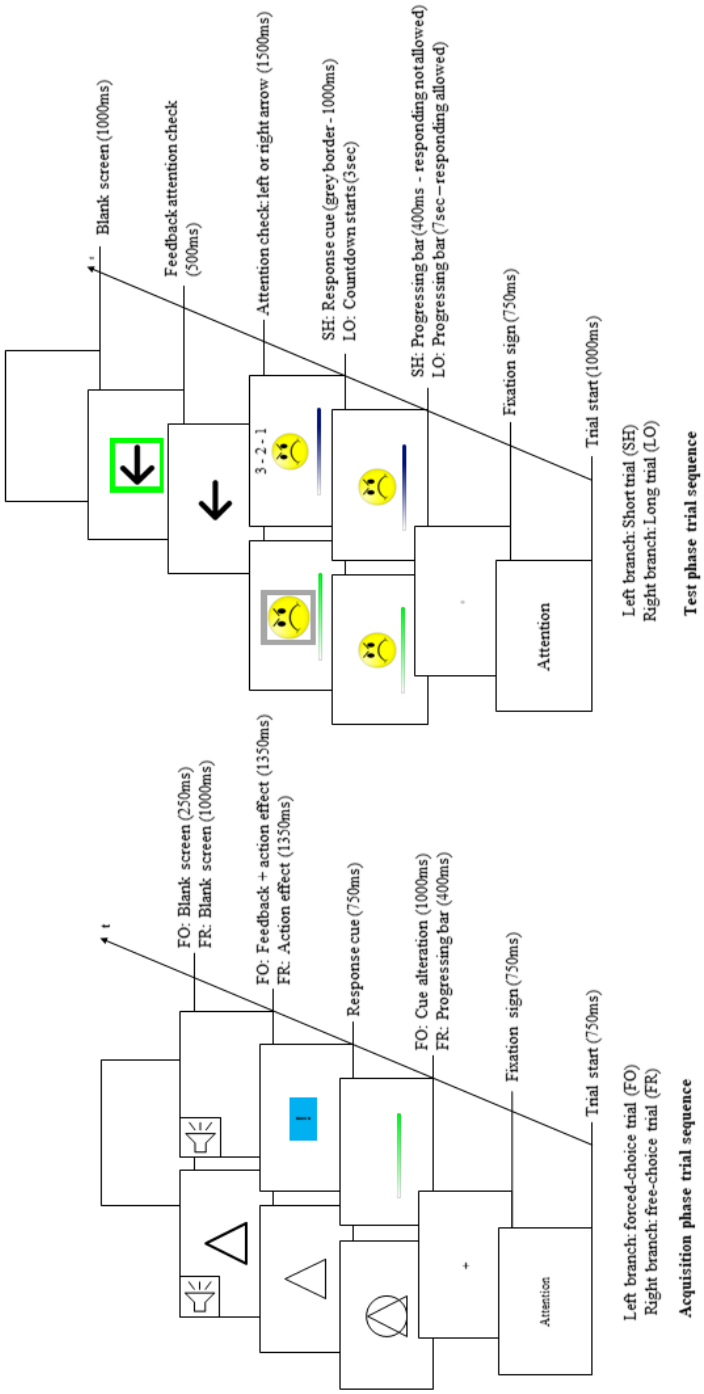

Figure 2.1. Acquisition and test phase trial sequence.

2.3 Results

2.3.1 Exclusions

Individual performance analyses resulted in the exclusion of one participant due to an extreme amount of errors in the forced-choice blocks of the acquisition phase (26% incorrect responses), three participants due to an extreme amount of response omissions in the test phase (at least 43.8%), and seven participants due to an extreme amount of errors on the action probes that served as attention checks in the test phase (at least 74% incorrect responses). Outliers were identified as such by SPSS when the value was less than the first quartile minus 3 times the interquartile range or greater than the third quartile plus 3 times the interquartile range (Tukey, 1977). This resulted in a final sample of 44 participants. Similar effects in terms of statistical significance and direction were found when the complete sample was analyzed. Trials with response omissions were excluded from analyses (1.42% of all trials in the acquisition phase; 4.9% of all trials in the test phase).

2.3.2 Acquisition Phase

A paired-samples t-test showed that in the free-choice block of the acquisition phase, keypresses with positive outcomes were performed more often (54.4%) than keypresses with negative outcomes, $t(43) = 2.23$, $p = .03$, $d = .67$, 95% CI [.07, 1.28], meaning that in the absence of affective cues, motivational processes directed action selection towards actions with positive outcomes.

The pleasantness ratings of *choosing* to press and *pressing* the left and right keys (i.e., subjective measures of the action-effect contingencies) were subjected to a multivariate analyses of variance (MANOVA) with keypress-outcome conditioning (left key conditioned as positive vs. right key conditioned as positive) as between subjects variable, which returned a significant effect across the dependent variables, $F(6,37) = 6.42$, $p < .001$, $\eta_p^2 = .51$. The results of the Univariate Analyses of Variance (ANOVA) showed that when pressing the left key was conditioned to be positive, participants reported to consider it more pleasant to *choose* to press the left key ($M = 5.42$, $SD = 1.06$) relative to when the left key was conditioned to be negative ($M = 3.10$, $SD = 1.62$), $F(1,42) = 32.51$, $p < .001$, $\eta_p^2 = .44$. *Pressing* the left key was also considered more pleasant when pressing the left key was conditioned to be positive ($M = 5.17$, $SD = 1.01$) relative to when the left key was conditioned to be negative ($M = 3.70$, $SD = 1.92$), $F(1,42) = 10.54$, $p = .002$, $\eta_p^2 = .20$. Similar results were found when participants were asked about how pleasant they considered it to be to *choose* to press and to *press* the *right* key when right key presses were conditioned to be positive.

Hence, both behavioural and self-report data indicate that, in the absence of affective cues, participants preferred to perform the action associated with positive outcomes.

2.3.3 Test Phase

Although the angry emoticon was rated as more negative (M = 5.41, SD = 1. 87) than the sad emotion (M = 4.41, SD = 1.62), this effect was only marginally significant, $F(1,42) = 3.59$, $p = .07$, $\eta_p^2 = .08$, 90% CI [.00, 22], and this factor did not interact with the results reported below.[2] The data were therefore collapsed over this factor. A within-subjects ANOVA was conducted with response outcome, cue valence and response window as factors. The two-way interaction between response outcome and cue valence was significant, $F(1,43) = 21.24$, $p < .001$, $\eta_p^2 = .33$, 90% CI [.14, .48]. The three-way interaction did not reach significance, $F(1,43) = 3.55$, $p = .07$, $\eta_p^2 = .08$, 90% CI [.00, .22]. However, since the three-away interaction did approach significance and the effect size suggests this might be a meaningful effect, we conducted separate analyses for the interaction between response outcome and cue valence for both the short and long trials. Results indicated that the interaction was significant for both the short trails, $F(1,43) = 22.29$, $p < .001$, $\eta_p^2 = .34$, 90% CI [.15, .49], and the long trials, $F(1,43) = 16.68$, $p < .001$, $\eta_p^2 = .28$, 90% CI [.10, .43], only the effect size was slightly larger in the former. The simple main effects also demonstrated similar patterns for both trial types. Hence, the data were collapsed over this factor for subsequent analyses.

Simple effect analyses of the two-way interaction showed that in response to a positive cue, participants preferred to perform the action that was associated with positive outcomes (61.2%) relative to the action with negative outcomes, $F(1,43) = 10.37$, $p = .002$, $\eta^2 = .19$, 90% CI [.05, .35]. More importantly, when a negative cue was presented, more actions with a negative outcome were executed (59.9%) than actions with a positive outcome, $F(1,43) = 7.36$, $p = .010$, $\eta^2 = .15$, 90% CI [.02, .30]. No evidence for an incentive function was found in the test phase as there was no bias towards responses with a positive outcome ($F<1$; see Figure 2.2).

2 The four-way interaction nor the three-way interaction were significant when the full design was analyzed (Fs < 1).

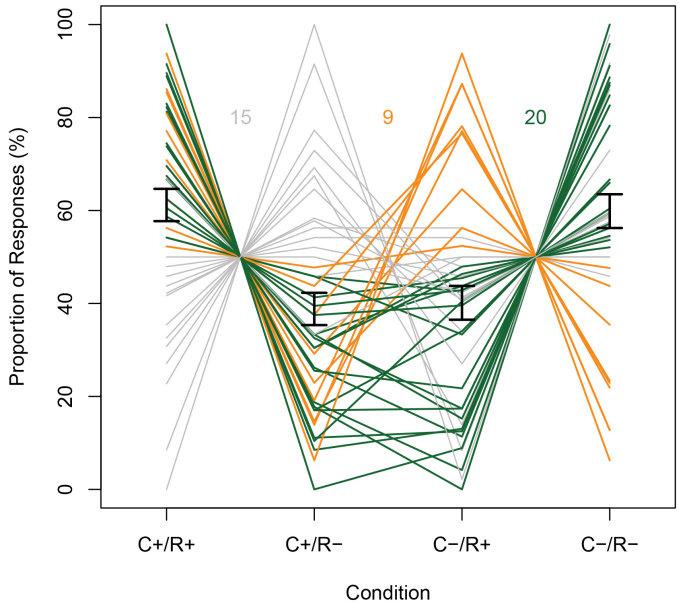

Figure 2.2. Probability of executing actions per condition. Thick black lines indicate the means and the standard errors per condition. Thin green lines show mean responses of participants (N = 20) who responded in line with the TEC hypothesis (C+R+ > C+R- and C-R+ < C-R-). Thin orange lines (N = 9) show mean responses of participants who preferred performing actions with positive outcomes (C+R+ > C+R- and C-R+ > C-R-). Thin grey lines show mean responses of the remaining participants (N = 15). See online version of this Figure for the color version. C+ = positive cue. C − = negative cue. R+ = response with learned positive outcome. R − = response with learned negative outcome.

We conducted additional Bayesian analyses to supplement to frequentist statistics, using JASP software, version 0.8.4 (JASP team, 2017), to examine to what degree there is evidence in the data for the compatibility effects. For the simple effects, Bayesian Paired Samples T-Tests were conducted with Cauchy priors of .707, which showed that for the negative cue the data is more than eight times more likely (BF_{10} = 8.16) under the alternative hypothesis (negative responses > positive responses) than under the null hypothesis (positive responses = negative responses). For the positive cue, the data is more than twenty-six times more likely (BF_{10} = 26.82) under the alternative hypothesis (positive responses > negative responses) than under the null hypothesis (positive responses = negative responses). Hence, both the frequentist and Bayesian analyses lead to the same conclusions. Robustness checks and prior and posterior distributions for both Bayesian t-tests obtained from JASP can be found below in Figure 2.3.

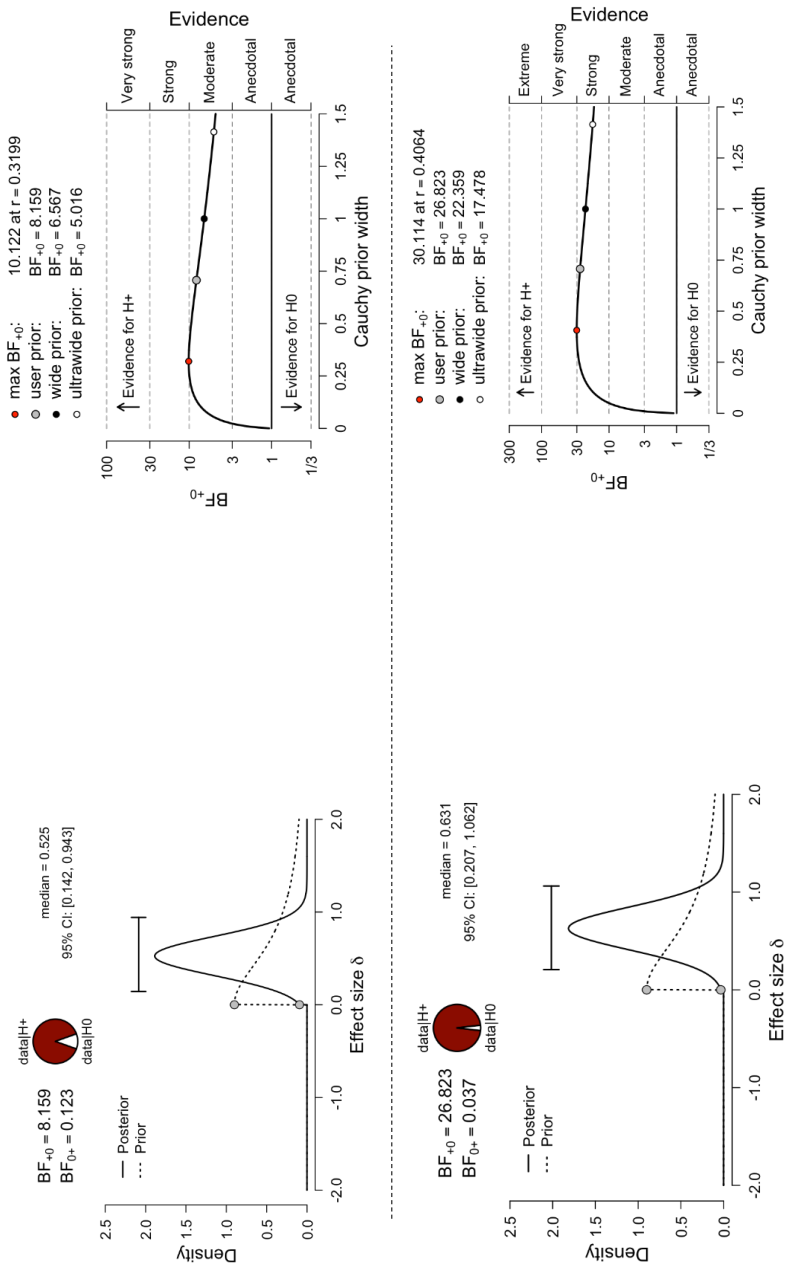

Figure 2.3. Prior and posterior distribution (left) and Bayes Factor robustness check (right) for the paired-samples Bayesian t-tests. The top two graphs represent the hypothesis that more negative than positive responses follow the negative cue and the bottom two graphs represent the hypothesis that more positive than negative response follow the positive cue.

2.4 Discussion

The present study found that after the successful formation of action-effect associations, subsequent affective cues biased action-selection towards affectively compatible responses. Importantly, despite participants' preference for positive actions, incidentally presented negative cues still elicited a preference for actions with learned aversive consequences. Hence, it seems that motivational processes geared towards directing behaviour in the direction of functional outcomes were bypassed once incidental affective cues were presented. The present study is the first to demonstrate that aversive stimuli can bias action selection towards behaviour with aversive outcomes when people are free to decide which action to perform. We believe previous experiments (Eder et al., 2015) failed to demonstrate such a full affective compatibility effect in free-choice tasks because in these experiments participants were in a state of moderate cognitive control, as a Go-NoGo task was used to assess action selection.

Even though our study suggests that negative stimuli can trigger behaviours with previously learned negative effects when cognitive control is minimised, we cannot rule out that participants still executed some degree of control during the task. Therefore, we speculate whether we can also explain the current findings when we assume cognitive control was not lower compared to the Eder et al. (2015) study. The occurrence of affective compatibility effects depends on (1) the successful integration of actions and their effects into shared representational codes and (2) the successful retrieval of the action from memory when action effects are anticipated or primed. Hence, the fact that the present experiment did find a full affective compatibility effect can possibly be accounted for by (1) a stronger formation of the action-effect associations and/or (2) a more potent retrieval of the action from memory upon cue presentation. Arguments can be put forward for both.

Regarding the formation of action-effect associations, using salient auditory stimuli as action effects might have resulted in the formation of stronger response-outcome associations compared to less salient visual action effects as in Eder and colleagues' (2015) study. Based on research that demonstrated that salient action-effects are more easily integrated with the action's representation and are therefore more resilient to extinction (e.g., Hommel, 1996), it could be that using auditory action effects results in stronger response-outcome associations. Second, the absence of a full affective congruency effect in Eder et al.'s work (2015) can possibly be accounted for by less processing of the valence of response cues, because participants responded to non-affective dimension of the cues (e.g., they classified whether the cues represented animals or people), compared to when cues are incidentally presented as in our study (see also Lavender & Hommel, 2007).

A separate issue concerns the possibility that the results were influenced by demand characteristics, meaning participants were aware of both the action-

effect contingencies and our hypothesis regarding affective compatibility, and because of this acted in line with our expectations. However, we do not consider this scenario to be very likely. Results showed incidental exposure to aversive cues biased selection of behaviours with learned aversive outcomes over behaviours with positive outcomes, despite a preference to execute the positive- over the negative-outcome actions evidenced by a separate behaviour measurement and self-reports. Nonetheless, future research would benefit from measuring awareness of both the action-effect contingencies and the study hypotheses. Eder et al. (2015) did measure contingency awareness and found their results were not dependent on awareness of the action-effect associations.

The most common pattern in the data was predicted by TEC. Nonetheless, more than half of the participants showed some other pattern. For instance, nine participants preferred executing actions with positive outcomes irrespective of the valence of the cues. Future work is needed to examine whether these individual differences are meaningful or are, for instance, the result of measurement noise.

To summarise, the present study demonstrated that incidental perception of negative stimuli can bias response selection towards previously learned aversive behaviour in a free-choice setting. We hypothesise this finding is due to participants in our study not being in a state of heightened cognitive control, causing motivational processes aimed at directing behaviour towards more functional outcomes to be bypassed. However, before we can definitively attribute the findings to the level of cognitive control, additional research should investigate (1) the role of different types of action effects in the formation of response-outcome associations, and (2) the importance of directing one's attention to the affective content of a response cue for the successful retrieval of the associated action from memory.

2.4.1 Contributions to the dissertation

Given the sample used (college students), the decisions under consideration (arbitrary) keypresses), as well as the controlled environment under which the study was conducted, the research discussed in this chapter was far removed from legal practice. Nonetheless, two contributions to this dissertation can be identified. First, the research discussed in this chapter provides additional evidence for the notion that decisions can be affected by automatic and unconscious processes triggered by external cues. This study shows that decisions can be automatically elicited even if these decisions have been learned to result in negative outcomes. Second, the research suggests that such maladaptive processes are more likely to occur when control processes are limited. Conditions that typically cause control processes to be limited are, for example, heightened stress, sleep deprivation, and time constraints (e.g., Bargh, 2002; Baumeister, Muraven, & Tice, 2000; Pilcher, Morris, Donnelly,

& Feigl, 2015). Given that both financiers and legal professionals frequently operate under such conditions, it is possible that in some situations these professionals are particularly susceptible to automatic processes (e.g., biases) affecting their judgments and decisions. This possibility should draw further attention among these populations towards the potential impact of biases in their work.

In the next chapter, we investigate whether financiers can be affected by cognitive biases when being confronted with an entrepreneur in financial distress or whether certain idiosyncrasies of bankers dealing with distressed credit make them less susceptible to the biases under investigation.

3 Similarity Bias in Credit Decisions for Entrepreneurs on the Brink of Bankruptcy[1]

ABSTRACT

For entrepreneurs on the brink of bankruptcy, it is of vital importance that relevant stakeholders such as investors or bankers accurately assess the viability of their business, free from unwanted biases that bear no relevance to its chance of survival. Despite the prevalence of entrepreneurs facing financial distress, there has been little research on the role of cognitive biases in funding decisions in this important context of financial distress. Our research aimed to investigate whether entrepreneurs who are perceived by a banker as more similar are more likely to get capital to save their business from bankruptcy than entrepreneurs who are perceived as less similar to the banker. Additionally, we investigated whether similarity bias affected bankers' causal attributions of what caused the financial distress as well as their perceptions of the entrepreneur's trustworthiness. Using experimental vignettes, we found that bankers ultimately did not demonstrate a similarity bias in their credit decisions. We did find a similarity bias in their causal attributions and trustworthiness judgments.

3.1 INTRODUCTION

Throughout entrepreneurs' professional life span, external parties judge the growth potential and viability of their ventures in relation to possible investments or for the extension of credit by financial institutions such as banks. This is true in the start-up phase, in times of significant growth, and also when a venture is in decline and experiencing financial distress. During such periods of substantial decline, entrepreneurs typically require additional funding from investors and/or shareholders, or additional credit from their bank to finance a turnaround or to survive a loss-making phase. When entrepreneurs are unable to fulfil their duties towards their bank and require additional credit or a deferment on their loan payments, it is the duty of the bank's representative to assess the viability of the distressed venture. If the banker judges posit-

1 This chapter is based on: Strohmaier, N., Adriaanse, J. A. A., Van den Bos, K., & Pluut, H. Similarity Bias in Credit Decisions for Entrepreneurs on the Brink of Bankruptcy. Submitted for publication.

ively, ensuing support from the bank can be expected. If the banker judges negatively, however, bankruptcy might follow. Hence, the entrepreneur's future depends for an important part on the banker's assessment of the venture's future prospects.

For entrepreneurs, the consequences of bankruptcy can be detrimental, both professionally and personally (Jenkins et al., 2014; Kesteren et al., 2017; Ucbasaran et al., 2013). Furthermore, banks and other creditors can also suffer major losses in case of bankruptcy. Consequently, for both entrepreneurs and bankers involved, but possibly most eminently for the entrepreneurs, it is of utmost importance that the viability of their businesses is accurately assessed. Fortunately, bankers are trained to be objective, are experts in the industries their clients operate in, and are aware of (macro-)economic trends that influence the chances of a company's survival. It therefore stands to reason that bankers are in a good position to objectively and accurately assess the likelihood that a distressed company will be able to perform a successful turnaround and resume profitability.

At the same time, however, assessing a venture's viability is a complex matter and humans are notoriously vulnerable to cognitive biases when making judgments under uncertainty (Baron, 2014; Kahneman, 2011; Kahneman, Slovic, & Tversky, 1982; Tversky & Kahneman, 1974). Indeed, research suggests that bankers can, in fact, succumb to the effects of cognitive biases such as the hindsight bias (i.e., the feeling that after the fact someone "knew all along" something would happen) (Biais & Weber, 2009) and the status quo bias (i.e., the tendency to stick to a current and known position or previously chosen position) (Burmeister & Schade, 2007). However, to our knowledge no research has been conducted investigating the extent to which biases affect judgments and decisions made by bankers regarding the future of struggling entrepreneurs. This is surprising for two reasons. First, given the relatively high failure rates of new start-ups where typically only 50% survives the first five years of being in business (BLS, 2019), entrepreneurs will almost invariably face financial distress at some point in their careers and will then have to liaise with their financiers to find a solution in order to survive. Therefore, studying the psychology of financial decision making in the context of financial distress is important. Second, cognitive biases typically surface under conditions characterized by uncertainty, time pressure, and emotional turmoil (e.g., (Tversky & Kahneman, 1974). Indeed, for several biases it has been demonstrated that biases exert stronger effects when the situation at hand is increasingly precarious (e.g., Kneer & Bourgeois-Gironde, 2017; Schkade & Kilbourne, 1991). Hence, the risk of financiers succumbing to unwanted cognitive biases is particularly high in the context of financial distress. We consider this a critical gap to fill given the lack of current research in this area.

The goal of our research is therefore twofold. First, we aim to draw attention to this important yet understudied area of biases in financial decision making in the context of financial distress. Second, we aim to provide a first

empirical test of whether bankers are affected by biases in their credit decisions when confronted with an entrepreneur in financial distress. More specifically, we test whether similarity bias affects bankers in such a way that they will attribute the cause of an entrepreneur's decline to external factors rather than to the entrepreneur when the entrepreneur is perceived to be similar to the banker, and whether bankers also have more trust in the entrepreneur in that case. Finally, we test whether ultimately there is a relationship between perceived similarity and credit decisions. In the following, we first briefly review the literature on similarity bias and explain why this bias is particularly interesting in this context. Next, we introduce two competing hypotheses regarding the susceptibility of bankers to similarity bias. Finally, we provide a first empirical test of whether bankers are indeed affected by similarity bias when evaluating the case of a business' decline, the trustworthiness of an entrepreneur, and ultimately when making credit decisions.

3.1.1 Similarity Bias

When someone evaluates another person more favourably or behaves in a more positive manner towards another person as a result of a (perceived) shared identity or other shared characteristics, this is called similarity bias (or the similar-to-me effect; Byrne, 1972). People are inherently social and tribal creatures in the sense that we tend to make snap judgments on the basis of whether another person belongs to the same group or not, sometimes based on only limited information, which can subsequently affect attitudes and behaviours towards that person (Tajfel, 1970; Tajfel & Turner, 1979; Turner, Brown, & Tajfel, 1979). Favouring those who belong to one's own group versus members of an out-group (i.e., in-group bias), as well as similarity biases more generally, can largely be explained by social identity theory (Tajfel, 1982) and self-categorization theory (Turner, 1999). These two theories indicate that people categorize and identify themselves along certain dimensions (e.g., age, sex, race, profession, etc.), with the purpose of deriving a positive self-identity from belonging to certain social groups. When membership of a particular group is then made salient, others are likely perceived and evaluated along that same dimension (i.e., as being part of the same group or not), which then affects attitudes and behaviours towards that individual, such that people generally evaluate others more favourably who belong to the same group from which they derive their identity (Branscombe, Ellemers, Spears, & Doosje, 1999; Haslam, 2001; Hewstone, Rubin, & Willis, 2002).

The notion that perceived similarity to others can affect cognitive processes and subsequent behaviour has been widely demonstrated, for example in the context of assigning blame in cases of rape (Grubb & Harrower, 2009), in the context of job applications (e.g., Dalessio & Imada, 1984; Lin, Dobbins, & Farh, 1992), or when evaluating the credibility of expert witnesses (Gardner, Titcomb,

Cramer, Stroud, & Bate, 2013) (for more studies on similarity bias, see Gino, Shang, & Croson, 2009; McKeever, 2015; Strauss, Barrick, & Connerley, 2001; Tidwell, Eastwick, & Finkel, 2013; Wilson, DeRue, Matta, Howe, & Conlon, 2016). More relevant for the present purposes, similarity biases have also been found in financial decision-making. Research found that venture capitalists (VCs) evaluate an investment opportunity more favourably if they believe the founding entrepreneur thinks in a more similar way to themselves (Murnieks, Haynie, Wiltbank, & Harting, 2011). Moreover, VCs have been shown to prefer start-up teams that match themselves in terms of professional or educational background (Franke, Gruber, Harhoff, & Henkel, 2006). Finally, a more recent study has shown that financial analysts issue more favourable forecasts of a particular company when they perceive the company's CEO to be similar to themselves in terms of personality (Becker, Medjedovic, & Merkle, 2019). Thus, evidence suggests that equity investors are not immune to the effects of similarity bias.

Importantly, as discussed, whether bankers in the specific context of credit decisions for entrepreneurs in financial distress are also affected by similarity bias remains an open question. That is, are entrepreneurs facing bankruptcy more likely to receive additional capital from their bank if a banker perceives the entrepreneur as more similar to him/herself?

3.1.2 Competing Hypotheses on Similarity Bias in Bankers' Credit Decisions

Two opposing hypotheses can be put forward regarding the question whether bankers dealing with distressed credit are affected by similarity bias. On the one hand, based on the discussed theories (e.g., social identity theory) and the discussed literature on similarity biases in financial decision making, it stands to reason that bankers might indeed favour struggling entrepreneurs who are perceived as being similar to themselves.

Additionally, for several biases (e.g., hindsight bias and outcome bias) it has been shown that they exert stronger effects in the case of negative events (Kneer & Bourgeois-Gironde, 2017; Schkade & Kilbourne, 1991). It might therefore be that similarity bias too is more likely to surface in case of an adverse event, as such events typically trigger sense-making processes and causal attributions (Hastie, 1984). For example, there is some evidence that female entrepreneurs are disadvantaged by credit institutions in terms of their likelihood of obtaining funding (e.g., Belucci, Borisov, & Zazzaro, 2009; Carter, Shaw, Lam, & Wilson, 2007; Carter & Peter, 1998; Fraser, 2005) and that this gender bias might be particularly pronounced in conditions of economic turmoil (Thébaud & Sharkey, 2016).

Finally, whereas first-time investment decisions are largely forward-looking given the limited or even complete absence of operational and financial data, judgments and decisions made by financiers facing a business in decline also

have a backward-looking element. That is, financiers want to know what the major causes are of the financial distress as this will affect their trust in the management team and consequently the company's outlook for the future. Hence, in the context of financial decline, similarity bias might not only affect expectations of the future, but also sense-making processes and attributions regarding the cause of the financial decline, which combined might aggravate the bias' effect. In sum, there is ample reason to expect bankers to be affected by similarity bias when faced with a business in decline.

On the other hand, however, important differences exist between equity investors (among whom similarity biases have been identified) and bankers providing credit. Moreover, the context of first-time financing is markedly different from refinancing or providing additional credit to a struggling entrepreneur with whom you already have a relationship. Both of these differences between the context of bankers dealing with distressed credit and the previously studied context of equity investors in first-time financing might have implications for the effects of similarity bias. To elaborate on this point, it is useful to contrast bankers with equity investors.

Even though the situations of VCs and bankers are similar in the sense that both are faced with uncertainty and have to assess the likelihood a company will ultimately succeed, the differences between the two centre around (1) the nature of their relationship with entrepreneurs, (2) information asymmetry, and (3) their personal characteristics. Regarding the relationship with entrepreneurs, VCs typically acquire an equity stake in a company and take board seats, in that sense becoming part of the entrepreneurial team. In contrast, banks typically extend secured loans (e.g., collateralized loans) instead of acquiring an equity stake and as a result their relationship with the owners is more distant. To reduce the risk and moral hazards, and to make sure they will be aligned with their future business partners (i.e., the company owners), VCs might have a stronger incentive to analyse a venture's entrepreneurial team more thoroughly than do bankers. Hence, the different nature of the relationships VCs and bankers have with entrepreneurs possibly makes VCs more focused on the characteristics (e.g., personalities, managements styles, history, etc.) of the entrepreneurs when assessing an investment opportunity. This increased focus on entrepreneurs might ultimately make VCs more susceptible to similarity bias.

Following directly from differences in the relationship are differences in information asymmetry. Information asymmetry emerges when two parties in a transaction (e.g., entrepreneur and venture capitalist) do not have access to the same information, posing a risk (i.e., moral hazard) for the party with less information. Such asymmetric information is more likely to arise after initial contracting (e.g., Boot & Thakor, 1993; Cumming & Johan, 2008; Trester, 1998), but can also exist in the investment stage (Cohen & Dean, 2005). For example, it is common for VCs to have very little information regarding the entrepreneur's skill level during the stages of contract negotiations and capital

investment, as this typically only becomes apparent in later stages (e.g., Chan, Siegel, & Thakor, 1990). It could be argued that information asymmetry and accompanying moral hazards are less of an issue for bankers deciding over a company's future that has been with the bank for some time and is now facing financial decline, primarily because there is ample information for bankers to draw from (for research on the relationship between information asymmetry and moral hazards, see for example Fu, Yang, & An, 2019; Hölmstrom, 1979). Indeed, banks are likely to have access to large quantities of both 'hard' quantitative data and 'soft' qualitative data, as increased exposure to a company's owner over a prolonged period of time allows for more information to be gathered (see also Fredriksson & Moro, 2014). Hence, given VCs' general lack of hard or soft information in relation to founding entrepreneurs, and since hard data is impossible to obtain, VCs might have a need to increase their access to soft data and will therefore more thoroughly analyse a venture's founding team.

There is evidence that supports the notion that VCs are more focused on gathering information about entrepreneurs and bankers are more focused on the financial aspects of a potential transaction. For example, Mason and Stark (2004) found that bankers particularly focussed on the financials of the proposal and largely disregarded information pertaining to the entrepreneur, whereas equity investors (e.g., VCs and Business Angels) factored their assessment of the entrepreneur more strongly into their investment decision. Also, Storey (1994) provided evidence for the idea that in bank lending, personal characteristics of new firm founders are largely unrelated to lending decisions. In contrast, MacMillan, Siegel, and Subba Narasimha (1985) surveyed VCs regarding the criteria they use to evaluate new venture proposals and found that "above all it is the quality of the entrepreneur that ultimately determines the funding decision". Finally, research has also shown that in case of information asymmetry between current owners and outside (equity) investors, these investors use information regarding the legitimacy of a company's top management team as a signal of value in an attempt to reduce their investment risk (Cohen & Dean, 2005). Combined there seems to be strong evidence for the notion that information regarding the entrepreneurial team is more important to VCs than it is to bankers when it comes to funding decisions (see also: Dixon, 1991; Franke et al., 2006; Goslin & Barge, 1986; Muzyka, Birley, & Leleux, 1996; Nagy, Pollack, Rutherford, & Lohrke, 2012; Shepherd & Zacharakis, 1999; Tyebjee & Bruno, 1981).

Finally, and somewhat more speculative in nature, the differences in individual characteristics of bankers and VCs might also suggest that the similarity bias found among VCs might not generalize to bankers dealing with distressed credit. For example, it stands to reason that someone who consciously chooses to become a venture capitalist possesses different personality traits than someone aspiring to be a banker. It might for example be that due to this self-selection process, the average VC will typically be less risk averse

compared to a banker. Similarly, VCs are more akin to entrepreneurs themselves whereas bankers typically consider themselves to be more akin to trustees looking over other people's money. Indeed, whereas a venture capitalist's income is strongly tied to the success rate of his/her investments, bankers are salaried employees of a bank. Given this more entrepreneurial nature of VCs, they might be more inclined than bankers to consider other entrepreneurs who are more similar to them as having a higher likelihood of succeeding.

In sum, due to the differences between VCs and bankers discussed above, it can be argued that bankers dealing with distressed credit will be less affected by similarity bias than equity investors. This leaves us with two competing hypotheses. On the one hand, we could argue that the heuristics and biases in human cognition are so innate and automatic that we can safely assume that similar to equity investors, other type of financiers such as bankers dealing with distressed companies will most likely also succumb to the effects of similarity bias. In contrast, it might be that bankers dealing with distressed credit are actually less susceptible to similarity bias, given that equity investors in early-stage funding and bankers dealing with distressed credit differ in several important respects. An important goal of this study is therefore to provide a first test of similarity bias among professional bankers specialized in distressed credit.

By doing so, we aim to contribute to the literature on financial decision making and similarity bias in two ways. First, we aim to draw attention to the important topic of lending decisions in general in the context of financial distress and distressed credit and biases in such decisions more specifically. As argued, many entrepreneurs will at some point face strong financial decline and will therefore need to liaise with their financiers to work out a solution. Despite this context of financial and emotional turmoil providing all the ingredients for biases to manifest, no research (to our knowledge) has yet empirically tested whether biases affect bankers' sense-making process when faced with a struggling entrepreneur, or their subsequent credit decisions (for an overview of research on biases among different types of financiers and entrepreneurs outside the context of financial decline, see Zhang & Cueto, 2017). The second contribution of the current research is that we provide a first empirical investigation of the question whether bankers in the highly relevant context of entrepreneurs in financial distress are affected by similarity bias.

3.1.3 The Current Study

We tested whether bankers who are confronted with an entrepreneur in financial distress and who perceive an entrepreneur to be similar to themselves (1) are more likely to attribute the cause of the distress to external factors and thus to not hold the entrepreneur accountable, (2) are more likely to trust the

entrepreneur to be able to turn his company around, and (3) are more likely to extend additional credit. We now briefly elaborate on each of these variables.

3.1.4 Similarity Bias and Causal Attributions

A noteworthy aspect of the banker-entrepreneur relationship in the context of near insolvency is that a sense-making process might take place in which the banker aims to understand the cause of a company's financial decline. If a banker believes the entrepreneur is the primary cause of the decline (maybe even under ideal market conditions), this will likely affect the banker's trust in the entrepreneur's ability to turn his/her company around. Likewise, if a banker believes the decline is due to external circumstances, this will likely not affect the trust the banker might have in the owner.

A relevant theory to draw from when aiming to understand the relationship between causal attributions, perceived trustworthiness and risk-taking behaviour is that of Tomlinson and Mayer (2009). According to the authors, people seek to understand the cause of an adverse event (i.e., a trust violation in their model) and depending on the outcome of such causal attributions, trust repair is either facilitated or hampered. Specifically, individuals tend to analyse the cause of a trust violation along the dimensions of locus of causality (i.e., cause is internal or external to the agent), controllability (i.e., was the cause of the trust violation controllable or not), and stability (i.e., is the cause of a stable or temporal nature). If the cause of a particular adverse event is perceived to be due to external factors, this will likely not result in a trust violation in the first place, thereby nullifying the need to repair the trustworthiness of a trustee (e.g., Lewicki & Bunker, 1996; Tomlinson & Mayer, 2009). Therefore, we focus on the locus of causality (i.e., external or internal cause) as the key part of the causal attribution process. It is important to note that we do not claim that there has been a breach of trust in the banker-entrepreneur relationship when a company faces substantial decline (although there might have been). Rather, we merely consider the literature on trust repair to be of importance for the current context as an adverse event has occurred (company facing bankruptcy) and bankers will likely try to make sense of the causes of the financial decline as such knowledge is relevant for deciding whether or not to extent further credit.

We ask whether perceived similarity with an entrepreneur in financial distress is associated with external causal attributions regarding the cause of the financial distress. That is, will a banker who is faced with an entrepreneur who requires additional credit for her/his struggling business be more inclined to attribute the cause of the entrepreneur's financial problems to external factors (e.g., economic downturn, new laws/regulations, etc.), rather than to internal factors (e.g., entrepreneurial skills and leadership), when the entrepreneur is perceived as similar to the banker? A wide body of research outside

the realm of financial decision making found that following an adverse event seemingly caused by a certain actor, people are inclined to attribute the adversity to internal factors (i.e., to the actor) when the actor is dissimilar or part of an out-group, and more to external factors (i.e., to the situation) when the actor is perceived as similar or as part of their in-group (e.g., Banks, 1976; Burger, 1981; Kouabenan, Medina, Gilibert, & Bouzon, 2001; Shaver, 1970). To test whether a similar bias can be observed in the present context, we formulated the following working hypothesis:

Hypothesis 1: Perceived similarity is positively related to external causal attributions.

3.1.5 Similarity Bias, Trustworthiness and Credit Decisions

It is important to distinguish between the concepts of trustworthiness and trust. The act of extending credit to a struggling entrepreneur constitutes an act of trust, as trusting someone is typically seen as the willingness to take a risk in a relationship (Mayer, Davis, & Schoorman, 1995) or "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another" (Rousseau, Sitkin, Burt, & Camerer, 1998). Indeed, in the banker-entrepreneur relationship it is the banker who, at risk of incurring financial losses, accepts vulnerability when extending a loan based on the expectation that the entrepreneur will be able to fulfil her duties towards the bank and ultimately repay the loan. Hence, the decision to extend credit is an expression of trust on behalf of a banker. Trustworthiness on the other hand is a quality of a particular person rather than an action. A trustworthy entrepreneur is someone who is perceived by a banker to be competent, benevolent, and honest, which combined result in a level of trust in the entrepreneur (Mayer et al., 1995).

An entrepreneur's trustworthiness has been identified as a key factor in financial decision making of equity investors, often ranking among the top-three investment criteria (e.g., Aldrich & Fiol, 1994; Harrison, Dibben, & Mason, 1997; Hill, Leitch, & Harrison, 2006; Sudek, 2006; Van Osnabrugge & Robinson, 2000). Empirical research has demonstrated that the more trust-building behaviours were displayed by entrepreneurs in their relationship with business angels, the more likely they were to receive funding from these investors (Maxwell & Lévesque, 2014). Moreover, interpersonal trust in entrepreneurs, acquired through interactions over time, helps investors in the deal-making process of early stage technology ventures (Scarbrough, Swan, Amaeshi, & Briggs, 2013). Also, business angels operating in countries characterized by high levels of trust are more likely to make angel investments than those operating in countries with lower levels of trust (Bottazzi, Da Rin, & Hellmann, 2016; Ding, Au, & Chiang, 2015). Hence, trust and trustworthiness seem to

play a key role in the investor-entrepreneur relationship and research suggest this is also the case in the bank-entrepreneur relationship (e.g., Saparito, Chen, & Sapienza, 2004; Saparito & Colwell, 2010).

Outside the context of financial decision making, a relationship has been found between perceived similarity and perceived trustworthiness. For example, it has been shown that similarity in terms of facial features leads to heightened perceived trustworthiness (DeBruine, 2005; Farmer, McKay, & Tsakiris, 2014) and cooperation (DeBruine, 2002; Kret, Fischer, & De Dreu, 2015; Krupp, DeBruine, & Barclay, 2008). Within the context of mergers and acquisitions, it has been shown that higher degrees of similarity between the senior management of two firms influenced post-acquisition trust towards the acquiring firm (Yildiz, 2014). Hence, it might be that entrepreneurs who are perceived to be similar by a banker will also be perceived as more trustworthy by that banker and are also more likely to receive credit. To test this, we formulated the following hypotheses:

Hypothesis 2: Bankers who perceive an entrepreneur to be more similar to themselves will perceive the entrepreneur to be more trustworthy.

Hypothesis 3: Bankers who perceive an entrepreneur to be more similar to themselves will be more likely to extend additional credit to entrepreneurs of businesses in distress.

3.2 METHOD

We tested the hypotheses outlined above using experimental vignettes. We chose this specific method in large part to avoid the typical problems associated with more post-hoc methodologies in which participants are required to retrospectively indicate why they made certain decisions (e.g., Baddeley, 1979). Such methods can be sub-optimal as memories may be inaccurate and overall validity may be low (e.g., Trochim, 2001; Van Der Vaart, Van Der Zouwen, & Dijkstra, 1995). It will for example be difficult for bankers to accurately remember to what extent they perceived an entrepreneur they dealt with at some point in time to be similar to themselves and to what extent they trusted the entrepreneur. Moreover, it would be hard to take into account all the differences that exist across real-life cases to be able to isolate the influence of perceived similarity on credit decisions.

While we recognize the limitations of using vignettes, such as potential threats to the external validity and thus generalizability following from difficulties in recreating a realistic banker-entrepreneur context, overall we consider the chosen methodology appropriate and useful for the current study. Specifically, the combination of an experimental research design with a realistic scenario (the case was developed in collaboration with a senior banker)

improves the external validity, while at the same time allowing for controlling key variables and for causal inferences to be drawn. That is, by using vignettes we can keep all variables that are not of interest for the current studies fixed and therefore isolate the potential effect of similarity (for a review of the experimental vignette methodology including best practices, see Aguinis & Bradley, 2014).

We asked participants to read a business case describing an entrepreneur whose business was in financial distress and for which the entrepreneur required additional capital to finance a turnaround. Participants were asked (1) to what extent they perceived the entrepreneur to be similar to themselves, (2) what they believed the cause of the decline was (i.e., internal or external cause), (3) how trustworthy they perceived the entrepreneur to be, and finally (4) how likely they believed it to be they would comply with the entrepreneur's request and provide the additional capital necessary to avoid bankruptcy. To add to the realism of the case, we designed a case involving an entrepreneur who was active in the commercial real-estate business and who could therefore offer collateral when requesting additional capital, thereby simulating the typical situation in which a bank will have a relatively secured position.

3.2.1 Participants

In this study, 146 bankers participated and were either recruited with the cooperation of several major Dutch banks, or via an e-mail invitation. Of the total sample, 121 (82.9%) were male. The average age was 43.8 (SD = 9.5) and the average number of years of professional experience was 9.7 (SD = 7.3). This specific group of bankers all specialized in distressed credit and worked at their banks' departments that deal with businesses in distress.

3.2.2 Procedure

The study was built and administered using Qualtrics (2018) online survey software and participants received a link that directed them to the survey. At the start of the survey, participants were informed that the goal of the study was to investigate judgment and decision making processes in the context of distressed credit and that their participation was completely anonymous. Participants first answered several demographic questions regarding their sex, age, profession, and years of experience. Next, participants were presented with a business case and asked to read the case thoroughly before proceeding to the next stage. Prior to reading the specifics of the case, participants were asked to adopt the perspective of the banker who had to decide over this business case in which a struggling entrepreneur required additional capital to finance a turnaround.

After the case, participants were asked questions that aimed to measure the variables in the following order: (1) perceived similarity, (2) causal attributions, (3) perceived trustworthiness of the entrepreneur, and (4) likelihood of extending credit. Before being asked to answer the main question regarding the likelihood of extending credit, participants were once again presented with the case and thus given the opportunity to read it once more.[2]

3.2.3 Business Case

The case concerned an entrepreneur who started in the commercial real-estate business only a few years ago and who now owned five properties for commercial lease. One of the rental contracts was abruptly ended due to a bankruptcy of the business that was leasing one of the five properties. As a result, the entrepreneur's revenue dropped and he could no longer meet his obligations towards his bank anymore, which is why the entrepreneur was transferred to the department dealing with distressed credit. The entrepreneur felt that in order to be able to rent out that fifth property again, the property needed to be thoroughly renovated. Without the renovation, bankruptcy (both professional and personal) was imminent. The entrepreneur had no personal funds left and therefore needed the bank to finance the renovation. The amount required was substantial and amounted to 5% of the credit already outstanding.

3.2.4 Independent variables

3.2.4.1 Perceived similarity

Three items about the participants' supposed client (i.e., the entrepreneur) aimed to measure the perceived similarity with this client (Cronbach's $\alpha = .82$). Participants were asked to what extent they agreed with the following three statements: (1) "I believe to have a similar character as my client, [client name]," (2) "I believe to have similar norms and values as my client, [client name]," and (3) "I believe to be generally similar to my client, [client name]." Participants answered on a 7-point Likert scale, ranging from *Strongly disagree* (1) to *Strongly agree* (7). The answers to these questions were averaged to create a single score for perceived similarity.

2 Participants were also asked to answer questions about blame attributions, their belief in free will, their sleep quality of the night before, as well as three basic arithmetic questions that aimed to measure their cognitive thinking style. These questions were included as part of a separate study and will not be discussed in this paper. Details of these questions as well as the results are available upon request.

3.2.4.2 Actual similarity

This study also experimentally manipulated actual similarity between the participant and the entrepreneur as described in the case. Specifically, participants were randomly assigned to either the "similar" condition or the "dissimilar" condition. At the beginning of the case, a brief description was provided of the entrepreneur which differed based on the assigned condition in the following dimensions: (1) age, (2) professional background, (3) educational background, and (4) socio-economic status. In the similar condition, the entrepreneur was of the same age (e.g., in his/her thirties, forties, fifties, etc.), had a professional background in financial services before starting his/her own business, completed a university degree, and had a first and last name that corresponded to names that are more common among elite families (Onland & Bloothooft, 2008). In the dissimilar condition, the entrepreneur was as far removed as possible in terms of age (i.e., in his/her sixties if participant's age < 45; in his/her late twenties if participant's age > 45), had a professional background as a communication advisor in the cultural sector, completed no formal schooling, and had a first and last name that corresponded to names that are more common among lower socio-economic groups (Onland & Bloothooft, 2008). Manipulations of socio-economic status were based on the assumption that the majority of bankers have obtained a university degree and are part of higher socio-economic groups.

Such a similarity manipulation based on only few factors such as age and background has been used in previous research and proven successful (e.g., Shaver, 1970). Indeed, age has been shown to be an important factor when categorizing individuals (Brewer & Lui, 1989). In addition, based on the minimal group paradigm (Tajfel, 1970), it should be expected that information regarding age and (professional) background are sufficient to attribute group membership towards individuals.

Nonetheless, despite the successful manipulation in previous studies of similarity using only a limited number of factors, there are many other studies which found no effect of actual similarity, but only of perceived similarity (e.g., Ferris & Judge, 1991; Strauss et al., 2001; Tidwell et al., 2013; Turban & Jones, 1988). This is in accordance with work by Byrne (1972), who suggested that for the proposed similar-to-me effect to be manifested, an observer must first actually perceive the other as similar. As we included both perceived and actual similarity in this study, we were able to compare effects relating to each factor.

3.2.5 Dependent Variables

3.2.5.1 Causal attribution

Participants' perceptions of the cause of the entrepreneur's dire situation were measured using the following two items: (1) "[Name client] is [himself/herself] the primary cause of the imminent bankruptcy of [his/her] business" and (2) "External factors outside of [name client]'s control are the primary cause of [his/her] company's imminent bankruptcy." Participants answered on a 7-point Likert scale, ranging from *Strongly disagree* (1) to *Strongly agree* (7). The first item measured internal attributions and the second measured external attributions. Considering these are two sides of the same coin and are therefore strongly correlated (r = -.46), we reverse scored the internal attribution item and then averaged the two items to get a single causal attribution score representing the extent to which participants believed the cause of the entrepreneur's difficult situation was largely due to external factors (reflected by a higher score) rather than due to the entrepreneur him/herself (reflected by a lower score). Importantly, similar effects and significance levels were found in the analyses when either item was used as a single item representing a separate construct. Hence, the conclusions remain the same irrespective of whether these two items are analysed as single items or as a two-item scale.

3.2.5.2 Perceived trustworthiness

To measure the perceived trustworthiness of the entrepreneur, three items were administered (Cronbach's α = .70). Following work by Mayer and colleagues (1995), each of these items aimed to capture a specific dimension of trustworthiness: (1) "ability", (2) "benevolence" and (3) "integrity". For ability, the item was: "I trust that my client, [client name], has the ability to make [his/her] his company financially healthy again." The item measuring benevolence was: "I trust that my client, [client name], will act in a benevolent manner towards me." The item measuring trust in the entrepreneur's integrity was: "I trust that my client, [client name], is a person of integrity who delivers on [his/her] promises and who is honest towards me." All items were answered on a 7-point Likert scale, ranging from *Strongly disagree* (1) to *Strongly agree* (7).

Mayer et al. (1995) created a questionnaire consisting of five to six items to measure each of these components of trustworthiness. In this study, however, we limited the scale to a single item per component for the following reasons. First, based on a pilot study in which we included all 17 items from Mayer et al.'s trustworthiness scale, we learned that the participants considered it difficult to answer a large number of questions about a person they did not know and of whom they had only received a brief description. Second, we wanted to use items that were relevant for the present context and focused

on trustworthiness in relation to entrepreneurship, instead of the more generic items developed by Mayer et al. (1995).

3.2.5.3 Likelihood of extending credit

We measured participants' behavioural intentions regarding the entrepreneur's request for additional capital. Specifically, the participants were asked, if they were the banker deciding over this particular case, how likely it was that they would provide the entrepreneur with the required funds to finance the property's renovation. This variable was measured by asking participants the following question: "How likely do you believe it to be that you would comply with [client name]'s request for additional funding for the renovation?" Participants answered on a 7-point Likert scale, ranging from *Very unlikely* (1) to *Very likely* (7).

3.3 Results

3.3.1 Data Preparation

We thought it important that participants properly read the case as this was vital for being able to answer the subsequent questions. Therefore, participants who spent less than 60 seconds on the case were excluded from the analyses. This is cut-off criterion that we chose and which is purposefully lenient as reading the case that consisted of 447 words in 60 seconds would require a reading speed of 7.3 standard deviations above the average reading speed (M = 228 words per minute, SD = 20; (Trauzettel-Klosinski & Dietz, 2012). Hence, it is safe to assume we only excluded those who indeed did not devote sufficient attention to the case. In total, six participants were excluded from the analyses and doing so did not affect any of the findings as similar effects and significant levels were found when the complete sample was analysed.

3.3.2 Similarity Bias

First, we tested whether participants in the similar condition perceived the entrepreneur to be more similar than participants in the dissimilar condition. We found a statistically significant difference in the expected direction, $t(138) = 4.08$, $p < .001$, $d = 0.70$, such that those in the similar condition ($M = 3.72$, $SD = 1.13$) also perceived the entrepreneur to be more similar to themselves than those in the dissimilar condition ($M = 3.02$, $SD = 0.91$).

Next, two separate analyses were conducted to test for similarity bias in the participants' causal attributions, trustworthiness judgments, and ultimate credit decision. We conducted a Multivariate Analysis of Variance (MANOVA)

to test whether manipulated similarity affected the dependent variables. The results showed a multivariate effect of manipulated similarity, $F(3,136) = 6.23$, $p = .001$, $\eta_p^2 = .121$. Subsequent univariate analyses revealed that manipulated similarity affected only the perceived trustworthiness of the entrepreneur, $F(1,138) = 10.46$, $p = .002$, $\eta_p^2 = .070$, such that entrepreneurs were deemed to be more trustworthy by those in the similar condition ($M = 4.76$, $SD = 0.85$) than by those in the dissimilar condition ($M = 4.31$, $SD = 0.79$). No effect was found for causal attributions, $F(1,138) = 0.72$, $p = .398$, $\eta_p^2 = .005$, or for the final credit decision, $F(1,138) = 1.35$, $p = .248$, $\eta_p^2 = .010$. Please see Table 3.1 for the results.

Table 3.1. Means, standard deviations, and statistical tests for the manipulated similarity conditions for each of the three dependent variables.

	Dissimilar condition		*Similar condition*				
	M	*SD*	*M*	*SD*	*F*(1,138)	*p*	η_p^2
Causal attribution	3.96	1.05	4.11	1.05	0.72	.398	.005
Trustworthiness	4.31	0.79	4.76	0.85	10.46	.002	.070
Credit decision	4.71	1.45	4.51	0.85	1.35	.248	.010

In addition to manipulated similarity, we conducted correlation analyses to see whether perceived similarity correlated with any of the dependent variables. As Table 3.2 shows, perceived similarity significantly correlated with external causal attributions (Pearson $r = .195$, $p = .021$) and perceived trustworthiness (Pearson $r = .305$, $p < .001$), but not with the likelihood of extending credit (Pearson $r = .106$, $p = .214$).

Table 3.2. Pearson correlations for the independent variables at the dependent variable "Credit decision" (N = 140). * $p < .05$, ** $p < .01$

	M	*SD*	Sim. (manip.)	Sim. (perc.)	Causal attr.	Trust-worth.	Credit decis.
Similarity (manipulated)			-	.33**	.07	.27**	-.10
Similarity (perceived)	3.33	1.07		-	.20*	.31**	.11
Causal Attribution	4.03	1.07			-	.34**	.37**
Trustworthiness	4.51	0.85				-	.39**
Credit decision	4.58	1.45					-

3.3.3 Exploratory Analyses

For exploratory purposes, we tested whether the variables used were related in such a way that the relationship between perceived similarity and the likelihood of extending credit was mediated in a serial manner by causal attributions and perceived trustworthiness. Specifically, we hypothesized that the relationship between perceived similarity and the likelihood a banker will extend credit to a struggling entrepreneur is mediated in serial by causal attributions and perceived trustworthiness, such that high levels of perceived similarity lead to more external causal attributions, which increase the perceived trustworthiness of the entrepreneur, ultimately resulting in a higher chance of extending the required capital by the banker (see Figure 3.1).

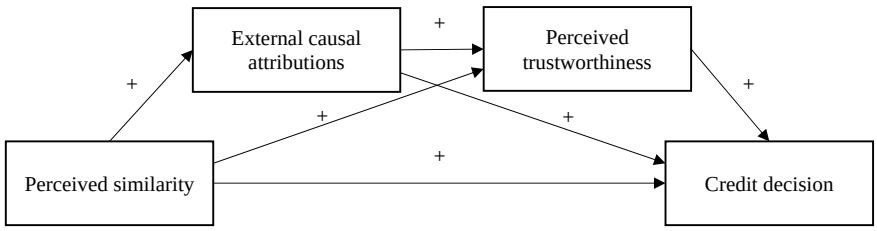

Figure 3.1. Hypothesized serial mediation model for the relationship between perceived similarity and bankers' credit decisions.

To investigate the exploratory hypothesis that perceived similarity predicts the final credit decision through causal attributions and perceived trustworthiness, we performed a serial mediation analysis using Hayes (2013) PROCESS (10.000 bootstraps). The analyses of the mediation paths revealed that

perceived trustworthiness mediates the relationship between perceived similarity and the final credit decision (see also Table 3.3), as indicated by a significant indirect effect, b = .11, 95% CI [0.03, 0.21]. Furthermore, the mediation path from perceived similarity through causal attributions to the final credit decision was also significant, b = .08, 95% CI [0.01, 0.18]), as well as the total serial mediation model, b = .02, 95% CI [0.004, 0.05]. A comparison of the regression weights of the different indirect effects shows that the indirect effect through perceived trustworthiness accounted for the majority of the variance (see Table 3.4).

Table 3.3. Unstandardized regression coefficients (b), standard errors (SE) and significance levels (p) for the proposed sequential mediation model for Study 3, with causal attribution (M_1), blame (M_2), and trustworthiness (M_3) as mediators of the relationship between perceived similarity (X) and the final Credit decision (Y).

	M_1			M_2			Y (Credit decision)		
	b	*SE*	*p*	b	*SE*	*p*	b	*SE*	*p*
X (Sim. Perc.)	0.19	0.08	.021	0.20	0.06	.002	-0.06	0.11	.59
M_1 (Causal attr.)	-	-	-	0.23	0.06	<.001	0.37	0.11	.001
M_2 (Trustw.)	-	-	-	-	-	-	0.54	0.14	<.001
Constant	3.39	0.29	<.001	2.92	0.31	<.001	0.83	0.66	.59
	R^2 = .038			R^2 = .172			R^2 = .219		
	$F(1,138) = 5.46$, $p = .021$			$F(2, 137) = 14.24$, $p < .001$			$F(3,136) = 12.68$, $p < .001$		

Table 3.4. Unstandardized regression coefficients (b), standard errors (SE) and 95% confidence intervals for each path of the sequential mediation analysis of Study 3.

Path	b	*SE*	95% CI
Sim. → Cause → DV	.072	.037	0.01, 0.15
Sim. → Trustworthiness → DV	.107	.046	0.03, 0.21
Sim. → Cause → Trustworthiness → DV	.024	.013	0.004, 0.05

3.4 Discussion

We set out to draw attention to the important yet understudied topic of decision making processes in the context of financial decline. Additionally, we aimed to provide a first empirical test of whether bankers dealing with distressed credit succumb to similarity bias when confronted with an entrepreneur in financial distress who requires additional capital to save his/her business. The data showed that bankers appear only partly to succumb to the effects

of similarity bias in that they attribute the cause of the distress to external factors rather than to the entrepreneur and also consider the entrepreneur to be more trustworthy when the entrepreneur is perceived as more similar to the banker than when the entrepreneur is perceived as dissimilar. Importantly, however, similarity with the entrepreneur (manipulated or perceived) was not significantly related to the likelihood of extending credit. This finding suggests that ultimately, bankers might not be affected by similarity bias when deciding whether or not to extend additional credit to an entrepreneur in financial distress.

It is noteworthy that perceived similarity was in fact associated with external causal attributions and increased perceived trustworthiness of the entrepreneur. It seems therefore that in line with the discussed literature on similarity bias, bankers are similar to other financial professionals in the sense that perceived similarity does affect their causal attributions and perceptions of trustworthiness, but just not their ultimate inclination to extend credit to entrepreneurs in financial distress. With this data, we provide the first evidence for the idea that, given the idiosyncrasies of bankers dealing with distressed credit (e.g., less information asymmetry, increased focus on 'hard' financial data, etc.), this particular subset of financial professionals might be less susceptible to similarity bias (compared to other financial professionals such as equity investors) when deciding over lending requests.

Despite the absence of an overall relationship between perceived similarity and the credit decision (i.e., no total effect), the exploratory mediation analyses revealed that causal attributions and trustworthiness judgments mediated the relationship between perceived similarity and the decision to extend credit in a sequential manner. Moreover, we also found that perceived similarity predicted causal attributions and perceived trustworthiness of the entrepreneur, which then predicted the likelihood of extending the requested capital. The indirect effect from perceived similarity to the likelihood of extending credit through perceived trustworthiness was the strongest. Importantly, no total effect was found, suggesting that ultimately perceived similarity was not related to the credit decision.

The existence of a significant indirect effect in the absence of a total effect can suggest the existence of a suppression effect (e.g., Mackinnon, Krull, & Lockwood, 2010; Rucker, Preacher, Tormala, & Petty, 2011) in which one or more suppressor variables that were not included in the model suppressed the positive indirect effect, resulting in a net effect of zero. However, as of yet we are unsure what exactly can explain the existence of an indirect (albeit small) effect in the absence of a total effect. Regardless, the conclusion concerning bankers being less affected by similarity bias remains the same. That is, bankers were affected by similarity bias in their causal attributions and trustworthiness judgments, but this ultimately did not influence their credit decisions.

3.4.1 Theoretical Implications

Our findings have several theoretical implications in light of previous research. First, the current study adds to the literature on biases in financial decision making by providing the first investigation of similarity bias among bankers dealing with entrepreneurs in financial distress. We consider this study to be of added value as we questioned whether previous research on similarity bias among VCs could be generalized to the specific context of bankers facing lending requests from entrepreneurs in financial distress. The finding that bankers in our study were less affected by similarity bias when deciding whether or not to provide new capital to an entrepreneur in financial distress contradicts previous research that did find a similarity bias in financial decision making among venture capitalists (e.g., Becker et al., 2019; Franke et al., 2006; Murnieks et al., 2011). We encourage future research to build on the present work and use the inherent differences across financial professionals and institutions to shed more light on when biases are more (or less) likely to occur and among which group. Doing so may result in useful insights that can ultimately be used to reduce the unwanted impact of biases in financial decision making. Considering research on debiasing in entrepreneurship research is rather limited (Zhang & Cueto, 2015), the suggested route might prove to be useful for further work on debiasing methods.

Second, the results can shed light on which factors affect bankers' decision making when confronted with an entrepreneur in financial distress. The empirical research on bankers' judgments and decision making is scarce, particularly in the context of distressed credit, which is why the current research is particularly useful. From the research on investment decision making of VCs it is already known that trust in the entrepreneur is a key variable (e.g., Aldrich & Fiol, 1994; Harrison et al., 1997; Hill et al., 2006; Sudek, 2006; Van Osnabrugge & Robinson, 2000) The results of the current research suggest that similar to VCs, perceived trustworthiness is an important predictor of bankers' credit decision (see also Howorth & Moro, 2006, 2012; Moro & Fink, 2013). Moreover, idiosyncratic to the current context of distressed credit, attributions regarding the cause of a business' decline also predicted the intention to provide additional capital.

Finally, we provide support for and extend Tomlinson and Mayer's (2009) model of trust repair. Specifically, in line with that model of trust repair, we found that in this situation involving an adverse event (in their model a trust violation), causal attributions indeed matter for perceptions of trustworthiness. Moreover, we found support for the link from causal attributions to perceived trustworthiness to trusting behavior (i.e., extending credit). Additionally, we extend the model of trust repair by including perceived similarity as a factor. Indeed, perceived similarity affected both perceived trustworthiness and causal attributions, which in turn predicted the likelihood of extending credit.

3.4.2 Practical implications

We consider the finding that bankers appear to be less susceptible to similarity bias in their credit decision to be relevant not only for bankers, but also for equity investors and entrepreneurs. Specifically, based on knowledge regarding biases in different types of financiers, entrepreneurs can adjust their strategy accordingly. For example, when looking to get funding from VCs in an early stage, entrepreneurs are probably better off spending sufficient time building a good relationship with the VCs and in particular finding common ground, rather than focusing continually on for example their financial projections. Likewise, when facing financial decline and requiring additional capital from their bank, entrepreneurs can probably better spend their time convincing their banker that their earning potential and anticipated cash flow is looking favorable given the market conditions (i.e., 'hard' quantitative information), rather than trying to establish common ground and improving on the relationship.

Ultimately, if our findings hold true, research should focus on examining what exactly makes bankers less susceptible to similarity bias, as these insights could help other financial professionals such as equity investors to protect themselves from this bias' influence. For example, it has been suggested that relative to equity investors, bankers have a more standardized and structured approach to their credit decisions, resulting in consistency in their judgments (Mason & Stark, 2004). Therefore, equity players might benefit from adopting similar approaches in analysing their investment opportunities, in order to limit the potential effect of similarity bias from weighing too heavily on their decision. Also, once research has identified what exactly helps bankers to protect themselves from similarity bias, bankers themselves can more effectively home in on those elements and further limit the bias' effects.

Alternatively, a fruitful avenue for future research aiming to find the drivers behind the findings of the current research is that of investigating individual differences that might moderate susceptibility to similarity biases. For example, we would encourage future research to include personality measures or other factors that might affect susceptibility to similarity biases. For example, the personal need for structure might influence the degree to which financial professionals will categorize an entrepreneur and subsequently compare themselves to the entrepreneur (Moskowitz, 1993). Likewise, in line with research showing that analysts rely less on intuition in their judgments (Thoma, White, Panigrahi, Strowger, & Anderson, 2015), it might be worthwhile to include the Cognitive Reflection Test (CRT; see for example Pennycook, Cheyne, Koehler, & Fugelsang, 2016) in future studies to investigate the potential moderating role of thinking styles.

3.4.3 Limitations and Future Research

Some issues remain with this study, and these should be studied carefully in research following the findings presented herein. First, even though we found robust evidence for the notion that perceived similarity in the banker-entrepreneur relationship has relevant consequences for causal attributions and perceived trustworthiness, the finding that perceived similarity was ultimately unrelated to credit decisions in bankers warrants further scrutiny. First of all, the methods used have some limitations. As is inherent to the methodology of experimental vignettes, it remains uncertain to what extent the findings can be generalized to real-life cases. Even though the case was developed in collaboration with bankers and was perceived as realistic, an online study is different from actually interacting with entrepreneurs and having to make consequential decisions. It would therefore be worthwhile to build on the current research by using different methods.

Moreover, the scales we used for measuring causal attributions and perceived trustworthiness were based on previous research, but with the purpose of keeping the study as short as possible to increase conversion rates, we significantly reduced the number of items used (two for causal attributions and three for perceived trustworthiness) and also made them context specific. As a result, despite having high face validity and acceptable internal consistencies, the scales we used were not validated and may thus lack construct validity.

Overall the materials we used were relatively idiosyncratic, and before drawing strong conclusions it would be necessary to replicate the findings using different materials, populations, and methods. Specifically, we used a sample of Dutch bankers, (2) presented these bankers with a very specific scenario of a struggling entrepreneur in the real-estate sector, and (3) used self-report measures for the expected likelihood of extending credit rather than measuring actual behavior. Combined, these points warrant a careful assessment of the generalizability of the present findings to other, real-world settings. In particular, the case focused on an entrepreneur in the commercial real-estate sector. Even though we purposefully chose this sector to add to the realism of the case (i.e., by focusing on collateralized loans), it is possible that credit decisions in this context are different from other contexts in which entrepreneurs can offer less collateral, making the loans more risky.

Moreover, the current sample was predominantly male, which therefore did not allow for a comparison between male and female bankers. Given the finding in previous research that male and female loan officers adhere to slightly different criteria in assessing loan applications, as well as the finding that these genders use different negotiation strategies (Carter, Sara; Shaw, Eleeanor; Lam, Wing; Wilson, 2007), it would be worthwhile for future research to take gender into account.

Furthermore, it might be that the finding of bankers not being affected by similarity bias might be confined to the specific context of companies in financial distress. It might therefore be that when bankers have to decide whether or not to extend credit to an entrepreneur with whom the bank does not have a prior history, bankers will be equally incentivized to closely observe and analyse the company owners to gather as much 'soft' information as they can to base their decision on, possibly making it more likely for similarity bias to have an effect. There is already some evidence that suggests that in initial lending applications, the behaviour entrepreneurs display (i.e., voluntary information disclosure) affects bankers' perceptions of entrepreneur competence, suggesting that at least in the absence of an existing relationship, bankers might actively evaluate entrepreneurs to reduce the risk associated with extending credit (Moro, Fink, & Kautonen, 2014).

Having said that, relative to equity investors, bankers are less likely to provide credit in the initial stages of venture formation and growth, precisely because there is too little information available on the business' viability (making lending too risky). Whereas bankers are unlikely to invest in the earliest stages, equity investors might find themselves in a similar position as bankers dealing with distressed credit when a company they invested in faces substantial decline and requires additional capital to survive a loss-making phase. Hence, it would be interesting to see whether equity investors are also less affected by similarity bias when they too have access to 'hard' quantitative data in addition to soft data, both acquired over a prolonged period of working together. In other words, did we find a lack of similarity bias among bankers primarily because of unique features of this group, or can the results also be explained by differences in the amount of hard and soft information available at different stages of the financier-entrepreneur relationship?

Another factor that might be relevant in this regard is a bank's size. That is, large banks are typically more distant and less relationship based. Small banks on the other hand seem better able to acquire and rely on 'soft' information when extending credit. Indeed, research has shown that large banks use a more standardized credit assessment approach, whereas smaller banks rely more heavily on the pre-existing relationship with the borrower (Berger, Klapper, & Udell, 2001; Berger, Miller, Petersen, Rajan, & Stein, 2005; Cole, Goldberg, & White, 2004). It may therefore be that smaller banks might in a sense be more similar to equity investors in that they are willing to (and have to) provide capital when information is scarce.

In sum, following the current research it remains uncertain whether the lack of similarity bias among bankers can be generalized to real-world contexts, and if so what exactly can explain the absence of this bias. Nonetheless, we consider the findings of the current research to be of added value to the literature and encourage future research to study differences in cognitive biases in different types of financial professionals in different phases of the entre-

preneurial life cycle, as this can ultimately lead to invaluable insights on how to reduce cognitive bias in the crucial context of assessing a business' potential.

The remaining chapters of this dissertation switch to legal professionals as the subjects of investigation. The next chapter investigates whether legal professionals can be affected by similarity bias when evaluating business valuations and business valuators in the context of selling distressed assets. In addition to similarity bias, it is investigated whether in this context legal professionals can also succumb to outcome bias and gender bias.

4 Legal Professionals Judging Business Valuations and Valuators

The Role of Similarity, Outcome and Gender Bias[1]

ABSTRACT

Legal professionals are frequently confronted with complex valuation issues, as in business many disputes revolve around conflicting views on a business' valuation (i.e., the present value of a company's future earnings as determined by a valuator). Ideally, legal professionals judge valuations solely on the basis of the correct application of the selected valuation method. However, legal professionals are generally not trained to judge an economic valuation on its mathematical and methodological soundness. Therefore, the present experimental study (N = 272) investigates which factors might influence legal professionals' opinions concerning valuations and valuators. We demonstrate that legal professionals' judgments of valuations and valuators are affected by (1) the degree of perceived similarity with the valuator (i.e., similarity bias), (2) the outcome of a deal in which a valuation was used (i.e., outcome bias), and (3) the valuator's gender (i.e., gender bias). Implications for theory and legal practice are discussed.

4.1 INTRODUCTION

In business transactions, it is common for the parties involved to perceive the value of a company or asset very differently, frequently resulting in lengthy and costly legal disputes. Consider for example a seller and a buyer of a company arguing about the value of the company as the buyer believes the seller overvalued the company. Or consider a company shareholder who is obliged to transfer his/her shares to another shareholder following a shareholder dispute, and who believes these shares are worth much more than the other shareholder does. Similar situations of differing value perceptions and resultant disputes can for example be found when (1) a shareholder suffered damages as a result of an unlawful act by another shareholder and the loss of value has to be determined, (2) tax authorities disagree on the value of a

1 This chapter is based on the paper by: Broekema, M. J. R*., Strohmaier, N*., Adriaanse, J. A. A., & Van der Rest, J. I. Legal Professionals Judging Business Valuations and Valuators: The Role of Similarity, Outcome and Gender bias. Submitted for publication. * Shared first authors.

specific company after shares have been transferred within a family circle, or (3) creditors who disagree with company owners on the value of the distressed company where a debt-for-equity swap is proposed. Hence, there are numerous litigations involving business valuations, making these valuations the subject of lengthy and costly legal proceedings.

In such disputes, legal professionals are confronted with and need to form an opinion on complex valuation issues. When evaluating the quality and accuracy of a business valuator's work, legal professionals ideally base their judgments solely on the correct application of the selected valuation method. However, valuation methods, such as the widely accepted Discounted Cash Flow (DCF) method, are vulnerable to 'errors' in the associated inputs (Bancel & Mittoo, 2014), and sensitive to underlying (valuation) assumptions (e.g., Baker, Ruback, & Wurgler, 2007; Ben-David, Graham, & Harvey, 2007; Heaton, 2002; Nikolic & Yan, 2014; Roll, 1986). Such complexities make business valuations highly technical exercises requiring advanced quantitative and financial skills. One may ask whether legal professionals are really capable of judging a valuation on its own merit, since they are usually not formally trained or qualified in the field of business valuation. This then begs the question on which grounds – other than the actual quality of a valuation or valuator – legal professionals (either as a representative of a stakeholder, or as a representative of the court) evaluate valuators and their valuations.

This question is important as legal professionals are frequently presented with complex valuation issues. Just in 2017 the Delaware Court of Chancery in the United States of America (i.e., a non-jury trial court specialized in settling disputes involving fairness decisions for different types of business entities) produced more than 230 opinions and orders, involving (among others) companies listed on the New York Stock Exchange and NASDAQ (Opinions and Orders, 2018). Additionally, in Europe where commercial courts settle commercial disputes involving legal and financial experts, the number of civil cases brought to court has been significant. In 2005, for instance, seventeen Dutch courts appointed 205 financial expert witnesses in total, and this figure does not yet include experts appointed by the litigants (de Groot & Elbers, 2008).

Moreover, in the context of (near) insolvency, legal professionals are increasingly presented with complex valuation issues as a result of the global trend towards business rescue, rather than having businesses file for bankruptcy. Specifically, following the example of Chapter 11 proceedings in the US in which debt restructurings allow businesses to continue as a going concern, other countries are now adopting laws and regulations that aim to provide businesses with a second chance. For example, the UK has its so-called "scheme of arrangements" (Companies Act, 2006) in which the court arranges debt restructurings and forms agreements between shareholders and creditors with the goal of facilitating a fresh start. Similar procedures are found in for example Australia (Corporations Act, 2001) and South Africa (Companies Act,

2008). Likewise, the European Committee is actively working on harmonizing its nation states' bankruptcy laws with the purpose of enabling business rescues to run more smoothly. With this growing focus on business rescue, valuation issues are becoming increasingly common. For example, based on a valuation of a company's earning capacity it is determined (in order to minimize damages for creditors) whether a business is more valuable as a going concern or whether a liquidation is more economical. In case of a potential fresh start (i.e., avoiding bankruptcy), the value of a company needs to be determined to find potential investors, fresh capital to fund the restructured business, or to value the claims of the different capital providers. In sum, legal professionals are frequently confronted with situations involving business valuations and due to the described trends this will only increase further.

Given the inherent complexity of judging valuations on their own merit, we investigated which factors might unjustifiably influence legal professionals' judgments of valuators and their valuations. Specifically, we aimed to explore whether cognitive biases can affect the trust that legal professionals have in valuators and in the soundness of these valuator's valuations. In this way, we set out to not only expand the existing literature on heuristics and biases in judicial proceedings by examining cognitive biases in a business valuation context, but more importantly to further our understanding of potential issues that might arise in the numerous cases where legal professionals are confronted with business valuations. Indeed, this legal context, which has received scant research attention, is important as biased perceptions of a valuator or a valuation may play a role in producing wrongful legal judgments and, consequently, bring considerable financial and/or emotional harm to the parties involved.

4.1.1 Cognitive Biases in Judging Valuators and Valuations

The notion that humans can deviate from the rational standard as a result of heuristics and biases has been well established (e.g., Kahneman & Tversky, 1979; Tversky & Kahneman, 1974). Additionally, the effects of heuristics and biases on decision making when dealing with complex financial matters has received ample research attention (e.g., Adebambo & Yan, 2018; Baker et al., 2007; Ben-David et al., 2007; Bikas, Jurevièienë, Dubinskas, & Novickytë, 2013; Daniel, Hirshleifer, & Subrahmanyam, 1998; De Bondt & Thaler, 1995; Heaton, 2002; Roll, 1986; Shefrin & Statman, 1985; Shiller, 2003; Slovic, 1972). However, to our knowledge, little or no research has been conducted on how biases might affect legal professionals in the context of disputes involving business valuations. We consider this an important gap to fill, as further insight into the dynamics of valuation disputes might ultimately help reduce the number (or length and costs) of disputes in this field.

The current research focusses on three well-known cognitive biases: similarity bias, outcome bias, and gender bias. We first briefly discuss each of these biases and elaborate on how these might affect legal professionals' judgments of valuators and valuations.

4.1.2 Similarity Bias

Similarity bias is usually conceptualized as prejudice towards and a biased perception of another individual based on sharing certain traits with that individual, such that those who are perceived to be more similar are evaluated more positively (e.g., Byrne, 1972; Vivian Chen, Lee, & Yvonne Yeh, 2008). Similarity bias has been shown to affect perceptions and judgments across different contexts, such as performance evaluations (e.g., Turban & Jones, 1988), hiring decisions (e.g., Vivian Chen et al., 2008) and cooperative behaviour (e.g., Balliet, Wu, & De Dreu, 2014). Most important for the present purposes, similarity biases have also been found in legal decision making. For example, it has been shown that minority participants (acting as jury members) showed positive in-group biases when evaluating the culpability of rape offenders, such that perpetrators were more often judged to be guilty when the rape victim was of the same ethnicity as the participant (Rector & Bagby, 1997). Moreover, jury members who saw themselves as similar to the defendant in terms of religiosity were typically less certain of the defendant's culpability (Miller, Maskaly, Green, & Peoples, 2011). Also, mock jury members perceived an expert witness as more credible when they also perceived the expert witness to be more similar to themselves in terms of personality (Gardner et al., 2013). Importantly, these effects seem not to be limited to lay people (i.e., jury members); they appear to affect legal professionals as well. Specifically, it has been found that justices' votes in US Supreme Court freedom-of-expression cases reflected their personal preferences towards the speech's ideological grouping (i.e. conservative or liberal), concluding that US Supreme Court judges can be affected by in-group biases (Epstein, Parker, & Segal, 2018).

However, it remains uncertain whether similarity bias can affect legal professionals when dealing with business valuation matters, especially because the evidence of similarity bias in financial decision making is scarce. Nonetheless, some research suggests financial judgments are not immune to similarity bias. For example, venture capitalists have been shown to evaluate opportunities more favourably when these are represented by entrepreneurs who 'think' in ways similar to their own, and that they tend to favour teams similar to themselves in type of training and experience (Franke et al., 2006; Murnieks et al., 2011). Also, recent work has shown that when financial analysts perceive a CEO to be similar to themselves in terms of personality, they will issue more positive forecasts of the CEO's company than when they perceive the CEO to be dissimilar (Becker et al., 2019).

We consider it an interesting and relevant question to test empirically whether legal professionals are affected by similarity bias when judging valuators and their work. Could it be, for example, that legal professionals have more trust in a valuation made by a valuator who is perceived as similar to themselves, even though this valuation might actually be of lesser quality than one conducted by a valuator who is perceived as less similar? To test the potential existence of such a similarity bias, we formulated the following hypothesis:

Hypothesis 1a: When legal professionals perceive a valuator to be more similar to themselves, they have more trust in the valuation.

In addition to the hypothesized link between perceived similarity and trust in a valuation, we also tested to what extent the perceived trustworthiness of the valuator mediates this relationship. We expect that the higher the perceived similarity between a legal professional and a valuator, the more trustworthy the valuator will be perceived to be, and, consequently, the more trust the legal professional will have in the valuator's valuation. The distinction between trust and trustworthiness deserves further consideration. The act of trusting a valuation outcome and using that outcome in subsequent negotiations is considered an act of trust, as trust can be defined as the willingness to take a risk in a relationship (Mayer et al., 1995) or as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another" (Rousseau et al., 1998). Trustworthiness is different in that it is a quality of a particular person rather than an action. A legal professional who considers a valuator to be trustworthy believes that valuator is competent, benevolent, and honest, which together lead to heightened trust in the valuator (Mayer et al., 1995).

Hence, we expect perceived trustworthiness of a valuator to mediate the relationship between perceived similarity and trust in the valuator's valuation. There is evidence for the notion that perceptions of trustworthiness can be affected by the degree a person is perceived as similar by an observer (e.g., Cazier, Shao, & Louis, 2007; Lui, Ngo, & Hon, 2006; Racherla, Mandviwalla, & Connolly, 2012; Yildiz, 2015). For example, even when people only match in terms of facial features, this is sufficient to increase perceptions of trustworthiness (DeBruine, 2005; Farmer, McKay, & Tsakiris, 2014), as well as subsequent cooperation (DeBruine, 2002; Kret, Fischer, & De Dreu, 2015; Krupp, Debruine, & Barclay, 2008). Therefore, based on the above we formulated the following hypothesis:

Hypothesis 1b: Perceived trustworthiness of the valuator mediates the relationship between perceived similarity and trust in the valuation.

4.1.3 Outcome Bias

Outcome bias is the tendency to take the outcome of a certain decision into account when evaluating that decision, "in a way that is irrelevant to the true quality of the decision" (Baron & Hershey, 1988, p. 570). In other words, people tend to judge the quality of an earlier decision for a large part on its outcome, rather than on evaluating the elements that led to the decision.

A substantive body of literature has been published on outcome bias across a range of different contexts. For example, research shows that the worse the consequences of a particular accident are, the greater the tendency to assign higher levels of responsibility and blame for the accident to the initiator (Baron & Hershey, 1988; Walster, 1966). Gino, Moore, and Bazerman (2009) demonstrated that people condemn unethical behaviour more strongly and assign greater levels of blame when the (randomly generated) outcome of the behaviour has detrimental consequences relative to when people are unaware of the behaviour's consequences. In a medical context it has been demonstrated that when people are asked to evaluate a surgeon's decision to perform an operating on a patient, this decisions is judged more negatively when (all else being equal) the operation ultimately fails and the patient dies compared to when the operation is successful and the patient recovers (Sezer, Zhang, Gino, & Bazerman, 2016). In financial decision making, people believed an auditor to be more negligent after an adverse outcome (i.e., business failure) compared to when these individuals remained ignorant of the outcome (Kadous, 2000; Peecher & Piercey, 2008). Also, when finance managers had to evaluate their agents' investment strategies and assign bonuses accordingly, these managers evaluated the same strategy more favourably when it resulted in a good payoff, even if they otherwise had a negative perception of the investment strategy (König-Kersting, Pollmann, Potters, & Trautmann, 2017).

Outcome biases can also be found in legal decision making. For example, evaluations of medical negligence were strongly influenced by knowledge of an adverse outcome, such that the same actions of a medical specialist were evaluated less harshly if one was ignorant of any adverse outcome (Hugh & Dekker, 2009, see also Harley, 2007; Kamin & Rachlinski, 1995). There is also some evidence that legal professionals such as judges can be affected by outcome information (e.g., Anderson, Lowe, & Reckers, 1993; Kneer & Bourgeois-Gironde, 2017).

We investigated whether legal professionals are also affected by outcome information when evaluating a business valuator. Specifically, when a business valuator conducted a valuation and this valuation is used to negotiate a deal, will legal professionals evaluate the valuator more negatively when the deal turns out to be a bad one compared to when the deal turned out to be a good one? Outcome bias can be disadvantageous for valuators as this may result in increasingly negative perceptions of both the valuation and the valuator when the outcome of a deal is unfavourable. Hence, valuators might be

exposed to the risk of being unduly blamed for an adverse outcome, being excluded from future work despite the quality and soundness of their work, or even be held liable. To test whether legal professionals are affected by outcome bias in this context, we formulated the following hypothesis:

> *Hypothesis 2: Valuators will be judged more negatively following an undesirable outcome and more positively following a desirable outcome.*

4.1.4 Gender Bias

Gender bias entails the automatic (conscious or unconscious and positive or negative) prejudice or preference towards a specific gender (Greenwald & Banaji, 1995; Rothchild, 2007). This bias has been studied in a range of different contexts, such as career success, corporate leadership, and female leadership (e.g., Hoyt & Murphy, 2016; Kanter, 1977), and within certain occupational groups such as teachers, scientists and lawyers. Research shows that both men and women place a higher trust in their superior when that superior has the same gender (Scott, 1983), that men are often preferred to equally qualified women (Marlowe, Schneider, & Nelson, 1996), and that men are believed to be more competent and have greater status compared to women (Ridgeway, 2001).

More importantly for the present purposes, gender bias has also been found in the legal domain. It has been shown that gender bias occurs in federal courts in the US, as demonstrated in situations such as courtroom interaction, jury instructions, judicial staffing, and attitudes towards female judges and lawyers (Resnik, 1993). Moreover, when forensic psychiatric clinicians and judges were given a written vignette describing a homicide case, female defendants were judged significantly more often as legally insane relative to male defendants (Yourstone, Lindholm, Grann, & Svenson, 2008). Additionally, in a study investigating attorneys' credibility, mock jurors indicated that male attorneys were more likely to be retained as their own personal council than female attorneys (Hodgson & Pryor, 1984).

Interestingly, it appears that not only do men judge women more negatively, in some contexts women also judge other females more negatively. For example, in the same study that investigated attorneys' credibility, female participants rated a female attorney as significantly less intelligent, less friendly, less pleasant, less capable, less expert, less trained, and less experienced than a male attorney (Hodgson & Pryor, 1984). In contrast, male participants did not demonstrate such a gender bias. Similarly, research has shown that women are perceived (both by men and women) to be less similar to successful scientists than men are (Carli, Alawa, Lee, Zhao, & Kim, 2016). Moreover, within the context of female leadership, successful women sometimes aim to defend their position in (male-dominated) organizations by actively disad-

vantaging other women in their rise to the top (the 'Queen bee syndrome'; Baumgartner & Schneider, 2010; Derks, Van Laar, & Ellemers, 2016; Mathison, 1986). However, in other contexts women are perceived more positively by other women, as indicated by a study that showed that female physicians rated the abstract of a medical research design more positively in case the authors were female compared to when they were male, whereas male assessors did not show such a bias (Johansson, Risberg, Hamberg, & Westman, 2002). Hence, gender bias can be found both among men and women and differs such that people sometimes favour and at other times disfavour their own gender.

Therefore, it is not completely clear how gender bias might affect perceptions of valuators and their valuations. To test this potential bias in legal professionals' evaluations of valuators and their work, we formulated the following working hypothesis:

Hypothesis 3: Legal professionals have more trust in a valuator and the valuation if the gender of the valuator matches their own.

4.1.5 The Current Study

Using an experimental research design, we studied a unique sample of legal professionals to see whether they are affected by similarity, outcome, and gender bias when dealing with valuation issues. Specifically, we addressed the three hypotheses: (1) whether legal professionals have more trust in a valuation when this valuation has been conducted by a valuator who is similar to themselves rather than dissimilar, (2) whether legal professionals evaluate a valuator more negatively after a bad deal than after a good deal, and (3) whether evaluations of valuators and their valuations are in some way affected by the gender of the valuator and/or the legal professional.

The legal professionals who participated in this study were presented with a business case involving a business valuation. The context of the case was a business that recently went bankrupt and for which a trustee was appointed to settle the estate. In the case, the trustee hired a valuator to determine the value of the company prior to engaging in negotiations with potential buyers. Participants were asked to put themselves in the shoes of the appointed trustee and to evaluate the valuation and role of the valuator from the perspective of the trustee handling the estate.

4.2 METHOD

4.2.1 Participants

A total of 272 legal professionals in the field of business rescue and insolvency completed an online survey, for which they were approached via e-mail. Participants were members of INSOL International, a world-wide federation of national associations of legal professionals who specialize in turnaround and insolvency. Of these, 125 participants reported working as insolvency lawyer (46.0%), 89 as insolvency practitioner (32.7%), 32 as accountant (11.8%), 21 as turnaround/restructuring consultant/manager (7.7%), 17 as trustee, (6.3%), 17 as legal scholar (6.3%), 13 as judge (4.8%), 6 as banker (2.2%), and 13 chose 'other' (4.8%).[2] To ensure a relevant sample was obtained for our purposes, participants were asked whether they are confronted with decisions in their work that involve valuation outcomes; 83.5% answered positively.[3]

We aimed to get an even split between male and female participants, resulting in a distribution of 126 females (46.3%) and 146 males. The average age of the participants was 45.1 (*SD* = 11.5) and they had on average 19.1 years (*SD* = 11.2) professional experience. Forty different countries are represented in the sample. The six most represented countries are: The United Kingdom (26.5%), Australia (16.2%), South Africa (9.2%), Canada (5.5%), the United States of America (4.8%), and the Netherlands (4.8%).[4]

4.2.2 Design and Procedure

We adopted a 2 (Similarity: low vs. high) x 2 (Outcome: positive vs. negative) x 2 (Firm: low profile vs. high profile) between subjects factorial design. This means that for half of the participants, the description of the valuator matched the participant in key aspects (i.e., high similarity condition), whereas for the other half the description mismatched the participant (i.e. low similarity condition). Also, for half of the participants, the outcome of the deal as described in the case was positive (i.e., positive outcome condition) whereas for the other half the described outcome of the deal was a bad one (i.e., negative outcome condition). The Firm variable varied the valuator's current employer, which was either a low profile firm (i.e., "a small, local valuation firm") or high-profile firm (i.e., "an international Big Four firm"). This factor was incorporated for exploratory reasons to determine whether the biases under investigation only manifested in case the valuator worked for either

2 The sum of these figures equals 333, which is more than the total number of 272 participants due to the fact that participants were allowed to list more than one profession.
3 Results did not differ significantly when only this group was analysed.
4 See Appendix 4.1 for a complete overview of the participants' nationalities.

a high profile or low profile firm. The key outcome variables of interest were (1) the participants' trust in the valuation and (2) the participants' evaluation of the role the valuator played in bringing about the outcome of the deal.

On starting the survey, participants received a general introduction regarding the background of the study and were subsequently asked to answer several demographic questions regarding their gender, age, nationality, profession, experience in their profession, and whether their work involved making decisions based on valuation outcomes. Next, participants were presented with the first part of a case concerning a business that recently went bankrupt and for which a trustee was appointed to settle the estate. In the case, the trustee hired a valuator to determine the value of the company prior to engaging in negotiations with potential buyers. Participants were asked to put themselves in the shoes of the appointed trustee and to evaluate the valuation and role of the valuator from the perspective of the trustee handling the estate.

Following the first part of the case, participants were presented with three questions that aimed to measure the participants' perceived similarity with the valuator. Next, three questions were presented to measure the perceived trustworthiness of the valuator. Finally, participants were asked to answer four questions that measured the participants' trust in the valuation itself.

After part one of the case with accompanying questions, participants were presented with the outcome of the case (i.e., the second part of the case), in which a deal was closed with a buyer of the entire estate. Half the participants received an outcome in which the deal turned out to be good and the other half was presented with an outcome detailing a bad deal. Next, participants were asked questions aimed at capturing the participants' perception of the valuator's role in bringing about the good or bad deal.

Finally, participants were asked whether English was their native language (68.0% indicated "yes") and if not to what extent they properly understood the case and subsequent questions. Participants answered on a 7-point Likert scale ranging from (1) "Strongly disagree" to (7) "Strongly agree" ($M = 6.52$, $SD = 0.68$). Participants were debriefed and given the opportunity to provide feedback and leave behind their e-mail address, so they could be informed about the results.[5]

5 We report all manipulations, all data exclusions, and all measures in our study, so we note that two short sets of questions (10 in total) on free will and quality of sleep, and six general questions unrelated to the case on valuation practices in general were excluded from the analyses. These questions were pilot questions for a different research project. The results are available on request.

4.2.3 Material and Measurements

4.2.3.1 Part one of the case

Similarity and profile manipulations

The fictitious case (albeit based on a real-world case) described a company (GBP 100 million turnover, 350 employees) in the fashion industry that recently went bankrupt after the main financiers decided to end the funding after years of trying to save the company from bankruptcy. As a result, the creditors were exposed to a deficit of roughly GBP 25 million and a trustee was appointed by the court to settle the estate and manage a possible relaunch of the company. The trustee aimed to sell the assets for at least GBP 25 million to minimize any shortage of the estate and the creditors also believed such a result would be realistic. A private equity firm (PE-firm) turned out to be interested in buying the company. Prior to starting negotiations with the PE-firm, the trustee hired a valuator to value the assets of the company.

The case provided information about the background of the valuator which was either designed to match (in the high similarity condition) or to mismatch (in the low similarity condition) the participants. Specifically, for those in the high similarity condition, the described valuator was of the same gender as the participant (i.e., Laura Matthews in case of a female participant and Andrew Matthews in case of a male participant) and of the same age (i.e., "in his/her thirties if the participant was between 30-39 years old, "in his/her forties" if the participant was between 40-49 years old, etc.). In the low similarity condition, the gender of the valuator was the opposite from the participant's and the valuator's age was as far away from the participant's age as possible. If the participant was younger than 45, the case stated that the valuator was "in his/her sixties", and if the participant was 45 years or older, the valuator was "in his late-twenties". The valuator's employer was varied such that for half of the participants the valuator worked at a low-profile firm (i.e., "a small, local valuation firm), and for the other half of the participants the valuator worked at a high-profile firm (i.e., "an international Big Four firm"). The valuator's educational and professional background were kept consistent across the two conditions.

Finally, the case mentioned that the valuator determined the value of the company's assets using the DCF-method and that the assets were valued at GBP 18.25 million, which was roughly GBP 7 million short of preventing a deficit of the estate (total debt was GBP 25 million). The full case can be found in Appendix 4.2.

Perceived similarity

In addition to manipulating similarity by altering the profile of the valuator, we also measured *perceived similarity* with the valuator. This was done for two reasons. First, this allowed us to check whether the manipulation of similarity was successful, as this would mean the perceived similarity would be signi-

ficantly higher in the high similarity condition than in the low similarity condition. Second, we wanted to examine the effect of both actual (i.e., manipulated) similarity and perceived similarity on trust in the valuation through its effects on perceived trustworthiness of the valuator. Previous research has shown that perceived similarity is typically a stronger predictor of attitudes and behaviour than actual similarity (e.g., Ferris & Judge, 1991; Strauss, Barrick, & Connerley, 2001; Tidwell, Eastwick, & Finkel, 2013; Turban & Jones, 1988). This is thought to be because in order for similarity biases to manifest, an observer must first actually consider another person to be similar (Byrne, 1972). In Chapter 3 of this dissertation it was also observed that perceived similarity correlated stronger with other variables than manipulated similarity.

The perceived similarity scale (Cronbach's $\alpha = .84$) consisted of the following three items: "I believe I have a similar character as the valuation professional, [Laura/Andrew] Matthews", "I believe I have similar norms and values as the valuation professional, [Laura/Andrew] Matthews", and "I believe that, in general, I am very similar to the valuation professional, [Laura/Andrew] Matthews". Participants were asked to indicate the extent to which they agreed with each statement on a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7).

Trustworthiness of the valuator

This variable was measured using three items (Cronbach's $\alpha = .77$), each representing one of the three dimensions of trustworthiness, "ability", "benevolence" and "integrity", as put forward by Mayer et al. (1995). The item measuring ability was: "I trust that the valuation professional, *[Laura/Andrew] Matthews*, is competent in the field of business valuation and is able to make a solid forecast for the purpose of this valuation". The item measuring benevolence was: I trust that the valuation professional, *[Laura/Andrew] Matthews*, has an eye for the issues that are important in this case and that *[she/he]* will do [her/his] utmost best to meet me in my objectives". The item measuring integrity was: I trust that the valuation professional, *[Laura/Andrew] Matthews*, is a person of integrity and will be fair to me in [her/his] considerations towards the value of the assets". Participants again responded on a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7).

Trust in the valuation

We measured participants' trust in the valuation outcome using four items (Cronbach's $\alpha = .67$). Considering the importance of risk taking in trusting behaviour (e.g., Mayer & Davis, 1999) we aimed to measure participants' trust in the valuation outcome by including questions asking participants how likely they believed it was they would perform certain actions involving risk based on the valuation outcome. Specifically, we asked participants (1) "How likely do you consider it to be that you would accept the valuation outcome and start negotiating with the PE-firm based on [Laura/Andrew] Matthews's valuation of GBP 18 million?", and (2) "How likely is it that you would consult

a second valuator to check the valuation outcome as determined by [Laura/Andrew] Matthews, realizing there are additional costs to a second opinion that will affect the estate?". Participants answered on a 7-point Likert scale ranging from "very unlikely" (1) to "very likely" (7). The other two items of the scale were (3) "I trust that the valuation outcome is representative of the market value of the assets" and (4) "To what extent do you believe it is justified to try to determine a higher valuation outcome by arguing the outcome with the valuator, [Laura/Andrew] Matthews?". Participants answered these last two questions on a 7-point Likert scale with the first ranging from "strongly disagree" (1) to "strongly agree" (7), and the second from "very justified" (1) to "very unjustified" (7).

As the internal consistency of the scale was below the benchmark range of .70-.80 (Lance, Butts, & Michels, 2006), we conducted exploratory factor analysis (EFA) to see if the four items did appear to measure a single construct. The EFA identified one single factor and all four items loaded on the factor satisfactorily. Also, the observed Cronbach's alpha can be considered sufficient for theory-testing purposes (Nunnally & Bernstein, 1994). Hence, based on the face validity of the scale combined with the internal consistency and EFA we believe it is safe to assume the four-item scale is a valid measure of participants' trust in the valuation outcome.

4.2.3.2 Part two of the case

Outcome manipulation

After the questions concerning perceived similarity, trustworthiness of the valuator, and trust in the valuation, participants were presented with either a positive outcome or a negative outcome to the case. The positive outcome described a situation in which the negotiations with the PE-firm went very slow and difficult and that other parties refrained from making a bid when they learned the assets were valued at GBP 18 million. However, in the end the deal was closed at GBP 18 million and the creditors felt satisfied, believing this deal was the best they could have gotten out of the situation. In the negative outcome scenario, the PE-firm accepted the GBP 18 million offer instantly, and that the trustee was later approached by other parties who indicated they were willing to pay GBP 25 million and above for the assets. Because of this, the creditors reported feeling frustrated as they believed a good enough deal to cover the entire deficit of the estate had in fact been feasible. Hence, the difference between the two outcome scenarios was the ease with which the deal was closed and the creditors and major stakeholders' reactions to the deal (i.e., either happy or frustrated).[6]

6 Both the positive and negative outcome scenario can be found in Appendix 4.3.

Evaluation of the valuator's role
We aimed to investigate the effect of outcome information on the evaluation of the role the valuator played in bringing about the outcome of the case. That is, are valuators judged more negatively after a suboptimal outcome (i.e., a bad deal) and more favourably after a fortunate outcome (i.e., a good deal)? We used three separate measures (i.e., not a single scale). First, participants were asked: "To what extent do you consider the valuation professional, [Laura/Andrew] Matthews, to be blameworthy or praiseworthy for the end result of the case (i.e., closing the deal at GBP 18 million)?", to be answered on a 7-point Likert scale ranging from "*very blameworthy*" (1) to "*very praiseworthy*" (7). Second, participants were asked to indicate to which extent they agreed or disagreed with the following statement: "I believe that the valuation professional, [Laura/Andrew] Matthews, did [her/his] utmost best to determine a value according to the best of [her/his] knowledge and belief". Third, participants were presented with the statement: "Considering the outcome of the deal, I believe I would hire the valuation professional, [Laura/Andrew] Matthews, next time again". These last two statements were answered on a 7-point Likert scale ranging from "*strongly disagree*" (1) to "*strongly agree*" (7).[7]

4.3 Results

4.3.1 Data Preparation

Considering the importance of reading the case and the details regarding the valuator properly, we determined a-priori the exclusion criterion of having to spend at least 60 seconds reading the case. Even though this is relatively arbitrarily chosen, we consider it a very lenient cut-off point, given it would require a reading speed of 16.8 standard deviations (1 SD = 30 words/minute) above the average reading speed (M = 228 words/minute) in the English language (Trauzettel-Klosinski & Dietz, 2012) to complete the case of 733 words within 60 seconds. Eleven participants (4.0%) were excluded from the analyses, resulting in a final sample of 261participants. Importantly, excluding participants from further analyses did not affect any of the findings as similar effect sizes and significance levels were found when the entire sample was analysed.

7 A fourth item was presented but in hindsight we realized this item was phrased suboptimally and participants may have had difficulties interpreting this question. Therefore, this item was excluded from the analysis. The item was: "I believe that the end result of the case (i.e., closing the deal at GBP 18 million) is due to the work of the valuation professional, [Laura/Andrew] Matthews".

4.3.2 Similarity Bias

We tested the hypothesis that trust in a valuation can partly be explained by the similarity between the valuator and the legal professional judging the valuation, and that this relationship is mediated by the perceived trustworthiness of the valuator. We first conducted a manipulation check to see whether the similarity manipulation affected the perceived similarity of the valuation professional. An independent samples t-test indicated that those in the high similarity condition indeed perceived the valuator to be more similar to themselves (M = 4.07, SD = 1.05) than those in the low similarity condition did (M = 3.56, SD = 1.07), $t(259) = -3.84$, $p < .001$, $d = .48$, suggesting the manipulation of similarity was successful.

Next, we used Hayes (2018) PROCESS (10.000 bootstrap samples) to investigate whether similarity (perceived and manipulated) predicted the participants' trust in the valuation, and whether this relationship was mediated by the perceived trustworthiness of the valuator. When using manipulated similarity as the predictor variable, no significant effect was found on the participants' trust in the valuation, b =.11, SE = .13, 95% CI [-.16, .37]. When perceived similarity was used as the predictor variable, perceived similarity was found to predict trust in the valuation outcome, and this relationship was mediated by the perceived trustworthiness of the valuator, as indicated by a significant indirect effect, b =.12, SE = .03, 95% CI [.06, .18]. Hence, the hypothesis that perceived similarity with the valuator predicts trust in a valuation and that this relationship is mediated by the perceived trustworthiness of the valuator was confirmed. Table 4.1 shows further details of the mediation analysis.

Table 4.1. Unstandardized Regression Coefficients (b), Standard Errors (SE) and Significance Levels (p) for the Proposed Mediation Model with Perceived Trustworthiness of the Valuator (M) as the Mediator of the Relationship Between Perceived Similarity (X) and Trust in the Valuation (Y).

	M (Trustworthiness)			Y (Trust in valuation)		
Antecedent	*b*	*SE*	*p*	*b*	*SE*	*p*
X (Perceived similarity)	.25	.05	< .001	.13	.06	.026
M (Trustworthiness)	-	-	-	.48	.07	< .001
Constant	4.14	.20	< .001	.88	.35	.013
	R^2 = .089			R^2 = .89		
	$F(1, 259) = 25.32$, $p < .001$			$F(2, 258) = 35.06$, $p < .001$		

We conducted a second mediation analysis in which the valuator's firm profile (high profile vs. low profile) was included as a moderator variable for each

of the mediation model's paths. This was done to explore whether the relationships between perceived similarity, perceived trustworthiness, and trust in the valuation were dependent on the valuator's firm profile. Results showed that none of the moderation effects were significant (all p-values > .46), suggesting that the observed relationship was independent of the reputation of the valuator's firm.

4.3.3 Outcome Bias

We tested the hypothesis that participants' evaluation of the role of the valuator in bringing about the outcome of the deal is affected by the outcome of that deal (i.e., positive vs. negative), and whether such an effect is dependent on the reputation of the valuator's firm. First, we conducted a Multivariate Analysis of Variance (MANOVA) with the deal outcome condition (positive vs. negative) and the valuator's firm profile (low profile vs. high profile) as the independent variables (including the interaction term), and the three separate items measuring the evaluation of the valuation professional's role in bringing about the deal outcome as dependent variables. The MANOVA returned a significant effect for the deal outcome condition, $F(3,255) = 35.51$, $p < .001$, $\eta_p^2 = .30$, but not for the valuator's firm profile, nor for the interaction between these two factors (Fs < 1). That is, the effect of the deal outcome on the evaluation of the valuator's role in the outcome was independent of the profile of the valuator's firm.

As Table 4.2 shows, subsequent Univariate Analyses of Variance (ANOVA) revealed that there were significant effects of the deal outcome condition for all three dependent variables. In case of a negative deal outcome, participants believed the valuator deserved blame for the outcome of the deal as indicated by a score below the midpoint ($M = 3.64$), whereas a positive deal outcome led participants to believe the valuator deserved praise ($M = 4.49$). Likewise, in case of a positive outcome participants believed more strongly that the valuator did her/his utmost best to determine a value according to the best of her/his knowledge and belief ($M = 5.35$), than when the case ended negatively ($M = 4.81$). Moreover, results showed that participants believed they would rehire the valuator in case of a positive deal outcome as indicated by a mean score above the midpoint ($M = 4.49$), whereas they believed they would not rehire the valuator in case of a negative deal outcome ($M = 3.50$). Hence, the results indicate that participants are affected by the outcome of the deal when evaluating whether the valuator should be praised or blamed, whether the valuator did her/his best, and whether they would rehire the valuator in the future.

Table 4.2. Descriptive Statistics and Significance Tests for the Univariate Analyses for the Effects of Deal Outcome on the Three Dependent Variables.

	Negative Outcome (N = 129)		*Positive Outcome* (N = 132)				
Dependent Variables	*M*	(*SD*)	*M*	(*SD*)	$F(1, 259)$	p	η^2
Blame/Praise	3.64	(.79)	4.49	(.85)	69.76	< .001	.212
Effort	4.81	(1.15)	5.35	(1.00)	16.56	< .001	.060
Rehire	3.50	(1.34)	4.49	(1.14)	87.61	< .001	.253

Interestingly, post-hoc exploratory analyses indicated that on top of the effect of the deal outcome, the perceived similarity with the valuator also affected the participants' evaluation of the valuator. As Table 4.3 shows, multiple linear regression analyses indicated that when the outcome condition and perceived similarity are included as predictor variables in a stepwise approach, the model with both variables explained significantly more variance (for Blame/Praise, Effort, and Rehire) than the model in which only the deal outcome was included. Hence, it appears that not only did the participants have more trust in the valuation due to higher perceptions of trustworthiness of the valuator if the valuator was perceived as more similar to themselves, this perceived similarity with the valuator also predicted participants' judgments regarding whether the valuator deserved blame or praise, whether the valuator did her/his best and whether they would rehire the valuator.

Table 4.3. Unstandardized Regression Coefficients (*b*), 95% Confidence Intervals [95% CI] and t-values of the Multiple Regression Models with Deal Outcome Condition and Perceived Similarity as Predictor Variables of the Dependent Variables Blame/Praise, Effort, and Rehire. * $p < .05$, *** $p < .001$.

	Model 1		*Model 2*	
Blame/Praise	b [95% CI]	*t*	b (95% CI)	*t*
Deal Outcome condition (negative = 0, positive = 1)	.85 [.65, 1.05]	8.35 ***	.85 [.65, 1.05]	8.42 ***
Perceived Similarity	-	-	.11 [.02, .20]	2.37*
	$R^2 = .212$		$\Delta R^2 = .017$	
	$F(1, 259) = 69.76$, $p < .001$		$F(1, 258) = 5.59$, $p = .019$	
Effort	b [95% CI]	*t*	b (95% CI)	*t*
Deal Outcome condition (negative = 0, positive = 1)	.54 [.28, .81]	4.07 ***	.54 [.29, .79]	4.19 ***
Perceived Similarity	-	-	.26 [.14, .37]	4.30***
	$R^2 = .056$		$\Delta R^2 = .063$	
	$F(1, 259) = 16.56$, $p < .001$		$F(1, 258) = 18.46$, $p < .001$	
Rehire	b [95% CI]	*t*	b (95% CI)	*t*
Deal Outcome condition (negative = 0, positive = 1)	1.44 [1.14, 1.75]	9.36 ***	1.44 [1.15, 1.73]	9.69 ***
Perceived Similarity	-	-	.31 [.18, .45]	4.54***
	$R^2 = .253$		$\Delta R^2 = .055$	
	$F(1, 259) = 87.61$, $p < .001$		$F(1, 258) = 20.61$, $p < .001$	

4.3.4 Gender Bias

We explored whether the gender of the valuator explained variance in the perceived trustworthiness of the valuator, and whether this effect depended on the gender of the legal professional. An ANOVA with the perceived trustworthiness of the valuator as the dependent variable and the gender of the valuator and that of the participant as independent variables did not return a significant interaction effect between these two variables, $F(1,257) = 2.43$,

$p = .12$, $\eta_p^2 = .01$, nor any main effects. However, post-hoc exploratory analyses did reveal a gender bias when we analysed the components of trustworthiness (i.e., ability, benevolence, and integrity). The three items corresponding to the three dimensions of trustworthiness were subjected to a MANOVA with both the gender of the participant and the valuator as independent variables. The results showed a significant effect for the interaction between the two gender variables, $F(3,255) = 2.70$, $p = .046$, $\eta_p^2 = .03$, but not for the main effects.

Subsequent univariate analyses indicated that there was only a significant interaction effect for the item measuring trust in the valuator's ability, $F(1,257) = 6.53$, $p = .011$, $\eta_p^2 = .03$. Simple main effect analyses showed that male participants had more trust in the valuator's ability when the valuator was also male ($M = 5.30$, $SD = 1.05$) than when the valuator was female ($M = 4.77$, $SD = 1.10$), $F(1,138) = 8.52$, $p = .004$, $\eta_p^2 = .06$. Female participants on the other hand showed no difference in their judgments of the valuator's ability based on the valuator's gender, as their perception of the male valuator's ability ($M = 5.13$, $SD = 1.22$) was not statistically different ($F < 1$) from their perception of the female valuator's ability ($M = 5.31$, $SD = 1.13$).

Table 4.4. Unstandardized Regression Coefficients (*b*), Standard Errors (*SE*) and Significance Levels (*p*) for the Proposed Moderated Mediation Model with Trust in the Valuator's Ability as the Mediator (M) of the Relationship Between the Valuator's Gender (X) and Trust in the Valuation (Y), with the Participant's Gender as the Moderator (W).

	Trust in valuator's ability (M)			*Trust in valuation (Y)*		
Antecedent	*b*	*SE*	*p*	*b*	*SE*	*p*
Valuator's gender (X)	*-.53*	*.19*	*< .01*	*-.08*	*.12*	*.50*
Trust ability (M)	-	-	-	*.40*	*.05*	*< .001*
Participant's gender (W)	*-.18*	*.20*	*.37*			
X*W	*.71*	*.28*	*.01*			
Constant	*5.30*	*.14*	*< .001*	*1.77*	*.27*	*< .001*
	$R^2 = .039$			$R^2 = .187$		
	$F(3, 257) = 3.48$, $p = .017$			$F(2, 258) = 29.73$, $p < .001$		

	Trust in valuator's ability (M)		
	b	*SE*	*p*
Male participant (W)			
Valuator's gender (X)	*-.53*	*.19*	*< .01*
Female participant (W)			
Valuator's gender (X)	*.18*	*.20*	*.37*

To explore whether this gender bias affected trust in the valuation through its effect on trust in the valuator's ability, a mediation analysis was carried out. As Table 4.4 shows, the heightened trust in the valuator's ability, when both the participant and valuator were male, mediated the relationship between the gender of the valuator and the participant's trust in the valuation, as indicated by a significant moderated mediation effect, Index = .29, 95% CI [.06, .54]. That is, the gender of the valuator predicted the participants' trust in the ability of the valuator and this subsequently predicted the trust in the valuation, but only if the participant was male, as indicated by a significant indirect effect for this group, b = -.21, SE = .08, 95% CI [-.37, -.06], and the fact that such a mediation effect did not exist for female participants, b =.07, SE = .09, 95% CI [-.09, .25]. The conceptual model of the moderated mediation effect is illustrated by Figure 4.1.

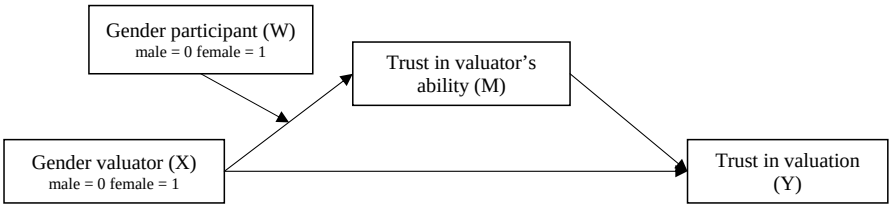

Figure 4.1. Moderated mediation model of the relationship between the gender of the valuator (X)

4.4 Discussion

We investigated the extent to which legal professionals are affected by outcome bias, similarity bias, or gender bias when they evaluate valuators and their valuations. We found that when legal professionals evaluate a valuator after they have used her/his valuation report for the sale of a company's assets, the outcome of the deal affects the legal professionals' opinion of the valuator. In case of a good deal, the valuator is perceived in a more positive light whereas the same valuator is perceived more negatively after a bad deal. This effect is independent of the profile of the valuator's firm. We also found that if a valuator is perceived by legal professionals as more similar to themselves, they also perceive the valuator as more trustworthy, and in turn have more trust in his/her valuation. Perceived similarity thus partly influences the legal professional's trust in the valuation indirectly through its effect on the trustworthiness of the valuator. Interestingly, in the case of higher perceived similarity, legal professionals are also more positive about the valuator's role in the deal, since they are more likely to rehire the valuator in the future, believe more strongly that the valuator deserves praise (or less blame in case of a bad deal), and believe more strongly that the valuator did her/his best in valuing the assets of the company. In addition, we found that male pro-

fessionals have more trust in the ability of a valuator when the valuator is a male as well. This heightened trust in the valuator's ability also predicts trust in the valuation. Female professionals do not show such gender bias in their perception of the ability of the valuator.

4.4.1 Theoretical and Practical Implications

Our research shows that legal professionals can be influenced by extra-legal factors when evaluating valuators and their valuations. The study thereby contributes to the literature by demonstrating that similarity, outcome bias, and gender bias can also manifest itself in the context of evaluating valuations and valuators.

Specifically, we found empirical support for the notion that legal professionals can be susceptible to similarity bias when dealing with complex valuation matters, thereby building on the previously discussed research on similarity biases in legal decision making (e.g., Epstein et al., 2018; Gardner et al., 2013; Miller et al., 2011; Rector & Bagby, 1997). Moreover, empirical support was found for the notion that when legal professionals have to evaluate valuators, they can be affected by outcome knowledge in such a way that a bad deal outcome causes them to perceive the valuator more negatively. This finding is in line with research on outcome bias in the legal context (e.g., Anderson, et al., 1993; Harley, 2007; Kamin & Rachlinski, 1995; Kneer & Bourgeois-Gironde, 2017). Finally, empirical support was found for gender bias among male legal professionals in such a way that male participants have more trust in the valuator's ability when the valuator was also male compared to when the valuator was female. This is in line with studies demonstrating that males favour other males (e.g., Fay & Williams, 1993; Macnell, Driscoll, & Hunt, 2015; Marlowe et al., 1996; Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012), but in contrast with research showing that females are harsher when judging men (e.g., Johansson et al., 2002).

Equally important are the practical implications of our research. In business, the interests of stakeholders are frequently not aligned. Consequently, there are many disputes between stakeholders involving or even focusing on a valuation. In their capacity as representative of the stakeholders' interests, or as independent experts representing the court, legal professionals are confronted with valuation reports and valuation issues and they must form opinions about the valuation and the valuator. In an ideal world, the evaluation of valuators and valuations is solely based on the quality of the valuation and the correctness of the applied valuation framework. Following our premise that it is unlikely that legal professionals are able to judge valuations on their own merit, we indeed found that other extra-legal factors influence legal professionals' perception about valuations and valuators.

The implication of this is that regardless of whether a valuation is demonstrably correct, complies to all (theory-based) valuation standards and requirements, and is free from valuation input biases, both the valuation and the valuator can be judged as inadequate, and vice versa. This can be problematic as from a pragmatic standpoint it can obscure the efficient settlement of valuation disputes. From a more principally oriented standpoint it could be argued that valuators might be unduly blamed, discredited and/or distrusted despite having delivered sound work, violating a fair treatment in legal proceedings. Indeed, disputes about or involving valuations might be conducted on improper grounds and even be unnecessarily extended, which is not beneficial for any stakeholder.

Importantly, neither worldwide valuation practice nor legal practice currently offer clear answers to counter this problem, for an important part because cognitive biases are difficult to neutralize or eliminate. Both valuation professionals and legal professionals must be more aware of the effects of biases, as these can enlarge the magnitude of a conflict or ignite new conflicts. We therefore emphasize the importance of developing new approaches and methods to reduce the impact of biases in perceptions on valuators and their valuations.

4.4.2 Limitations and Future Research

Our findings are based on an ecologically valid sample with realistic study materials that included a real-world business case as well as a summary of a valuation report. Taken together, these factors benefit the external validity and overall generalizability of our study. We nonetheless acknowledge certain limitations. An arguable weakness of the study is the compressed manner in which the financial and valuation assumptions were presented. Although participants gave positive feedback on the presented case, we acknowledge that it is difficult to establish with certainty that our findings are fully generalizable to real-life cases. For reasons of brevity, participants were not presented with a complete valuation report. Hence, it might be that different results emerge when a detailed valuation report is presented. However, we consider this to be unlikely as we suspect that many legal professionals are not trained to analyse and fully grasp a complete valuation report, and that they generally do not have the time to do so.

Moreover, we presented a case that concerned an insolvent company of which the assets were sold to simulate a 'going-concern' situation. Therefore, it remains an open question whether the current findings can be generalized to different cases outside the context of restructuring and insolvency, which might be dealt with by legal professionals other than the restructuring and insolvency specialists used in this study. However, given that cognitive biases are largely universal, we suspect that legal professionals with a different legal

focus will be similarly affected. Nonetheless, future research could investigate the generalizability of the current findings across legal contexts.

Another limitation of the research concerns the probability that the gender of the valuator was confounded with the valuator's age. Specifically, if male participants were presented with a male valuator, this valuator was also in the same age category (i.e., thirties, forties, etc.) as the participants. Likewise, if the participant was male and the valuator female, the valuator's age was different from that of the participant. Hence, it could be that the observed findings can be explained by a bias that people might have that favours people of (roughly) the same age relative to people further removed in terms of their age. Therefore, the similarity in terms of age and gender combined may have affected the trust in the valuator's ability, rather than the valuator's gender per se. Future research could further investigate the observed gender bias in a legal professional's trust in the valuator's ability, to test whether it is truly a bias based on a valuator's gender or whether the valuator's gender and age combined signal a high or low level of similarity with the valuator.

Our research paves the way for future research to explore the effects of the same biases when presenting a more extensive valuation report, when using a context of a successful business instead of insolvency, and to explore the effect of gender bias when considering the valuator's gender in isolation rather than in combination with age. We also raise the question what should and could be done to limit or even avoid biases when judging valuators and valuations in practice. Developing new evaluation techniques and methods as well as actively training legal experts in recognizing biases when judging both valuators and valuations could result in a better understanding of valuations in a legal context. Likewise, valuators should be made aware of the influence that biases might have on how they are judged and perceived by legal professionals. Such a mutual understanding of the human factors influencing the perception of valuations and valuators can be beneficial for dispute resolution.

The next chapter builds on the research presented here in the sense that it looks at how outcome information can affect legal professionals' judgments concerning the foreseeability of a company's bankruptcy (i.e., hindsight bias), as well judgments concerning directors' actions when operating in the vicinity of insolvency and their liability for damages (i.e., outcome bias). Additionally, the next chapter aims to improve our understanding of these biases by investigating the relationship between legal professionals' belief in free will and the extent to which they succumb to these biases.

5 Hindsight Bias in Judging Directors' Liability and The Role of Free Will Beliefs[1]

ABSTRACT

Following a corporate disaster such as bankruptcy, people in general and damaged parties in particular want to know what happened and whether the company's directors are to blame. The accurate assessment of directors' liability can be jeopardized by having to make judgment in hindsight with full knowledge of the adverse outcome. Our study provides a first investigation of whether professional legal investigators such as judges and lawyers are affected by hindsight bias when evaluating directors' conduct in a bankruptcy case. Additionally, to advance our understanding of the conditions under which hindsight bias is more or less likely, we examine whether free will beliefs predict susceptibility to hindsight bias in this context. In two studies (total N = 1,729), we demonstrate that legal professionals tend to judge a director's actions more negatively and perceive a bankruptcy as more foreseeable in hindsight than in foresight. Moreover, these effects are significantly stronger for those who endorse the notion that humans have free will. Potential explanations for this finding are put forward and implications for both theory and practice are discussed.

5.1 INTRODUCTION

Following a disastrous event, there is often public outcry over who is to blame. Think for example of the sinking of the MS Estonia cruise ferry in 1994, the Deepwater Horizon oil spill in the Gulf of Mexico in 2010, or the Ponte Marandi bridge collapse in Genoa (Italy) in 2018, to just name a few. In such cases, people want to know what caused the event and whether there is someone to blame and to hold legally liable for the consequences. In this regard, corporate "disasters" are not much different. After the Enron bankruptcy in 2001, the collapse of Lehman Brothers in 2008, and more recently the Volkswagen emissions scandal, the public and authorities demanded a thorough investigation and that those to blame would be held accountable. Also in less high-

1 This chapter is based on: Strohmaier, N., Pluut, H., Van den Bos, K., Adriaanse, J. A. A., Vriesendorp, R. Hindsight Bias in Judging Directors' Liability and The Role of Free Will Beliefs. Submitted for publication.

profile cases of corporate and SME bankruptcies or misconduct cases do the local communities or creditors typically appeal for a thorough investigation into the causes of the adverse events. In some jurisdictions, an investigation into the causes of a company's failure are even mandatory.

In such investigations, attention often centres on the role of the company's directors to determine whether there has been a breach of fiduciary duties, wrongful trading (or even fraudulent trading), or business misjudgments.[2] If such wrongful conduct is indeed proven, creditors can hold directors liable for damages and thus (partly) reclaim their losses. Investigations into a director's conduct are normally carried out by professionals who have a legal or financial background (or both), such as lawyers, trustees, insolvency practitioners, liquidators, or forensic accountants, possibly in conjunction with an investigating judge/magistrate in an inquisitorial system.

When investigating an adverse event, it is imperative that these legal professionals assess a directors' actions in relation to an adverse event in an objective and reliable manner. Accurate and unbiased assessments are important for general reasons such as predictability of the relevant legislation (i.e., legal certainty) and resultant trust in legal systems, but also because being held liable for a company's downfall can have detrimental effects on a director's personal well-being (Jenkins et al., 2014; Kesteren et al., 2017; Ucbasaran et al., 2013). Additionally, from a professional point of view, reputations are at risk and former directors can be held personally liable for all creditor claims on the bankrupt estate, which in some cases far exceed insurance coverage and can therefore lead to dire personal financial consequences. Hence, an accurate assessment of a director's conduct in relation to an adverse event is paramount.

However, there is good reason to believe that accurately assessing a director's conduct in relation to a corporate mishap can be jeopardized by the fact that such assessments are made in hindsight when the investigators and legal decision makers are already aware of the adverse outcome. Judgments made in hindsight are notoriously susceptible to hindsight bias, which is the phenomenon of perceiving past events as more foreseeable and/or inevitable than was realistically the case prior to the event's unfolding (Fischhoff, 1975). Additionally, when judging in hindsight, people tend to let the consequences of a certain decision or action unjustifiably affect their judgments regarding the quality of that action or decision, such that those actions are perceived more negatively after a negative outcome than after a positive outcome (i.e., outcome bias; Baron & Hershey, 1988). As a result of hindsight bias and outcome bias, decisions made by a director that seemed reasonable at the time,

2 There are several differences across jurisdictions regarding the degrees of freedom that directors typically get (for a comparison of the legislation across jurisdictions, see INSOL International, 2017), but a universality across legal systems is that for a director to be held liable, negligence and a causal link with the damages needs to be established.

might in case of a bad outcome (e.g., company going bankrupt) be perceived as negligence.

That being said, it currently remains an open question whether legal professionals who investigate and evaluate a director's conduct are indeed affected by hindsight bias and outcome bias. The primary goal of this research is to address this question, as we posit that previous research on hindsight bias does not fully allow for extrapolation to the current context of directors' liability cases. An additional, more explorative goal of the current paper is to investigate the relationship between legal professionals' beliefs regarding free will and their susceptibility to hindsight bias and outcome bias. We believe investigating this relationship might help improve our understanding of the drivers behind these biases.

5.1.1 Hindsight Bias

The first empirical evidence for hindsight bias was provided by Baruch Fischhoff who originally dubbed it as "creeping determinism", pointing to the idea that once actualized, events appear as though they had to happen, given the seemingly logical and linear causal chain leading up to the event's occurrence (Fischhoff, 1975; Fischhoff & Beyth, 1975; for reviews of the hindsight bias literature, see Christensen-Szalanski & Willham, 1991; Guilbault, Bryant, Brockway, & Posavac, 2004; Hawkins & Hastie, 1990; Roese & Vohs, 2012). Recent research has suggested that hindsight bias is not a unified concept and is rather best regarded as an umbrella term for three separate, albeit related, biases, each with different causal mechanisms (e.g., Blank, Nestler, von Collani, & Fischer, 2008; Kelman, Fallas, & Folger, 1998; Nestler, Blank, & Egloff, 2010; Roese & Vohs, 2012). Specifically, hindsight bias can refer to (1) a distorted memory of previous events or judgments, (2) subjective beliefs of an event's inevitability ("it had to happen"), or (3) subjective beliefs of an event's foreseeability ("I knew it would happen"). For the law, the most relevant component of hindsight bias is that in foreseeability judgments. A defendant or tortfeasor (e.g., corporate director) can be held liable for negligence when it can reasonably be assumed that the negative consequences of his or her actions were foreseeable. Given the close link between the perceived inevitability and foreseeability of events, this paper will henceforward focus on these two components of hindsight bias.

The causes of hindsight bias can be found in cognitive (i.e., sense-making), meta-cognitive (i.e., fluency in sense-making), and motivational processes (Roese & Vohs, 2012). In contrast to many other cognitive biases that operate largely in an automatic and unconscious fashion, hindsight bias relies for an important part on conscious deliberation and sense-making processes. Specifically, an event appears to have been more inevitable and foreseeable when it is easier to make sense of (Blank & Nestler, 2007; Hawkins & Hastie, 1990;

Wilson & Gilbert, 2008) or when the causal chain leading up to the event is easily identifiable and straightforward (Trabasso & van den Broek, 1985; Wasserman, Lempert, & Hastie, 1991; Yopchick & Kim, 2012). Whereas hindsight bias in inevitability judgments relies predominantly on such cognitive processes, hindsight bias in perceived foreseeability can also result from meta-cognitive and motivational processes. Specifically, when one reflects on how a certain course of events could ultimately have turned out differently and one experiences difficulties conceiving such counterfactuals, this meta-cognitive experience is used to infer that the actual outcome must have been the most likely one and that this outcome was therefore foreseeable (Sanna & Schwarz, 2007). With regard to motivational processes, people who have a stronger need for control or closure are generally more motivated to perceive the world in a predictable and orderly fashion and are therefore likely to be motivated to retrospectively judge events as having been foreseeable (Musch, 2003; Musch & Wagner, 2007; Tykocinski, 2001).

5.1.2 Hindsight Bias in Legal Judgments

Evidence suggests that hindsight bias can indeed manifest itself in the courtroom (for reviews of hindsight bias in legal decision making, see Giroux, Coburn, Harley, Connolly, & Bernstein, 2016; Harley, 2007). For example, in a seminal paper, Kamin and Rachlinski (1995) demonstrated among a sample of prospective jurors that precautionary measures to prevent damage from a possible flooding appear insufficient in hindsight, whereas in foresight (i.e., when the participants in the study were unaware a flooding occurred) these measures were deemed largely appropriate (for similar findings, see Casper, Benedict, & Kelly, 1988; Hastie, Schkade, & Payne, 1999; LaBine & LaBine, 1996; Lowe & Reckers, 1994). Furthermore, a meta-analysis suggests that there appears to be no difference between experts and non-experts with regard to hindsight bias (Guilbault et al., 2004, see also Arkes, Wortmann, Saville, & Harkness, 1981; Blendon et al., 2002; Caplan, Posner, & Cheney, 1991). Indeed, it appears that hindsight bias is not limited to mock jurors and can affect professional judges as well (Anderson, Jennings, Lowe, & Reckers, 1997; Anderson et al., 1993; Guthrie, Rachlinski, & Wistrich, 2001, 2007; Jennings, Lowe, & Reckers, 1998; Oeberst & Goeckenjan, 2016).

Despite this evidence of hindsight bias affecting legal decision making, we believe the question whether professional legal investigators will succumb to hindsight bias when conducting investigations into directors' conduct warrants further investigation, for several reasons. First, it is unclear to what extent previous research on hindsight bias can be generalized to the current context of directors' liability, as research investigating hindsight bias among legal professionals is scarce, generally suffers from low statistical power, and has shown mixed results. That is, in contrast to the literature discussed so far,

some studies did not find any effects of outcome information on legal professionals' judgments. For example, Wistrich, Guthrie, and Rachlinski (2005) observed that judges were able to ignore inadmissible outcome information when assessing probable cause for a police search (see also Rachlinski, Guthrie, & Wistrich, 2011). Moreover, Hastie and Viscusi (1998) found that judges were less affected by hindsight bias than mock jurors. Such studies cast doubt on the notion that being in the possession of outcome information actually causes a problem for legal decision making. We therefore believe that the small but growing body of research on hindsight bias in legal decision making could benefit from further, high-powered research.

Second, research on hindsight bias among legal professionals so far has focused solely on judges. However, in the current context of directors' liability, other legal professionals such as trustees, insolvency lawyers, and insolvency practitioners play a more prominent role as they most often lead the investigations into directors' conduct. Moreover, whereas judges are typically generalists dealing with a range of different cases in different legal domains, the legal professionals investigating directors' conduct in liability investigations are specialists in the sense that a significant portion of their work focuses on investigations into insolvent businesses and other corporate mishaps that might result in personal liability for directors and officers. We deem it worthwhile, therefore, to investigate whether this specific group of legal professionals is affected by hindsight bias.

Finally, applied research is needed to inform public policy and legislation that aim to address the risk of hindsight bias in directors' liability cases. In the United States for example, the business judgment rule limits the liability of directors and officers for decisions that turned out badly, as courts recognize that "after the fact litigation is a most imperfect device" and "a reasoned decision may seem a wild hunch viewed years later against a background of perfect knowledge" (Rachlinski, 1998, p. 621; see also Arkes & Schipani, 1994). In Europe, where new legislation is being developed to harmonize insolvency laws across its member states (e.g., European Commission, 2016; Fletcher & Wessels, 2012), discussions concerning the potential effects of hindsight bias are taking place. In several cases heard by the Dutch Enterprise Court, the defense even accused the court of being affected by hindsight bias. However, as of yet no research has directly tested whether legal professionals' evaluations of directors' actions are indeed susceptible to hindsight bias. Hence, recent developments in the area of insolvency law in Europe as well as existing regulations across the globe ask for thorough research to enable evidence-based policies and legislation.

Overall, we consider it worthwhile to investigate whether legal professionals who investigate directors' conduct in light of a potential liability claim are in fact susceptible to hindsight bias. We therefore aim to test the following hypothesis:

Hypothesis 1: Professional legal investigators' ex-post judgments of the foreseeability of a corporate bankruptcy are higher than their ex-ante foreseeability judgments.

5.1.3 Outcome Bias in Legal Judgments

In addition to affecting judgments of foreseeability, judgments made in hindsight might also affect judgments of decision quality. Indeed, when people evaluate others' actions while knowing its consequences, it is common that the consequences are factored into the evaluation of the actions. As a result, the same action is evaluated more negatively when it results in a negative outcome than when a positive outcome ensues (e.g., Bazerman & Sezer, 2016; Gino, Moore, & Bazerman, 2009; König-Kersting, Pollmann, Potters, & Trautmann, 2017; Lipshitz & Barak, 1995; Mazzocco, Alicke, & Davis, 2004; Mertins, Salbador, & Long, 2013; Robbennolt, 2000). Although very similar to hindsight bias in that outcome information unjustifiably affects the evaluation of events of the past, strictly speaking such a bias in evaluations of decision quality constitutes outcome bias rather than hindsight bias. Even though in the current research we focus on judgments made in hindsight versus judgments made in foresight (i.e., absent of outcome information), which conceptually mimics hindsight bias more closely, we will nonetheless distinguish between the two in the remainder of this paper.

In a recent study investigating outcome bias in legal decision making, judges were asked to determine whether a defendant (a town's mayor) intentionally harmed the environment, which was a side effect of ordering the construction of a new highway connection. The participating judges either learned that the animals in the local environment were only temporarily disturbed (mild outcome) or that the animals would die (severe outcome). Judges in the latter condition believed more strongly that the town's mayor intentionally harmed the environment than judges in the mild outcome condition did (Kneer & Bourgeois-Gironde, 2017). Hence, outcome information can distort legally relevant judgments even of those who have received extensive training to not let irrelevant factors affect their judgment (see also Anderson et al., 1997; Charron & Lowe, 2008). It therefore follows that professional legal investigators who are tasked with evaluating a director's conduct and its relation to incurred damages by the company's shareholders or creditors might also succumb to the bias' influence. For example, when a strategic decision made by a director ends badly, they might erroneously conclude the decision was a poor one even though other factors might have contributed more strongly to the unfortunate outcome. In fact, the unwanted consequences might have happened *despite* rather than *because of* the director's actions.

Even though outcome bias in professional legal investigators' judgments might manifest in multiple areas, in this chapter we focus on the two most

relevant elements (in addition to foreseeability). First, we test whether the strategic decisions made by a director are perceived more negatively in hindsight than in foresight, as this might lead investigators to believe the director made a gross business misjudgment or even breached fiduciary duties towards shareholders and creditors. Second, we test whether ultimately the investigators believe more strongly that a director is legally responsible when they know the business went bankrupt (i.e., hindsight judgment) compared to when they are still ignorant of the company's fate (i.e., foresight judgments). We formulated the following two hypotheses:

Hypothesis 2a: Professional legal investigators' ex-post evaluations of the quality of a director's actions are more negative than their ex-ante judgments.

Hypothesis 2b: Professional legal investigators' ex-post attributions of a director's legal responsibility are higher than their ex-ante attributions.

5.1.4 Moral Judgments, Free Will Beliefs and Judging in Hindsight

Even though the discovery of hindsight bias was already made four decades ago, research is still trying to fully understand its underlying mechanisms. We posit that research on individual differences in hindsight bias might help achieve this goal. Prior research has identified individual differences in hindsight bias related to intelligence, presentational concerns, and the need for control and closure (Musch, 2003; Musch & Wagner, 2007; Tykocinski, 2001). However, similar to the research on hindsight bias in legal decision making in general, the research on individual differences in hindsight bias is relatively scarce, shows mixed results, and generally suffers from low statistical power (Musch & Wagner, 2007). Therefore, a second, more exploratory goal of this study is to build on this line of research by investigating whether individual differences in the desire to blame and punish wrongdoers can predict professional legal investigators' susceptibility to outcome bias and hindsight bias.

Traditionally, it was believed that attributions of blame and punishment are the end product of a careful consideration of relevant factors, such as whether an individual intentionally brought about an adverse outcome, whether the outcome was foreseeable, and whether the individual had the capacity and obligation to prevent the outcome (e.g., Malle, Guglielmo, & Monroe, 2014). However, evidence is accumulating for an alternative position suggesting that blame processes can actually operate in the opposite direction. That is, initial moral judgments and blame intuitions can affect subsequent sense-making processes such that these are biased to be consistent with the initial judgment. Such motivated cognition processes entail that one engages in biased sense-making and information processing with the aim to arrive at a desired conclusion, all the while being under the illusion of acting objectively

(e.g., Hughes & Zaki, 2015; Kunda, 1990; Nadler & Mueller, 2017; Sood & Darley, 2012).

A classic example of moral judgments driving perceptions of important constituents of blame is that provided by Alicke (1992), who conducted several experiments that demonstrated that people assign a stronger causal role to an individual who was involved in a traffic accident when that individual was speeding to hide a stash of cocaine than when that individual was speeding to hide an anniversary gift for his parents. People's moral judgments of the person's motive for speeding had a direct effect on the perceived causal role of the person in the accident. Alicke's blame-validation account of moral judgments is in line with Haidt's (2001) social intuitionist approach to moral judgment, which also highlights the influence that initial moral reactions have on subsequent judgments. Indeed, ample empirical evidence exists to support the notion that initial moral reactions can drive subsequent perceptions of for example intentionality, causal control, legal responsibility, and foreseeability (e.g., Alicke, 2000; Ask & Pina, 2011; Knobe, 2005; Nadler & McDonnell, 2012; for reviews, see Ditto, Pizarro, & Tannenbaum, 2009; Feigenson & Park, 2006; Salerno & Bottoms, 2009; Sood, 2013).

We therefore put forward the possibility that once legal professionals are made aware of a company's downfall and collateral damage, their initial moral reactions might activate blame-validation and motivated reasoning processes, leading them to judge the director's role in the downfall in such a way that it is coherent with their initial moral reactions. In other words, it may be legal professionals' motivation to blame and punish that drives hindsight bias, such that they post-bankruptcy judge a director's strategic plans more negatively, the bankruptcy as more foreseeable, and the director as more responsible for the bankruptcy compared with when the legal professionals are unaware of the company's downfall. If hindsight bias can indeed stem from blame-validation processes, it follows that people with a stronger tendency to moralize ambiguous events and condemn and punish wrongdoing should display a stronger hindsight bias. We can therefore expect an association between people's punitive inclinations (i.e., their motivation to blame and punish) and their susceptibility to hindsight bias.

A useful proxy of people's punitive inclinations is their belief in free will. People with stronger free will beliefs appear to (1) be more intolerant of unethical behaviour, (2) be more punitive, and (3) show greater support for severe criminal punishment and retributive punishment (e.g., Carey & Paulhus, 2013; Clark, Baumeister, & Ditto, 2017; Krueger, Hoffman, Walter, & Grafman, 2014; Martin, Rigoni, & Vohs, 2017; Monroe, Dillon, & Malle, 2014; Savani, Stephens, & Markus, 2011; Shariff et al., 2014; Stroessner & Green, 1990). Indeed, it seems that free will beliefs are closely tied to people's innate needs to hold others morally responsible for their actions and to condemn and punish wrongdoers (Clark et al., 2014). Therefore, if people's punitive desires can

indeed cause hindsight bias to manifest, a relation between free will beliefs and hindsight bias should be observed.

In hindsight, legal professionals who believe more strongly in free will might show higher ratings of foreseeability, evaluate a director's actions more negatively, and attribute more legal responsibility to the director, compared to legal professionals who show less commitment to the notion of free will, due to the former's stronger punitive predispositions. In foresight, when people are still ignorant of any adverse consequences, the need to punish would not yet come into play and therefore no differences in these judgments would be expected based on free will beliefs. If anything, one could argue that in the absence of an adverse outcome, those believing more strongly in free will are expected to evaluate someone's actions more favourably and be less inclined to expect adverse outcomes to occur, as research has identified a whole range of positive attitudes and life outcomes for those believing more strongly in free will (e.g., Crescioni, Baumeister, Ainsworth, Ent, & Lambert, 2016; Feldman, Chandrashekar, & Wong, 2016; Feldman, Farh, & Wong, 2018; C. Li, Wang, Zhao, Kong, & Li, 2017; J. Li, Zhao, Lin, Chen, & Wang, 2018; MacKenzie, Vohs, & Baumeister, 2014; Moynihan, Igou, & van Tilburg, 2017; Protzko, Ouimette, & Schooler, 2016; Rigoni, Kühn, Gaudino, Sartori, & Brass, 2012; Stillman et al., 2010).

As the previous arguments suggests that believing more strongly in free will should be associated with an increase in hindsight bias and outcome bias, we formulated the following hypothesis.

Hypothesis 3: Free will beliefs are positively associated with hindsight bias and outcome bias.

5.1.5 The Current Research

To summarize, we aim to (1) to investigate whether legal professionals tasked with investigating directors' conduct following a corporate mishap are affected by hindsight bias, and (2) to provide a first test of the potential relationship between people's punitiveness (as measured by their belief in free will) and hindsight bias.

For this study, we use an ecologically valid sample of judges, lawyers, and other (legal) professionals who conduct bankruptcy investigations. By doing so, we aim to add to the literature in three important ways. First and foremost, we provide a first test of whether professional legal investigators are affected by hindsight bias when investigating a director's conduct in relation to a corporate mishap. Second, we contribute to the small but growing body of research investigating hindsight bias in legal judgments among professionals (rather than lay people), which thus far has shown mixed results (e.g., Anderson et al., 1997; Hastie & Viscusi, 1998; Oeberst & Goeckenjan, 2016).

Third, by bringing together the literature on hindsight bias and free will beliefs, we provide the first study that investigates whether blame processes can drive hindsight bias and thus whether personally held beliefs regarding relatively abstract concepts, such as whether or not humans have free will, can predict susceptibility to hindsight bias.

We hypothesize that when legal professionals have to evaluate the foreseeability of a bankruptcy as well as a director's actions while knowing the company went bankrupt (i.e., when judging in hindsight), they will perceive the bankruptcy as more foreseeable and judge the director's actions more negatively than when they make their judgments while still ignorant of a company's bankruptcy (i.e., when judging in foresight). Furthermore, we hypothesize that such biases will be more pronounced for professionals who believe more strongly in free will than for those who adhere less to the notion of free will.

We test these hypotheses in two experiments. In both studies, participants were presented with a hypothetical bankruptcy case and were asked to give their opinion on the role the director played in the company's bankruptcy. Using a typical hypothetical hindsight bias research design (Pohl, 2007), half of the participants received the case with no outcome (i.e., participants remain unaware the company went bankrupt) and the other half received the same case but now including the outcome (i.e., the company going bankrupt). Study 2 was largely identical to Study 1 with the addition of a positive outcome condition in which participants learned that the company was saved from bankruptcy. The main purposes of this second study were to (1) replicate and examine the robustness of the findings of Study 1, (2) test our hypotheses with a more complete and robust research design in which a 'no outcome' condition is compared with both a negative outcome condition and a positive outcome condition, and (3) shed light on potential alternative mechanisms through which the moderating role of free will beliefs in hindsight and outcome bias can be explained (i.e., mechanisms other than motivated cognition due to participants' need to punish).

5.2 Study 1

5.2.1 Method

5.2.1.1 Participants

We aimed to conduct a highly powered study and determined, using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009), that we needed 619 participants to have a power of .85 to detect a small effect (f^2 = .02; Cohen, 1988). In the end 727 professionals (553 males; 76.1%) specialized in the areas of insolvency law, business restructuring and/or recovery participated in our online survey.

Participants were members of INSOL Europe, which is the European organization of professionals who specialize in insolvency, business restructuring, and recovery. Participants were approached via e-mail with an invitation to participate in our study. The e-mail contained the link to the online survey that was built using Qualtrics (2018) online survey software. The participants' e-mail addresses were obtained from INSOL Europe's online membership directory. Additionally, a link to the online survey as well as a request to participate was included in one of INSOL Europe's newsletters that was distributed to its members via e-mail.

Of all participants, 393 reported to work as an insolvency lawyer, 144 as insolvency practitioners, 75 as turnaround consultant/managers, 68 as trustees, 49 as judges, 48 as bankers (of which 32 reported to have a legal background), 38 as academics in the legal field and 15 chose 'other'.[3] 86.7% reported to investigate/decide over directors' liability in their work. The average age was 47.9 (SD = 10.4) and participants had on average 21.4 years of working experience in their profession. Thirty-seven different European nationalities are represented in the sample. The five countries with the greatest number of participants are the United Kingdom (34.8%), Germany (9.4%), Romania (8.9%), Ireland (5.4%) and Italy (5.0%). Please see Appendix 5.1 for a complete overview of the participants' nationalities.

5.2.1.2 Design and procedure

Participants were randomly assigned to either the No outcome condition or the Negative outcome condition, which determined the version of the case they would later receive. For both conditions, instructions stated that the purpose of the study was to investigate judgment and decision making processes within the context of insolvency procedures. After the instructions, participants were asked demographic questions concerning their sex, age, nationality, profession, experience in their profession and whether they have to investigate or decide over (director) liability issues as part of their job. Next, participants were presented with a brief questionnaire to measure their belief in free will, after which they were presented with a business case. After the case, participants were asked questions regarding the three main variables of interest: (1) decision quality, (2) foreseeability, and (3) the CEO's legal responsibility. Finally, several exploratory questions were presented to the participants,[4] after which participants were debriefed, asked for feedback,

3 Participants were allowed to select more than one option, hence why the sum is larger than the number of participants.

4 For exploratory reasons, participants were asked (1) whether they thought that having knowledge of the outcome of the case should (or should have, in the Negative outcome condition) affect[ed] their judgments of the turnaround plan, foreseeability of the bankruptcy and the CEO's role in the case, and (2) whether they thought that having knowledge of the outcome of the case would affect (or "affected", in the Negative outcome condition)

and informed they could leave their e-mail addresses so we could communicate the results.

5.2.1.3 Material and measurements

Free will beliefs

Participants' belief in free will was measured using the Free Will Subscale of the Free Will Inventory (FWI; Nadelhoffer, Shepard, Nahmias, Sripada, & Ross, 2014). The scale consists of five items (Cronbach's $\alpha = .80$) and includes items such as "How people's lives unfold is completely up to them" and "People always have the ability to do otherwise." Participants indicated to what extent they agreed with each statement on a 7-point Likert scale, ranging from (1) *strongly disagree* to (7) *strongly agree* ($M = 4.42$, $SD = 1.15$).

In addition to the Free Will Subscale, the FWI also includes a Determinism and a Dualism/Anti-Reductionism sub-scale. As these sub-scales do not correspond to the core construct being investigated, they were omitted from the survey in the interest of brevity.

Business case

The base case (i.e., without outcome information and therefore identical for both conditions; 403 words in length) described a publicly listed company (Automotive Parts Group; APG) that was in financial difficulties and therefore hired a new CEO ("Cees van Gelder") to turn the tide. In order to do so, the CEO designed a turnaround plan which stated the actions he thought needed to be taken to avoid bankruptcy and resume profitability. The new CEO's turnaround plan was met with scepticism by the shareholders due to the high risks involved. For participants in the No outcome condition, the case stopped here and they remained unaware of how it ended. Participants in the Negative outcome condition received the exact same case, but with an additional paragraph (63 words) describing the company went bankrupt. Additionally, to emphasize the calamitous nature of the bankruptcy, this paragraph also stated that the company's employees were left without a job, that several of the company's suppliers also went bankrupt because they depended on the company and that many small shareholders saw their assets evaporate. Please see Appendix 5.2 for the full case used in Study 1.

Decision quality

Participants' evaluation of the CEO's turnaround plan (i.e., decision quality) was measured by asking participants to judge the CEO's turnaround plan on a 11-point scale, with 1 labeled as *very bad* and 11 labeled as *very good*. Prior

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their judgments of the turnaround plan, the foreseeability of the bankruptcy and the CEO's role in the case. The results of these questions can be found in Appendix 5.3 and will not be discussed further in this main text.

to analyses, the values were recoded for ease of interpretation, such that a higher number reflects a more negative evaluation of the turnaround plan.

Foreseeability
Foreseeability was operationalized by measuring the perceived likelihood of bankruptcy. Participants in the No outcome condition were asked how likely they considered it to be that the CEO's turnaround plan would result in a bankruptcy, expressed in a percentage between 0 and 100%. In the Negative outcome condition, the same question was asked but here participants were instructed to ignore the information they had regarding the company's bankruptcy, and to indicate the likelihood of bankruptcy at the time the turnaround plan was presented and the outcome of the case was still unknown. Ignoring outcome information when assessing someone's actions mimics what legal decision makers have to do, since the fact that the company went bankrupt should not affect judgments about the CEO's actions pre-bankruptcy.

Legal responsibility
The CEO's legal responsibility for the company going bankrupt was measured using the following four items, which aimed to capture elements relevant to legal responsibility: (1) "Cees van Gelder acted negligently and he is accountable for APG's bankruptcy," (2) "Cees van Gelder should be held liable for APG's bankruptcy," (3) "Cees van Gelder is responsible for APG's bankruptcy," and (4) "Cees van Gelder is the cause of APG's bankruptcy". Participants answered on a 7-point Likert scale the extent to which they agreed or disagreed (1 = *strongly disagree*, 7 = *strongly agree*) with the statements (Cronbach's α = .85). In the No outcome condition (i.e., in foresight), participants were asked what part they believed the CEO would have played in the company's downfall, if it indeed went bankrupt. In the Negative outcome condition (i.e., in hindsight) no such conditional statement was necessary as in the case presented to participants in this condition the company indeed went bankrupt.

Before being debriefed, participants were asked whether they were familiar with the phenomenon called hindsight bias and if so, to describe this bias in their own words.

5.2.2 Results

5.2.2.1 Data Preparation and Analysis Plan

It was important that participants read the case properly in order to register and be aware of the moral aspects of the case. Therefore, participants who did not spend sufficient time reading the case were excluded from the analyses. The required reading time was based on three standard deviations above the average reading speed for reading the case (M = 228 words per minute, SD

= 30; Trauzettel-Klosinski & Dietz, 2012). Based on this criterion (76.6 seconds as the cut-off in the No outcome condition and 88.5 seconds in the Negative outcome condition) 94 participants (12.9% of the total sample) were excluded from analyses, resulting in a final sample size of 633 participants, providing a statistical power of .86 to detect a small effect.[5]

The data were analysed in a stepwise approach, such that we first tested whether there was a difference between the two conditions on the three variables of interest (i.e., decision quality, foreseeability, legal responsibility) as this is a direct test of hindsight bias and outcome bias. Next, we tested whether free will beliefs moderate the difference between the two conditions on these variables as this allowed us to examine whether free will beliefs can predict susceptibility to hindsight bias and outcome bias.

5.2.2.2 Hindsight Bias and Outcome Bias

A Multivariate Analysis of Variance (MANOVA) was conducted to test for differences between the No outcome and Negative outcome conditions on the three dependent variables. Results are presented in Table 5.1. The multivariate test was significant, $F(3, 629) = 24.93$, $p < .001$, $\eta_p^2 = .11$, and the subsequent univariate tests indicated a significant difference between the two conditions for all three variables. The foreseeability was deemed higher in hindsight than in foresight (confirming H1), the decision quality was rated more negatively in hindsight than in foresight (confirming H2a), and the participants also attributed more responsibility to the CEO in hindsight than in foresight (confirming H2b). These findings suggest that professional legal investigators' judgments can indeed be affected by hindsight bias and outcome bias biases.

Table 5.1. Descriptive statistics and significance tests for the univariate analyses of Study 1.

	No outcome (N = 318)		Outcome (N = 315)				
Dependent Variables	*M*	*(SD)*	*M*	*(SD)*	*F*(1, 631)	*p*	η_p^2
Decision quality	4.83	(2.04)	6.19	(2.07)	69.06	<.001	.10
Foreseeability	48.47	(17.60)	52.08	(16.14)	6.91	.009	.01
Legal responsibility	2.39	(.95)	2.82	(1.10)	26.59	<.001	.04

5 The median time spent reading the case was 165.4 seconds for the No outcome condition and 178.6 for the Negative outcome condition. The median time spent on the entire survey was 780.0 seconds for the No outcome condition and 823.0 in the Negative outcome condition.

5.2.2.3 Free Will Beliefs Moderating Hindsight Bias and Outcome Bias

To investigate the moderating role of free will beliefs (FWB), we used Hayes' PROCESS (2013) for our moderation analyses (10,000 bootstrap samples). For the predictor variable Outcome Condition, the No outcome condition was coded as 0 and the Negative outcome condition as 1. Significant interaction effects between Outcome Condition and FWB were found for the dependent variables decision quality, $\Delta R^2 = .01$, $\Delta F(1, 629) = 6.56$, $p = .01$, b = .36, $t(629) = 2.56$, $p = .01$, and legal responsibility, $\Delta R^2 = .01$, $\Delta F(1, 629) = 5.57$, $p = .02$, b = .17, $t(639) = 2.36$, $p = .02$.

Probing the interaction effects with simple slopes analyses revealed that for decision quality, the difference between the No outcome and Negative outcome condition was significant for both those with weaker free will beliefs (-1 *SD*) and those with stronger free will beliefs (+1 *SD*). However, the difference was almost twice as large for those with stronger free will beliefs, b = 1.79, $t(629) = 7.75$, $p < .001$, $d = .62$, than for those with weaker free will beliefs, b = .95, $t(629) = 4.13$, $p < .001$, $d = .33$. This means that all participants judged the quality of the turnaround plan more negatively in hindsight than in foresight and that the difference between the two conditions was significantly larger for the group of participants who believe more strongly in free will.

For judgments of the CEO's legal responsibility, the difference between the two outcome conditions was almost three times as large for those with stronger free will beliefs, b = .61, $t(629) = 5.28$, $p < .001$, $d = .42$, than for those with weaker free will beliefs, for whom there was no statistically significant effect, b = .22, $t(629) = 1.94$, $p = .05$, $d = .15$.

Even though the same pattern was observed for the likelihood judgments (i.e., significant hindsight bias for the group with a stronger belief in free will but not for the group with weaker free will beliefs), the interaction between Outcome Condition and free will beliefs did not reach statistical significance here, b = 1.64, $t(629) = 1.37$, $p = .17$. Please see Table 5.2 for the statistics of the moderation and simple slopes analyses. Figure 5.1 offers a visual representation of the moderating effect of free will beliefs for the bias in judgments of decision quality and the CEO's legal responsibility.

Table 5.2. Unstandardized regression weights for the effects of Condition on the dependent variables for participants with a relatively weak belief in free will (1 *SD* below the mean of the FWI; -1 *SD* FWB) and participants with a relatively strong belief in free will (1 *SD* above the mean of the FWI; +1 *SD* FWB). "Int. (SE)" represents the regression weights and standard errors for the interaction effect (Outcome Condition x FWB) and 'Model' shows the statistics for the complete model including the interaction term. * $p < .05$, ** $p < .01$, *** $p < .001$.

	-1 *SD* FWB			+1 *SD* FWB				
	b (SE)	t	95% CI	b (SE)	t	95% CI	Int. (SE)	t
Decision	.95 (.23)	4.13***	.50, 1.40	1.79 (.23)	7.75***	1.34, 2.24	.36 (.14)	2.56*
Quality	Model: $R^2 = .110$, $F(3, 629) = 25.97$, $p < .001$							
Foreseeability	1.77 (1.95)	.90	-2.07, 5.60	5.54 (1.95)	2.84**	1.71, 9.37	1.64 (1.20)	1.37
	Model: $R^2 = .014$, $F(3, 629) = 2.99$, $p = .03$							
Legal responsibility	.22 (.12)	1.94	-.00, .45	.61 (.12)	5.28***	.38, .84	.17 (.07)	2.36*
	Model: $R^2 = .052$, $F(3, 629) = 11.45$, $p < .001$							

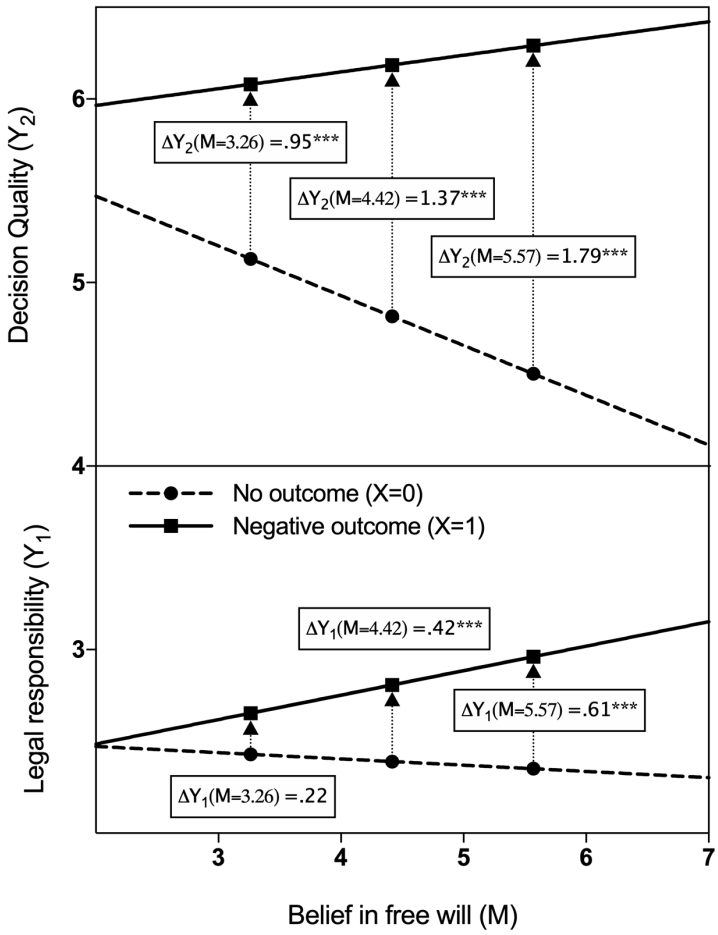

Figure 5.1. Differences between the No outcome and Negative outcome condition (ΔY) for both legal responsibility (Y_1) and decision quality (Y_2) at different levels of the moderator (M), i.e., for those with relatively low free will beliefs (M = 3.26), average free will beliefs (M = 4.42) and high free will beliefs (M = 5.57). *** $p < .001$.

5.2.3 Discussion

Study 1 demonstrated that professional legal investigators are susceptible to hindsight bias when judging the foreseeability of a bankruptcy as well as to outcome bias when judging a director's actions and legal responsibility for the bankruptcy. More importantly, the degree to which these professionals believe humans have free will appears to predict their susceptibility to outcome bias, such that those with stronger free will beliefs demonstrate a larger bias.

This was true for the evaluation of the turnaround plan (i.e., decision quality) and the legal responsibility of the CEO, but not for judgments of the foreseeability of the bankruptcy, for which free will beliefs did not moderate the effect, although the observed pattern was in the hypothesized direction.

It remains unclear whether the relatively small bias in foreseeability judgments in Study 1 is due to our sample of professionals being less susceptible to hindsight bias or due to the methods used. Specifically, whereas we only asked how likely it was that the company would go bankrupt on a scale from 0 to 100%, previous studies typically presented several possible outcomes and asked participants to rate the likelihood of each in terms of a percentage, with the sum having to be 100%. This might explain why the hindsight bias was relatively small in our study (d = .20; Cohen, 1988), especially compared to previous studies as indicated by two meta-analyses that found average effect sizes of d = .39 (Guilbault et al., 2004) and d = .35 (Christensen-Szalanski & Willham, 1991). It might also be a reason for why the interaction between free will beliefs and hindsight bias in foreseeability judgments did not reach statistical significance. An important goal of the second study was therefore to adopt the more commonly used method for measuring hindsight bias in foreseeability judgments, by providing participants with multiple scenarios instead of only one.

A second goal of Study 2 was to test the relationship between free will beliefs and hindsight and outcome bias in a more complete and robust design by including a condition in which the case ends positively. Specifically, Study 2 compared a No outcome condition with both a Negative outcome condition and a Positive outcome condition. This allows us to investigate whether free will beliefs can predict hindsight biases in general, or whether this relationship depends on the valence of the outcome. It could for example be that those with stronger free will beliefs are overall more affected by outcome information in their judgments, independent of the valence of the outcome. If this is the case, we should also observe a moderating role of free will beliefs in case the scenario in Study 2 ends positively. In contrast, if we would find that free will beliefs do *not* moderate outcome effects in case of a positive ending, this would be in line with our proposed notion that those with stronger free will beliefs are more susceptible to hindsight and outcome bias because of heightened punitive inclinations. After all, the need to blame or punish does not come into play when a positive outcome ensued. Hence, adding the Positive outcome condition allowed us to shed more light on the proposed mechanism underlying the relationship between free will beliefs and hindsight bias.

A final goal of the second study was to test the robustness of our findings in Study 1. Specifically, we aimed to replicate the observed hindsight bias and the moderating role of free will beliefs in a new international sample of legal professionals.

5.3 STUDY 2

5.3.1 Method

5.3.1.1 Participants and Design

We aimed to achieve the same power as in Study 1 of .85 to detect a small effect ($f^2 = .02$; Cohen, 1988), which meant we needed around 310 participants per condition. With three conditions (No outcome, Negative outcome, Positive outcome) this amounted to 930 participants. In the end, 1002 legal professionals worldwide specialized in the areas of insolvency law, business restructuring and/or recovery participated in Study 2. Participants were members of INSOL International, which is a world-wide federation of national associations of professionals who specialize in turnaround and insolvency. Participants were approached via e-mail with an invitation to participate in our study. The participants' e-mail addresses were obtained from INSOL International's online membership directory. Importantly, none of the participants of Study 2 had taken part in Study 1.

The participants' average age was 46.82 (*SD* = 11.8) and 766 (76.4%) were male. Participants had an average of 20.6 years working experience in their profession (*SD* = 11.2) and 82.6% reported to investigate/decide over (director) liability in their work. Five-hundred and nineteen respondents (51.8%) reported to work as (insolvency) lawyers, 210 (21%) as accountants (of which 87.6% indicated to investigate and/or decide over directors' liability), 112 as turnaround consultant/managers (11.2%), 109 as trustees (10.9%), 45 as insolvency practitioners (4.5%), 45 as bankers (4.5%; of which 28 reported to investigate/decide over directors' liability), 35 as academics in the legal field (3.5%), 28 indicated 'other', and 24 reported to work as judges (2.4%). Fifty-four different nationalities are represented in the sample, with the majority of the respondents coming from Australia (20.4%), United Kingdom (14.5%), Canada (10.9%), South Africa (10.1%), and the USA (7.1%). Please see Appendix 5.4 for a complete overview of the participants' nationalities.

Participants were randomly assigned to one of three conditions: (1) No outcome, (2) Negative outcome, and (3) Positive outcome. In all three conditions, participants were presented with the same base case, but in the two outcome conditions a paragraph was added to the case describing either a negative ending (Negative outcome condition) or a positive ending (Positive outcome condition).

5.3.1.2 Procedure, Materials and Measurements

Free will beliefs
At the start of the survey, participants received the same instructions and free will scale (Cronbach's α = .83) as in Study 1 (M = 4.56, SD = 1.26).[7]

Business case
Participants were presented with the same case as in Study 1, apart from a few minor alterations (e.g., the company's revenue, degree of cost-cutting listed in the CEO's turnaround plan, and layout of the case). The base case was 432 words in length. In the two outcome conditions a paragraph was added to the case describing either a negative ending (Negative outcome condition; 96 words) or a positive ending (Positive outcome condition; 92 words). Please see Appendix 5.5 for the full case as well as the two outcome paragraphs.

Decision quality
After the case, all participants rated the quality of the turnaround plan (i.e., decision quality) on a 7-point Likert scale, ranging from (1) *very bad* to (7) *very good*. Prior to analyses, the scale was recoded such that a higher value reflects a more negative rating.

Legal responsibility and benevolence
Our renewed design with both a Positive outcome and Negative Outcome condition requires two distinct outcomes, namely legal responsibility and benevolence. Participants were asked three questions to judge the CEO's legal responsibility (in case of a negative outcome; Cronbach's α = .69, which indicates sufficient internal validity for theory-testing purposes; see Nunnally & Bernstein, 1994) and three questions to measure their benevolence towards the CEO (in case of a positive outcome; Cronbach's α = .74). Benevolence towards the CEO was measured in Study 2 after a positive outcome to provide a counterpart to the liability judgments that were measured after a negative outcome.

To measure legal responsibility, participants were asked to indicate on a 7-point Likert scale the extent to which they agreed with three statements: (1) "[If this is how the case would end,] I believe Cees van Gelder should be held liable for APG's bankruptcy," (2) "[If this is how the case would end,] I believe Cees van Gelder deserves to be blamed for failing to save APG from bankruptcy," and (3) "[If this is how the case would end,] I believe Cees van Gelder's actions are a direct cause of APG's bankruptcy." This three-item scale differed from the four-item scale used in Study 1 for two reasons. First, the

7 After the free will scale, participants were asked about their last night's sleep using five items. These questions were incorporated as part of a separate study and the details of these questions and the results are available upon request.

item used in Study 1 that measured perceived negligence was omitted as some overlap existed with the foreseeability and decision quality measures. That is, acting negligently means failing to act in a reasonable way to prevent foreseeable harms, which combines decision quality and foreseeability. Second, the item measuring responsibility was omitted as responsibility has multiple dimensions (e.g., role responsibility, causal responsibility; Shaver, 1985) and it is uncertain which type of responsibility respondents had in mind when answering this question. The question pertaining to the degree of blame participants felt the CEO deserved was added to the scale in Study 2.

The items measuring benevolence towards the CEO were: (1) "[If this is how the case would end,] the CEO deserves praise for saving the company from bankruptcy," (2) "[If this is how the case would end,] the CEO should win the industry awards for saving the company from bankruptcy," and (3) "[If this is how the case would end,] the CEO's actions are a direct cause of the company's successful turnaround." The order of the questions was randomized.[8]

The text in brackets was only presented to participants in the No outcome condition, as to them the outcome of the case was still unknown. In this condition, the paragraph describing the outcome contingent on the question set (i.e., the negative scenario for the legal responsibility question set and the positive outcome for the benevolence question set) was presented above the question set; hence the phrase "if this is how the case would end." Participants were sequentially presented with both questions sets (i.e., measuring legal responsibility and benevolence) and the order was counterbalanced across participants.[9]

Foreseeability

After the legal responsibility and benevolence questions, the perceived foreseeability of the bankruptcy was measured in two different ways. First, participants were presented with three scenarios describing potential endings to the case: (1) the positive outcome, (2) the negative outcome, and (3) a neutral outcome in which the company did not go bankrupt, but the problems were

8 Each set also contained a fourth statement that was identical for both sets: "[If this is how the case would end,] I believe Cees van Gelder intentionally tried to save APG from bankruptcy". Initially, this item was meant to test whether outcome information also affects judgments of intentionality in this context. However, we realize this item was phrased somewhat oddly as it is difficult to unintentionally try to achieve a certain outcome. Therefore, this item was excluded from the analyses and will not be discussed further.

9 The same was the case for participants in the Positive outcome condition and Negative outcome condition. That is, after they answered the question set contingent on the condition they were assigned to, they were presented with the opposite outcome and asked how they would judge the CEO's role in the case if the case ended as described in the opposite outcome. This was done for exploratory reasons to investigate potential contrasting effects. The results will not be reported here. Only the answers to the questions pertaining to the outcome presented in the case are considered in the analyses.

far from solved and the company's future was still highly insecure. The position of the positive and negative scenario in the list was counterbalanced across participants, such that for half of the participants the positive scenario was listed first and the negative scenario third, and for the other half this order was reversed (the neutral scenario was always presented in the middle). For each scenario, participants were asked to indicate on a 7-point Likert scale how likely they believed that particular scenario to be (1 = *very unlikely*, 7 = *very likely*). Second, on the next screen participants were asked to answer the same question but this time to express the likelihood of each scenario in terms of a percentage (from 0 to 100%), with the sum of the three percentages equalling 100%. Including two likelihood measures (Likert scale and percentages) allows for a more robust test of the hypothesis, as well as alleviate the shortcoming of the percentages measure, which implies interdependency of the percentages allocated to each of the three scenarios as the sum of these three had to be 100%.

Before being debriefed, participants were asked whether English was their native language and, if not, to what extent they agreed or disagreed with the following statement: "I understood the case and the questions completely and experienced no difficulties in answering the questions." Participants answered on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree) and the mean score was 6.41 (median = 7.00).[9]

5.3.2 Results

5.3.2.1 Data Preparation and Analysis Plan

Similar to Study 1, participants who did not spend sufficient time reading the case were excluded from the analyses. We again based the inclusion criterion on 3 standard deviations above the average reading speed. The exclusion criteria were therefore set to 81.5 seconds for the No outcome condition, 98.9 seconds for the Positive outcome condition, and 99.6 seconds for the Negative outcome condition. This resulted in the exclusion of 166 participants (16.6% of the total sample), leaving a final sample size of 836 participants. The cut-off values differed per condition since the length of the case also differed slightly per condition.[10]

9 Participants were again asked to what extent they believed the outcome of the case should and would affect their judgments (in the No outcome condition) or should and did affect their judgment (in the Positive and Negative outcome conditions). The analyses of these questions can be found in Appendix 5.6.

10 Median duration of time spent reading the business case was 181.0 seconds for participants in the No outcome condition, 200.4 seconds for the Positive outcome condition, and 212.6 seconds for the Negative outcome condition. Median duration of time spent on entire survey

To test whether the order in which the scenarios and subsequent questions were presented in the No outcome condition affected the answers to these questions, a MANOVA was conducted with the scenario order (negative first – positive second vs. positive first – negative second) as between-subjects factor and the scores for legal responsibility and benevolence as dependent variables. Results showed no significant effect for question order, $F(2, 274) = 1.88$, $p = .16$, $\eta_p^2 = .01$. Consequently, the data were collapsed across this factor. The same stepwise approach for the analyses as in Study 1 was adopted.

5.3.2.2 Hindsight Bias and Outcome Bias

Legal responsibility was measured only following the negative outcome and benevolence only following the positive outcome. Decision quality was therefore the only outcome variable that was measured across all three conditions, allowing for a direct comparison between the three outcome conditions. An ANOVA with Outcome Condition as between-subjects variable and decision quality as the dependent variable returned a significant effect, $F(2, 833) = 173.54$, $p < .001$, $\eta_p^2 = .29$. Bonferroni-corrected post-hoc comparisons showed that all three conditions differed significantly from one another. Specifically, the quality of the CEO's turnaround plan was judged more negatively in the Negative outcome condition ($M = 4.46$) than in the No outcome condition ($M = 3.63$), $p < .001$, 95% CI [0.57, 1.08] and the Positive outcome condition ($M = 2.53$), $p < .001$, 95% CI [1.68, 2.18]. The mean difference between the No outcome condition and the Positive outcome condition was also significant, $p < .001$, 95% CI [0.86, 1.35]. Hence, participants were susceptible to outcome bias when evaluating the director's actions irrespective of the valence of the outcome, further supporting Hypothesis 2a.

To test for outcome effects in foreseeability, legal responsibility, and benevolence, two separate MANOVAs were conducted. The first compared the No outcome condition with the Negative outcome condition for both foreseeability measures and the legal responsibility measure, $F(3, 549) = 14.21$, $p < .001$, $\eta_p^2 = 07$. The second compared the No outcome condition with the Positive outcome condition for both foreseeability measures and the benevolence measure, $F(3, 556) = 12.32$, $p < .001$, $\eta_p^2 = .06$. Subsequent ANOVAs indicated that there was a significant effect of Outcome Condition (both for the positive and negative outcome) for both foreseeability measures, but not for legal responsibility or benevolence. Thus, participants were susceptible to hindsight bias in that they perceived both the positive and negative outcome scenarios to be more foreseeable in hindsight than in foresight, in support of Hypothesis 1. However, participants did not show an outcome bias when judging either legal responsibility (for the negative outcome) or benevolence (for the positive

was 1176.0 seconds for participants in the No outcome condition, 1153.0 for the Positive outcome condition, and 1216.5 for the Negative outcome condition.

outcome), contradicting Hypothesis 2b. See Table 5.3 for the descriptive statistics and significance tests for each variable.

Table 5.3. Descriptive statistics and significance tests for the univariate analyses of Study 2 testing for hindsight bias in the main variables of interest.

	No outcome (N = 277)		Positive outcome (N =283)		Negative outcome (N = 276)				
DVs	*M*	*(SD)*	*M*	*(SD)*	*M*	*(SD)*	*F*	*p*	η_p^2
Decision quality NEG	3.63	(1.30)			4.46	(1.25)	57.64	<.001	.095
Decision quality POS	3.63	(1.30)	2.53	(1.13)			78.47	<.001	.160
Foreseeability NEG	34.00	(15.66)			41.89	(16.63)	32.92	<.001	.056
Foreseeability POS	23.72	(15.06)	30.74	(14.93)			25.92	<.001	.063
Foreseeability NEG (Likert)	4.70	(1.20)			5.23	(1.04)	30.33	<.001	.052
Foreseeability POS (Likert)	3.79	(1.47)	4.43	(1.33)			29.47	<.001	.050
Benevolence	5.44	(.84)	5.53	(.93)			1.07	*n.s.*	.002
Legal responsibility	3.28	(1.15)			3.32	(1.17)	<1	*n.s.*	.001

5.3.2.3 Free Will Beliefs Moderating Hindsight Bias and Outcome Bias

We again used Hayes' PROCESS (10,000 bootstrap samples) to investigate the relationship between free will beliefs and the two biases. Separate analyses were run comparing the No outcome condition with the Positive outcome condition and the No outcome condition with the Negative outcome condition, both with free will beliefs as the moderator.

Decision quality

Replicating Study 1, a significant moderation effect of free will beliefs was found for decision quality in case of a negative outcome, $\Delta R^2 = .01$, $F(1, 549) = 4.89$, $p = .027$, b = .19, $t(549) = 2.21$, $p = .027$, such that a stronger belief in free will was associated with a larger hindsight bias. The difference between the No outcome and Negative outcome condition was again almost twice as large for those with stronger free will beliefs, b = 1.07, $t(549) = 6.96$, $p < .001$, $d = .59$, than for those with weaker free will beliefs, b = .59, $t(549) = 3.83$, $p < .001$, $d = .33$. This means that all participants judged the quality of the turnaround plan more negatively in hindsight than in foresight, but the difference between the two conditions was significantly larger for the group of participants who believe more strongly in free will. Importantly, this moderation effect did not exist for decision quality in case of a positive outcome, $\Delta R^2 < .001$, $F < 1$. See Figure 5.2 for a visual presentation of the relationship between free will beliefs and hindsight bias for decision quality for both the negative and positive outcome.

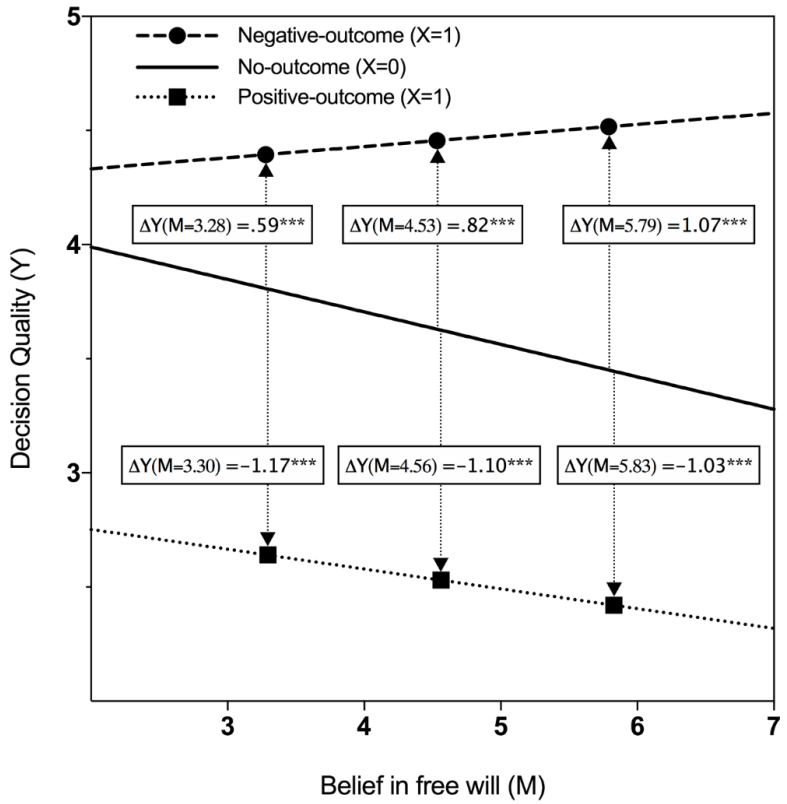

Figure 5.2. Differences between the No outcome, Negative outcome, and Positive outcome condition (ΔY) for decision Quality (Y) at different levels of the moderator (M). Specifically, for those with relatively low free will beliefs (M = 3.30), average free will beliefs (M = 4.56) and high free will beliefs (M = 5.83).

Foreseeability

In contrast to Study 1, the interaction effect between free will beliefs and Outcome Condition on foreseeability did reach statistical significance in Study 2 in case of a negative outcome, both when measured in percentages, ΔR^2 = .02, $F(1, 549) = 10.16$, $p = .002$, b = 3.46, $t(549) = 3.19$, $p = .002$, and when measured using the Likert scale, $\Delta R^2 = .01$, $F(1, 549) = 4.86$, $p = .028$, b = 0.17, $t(549) = 2.20$, $p = .028$. Regarding the percentage measure of foreseeability, participants with stronger free will beliefs demonstrated a more than three times larger hindsight bias, b = 12.24, $t(549) = 6.35$, $p < .001$, $d = .51$, than those with a relatively weak belief in free will, for whom there was no statistically significant effect, b = 3.54, $t(549) = 1.84$, $p = .067$, $d = .16$. For the Likert scale measure of foreseeability, participants with stronger free will beliefs demonstrated a more than twice as large hindsight bias, b = 0.73, $t(549) = 5.46$, $p < .001$, $d = .46$, than those with a relatively weak belief in free will, b = 0.31, $t(549) = 2.34$, $p = .020$, $d = .20$.

Importantly, free will beliefs did not moderate the hindsight bias for foreseeability in case of a positive outcome when measured in percentages, $\Delta R^2 = .001$, $F < 1$, nor when using the Likert scale measure, $\Delta R^2 < .001$, $F < 1$. See Figure 5.3 and Figure 5.4 for a visual representation of the relationship between free will beliefs and hindsight bias for the foreseeability judgments of both the positive and negative outcome and Table 5.4 for the statistics of the moderation and simple slopes analyses.

Legal responsibility and benevolence

No significant interactions between free will beliefs and Outcome Condition were found for legal responsibility, $\Delta R^2 = .004$, $F = 1.98$, $p = .16$, or benevolence, $\Delta R^2 < .001$, $F < 1$.

Table 5.4. Unstandardized regression weights (i.e., ΔY) for the effects of Outcome Condition (No outcome vs. Positive- or Negative outcome) on the dependent variables for participants with low free will beliefs (1 *SD* below the mean) and high free will beliefs (1 *SD* above the mean). 'Int. (SE)' represents the regression weight and standard error for the interaction effects (Outcome Condition x FWB) and 'Model' shows the statistics for the complete model including the interaction term.

	-1 *SD* FWB			+1 *SD* FWB				
	b (SE)	*t*	95% CI	b (SE)	*t*	95% CI	Int. (SE)	*t*
Decision quality NEG	.59 (.15)	3.83**	.39, .89	1.07 (.15)	6.96***	.77, 1.37	.19 (.09)	2.21*
	Model: $R^2 = .105$, $F(3, 549) = 21.41$, $p < .001$							
Decision quality POS	-1.17 (.14)	-8.05***	-1.45, -.88	-1.03 (.18)	-7.08***	-1.31, -.74	-.06 (.10)	.68
	Model: $R^2 = .184$, $F(3, 556) = 41.71$, $p < .001$							
Foreseeability NEG	3.54 (1.93)	1.84	-.25, 7.33	12.24 (1.93)	6.35***	8.45, 16.03	3.46 (1.09)	3.19**
	Model: $R^2 = .074$, $F(3, 549) = 14.62$, $p < .001$							
Foreseeability POS	7.94 (1.78)	4.46***	4.44, 11.44	5.83 (1.78)	3.27**	2.33, 9.34	-.83 (1.00)	-.84
	Model: $R^2 = .069$, $F(3, 556) = 13.75$, $p < .001$							
Foreseeability NEG (Likert)	0.31 (0.13)	2.34*	0.50, 0.58	0.73 (0.13)	5.46***	0.47, 1.00	0.17 (0.08)	2.20*
	Model: $R^2 = .063$, $F(3, 549) = 12.21$, $p < .001$							
Foreseeability POS (Likert)	0.65 (0.17)	3.91***	0.33, 0.98	0.61 (0.17)	3.66***	0.28, 0.94	-.02 (0.09)	-.18
	Model: $R^2 = .062$, $F(3, 556) = 12.14$, $p < .001$							
Legal Responsibility	-.06 (.14)	-.42	-.34, .22	.22 (.14)	1.57	-.06, .50	.11 (.08)	1.41
	Model: $R^2 = .005$, $F(3, 549) = .96$, $p = .41$							
Benevolence	.05 (.11)	.43	-.16, .25	.12 (.11)	1.14	-.09, .33	.03 (.06)	.50
	Model: $R^2 = .006$, $F(3, 556) = 1.18$, $p = .31$							

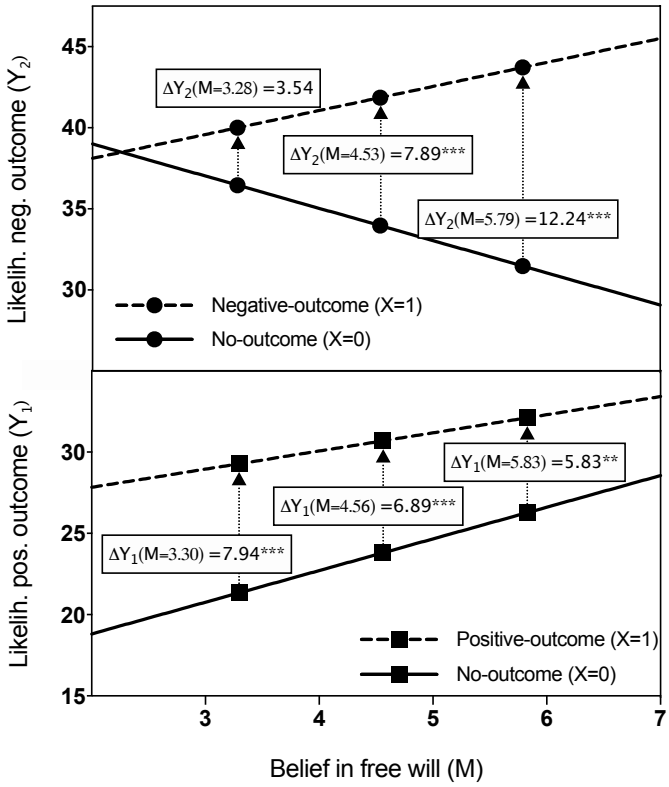

Figure 5.3. Differences between the No outcome and Positive outcome condition (ΔY_1) and between the No outcome condition and Negative outcome condition (ΔY_2) for the foreseeability (here operationalized as the likelihood) of the negative and positive scenarios, respectively, at different levels of the moderator (M).

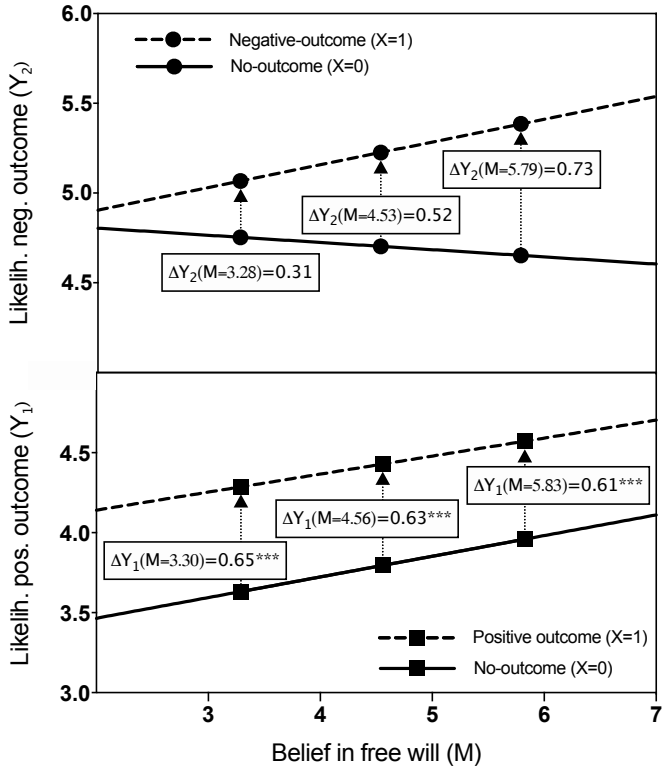

Figure 5.4. Differences between the No outcome and Positive outcome condition (ΔY_1) and between the No outcome condition and Negative outcome condition (ΔY_2) for the foreseeability (here operationalized as the likelihood) of the negative and positive scenarios at different levels of the moderator (M), expressed on a 7-point Likert scale.

5.3.3 Discussion

Study 2 successfully replicated Study 1 in that we again found a bias in the evaluation of the CEO's turnaround plan and the perceived foreseeability of the bankruptcy, providing further evidence that professional legal investigators in the context of directors' liability are affected by outcome information in their judgments. Additionally, the bias in the evaluation of the CEO's turnaround plan was again significantly larger for those with stronger free will beliefs than for those with weaker free will beliefs. Whereas in Study 1 we did not find a moderation effect for hindsight bias in foreseeability judgments, in Study 2 we did find such an effect for both measures of foreseeability. Hence, using a more common way of measuring hindsight bias (i.e., presenting several alternative scenarios), we found a more pronounced hindsight bias in Study 2 relative to Study 1 as well as a significant moderation

effect of free will beliefs. Indeed, the effect sizes for hindsight bias in foreseeability judgments in Study 2 (d = .49 for the percentages measure and d = .47 for the Likert-scale measure) were clearly larger than the effect size found in Study 1 (d = .20) and those found in two meta-analyses (d = .39 by Guilbault et al., 2004; d = .35 by Christensen-Szalanski & Willham, 1991).

Notably, whereas in Study 1 we found a hindsight bias in judgments of legal responsibility, no such effect was found in Study 2. An explanation might be found in the high level of detail in the information that was provided to participants in Study 2 regarding the outcome of the case. That is, hindsight bias is best tested when two groups are compared in which one group is completely ignorant of any outcome information and the other group is fully aware of all the details of a particular outcome, as was the case in Study 1. In Study 2, however, participants in both the No outcome and Negative outcome condition were presented with the complete bankruptcy scenario. The only difference between these conditions for the legal responsibility questions was that in the No outcome condition the scenario was presented as hypothetical and participants were asked how they would judge the legal responsibility of the CEO "if this is how the case would end."

Another reason why there might have been diverging findings between Study 1 and Study 2 regarding the hindsight bias in legal responsibility judgments is that the two scales measuring legal responsibility differed. The scale in Study 1 included an item measuring whether the participants believed the CEO acted negligently and that he therefore should be held accountable for the company's bankruptcy, which was omitted in Study 2 as there was some conceptual overlap with the decision quality and foreseeability measures. It is therefore possible that the bias for legal responsibility judgments in Study 1 was for an important part driven by the negligence measure.

Finally, descriptive statistics on legal responsibility indicated that participants in Study 2 attributed more legal responsibility for the bankruptcy to the director than participants in Study 1, both in foresight (M = 3.28 vs. 2.39) and in hindsight (M = 3.32 vs. 2.82). Legal responsibility attributions in the foresight condition of Study 2 were even higher than the hindsight attributions of Study 1. The difference in legal responsibility attributions between the two studies might be caused by slight differences in the business case used in both studies.[12]

Give the discussed differences between Study 1 and Study 2, it is unclear what exactly accounts for the inconsistent results of the outcome bias in legal responsibility attributions and the moderating role of free will beliefs. Com-

12 Specifically, whereas the case in Study 1 described that the director implemented a rigorous cost cutting program (e.g., 30% of staff laid off), the measures taken by the director were less rigorous in Study 2 (e.g., 15% of staff laid off). Additionally, the additional loans taken out by the director were larger (relative to total debt and turnover) in Study 2 than in Study 1.

bined, however, the results from Study 1 and Study 2 do suggest that free will beliefs can reliably predict susceptibility to outcome bias in post-insolvency evaluations of directors' conduct, as well as to hindsight bias in foreseeability judgments when these are measured using conventional methods.

5.4 General Discussion

We primarily aimed to investigate hindsight bias and outcome bias in legal judgments made by professional legal investigators in the context of directors' liability. A second more exploratory goal was whether free will beliefs can predict the degree to which such professionals are susceptible to these biases. Across two studies, we found that learning about a company's bankruptcy causes legal professionals to perceive the adverse outcome as more foreseeable and also to evaluate the company director's actions more negatively compared to when they are unaware the company went bankrupt. Additionally, we found that the degree to which legal professionals believe in free will predicts the extent to which they are affected by outcome information. Those with stronger free will beliefs demonstrate a larger outcome bias in evaluations of directors' conduct, as well as a larger hindsight bias in foreseeability judgments. We found mixed results regarding outcome bias in legal responsibility attributions, making it difficult to draw any definite conclusions.

In addition to replicating and thus testing the robustness of the findings of Study 1, an important goal of Study 2 was to examine the relationship between free will beliefs and the two biases in further detail by comparing the foresight condition with a hindsight condition in which the case had a positive ending. By doing so, we were able to shed further light on the mechanism underlying the moderating role of free will beliefs in hindsight bias and outcome bias. Considering the absence of any moderating role of free will beliefs in the case of a positive outcome, it seems that the relationship between free will beliefs and hindsight and outcome bias can indeed be explained by blame-validation and motivated reasoning processes. Due to their tendency to more strongly condemn wrongful behaviour and to be more punitive, those with stronger free will beliefs seem to have been (unconsciously) motivated to arrive at the conclusion that the bankruptcy was foreseeable (Study 1 and 2), that the CEO's turnaround plan was unsatisfactory (Study 1 and 2), and that the director should be held legally responsible (in Study 1).

5.4.1 Theoretical and Practical Implications

The findings of the current research are relevant for several reasons. First, we provide further evidence that hindsight bias can indeed affect legal professionals' judgments. Thus far, research investigating hindsight biases among

legal professionals has been relatively scarce and has shown mixed results. Some empirical evidence suggests that legal professionals' judgments can in fact be affected by outcome information (Anderson et al., 1997; Oeberst & Goeckenjan, 2016), but other studies suggest not (Hastie & Viscusi, 1998; Rachlinski et al., 2011; Wistrich et al., 2005). Our consistent finding (across two studies) that legal professionals are affected by outcome information when evaluating the foreseeability of a bankruptcy and the company director's actions further confirms the notion that merely being an expert in a particular field is insufficient to counter the influence of hindsight bias. Relatedly, and more important for legal practice, it raises the question what can be done to prevent hindsight bias in these cases. Despite the apparent difficulty of debiasing hindsight bias (e.g., Fischhoff, 1975; Hell, Gigerenzer, Gauggel, Mall, & Müller, 1988; Pohl & Hell, 1996; Sanna & Schwarz, 2003; Sanna, Schwarz, & Stocker, 2002; Smith & Greene, 2005), suggestions have been made regarding measures that courts could adopt in response to evidence of hindsight bias in legal decision making, such as trial bifurcation, raising the standard of proof, or not conducting cause investigations at all if a bankruptcy has limited societal impact or if there is no direct suspicion of irregularities in the first place (e.g., Rachlinski, 1998). Despite the importance of the issue at hand, we consider a discussion of ways to limit hindsight bias in the courtroom to be beyond the scope of the present paper. Nonetheless, we would urge academics and legal professionals to further pursue the challenge of identifying ways to limit or even prevent hindsight bias in legal decision making.

Second, we add to the literature on hindsight bias and outcome bias by demonstrating that abstract beliefs such as whether or not humans have free will can predict susceptibility to these biases. Thus far, the factors that have been identified as responsible for the motivational origins of hindsight bias are people's need for closure, need for control, and the need to maintain or enhance their self-esteem (Musch, 2003; Musch & Wagner, 2007; Tykocinski, 2001). The current research is the first to suggest (and provide preliminary evidence) that the motivational processes underlying hindsight and outcome bias can also stem from people's need to condemn and punish wrongdoing. That being said, the current research did not directly test punitive inclinations as underlying mechanism of hindsight and outcome bias but rather measured free will beliefs as a proxy. Hence, alternative explanations can be put forward for the observed moderation effect of free will beliefs. For example, beliefs regarding free will have been shown to affect causal reasoning processes, which are deemed essential for hindsight bias to occur. In a series of experiments, Genschow, Rigoni, and Brass (2017) found that a stronger belief in free will is associated with an increase in the correspondence bias, which is the automatic inclination to overemphasize internal over external factors when evaluating the causes of someone's actions (Gilbert & Malone, 1995; also known as the fundamental attribution error; e.g., Ross, 1977). Therefore, those with stronger free will beliefs might be more likely to conclude that directors are

to be held causally responsible (and therefore legally responsible) for a company's downfall. However, the correspondence bias cannot account for all of our findings, while the results of Study 2 lent additional support for punitive inclinations as a key mechanism.

Third, the current research extends the literature on free will beliefs by demonstrating its effects in a legal context. Specifically, we showed that legal professionals' beliefs in free will can predict variations in their legally relevant judgments in the context of directors' liability. Previous research mostly studied the effects of free will beliefs among the general public (e.g., Martin et al., 2017), people recruited through Amazon's Mechanical Turk (e.g., Crone & Levy, 2019; Earp, Everett, Nadelhoffer, Caruso, & Shariff, 2018; Harms, Liket, Protzko, & Schölmerich, 2017), or among undergraduate or high school students (e.g., Li et al., 2017). To the best of our knowledge, the present study is the first to investigate the relationship between free will beliefs and legally relevant judgments among a sample of legal professionals.

Finally, similar to previous research highlighting that situational factors such as emotional states can influence legal judgments (for reviews, see Feigenson, 2016; Feigenson & Park, 2006), our finding that (largely) situationally independent individual characteristics such as belief systems are associated with differences in legal judgments is concerning. Ideally, the outcome of a trial is unaffected by individual characteristics of the judge deciding over the matter. Likewise, in the case of directors' liability, it is undesirable that the chance of a claim against a director being put forward by a trustee, and possibly being granted by a judge, is affected by irrelevant traits of the legal professionals involved, such as their belief in free will. Therefore, the current finding that believing in free will is associated with a larger hindsight bias in legal judgments is a particularly noteworthy and potentially worrying finding. It is certainly worrying if the need to punish can indeed explain the current research findings, as this would imply that with increasingly adverse outcomes, legal professionals would judge increasingly harsh, possibly resulting in unjustified liability assigned to mostly blameless actors.

We therefore encourage future research to further investigate (1) whether people's punitive inclinations can indeed explain their susceptibility to hindsight bias, (2) the extent to which certain individual characteristics such as beliefs and political orientation can affect judgments made by legal professionals, (3) how large this potential problem actually is in real-world legal practice, and (4) what can be done to limit the potential effects of individual characteristics on legal judgments.

5.4.2 Limitations

The current research is not without its limitations and some issues remain that should be addressed carefully in research following the findings presented

here. First, the instructions provided to the participants prior to commencing with the survey might have affected the results. That is, participants were informed that the study focused on decision making in insolvency proceedings. Hence, rather than being completely naive about the stimulus materials, the instructions already primed participants to expect a bankruptcy case, which potentially makes the foresight condition not a 'true' foresight condition. Also, since the participants were experts in the field of insolvency and are often confronted with companies that are either in financial distress or already insolvent, a bankruptcy might be a very likely outcome to them. We acknowledge that the instructions used in this study as well as the idiosyncrasies of the current sample might have affected the results. However, it is unclear whether these factors resulted in an under- or overestimation of hindsight bias. Future research could test whether legal professionals not specialized in insolvency cases (or non-legal professionals for that matter) demonstrate a smaller or larger hindsight bias when tested in an experimental setting.

Even though we consider our large sample of legal professionals from across the globe to be a strength of the current research, the diversity in the participants' nationalities does pose a few challenges. For example, differences across countries exist in legislation concerning directors' liability and we are uncertain to what extent this might have affected participants' responses. Also, the case concerned a Dutch company with a director who had a typically Dutch name (i.e., Cees van Gelder). It might be that for some people this triggered certain stereotypes or other automatic inclinations towards Dutch directors. It would therefore be worthwhile to investigate whether the current findings can be replicated using different case materials. Likewise, a significant portion of respondents had to complete the survey as non-native English speakers. We are uncertain how this might have affected the results, but since research has identified differences based on whether the study materials were in participants' native language or not (e.g., Costa et al., 2019; Geipel, Hadjichristidis, & Surian, 2015; Hayakawa, Tannenbaum, Costa, Corey, & Keysar, 2017), we cannot rule out that the language of the study materials had any bearing on the observed effects.

A third limitation of the current study is that when doing experimental research, it is generally difficult to establish whether the findings can be generalized to, in this case, real-life court cases and how large of an effect it might have in such a real-world context. Even though biases in the current studies were relatively large, the moderating role of free will beliefs was relatively small. Therefore, also based on previous research, we can safely conclude that hindsight bias and outcome bias do in fact affect legal professionals but we should be cautious in claiming that these biases are aggravated for those with stronger free will beliefs. Having said that, it could well be that the effects we found are actually conservative compared to how they might unfold in real life.

Another issue concerns whether the observed findings can be extended beyond the domain of directors' liability in bankruptcy proceedings to for example breach of fiduciary duty tort suits, criminal charges against directors, or to cases that are more high profile with a considerable impact for society. One reason to think that our findings might not generalize to more severe cases (e.g., fraud, self-enrichment) is that past a certain threshold of severity of an offense, most people will probably experience a strong need to punish the offender, regardless of whether they believe in free will or not. For some, a director steering his company into bankruptcy is, morally speaking, not a very significant event, whereas others might moralize this situation more strongly. On the other hand, when one is presented with a case involving a director that knowingly committed fraud and by doing so financially ruined unknowing minority shareholders, or a criminal law case involving for example the murder of innocent children, these cases will probably for the majority of people elicit significant moral outrage and consequently the need to hold the offender responsible. Indeed, Krueger and colleagues (2014) have shown that when people are asked to punish an offender in a low-affect case (e.g., property theft), people believing more strongly in free will punish more harshly than those who were more sceptical of free will. When people were asked how harshly they would punish an offender in a high-affect case (e.g., murder), no difference based on free will beliefs was found. Hence, if it is indeed true that free will beliefs can predict the degree of hindsight bias due to a higher need to punish and resulting motivated cognition on behalf of those with stronger free will beliefs, it could be that in high-affect criminal law cases (or other more high-affect cases such as a high-profile bankruptcy case with severe consequences for society) the moderating role of free will beliefs would disappear.

5.4.3 Conclusion

We found that professional legal investigators succumb to hindsight bias and outcome bias when assessing a director's actions post-bankruptcy. We also found that those who believe more strongly in free will demonstrate larger hindsight bias when judging the foreseeability of the bankruptcy and larger outcome bias when evaluating the company director's actions. These findings raise the question what the implications are for legal practice. It is evident that hindsight bias should ideally be eliminated from the court, but so far debiasing strategies have failed to provide a base for accomplishing this difficult task. Our research shows that not all legal professionals are equally susceptible to hindsight bias and that personally held beliefs regarding legally relevant constructs such as free will can predict susceptibility to this bias. Hence, not only is it relevant whether or not a defendant acted out of free will in causing an adverse outcome, it appears that professional legal investiga-

tors' *belief* in free will also matters for legal judgments. We encourage future research to further investigate individual differences in hindsight bias, as this could provide valuable insights necessary to minimize human errors entering the courtroom.

The next chapter also investigates how certain legally irrelevant information might affect legally relevant judgments concerning for example the perceived likelihood of a company's failure, directors' intentions while operating in the vicinity of insolvency, as well as directors' blame for their companies' failure. The extra-legal information that is the focus of the next chapter concerns information pertaining to directors' moral character. Hence, the next chapter does not compare judgments in hindsight versus those made in foresight, but rather judgments made in hindsight for morally good directors versus morally bad directors.

6 Are Morally Bad Directors More Culpable?

Effects of Directors' Moral Character on Mental State Ascriptions and Legal Judgments[1]

ABSTRACT

This chapter seeks to shed light on a phenomenon identified in experimental philosophy pertaining to people's tendency to judge actions as more intentional when these result in bad outcomes compared to good outcomes (i.e., the Knobe-effect, named after Joshua Knobe who first identified the phenomenon), and is therefore written with experimental philosophers in mind as the target audience. Nonetheless, considering the importance of judging directors' intentions in relation to acquiring new debt while approaching bankruptcy, this phenomenon has direct implications for how directors are judged. Despite being widely studied, the Knobe-effect remains poorly understood. In this chapter, I primarily aim to further our understanding of this effect in the context of directors' liability following a company's bankruptcy. Specifically, I seek to investigate to what extent moral character inferences play an important role in mental state ascriptions and legally relevant judgments such as blame, punishment, and foreseeability.

Summarizing this chapter in a more theoretically oriented manner, the starting point is that recent research in experimental philosophy has sought to understand how people conceive and use the legally important concept of intentional action. Despite significant advances over the past decade and a half, it remains puzzling why people judge actions that result in bad outcomes as more intentional than actions with good outcomes, and why different rules seem to apply for morally neutral events. In this chapter, I propose a novel account that can explain existing data while also providing new empirical evidence. In line with recent research in moral psychology supporting a personcentred approach to moral judgment, our Moral Character Account, as introduced in this chapter, suggests that mental state ascriptions as well as other judgments pertaining to concepts such as causality and freedom are ultimately driven by moral character inferences. Across five experiments (two preregistered; total $N = 1446$), we consistently found that morally bad directors are judged as acting more intentionally, knowingly, and recklessly than morally good directors in bringing about a harmful side-effect, and we also consistently

1 This chapter is based on: Strohmaier, N. & Kneer, M. Are Bad People More Culpable? Effects of Moral Character on Mental State Ascriptions in Legal Decision Making. In preparation.

found higher perceived likelihood of failure judgments as well as higher blame and punishment attributions for morally bad agents. Importantly, we found the same moral character effects among both lay people and legal professionals. Effects of outcome severity were limited and inconsistent, confirming the dominant role of moral character effects. Implications for theories of the folk psychology of intentional actions are discussed as well as the implications for legal practice.

6.1 Introduction

To determine whether someone deserves blame or praise, people have to assess that person's mental state as we generally assign less blame or praise for unintentional than for intentional acts. Assessing mental states accurately is paramount as it is undesirable to unduly blame people for harm they did not intent or even anticipate to elicit, nor do we want to give credit where it is not due. Mental state ascriptions are perhaps even more important in legal decision making. The Model Penal Code in the United States defines different levels of *mens rea* (guilty mind), and the degree of culpability is dependent on someone's specific mental state (i.e., purposely, knowingly, recklessly, negligently) at the time of the *actus reus* (guilty act). For example, intentionally harming someone is penalized harsher than when the harm is inflicted due to reckless or negligent behaviour. Differences exist across jurisdictions in determining culpability, but a universality is that legal sanctions depend to a relevant extent on a defendant's mental state when committing a transgression or crime. Considering the implications of mental state ascriptions both in daily life and in legal decision making, it is important that both lay people and legal professionals accurately assess other people's mental states.

Importantly, people have been shown to err when it comes to mental state ascriptions. In his seminal work, Knobe (2003a; Knobe, 2003b) demonstrated that people consider harmful behaviour as more intentional than helpful behaviour. Specifically, when a company director launched a program to boost the company's profits that, as a side effect, also either harmed or helped the environment, participants in his experiment believed more strongly that the director intentionally harmed the environment than that the director intentionally helped the environment. Such asymmetry in mental state ascriptions has been proven to be a robust phenomenon that replicates across a wide range of different cases (for comprehensive reviews, see Cova, 2016; Feltz, 2007), cultures (Knobe & Burra, 2006) and age groups (Leslie, Knobe, & Cohen, 2006), and also for mental states other than intentionality (e.g., Beebe & Buckwalter, 2010).

Asymmetries in mental state ascriptions have puzzled scholars ever since Knobe's initial experiment and a decade and a half later the phenomenon remains poorly understood. Nonetheless, many different explanations have

been put forward. A key distinction between the accounts that are currently out there is that some suggest that moral considerations (e.g., the badness of the outcome or blameworthiness of the agent) can explain the observed asymmetries (e.g., Cova, Lantian, & Boudesseul, 2016; Nadelhoffer, 2004b), whereas others argue that moral considerations do not play a role at all (e.g., Alfano, Beebe, & Robinson, 2012; Machery, 2008). Currently, the dominant view seems to be that moral considerations do in fact play an important role in intentionality judgments, but there is substantial disagreement regarding *how* exactly such considerations affect the folk psychology of intentional action (e.g., Cova, Lantian, & Boudesseul, 2016). For example, of the accounts incorporating moral considerations, there are those that consider such considerations to be indicative of the core concept of intentional action and therefore consider the asymmetry to be unproblematic (Knobe, 2006, 2010). In contrast, others have argued that any influence of moral considerations on intentionality ascriptions constitutes a bias (e.g., Alicke, 2008; Nadelhoffer, 2004a, 2004b, 2006). In short, the accounts put forward thus far come in many shapes and forms, yet there is currently no comprehensive theory that can fully explain the multitude of variations of the Knobe effect that exist today.

In this paper, we aim to achieve three goals. First, we aim to further our understanding of the Knobe effect and of the folk psychology of intentional action specifically and of mental state ascriptions more generally, by putting forward a theory that puts moral character evaluations at the centre of mental state ascriptions in morally laden contexts. We will argue that moral character evaluations bias mental state ascriptions such that these proportionally match the amount of blame an agent deserves based on his/her moral character. The account we put forward also attends to non-moral contexts in which moral character evaluations presumably play little or no role. In addition to putting forward our novel account of mental state ascriptions, the second goal of this paper is to provide empirical support for the biasing effect of moral character inferences in lay people's attributions of mental states. Finally, we aim to test whether legal professionals are just as biased as lay people in their mental state ascriptions following from moral character inferences. This would be particularly noteworthy as it substantiates the worries expressed about impartiality being at risk in legal cases (Nadelhoffer, 2006). Indeed, not only jury impartiality might be jeopardized due to the biasing effect of moral character evaluations, but also cases in which legal professionals have a more prominent role.

We first briefly describe the essence of our Moral Character Account (MCA), after which we use existing variations of the Knobe effect to explain our account in more detail.

6.1.1 Introducing the Moral Character Account of Intentional Action

Our account can probably best be introduced by describing the observed differences in intentionality ascriptions in two classic variations of the Knobe effect (Knobe, 2003b). The first variation concerns the following morally neutral case of a rifle contest in which the agent is either a skilled or unskilled marksman (text between brackets was varied between participants):

> Jake desperately wants to win the rifle contest. He knows that he will only win the contest if he hits the bull's-eye. He raises the rifle, gets the bull's-eye in the sights, and presses the trigger. *[Jake is an expert marksman. His hands are steady. The gun is aimed perfectly … The bullet lands directly on the bull's-eye. / But Jake is not very good at using his rifle. His hand slips on the barrel of the gun, and the shot goes wild … Nonetheless, the bullet lands directly on the bull's-eye.]* Jake wins the contest.

Here, 79% of the participants presented with the skilled marksman version of the case said Jake intentionally hit the bull's-eye, whereas only 28% of those presented with the inexperienced marksman said the same. Hence, it appears that skill plays an important role in the folk concept of intentional action (see also Malle & Knobe, 1997). Now consider the following analogous case in which the agent kills a family member instead of hitting a target at a shooting range:

> Jake desperately wants to have more money. He knows that he will inherit a lot of money when his aunt dies. One day, he sees his aunt walking by the window. He raises his rifle, gets her in the sights, and presses the trigger. *[Jake is an expert marksman. His hands are steady. The gun is aimed perfectly … The bullet hits her directly in the heart. / But Jake is not very good at using his rifle. His hand slips on the barrel of the gun, and the shot goes wild … Nonetheless, the bullet hits her directly in the heart.]* She dies instantly.

In this morally laden case, the vast majority of the participants believed Jake intentionally killed his aunt, regardless of Jake's shooting skills (95% in the skilled version vs. 76% in the unskilled version). Hence, in morally laden cases, the perceived skill of the agent plays a much smaller role (if at all) in intentionality attributions.

To explain these differences in intentionality ratings between amoral and moral contexts, we follow other accounts adopting a multi-concept approach to the folk concept of intentional action (e.g., Cushman & Mele, 2008; Lanteri, 2010; Nichols & Ulatowski, 2007; Sousa & Holbrook, 2010) and suggest that people adhere to two distinct concepts. One concept is reserved for non-moral contexts, and the other for morally laden contexts. The former mirrors perceptions of *causal responsibility* and the latter mirrors those of *moral responsibility*. More specifically, in non-moral cases, when asked whether a certain event was brought about intentionally, we propose people ask themselves whether

the agent is causally responsible for bringing about the event. By causally responsible we mean whether there is a direct causal link between an agent's mental state and the event. For example, if you had the desire to pick up a cup standing right in front of you, merely wanting to pick it up is sufficient for the event (picking up the cup) to occur, hence why people will say you picked up the cup intentionally. Likewise, for a skilled marksman, merely wanting to hit the bull's-eye in a riffle contest is probably sufficient for hitting the bull's-eye, resulting in high intentionality ratings. In many cases, however, a certain desire is necessary but not sufficient to bring about an event. For the unskilled marksman in the riffle context case, a desire to hit the target was insufficient and Jake needed a large chunk of luck to hit the target, thereby weakening the causal link between his desire to hit the target and actually hitting the target, ultimately resulting in lower intentionality ratings. Our hypothesis is that the more additional causal factors (i.e., external to the agent) that are required for a certain event to occur, the weaker the perceived causal link between an agent's mental state (e.g., desire) and the effect and thus the lower the intentionally ratings will be.

In morally laden cases, we suggest the folk's concept of intentional action focusses on *moral responsibility*. The more morally responsible an agent is perceived to be for a certain event (good or bad), the more people will say the agent acted intentionally. Moreover, and this is crucial, we hypothesize that the key determining factor in assigning moral responsibility is people's evaluation of an agent's moral character. Once people have formed an opinion on the agent's character, they will want to blame morally bad agents in case of bad outcomes and be reluctant to give credit in case of good outcomes. This pattern will be reversed for morally good agents, such that people assign higher intentionality in case of good outcomes (such that the agent deserves praise), and lower intentionality in case of bad outcomes (as they are reluctant to blame the agent). Applied to the Jake killing his aunt case, we suggest participants considered Jake's moral character reprehensible given he is willing to kill his aunt for financial gains. People were then motivated to blame Jake and hold him morally responsible for the death of his aunt, not caring anymore about the strength of the causal link between Jake's wanting to kill his aunt and actually killing his aunt. Importantly, moral character perceptions need not be derived from an agent's motives for acting or the act itself, but can also stem from unrelated and irrelevant information. In short, to reach moral coherence, we suggest people will answer whatever question you give them in such a way that it is favourable for an agent with a good moral character and unfavourable for an agent with a bad moral character (Clark, Chen, & Ditto, 2015).

To summarize, we propose that the folk's use of the concept of intentional action depends on the context, such that people interpret intentionality in non-moral contexts in terms of an agent's causal responsibility for an outcome and for moral contexts in terms of moral responsibility, which is ultimately driven

by moral character evaluations. Figure 6.1 depicts a visual representation of our theory of intentional action. Before providing empirical support for the central role of moral character inferences in our theory, we first highlight previous studies that we believe can better be explained using our MCA and elaborate on the key differences and benefits relative to existing accounts.

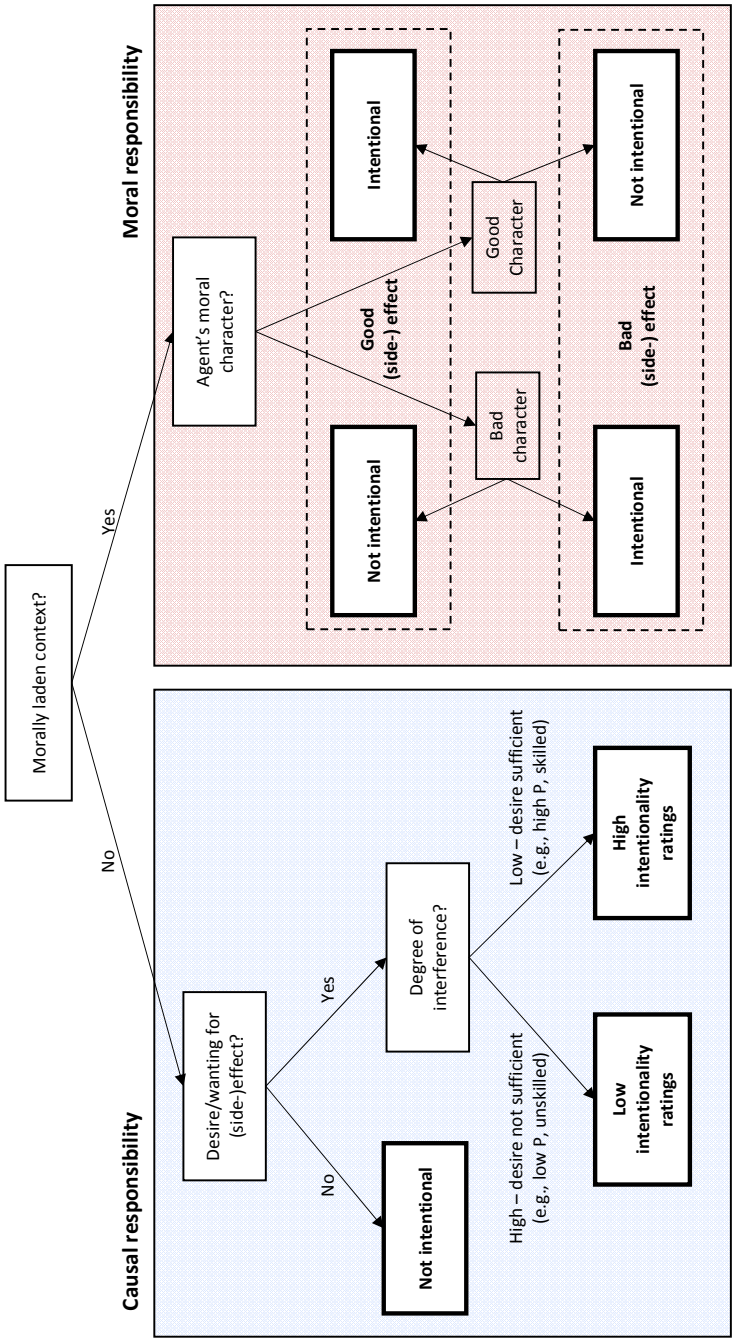

Figure 6.1. Dual concept theory of intentional action centring around causal and moral responsibility.

6.1.2 Using the MCA to explain existing data

In the original experiment conducted by Joshua Knobe, a salient feature is that the chairman looking to implement a program to boost his company's profits does not care at all about harming or helping the environment. This clearly speaks to the chairman's character and probably even more so for the chairman that does not care about harming the environment. Our MCA suggests that people will be pleased to say that the morally bad chairman intentionally harmed the environment as this implies the chairman deserves to be blamed and therefore gets what he deserves. In contrast, when participants in the help condition learned that the chairman helped the environment, they are reluctant to say the chairman intentionally helped the environment as this would imply the chairman deserves praise and they do not believe the chairman deserves praise at all. This is exactly what the original experiment showed. Hence, whereas Knobe originally explained the data in terms of the good or badness of the action, we suggest moral character evaluations drove the observed asymmetry in intentionality ascriptions.

A scenario that has been suggested to provide evidence for the idea that it *is* the inherent goodness or badness of an agent's behaviour (irrespective of blame) that drives the Knobe effect and not the blameworthiness of the agent is the following (Knobe & Mendlow, 2004):

> Susan is the president of a major computer corporation. One day, her assistant comes to her and says, "We are thinking of implementing a new program. If we actually do implement it, we will be increasing sales in Massachusetts but decreasing sales in New Jersey." Susan thinks, "According to my calculations, the losses we sustain in New Jersey should be a little bit smaller than the gains we make in Massachusetts. I guess the best course of action would be to approve the program." "All right," she says. "Let's implement the program. So we'll be increasing sales in Massachusetts and decreasing sales in New Jersey."

According to our MCA, people will interpret the question of intentionality in terms of the agent's causal responsibility for the side effect given that this particular case does not contain a moral element. The scenario is described in such a way that it seems that the president merely needs to give the go-ahead to her assistant to cause a decrease in sales in New Jersey, so no additional causal factors appear to be necessary for the side effect to occur. Hence, there is a strong causal link between the agent's mental state (i.e., desire to implement the program) and the side effect, which according to our theory would result in high intentionality ratings. This study indeed showed that 75% said the president intentionally decreased sales in New Jersey.

Wright and Bengson (2009) altered the above sales scenario in such a way that it more closely mimics the original chairman scenario, and as a result turned a morally neutral scenario into a morally laden scenario, which accord-

ing to our MCA therefore triggered judgments of moral responsibility and subsequent moral coherence processes. The scenario was as follows:

> The VP of a company went to the chairperson of the board and said, 'We are thinking of starting a new program. It will help us increase profits, *[but it will also decrease sales / and it will also increase sales]* in New Jersey.' The chairperson of the board answered, 'I don't care at all about *[decreasing / increasing]* sales in New Jersey. I just want to make as much profits as I can. Let's start the new program.' They started the new program. Sure enough, profits increased and sales in New Jersey *[decreased / increased]*.

The fact that the chairperson did not care about either decreasing or increasing sales does not speak favourably to the chairperson's character. It is safe to assume that a chairperson *should* care about such things and not caring in this case is a sign of bad corporate governance that might even provide ground for liability claims if shareholders were to suffer damages. Additionally, decreasing sales is generally considered to be a bad thing whereas increasing sales is generally considered to be a good thing. This can also be derived from the scenarios itself which stated: "but it will also decrease sales" versus "and it will also increase sales". It is therefore morally coherent to say the morally bad chairperson intentionally brought about the bad outcome (i.e., decreasing sales), but not to say the morally bad chairperson intentionally brought about the good outcome (i.e., increasing sales). The authors indeed found that intentionality ratings were higher in the *decrease* version of the scenario than in the *increase* version. In fact, the highest intentionality ratings were observed when respondents also considered the chairperson to be blameworthy for decreasing sales, which is in line with what our MCA would predict.

The original moral valance account (i.e., goodness or badness of the action drives the effect) has been critiqued by several other scholars who as an alternative mechanism suggested that norm violations are actually the driver of asymmetries in mental state ascriptions. They proposed that norm violations result in higher intentionality ratings than norm conforming actions (e.g., Alfano, Beebe, & Robinson, 2012; Hindriks, 2014; Holton, 2010; Robinson, Stey, & Alfano, 2015; Uttich & Lombrozo, 2010). However, these accounts cannot explain data showing that agents' attitudes towards an action or effect play a crucial role in intentionality judgments, regardless of the degree to which a norm is violated. Take for example Guglielmo and Malle's (2010) account which suggests that moral or normative considerations do not affect intentionality judgments at all and instead proposes that the Knobe effect can be fully explained by the agent's desire to achieve a certain outcome. They provided evidence for their account by for example showing that when a chairman regrets harming the environment, this significantly reduces intentionality ratings from 82% as observed in Knobe's original experiment to 40% in this regretful chairman scenario (see also Mele & Cushman, 2007; Phelan & Sarkissian, 2008).

To test whether an agent's desire for an outcome can indeed fully explain the Knobe effect or whether moral considerations also play a role, Cova et al. (2016) conducted several experiments in which they varied both the agent's attitudes towards the side effect (joyful vs. regretful) and the normative element of the side effect (harm vs. help). They showed that both the agent's attitude and the normative evaluation independently affected mental state ascriptions, thereby providing evidence for the notion that moral considerations do in fact impact intentionality judgments.

The observation that both moral considerations as well as agents' attitudes towards an outcome play a role in mental state ascriptions is wholly consistent with our MCA. In fact, we suggest that normative evaluations and agents' attitudes to be relevant for mental state ascriptions only in the sense that these factors are informative of the agent's moral character. Specifically, a chairman who does not care about or even derives pleasure from harming the environment can be considered to have a morally worse character than a chairman who regrets doing so, hence the lower intentionality ratings for the regretful chairman. Likewise, a chairman who is pleased to help the environment probably has a better moral character than a chairman who does not care at all about helping the environment, hence people's increased intentionality ratings for the morally good chairman when the environment was helped. Also, an agent who violates a norm will probably be judged as having a worse moral character than an agent conforming to that norm, especially when it concerns a salient norm (Robinson et al., 2015) that is important to the observer (Tannenbaum, Ditto, & Pizarro, 2007).

Importantly, accounts disregarding moral considerations and instead focusing on norm violations have in their defence put forward data showing intentionality judgments can be affected by non-moral norm violations. We suggest their data can in fact be explained by moral character evaluations. Take for example Knobe's (2004) vignette concerning an aesthetic norm violation, which reads as follows:

> The Vice-President of a movie studio was talking with the CEO. The Vice-President said: "We are thinking of implementing a new policy. If we implement the policy, it will definitely increase profits for our corporation, *[but it will also make our movies worse from an artistic standpoint / and it will also make our movies better from an artistic standpoint."]* The CEO said: "Look, I know that we'll be making the movies *[worse / better]* from an artistic standpoint, but I don't care one bit about that. All I care about is making as much profit as I can. Let's implement the new policy!" They implemented the policy. As expected, the policy made the movies *[worse / better]* from an artistic standpoint.

We consider it reasonable to assume that people will think a VP of a movie studio *should* care about a movie's artistic qualities and that people in general also do care about such qualities. Additionally, we consider it reasonable to assume that people tend to frown upon those who are so money-driven that

they have a complete disregard for relevant aspects of their work (i.e., the artistic qualities of a movie). Therefore, it is likely that people will evaluate the VP's moral character negatively. Assuming that making a movie artistically worse off is considered undesirable and improving a movie in an artistic sense is considered desirable, our theory would predict that when people evaluate the VP's moral character negatively, they will be reluctant to say the VP intentionally improved the movie and keen to say the VP intentionally made the movie worse. This is exactly what Knobe found. Only 18% of the participants said the VP intentionally improved the movie artistically, whereas 54% said the VP intentionally worsened the movie.

Another scenario concerning a norm violation that has previously been difficult to explain is the following (Knobe, 2007):

> In Nazi Germany, there was a law called the 'racial identification law.' The purpose of the law was to help identify people of certain races so that they could be rounded up and sent to concentration camps. Shortly after this law was passed, the CEO of a small corporation decided to make certain organizational changes. The Vice-President of the corporation said: 'By making those changes, you'll definitely be increasing our profits. *[But you'll also be violating the requirements of the racial identification law / But you'll also be fulfilling the requirements of the racial identification law].* The CEO said: 'Look, I know that I'll be *[violating / fulfilling]* the requirements of the law, but I don't care one bit about that. All I care about is making as much profit as I can. Let's make those organizational changes!' As soon as the CEO gave this order, the corporation began making the organizational changes.

The result showed that 81% of respondents said the CEO intentionally violated the requirements of the law whereas only 30% said he intentionally fulfilled the requirements of the law. We suggest that in the norm-violating condition, people consider the CEO to be morally good based on his blatant disregard for a norm-violating law. Since people will consider violating the racial identification law as good, it is morally coherent to say the CEO intentionally violated the law. In the norm-conforming condition, participants will probably be quick to judge the CEO as morally bad for not caring about complying with a norm-violating law. The side effect of fulfilling the requirements of the racial identification law is also considered bad, so on the surface it seems that moral coherence processes would result in participants saying the CEO intentionally complied with the norm-violating law. But that is not what Knobe found. Rather, only 30% said the CEO intentionally fulfilled the requirements of the racial identification law. An important element of our MCA is that the amount of moral responsibility assigned to the agent should be *proportionate* to the badness of the agent's character. Very bad agents deserve a lot of blame and mildly bad agents deserve a moderate amount of blame. In the scenario above, the CEO is clearly bad, but not as bad as a CEO who would endorse and be pleased to comply with such an extremely reprehensible law. The amount of blame implied by saying the CEO intentionally fulfilled the requirements of

the law would be disproportionate to the amount of blame the CEO deserved based on the evaluation of the CEO's character. Participants' thought processes might have been something along the following lines: "Look, this CEO surely is a bad person. He *should* care about whether or not he complies with this awful law. But I guess he is not a Nazi himself, because a Nazi *would* care about complying with that law and would even be happy to comply with the law and fully endorse the policy and principles behind it. That would be much worse. So even though I don't like this CEO very much, he did not really intentionally comply with the racial identification law as he is not that blameworthy of a person". Hence, based on the principle of proportionality, our theory is able to explain the asymmetry found in this particular scenario.

The notion of proportionality in our theory of intentional action is also supported by findings from Wible (2009) and Cova and Naar (2012). Wible found that intentionality ratings increased from 23% as found in the help condition of the original chairman case from Knobe (2003a) to 55% when the chairman who helped the environment as a side effect was actually a nice person and cared a lot about the environment. A further increase to 80% was found by Cova and Naar (2012) when the CEO was described as a *very* nice and altruistic person who was willing to help the environment without any financial or reputational gain.

To summarize, we have argued that the folk psychological concept of intentional action actually consists of two separate concepts (i.e., causal and moral responsibility) and that morally laden contexts trigger moral character evaluations which then drive mental state ascriptions. Furthermore, we have argued that proportionality is important in the sense that the blame implied by a certain mental state attribution should be proportionate to an agent's moral character. We have used existing data to argue for this central role of moral character evaluations and the element of proportionality. We will now briefly discuss the benefits of our account over alternative accounts and discuss how our account fits other recent research that has highlighted people's fundamental tendency to evaluate people's moral character.

6.1.3 Key benefits of the MCA

A prime benefit of our account is that it can explain data related to mental states other than intentionality. For example, Knobe (2004b) found similar asymmetries in his chairman case when he asked participants whether it was the chairman's *intention* to harm/help the environment. Likewise, using the same chairman case, Tannenbaum et al. (2007) found that participants were more inclined to say the chairman had a *desire* to harm the environment than to say the chairman had a desire to help the environment. Using analogous scenarios to the chairman case, Pettit and Knobe (2009) found similar effects for 'deciding', 'being in favour of', and 'advocating', with higher ratings for

the harm version than the help version. Beebe and Buckwalter (2010) also found asymmetries in the chairman scenario when they asked participants whether the chairman *knew* he would harm/help the environment, which they dubbed the 'epistemic side-effect effect' (see also Beebe & Jensen, 2012).

What all of these findings have in common is that the chairman (or other protagonists) in their scenarios clearly had a bad moral character. Each scenario also concerned a norm-violating or a norm-conforming side effect. Therefore, participants were probably keen to answer any question put to them in such a way that it signalled their discontent with the morally bad agent and such that it implied the appropriate amount of blame. After all, a morally bad chairman who desires to harm the environment is morally coherent, whereas a morally bad chairman with a desire to help the environment is not. The same goes for 'deciding', 'being in favour of', and 'advocating'.

Crucially, our account can also be extended to findings that were inspired by the Knobe effect but that do not concern mental states per se. Take for example the work of Knobe and Fraser (2008) on judgments of causality in which they presented participants with the following vignette:

> The receptionist in the philosophy department keeps her desk stocked with pens. The administrative assistants are allowed to take the pens, but faculty members are supposed to buy their own. The administrative assistants typically do take the pens. Unfortunately, so do the faculty members. The receptionist has repeatedly emailed them reminders that only administrative assistants are allowed to take the pens. On Monday morning, one of the administrative assistants encounters Professor Smith walking past the receptionist's desk. Both take pens. Later that day, the receptionist needs to take an important message... but she has a problem. There are no pens left on her desk.

Participants were then asked to what extent they agreed with the following two statements: "Professor Smith caused the problem" and "The administrative assistant caused the problem". They found that participants were significantly more likely to agree with the former statement than the latter. Explaining these results in light of our MCA is relatively straightforward. The fact that the professor took a pen from the receptionist's desk while repeatedly being told not to signals a less than ideal moral character. It is morally coherent to then say the professor caused the receptionist's problem as this implies a certain degree of blame.

Phillips and Knobe (2009) also found asymmetries in judgments of an agent's freedom to perform a certain action. We argue that here too are moral character evaluations driving the effect. The scenario they used was the following:

> At a certain hospital, there were very specific rules about the procedures doctors had to follow. The rules said that doctors didn't necessarily have to take the advice of consulting physicians but that they did have to follow the orders of the chief

> of surgery. One day, the chief of surgery went to a doctor and said: "I don't care what you think about how this patient should be treated. I am ordering you to prescribe the drug Accuphine for her." The doctor *[had always disliked this patient and actually didn't want her to be cured / really liked the patient and wanted her to recover as quickly as possible].* However, the doctor knew that giving this patient Accuphine would result in *[an immediate recovery / her death]*. Nonetheless, the doctor went ahead and prescribed Accuphine. Just as the doctor knew she would, the patient *[recovered immediately / died shortly thereafter].*

When asked whether, given the rules of the hospital, the doctor did not really have the option of not prescribing Accuphine, participants were inclined to say the morally bad doctor who did not want the patient to be cured did not have the option of not prescribing Accuphine. This is morally coherent as the drug ultimately saved the patient (a good outcome), but participants probably did not feel the doctor deserved any credit for saving the patient as the doctor did not even want the patient to survive. By saying the doctor was forced to prescribe the drug, this precludes any credit for the doctor as he did not freely choose to prescribe the drug. In the scenario in which the doctor likes the patient and knows the drug will kill the patient but prescribes the drug anyway, participants probably felt this doctor has a weak moral character as the doctor should have stood up to the chief of surgery. It is then morally coherent to say the doctor *did* have the option of not prescribing the drug, as this implies the doctor deserves at least some blame for prescribing the fatal drug.

To conclude this point, we argue that our moral character account of the folk psychology of intentional action extends beyond 'mere' intentional action and can also explain related elements of folk psychology discussed above. As there is currently no theory or account that can explain all of the variations of the Knobe-effect, we consider our MCA to prevail over other theories that have been put forward, some of which have been addressed in this paper.

6.1.4 A Competing Theory

To further highlight benefits of the MCA over alternative accounts, we now compare the MCA with a competing theory put forward by Cova, Dupoux, and Jacob (2012). We focus on this account specifically as we believe it is, to date, the best candidate for explaining the Knobe-effect. Similar to our MCA, the authors take a pluralist stance and propose that people use different concepts of intentionally depending on the circumstances. In short, their first concept focusses on desire, such that agents are believed to act intentionally when their desire for a certain outcome is sufficiently strong. Their second concept suggests people will judge an agent to have acted intentionally when that agent is insufficiently reluctant to bring about an outcome than he/she is (normatively or descriptively) expected to be. Their third concept relates to skill and luck in such a way that people will judge an agent as acting

intentionally when the agent brings about an outcome by exerting control rather than by sheer luck.

We first identify some similarities between the two accounts. Their first and third concepts are similar to our causal responsibility approach to intentional action, in that we too propose that for an agent to act intentionally in a non-moral context, the agent should desire a certain event to occur and be able to exert sufficient control in bringing about the event (i.e., low degree of interference). In our MCA, however, both conditions need to be met for an agent to be judged as acting intentionally. Their second notion of intentional action shows some overlap with our account in that being less reluctant to perform a certain action than one might normatively expect speaks to a person's moral character. We therefore also consider reluctance in relation to normative expectations to be relevant, but only insofar as it can inform observers' evaluations of an agent's moral character.

Importantly, we consider our MCA to be more apt at explaining and predicting the folk psychology of intentional action for several reasons. First, whereas Cova et al. (2012) require three different concepts of intentional action to account for all the existent data, the MCA only requires two. We consider a more parsimonious account to be preferential if both achieve the same goal.

Second, whereas Cova et al. (2012, p. 390) state: "Arguably, there is no algorithm that would allow us to predict for each case which meaning will be the most salient", the MCA does in fact offer such an algorithm and a very basic one at that. Specifically, we argue that the concept of intentional action that people will use depends only on whether or not the situation at hand has a sufficiently salient moral element to it. We therefore believe that the MCA can better predict which concept of intentional action people will use.

Third, we question whether their account can actually account for all the existing data as they claim. For example, the authors introduce to their second concept of intentional action (i.e., being more or less reluctant than one might expect) the sensitivity to the value of a goal. In short, they argue that bringing about a bad side effect for a good reason suggests an agent is more reluctant to bring about the side effect than an agent bringing about the same bad side effect for mere futile reasons. In other words, they argue that motives for bringing about an effect are informative for assessing someone's reluctance towards bringing about that effect and that therefore motives are relevant for intentionality judgments (or at least for their second notion of intentionality that is based on reluctance). They use this line of reasoning to argue that their theory can account for the data presented by Nadelhoffer (2006), who describes two scenarios that are structurally identical but vary in terms of the agent's motive for bringing about a negative side effect. Specifically, in the first version, a thief knowingly endangers the life of a cop in an attempt to escape. Ultimately, the thief gets away and the cop dies as a result. In the second version, a man knowingly endangers the life of a thief in an attempt to escape from that thief who threatened the man with a gun. Ultimately, the man gets

away and the thief dies as a result. Cova et al. argue that the differences in intentionality ratings (37% said the thief intentionally brought about the cop's death versus 10% saying the man intentionally brought about the thief's death) can be explained by "the mere fact that protecting one's own good is a better goal than stealing the property of others".

Crucially, however, we question whether the goodness or badness of the goal in this case is informative with regards to the reluctance of the agents in bringing about the bad side effect, which according to the authors is the key element of their second concept of intentionality. In both scenarios it is explicitly stated that the agents do not care about endangering the cop's/thief's life and we consider it unlikely that the innocent man was more reluctant to endanger the thief who had just pulled a gun on him than the thief was reluctant to endanger the cop. Possibly, the man trying to get away from the thief in order to avoid being killed was actually less reluctant to risk the death of the thief than the thief was to risk bringing about the death of the cop merely to avoid jail time. Hence, based on Cova et al.'s account the data presented by Nadelhoffer is difficult to explain.

It is also unclear whether or not it matters if an agent is reluctant to bring about an adverse event for a normatively good reason (e.g., because endangering someone's life is bad) or for a mere pragmatic, selfish reason (e.g., limiting potential jail time). After all, someone can be *very* reluctant to bring about a bad event for selfish reasons. Our MCA has a clear prediction in this regard, as reluctance stemming from normatively good reasons speaks favourably to someone's character whereas reluctance stemming from selfish reasons does not. We therefore consider it more likely that moral character evaluations and subsequent moral coherence processes can account for Nadelhoffer's data. Specifically, the man trying to get away from the thief was presumably a good person or was judged as morally neutral considering the lack of information about the agent. Since bringing about someone's death is a very tragic event, people will be reluctant to say the morally good or morally neutral agent intentionally brought about the thief's death. In contrast, the thief was probably judged as having a bad moral character and intentionality ratings for bringing about the cop's death were therefore higher. Note however that only a minority said the thief intentionally brought about the cop's death. This can be explained by the MCA's element of proportionality. The thief 'only' stole some goods and his moral character was probably not judged as being so bad that it would warrant the blame implied by saying he intentionally brought about the cop's death. Our theory would predict that if the thief did not merely steal some goods but was rather a serial killer carrying a dead body in the trunk of his car, intentionality ratings for bringing about the cop's death would have been higher as this would then be more morally coherent.

A third limitation of Cova et al.'s account is that it presumably cannot explain findings related to mental states other than intentionality or concepts such as causality and freedom. Even though we believe the authors were solely

concerned with explaining intentionality judgments and therefore did not intend for their account to go beyond the scope of intentionality, as argued we consider it a strong point that our MCA cannot only explain the data related to intentionality, but also to other mental states and concepts as causality and freedom.

The final limitation of Cova et al.'s account that we identified is that even though in many cases it might be suitable for *predicting* intentionality judgments, we question whether it is also good at *explaining* these judgments. Specifically, we argue that our MCA is more likely to truly reflect folk psychological processes behind mental state ascriptions. Indeed, the literature has recently seen increased attention for moral character evaluations and its effects. For example, Pizarro and Tannenbaum (2012) recently argued that theories of moral judgment should include moral character evaluations as a key feature and they cite literature suggesting the motivation to evaluate others' moral character is a very primary and automatic psychological process that already manifests at a very early age and across cultures. Indeed, the notion that someone's moral character is the first aspect we determine when forming impressions of others has found empirical support (e.g., Goodwin, Piazza, & Rozin, 2014). There is also evidence that moral character evaluations even have primacy over perceptions related to a person's 'warmth' and 'competence' (Goodwin, 2015; Wojciszke, Bazinska, & Jaworski, 1998), which were previously believed to be the key elements in impression formation (e.g., Fiske et al., 2007).

Similar to Pizarro and Tannenbaum (2012) who argued that theories of moral judgments thus far are very *act-based* instead of *person-based*, so do we argue that theories of the folk psychology of intentional action have thus far largely neglected the central role of moral character evaluations. Considering that moral character evaluations are not incorporated in Cova et al.'s (2012) account of intentional action, we question whether it can accurately *explain* the folk psychology of intentional action rather than 'merely' *predict* intentionality judgments.

6.1.5 The MCA versus Existing Blame Accounts

Despite the lack of focus on moral character evaluations in theories of the folk psychology of intentional action, there have been several accounts that zoomed in on the blameworthiness of agents in mental state ascriptions. The most prominent one perhaps is that of Nadelhoffer, who has argued that the observed asymmetries in intentionality judgments can be explained by the fact that people (in the original chairman scenario) believe the chairman deserves blame for harming the environment and does not deserve praise for helping the environment, which then translates to intentionality judgments (Nadelhoffer, 2004b, 2004a). Likewise, Adams and Steadman (2004b, 2004a) have suggested that people merely use intentionality judgments as a way to

express their discontent with a blameworthy agent. Also, Alicke's blame validation assumption suggests that "once strong negative reactions have been evoked, people view the relevant evidence in a way that justifies their desire to blame the source of those reactions", including the degree to which an agent acted intentionally (Alicke, 2008; Alicke, 2000; Alicke, Weigold, & Rogers, 1990).

What these blame accounts of intentional action have in common, however, is that the blameworthiness of the agent is typically derived from his/her actions or motives for acting, such that certain acts, motives, or attitudes make an agent worthy of blame, rather than the agent's character per se. By such action-relevant motives or attitudes we mean for example the attitudes that the chairman had (not caring about the environment) regarding the side effect under consideration (harming or helping the environment). Crucially, our Moral Character Account goes one step further by suggesting that even information that is completely irrelevant to the action or (side-) effect under consideration, yet that is still informative to an agent's moral character, can affect mental state ascriptions.

Empirical evidence for the notion that moral character evaluations play an import role in blame attributions has been plentiful (Alicke & Zell, 2009; Critcher, Inbar, & Pizarro, 2012; Inbar, Pizarro, & Cushman, 2012; Nadler & McDonnell, 2012; Uhlmann & Zhu, 2014; Uhlmann, Zhu, & Diermeier, 2014), but the evidence for the effects of moral character inferences on intentionality judgments is scarce. Nonetheless, some studies do suggest that irrelevant information concerning an agent's character can affect intentionality ascriptions for an unrelated act. For example, Nadler (2012) showed that when an agent was described as having a bad moral character (e.g., unreliable, lazy, and unhelpful worker who arrives late for work or does not show up altogether), this agent was judged as having acted more intentionally (relative to an agent who was described as an exemplary employee and volunteer at an animal shelter) in relation to a fatal accident caused by the agent losing control while skiing and hitting the victim's head. Using different scenarios but a similar set-up, Nadler and McDonnell (2012) found further support for irrelevant character information affecting intentionality ascriptions. In addition to intentionality ascriptions, both these studies found that moral character inferences can also affect causal judgments, as well as judgments of blame, responsibility, and foreseeability.

Crucially, however, a few important questions remain. First, given the limited evidence for the effects of moral character inferences in intentionality judgments, it remains uncertain whether future studies will find similar effects. Second, and perhaps most importantly, despite the discussed importance of legal professionals getting mental state ascriptions right, there is as of yet no evidence whether legal professionals can also be affected by moral character evaluations in mental state ascriptions, especially when they are specialized in the subject matter that is used in a detail rich scenario. The latter would be the most stringent test of our MCA because legal professionals are presum-

ably aware of the fact that they should not let character information affect their judgments and because they are presumably also the least likely to rely on character information when they can instead rely on legally relevant information provided in the case, given their expertise on the matter. In this study, we aim to address both issues by further investigating the role of moral character evaluations in mental state ascriptions and other legally relevant judgments among both lay people and legal professionals.

Before introducing the experiments, we briefly turn to outcome effects in mental state ascriptions.

6.1.6 The MCA and Outcome Effects

In addition to the discussed factors that have previously been suggested to explain asymmetries in mental state ascriptions (e.g., norm violations, agents' attitudes, agents' blameworthiness), recent research has also investigated the role of outcome information. More specifically, a recent study by Kneer & Bourgeois-Gironde, 2017) tested whether in case of an adverse outcome, the severity of that outcome matters for intentionality ascriptions. They used a scenario in which a mayor is looking to start constructing a new highway connection, but who by doing so will either moderately harm the environment (animals in construction zone will be temporarily disturbed) or severely harm the environment (animals in the construction zone will die). Either way, the mayor does not care about harming the environment. The authors surveyed both lay people and professional judges and found that both groups were more inclined to say the mayor intentionally harmed the environment in case of the severe outcome relative to the moderate outcome.

An alternative explanation for these results (in light of our MCA) might be that participants considered the mayor who did not care about killing the animals to have a worse moral character than the mayor who did not care about temporarily disturbing the animals, and it might have been these moral character inferences which ultimately drove the observed effects in intentionality judgments. This leaves us with three potential hypotheses. First, it might indeed be that the observed severity effect was ultimately driven by moral character inferences. Second, it might be that severity effects constitute a unique effect distinct from that stemming from moral character inferences. Third, it might be that outcome severity and moral character inferences interact in some way when making mental state ascriptions. There is some evidence in support of the third hypothesis as a recent study found that the degree to which an action's consequences affect blame attributions is dependent on moral character evaluations, such that outcome information had a more pronounced effect on blame attributions for bad agents versus good agents (Siegel, Crockett, & Dolan, 2017). It remains uncertain, however, to what extent such findings can be translated to legally relevant judgments concerning for example mental

states, foreseeability, and punishment. Therefore, in this study we also investigate the potential relationship between outcome effects and moral character inferences in legally relevant judgments.

6.1.7 Current Study

To summarize, thus far we have presented our Moral Character Account of intentional action and (1) explained existing data in light of this account, (2) laid out its benefits relative to competing accounts, (3) explained how it differs from existing accounts incorporating agents' blameworthiness, and (4) hypothesized how it might be able to account for outcome effects in intentionality judgments. A few open questions remain that the experiments presented here seek to address. First, the evidence for intentionality judgments being affected by unrelated character information is scarce and non-existent for other mental states and other legally relevant judgments. Second, it remains unknown to what extent legal professionals will be affected by irrelevant moral character information when they are presented with a detail rich case in their own domain of expertise. Third, given the evidence for outcome effects among legal professionals in intentionality judgments, it remains unknown how such effects might relate to effects stemming from moral character information. In our studies we therefore aim to further test (1) the extent to which moral character inferences affect mental state ascriptions and other legally relevant judgments, (2) to what extent legal professionals are similarly affected as lay people in their judgments by character information, and (3) whether outcome severity and character information both affect lay people's and legal professionals' judgments, or whether these somehow interact.

In line with the original chairman scenario, we tested the above questions using a scenario concerning a director's liability for damages incurred by creditors following a decision made by the director. The legal background of this scenario is that when a company faces strong financial decline and possibly even insolvency, priorities should shift from creating shareholder value to protecting the company's creditors. When a company continues to do business and hence acquires further debt in the vicinity of insolvency, the company's directors may face personal liability for damages incurred by creditors when the company can ultimately not pay its debts. Conditions for being held liable as a director are that (1) at the time of incurring new debts, the company was as a certainty, or at least more likely than not, going to become insolvent, and that (2) the director knew or should have known that there was no reasonable prospect of paying for the debts. Under UK law, such a violation constitutes so-called 'wrongful trading'. Importantly, in most jurisdictions a distinction is made in some form or another between wrongful (or negligent) trading, which is mostly a civil offence, and fraudulent trading, which often constitutes a criminal offence (for an overview of the differences

across jurisdictions in the relevant laws pertaining to directors' liability, see INSOL International, 2017). In essence, the difference between wrongful trading and fraudulent trading is that a director can be held liable for fraudulent trading when he or she intentionally or recklessly incurs debts even though he or she knows there is no prospect of paying, whereas wrongful/negligent trading pertains to circumstances in which a director did not know but should have known that there was no reasonable chance of paying newly incurred debts. Hence, two key elements that have direct legal implications are the perceived likelihood at some point in time that a company will become insolvent, and the perceived mental state of the director at the time of incurring new debts.

The situation in which directors ought to shift priorities towards protecting their creditors is called the 'twilight zone' and frequently poses a moral dilemma. On the one hand, continuing to operate the business and trying to save it from insolvency risks liability if the turnaround attempt ultimately fails. On the other hand, informing third parties (e.g., creditors, new suppliers, lenders, etc.) of the company's dire financial situations risks creating a self-fulfilling prophecy (i.e., pushing the company into insolvency) as these third parties might immediately discontinue their operations with the financially distressed company for fear of not being paid.

In our studies, we presented both lay people (from the Netherlands and the US) and legal professionals (globally) with a case in which a director is faced with this dilemma and decides not to disclose any information concerning the company's financial state to its creditors; instead the director launches a final attempt to save the company from insolvency, which ultimately fails. To isolate the effects of moral character inferences from potential alternative explanations that have previously been suggested to explain mental state ascriptions, we kept constant (1) the degree to which the director deliberates his options and trade-offs he makes in the process (2) the director's perceived probability of his company going insolvent, (3) the fact that the director takes action to prevent the side effect from occurring (i.e., damages suffered by creditors), (4) the norm that was violated (i.e., protecting creditors), and (5) the director's motives for doing so (i.e., saving his own company). We varied the director's moral character (good vs. bad) as well as the severity of the outcome (moderate vs. severe). Study 1 and 2 were conducted among a sample of Dutch lay people and differed in terms of the director's subjective likelihood of failure (low vs. high). Study 3 aimed to replicate Studies 1 and 2 among a sample of US lay people after making several methodological improvements. Study 4 aimed to replicate Study 3 and provide more robust evidence for the effects of moral character inferences by adding legally relevant information to the case to further isolate moral character effects. Study 5 was identical to Study 4 and was conducted among legal professionals to allow for a direct comparison with lay people. This is particularly relevant for jurisdiction in

which legal professionals play a more prominent role in directors' liability investigations, such as is the case in for example the UK.

6.2 Study 1

6.2.1 Method

Participants, Design, and Procedure

Participants were recruited through a panel service located in the Netherlands. Based on an a-priori power analysis (using G*Power), we aimed to reach a final sample size of 210 to achieve a power of .95 to detect a medium effect size. In total, 326 participants completed the online survey as we oversampled to compensate for having to exclude participants from analyses. Participants who spent less than 60 seconds reading the case or who completed the survey within 120 seconds were excluded from the analyses. We used the same exclusion criteria across all studies. As a result, 72 participants were excluded, leaving a final sample of 254. The mean age was 49.6 (SD = 17.2) and 56.3% were female. None of the participants had a legal background.

We used a 2x2 between subjects design with moral character (bad vs. good) and outcome (moderate vs. severe) as factors. Participants were randomly assigned to one of the four conditions. The dependent variables were (1) three mental states (i.e., intentionality, knowledge, recklessness), (2) the perceived likelihood the company would ultimately go down and thus damage its suppliers, (3) three moral judgments (wrongness, blame, permissibility), and (4) the percentage of compensatory damages the director should pay (as a proxy for punishment).

Each participant was first presented with a business case (see Appendix 6.1 for the complete case) which described a company (suitcase manufacturer 'Yonos') facing financial difficulties and of which the director, named Devin, faced the dilemma between protecting his creditors versus trying to save his own company. The director was either described as having a good moral character (involved in setting up and running animal shelters) or a bad moral character (uses his influence to block the development of animal shelters). The director is informed by his advisor on the relevant laws concerning liability stemming from wrongful trading and that he is advised to inform the suppliers of the company's dire situation before placing any new orders. The advisor also asks how likely the director believes it to be the company will ultimately go down and damage the suppliers and the director answered he considers the chance of that happening to be very small. The director considers the risk of becoming insolvent as a direct result of disclosing the company's financial state to be bigger and decides to move forward with his plan to turn the company around. Next, the director instructs his advisor to place the necessary orders with the company's supplier and the director either does this reluctantly

as he has great relationships with his suppliers, or he does this without remorse as he does not care about his suppliers, consistent with the respective moral character conditions. Ultimately, the company becomes insolvent and the company's suppliers suffer damages as a result.

In the moderate outcome condition, these damages are limited and due to the suppliers' solid financial state they can easily take the hit. In the severe outcome condition, the suppliers could not take the hit due to their own financial issues and many went out of business as a result. Further, many employees were left without a job. It was stated explicitly that neither the director nor the advisor could oversee how badly the suppliers might be affected. In an attempt to answer the call for more detail rich materials in studying mental state ascriptions (e.g., Alicke, 2008; Young & Cushman, 2006), this case was relatively elaborate and contained details regarding the company's background, its financial status, the director's turnaround plan, etc. The complete case including the character and outcome manipulations can be found in Appendix 6.1.

Participants were then asked to indicate on Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) to what extent they agreed with the following statements: (1) "The director intentionally damaged the suppliers", (2) "When the director placed the orders, he knew practically certain he would damage the suppliers", (3) "When the director placed the orders, he knew there was a substantial risk he would damage the suppliers", (4) "When the director placed the orders, he did not know but should have known there was a substantial risk he would damage the suppliers". These questions were presented on separate screens and in a random order and corresponded to the mental states purposefully, knowingly, recklessly, and negligently, respectively, as described in the Model Penal Code. Next, participants were asked to answer the degree to which they believed the director's decision to not inform his suppliers before placing the orders to be wrong, blameworthy, and impermissible. These three moral judgments were presented in random order and were answered on a 7-point scale, ranging from (1) not at all wrong/blameworthy/impermissible, to (7) very wrong/blameworthy/impermissible. Finally, participants were asked to indicate on a scale from 0-100% what percentage of the total damages incurred by the suppliers should be paid by Devin (as a measure of punishment) and how likely they believed it to be (also on scale from 0-100%) that the company would ultimately fail and not be able to pay for the orders they placed with the suppliers.

To check whether the moral character manipulation worked, participants were asked using a 7-point scale whether they considered the director's moral character to be (1) "very good" or (7) "very bad". Likewise, to check whether participants indeed considered the severe outcome to be worse than the moderate outcome, participants were at the end of the survey presented with each scenario and asked to indicate on a 7-point scale whether they considered the outcome to be "not bad at all" (1) or "very bad" (7)

6.2.2 Results

The manipulation check showed that participants in the bad moral character condition rated the director as morally worse than participants in the good moral character condition ($M = 6.27$, $SD = 1.02$ vs. $M = 4.42$ $SD = 1.32$), $F(1,250) = 146.63$, $p < .001$, $\eta_p^2 = .370$. Outcome severity did not affect perceptions of moral character, $F(1,250) = 2.11$, $p = .147$, $\eta_p^2 = .008$. The manipulation check for outcome severity showed that participants considered the severe outcome to be worse than the moderate outcome ($M = 5.75$, $SD = 1.78$ vs. $M = 3.94$, $SD = 1.60$), $t(253) = 13.99$, $p < .001$, $d = 0.88$.

Next, a Multivariate Analysis of Variance (MANOVA) was conducted with the variables pertaining to the four mental states as dependent variables and moral character and outcome severity as independent variables. A significant effect was found for moral character, $F(4,247) = 6.95$, $p < .001$, $\eta_p^2 = .101$, but not for outcome severity, $F(4,247) = 0.67$, $p = .616$, $\eta_p^2 = .011$, nor for the interaction effect, $F(4,247) = 1.23$, $p = .298$, $\eta_p^2 = .020$. Subsequent Univariate Analyses of Variance (ANOVA) showed that moral character had an effect on all mental states, apart from negligence. Specifically, participants judged (1) the bad director to have acted more intentionally in damaging the suppliers than the good director ($M = 5.09$, $SD = 1.65$ vs. $M = 4.14$ $SD = 1.64$), $F(1,250) = 18.61$, $p < .001$, $\eta_p^2 = .069$, (2) the bad director to have knowingly caused the damages of the suppliers to a larger extent than the good director ($M = 4.77$, $SD = 1.64$ vs. $M = 3.95$, $SD = 1.55$), $F(1,250) = 15.11$, $p < .001$, $\eta_p^2 = .057$, and (3) the bad director to have acted more recklessly in damaging the suppliers than the good director ($M = 6.11$, $SD = 0.93$ vs. $M = 5.58$, $SD = 1.22$), $F(1,250) = 12.36$, $p = .001$, $\eta_p^2 = .047$). No difference between the bad and good director was found for negligence ($M = 4.61$, $SD = 2.22$ vs. $M = 4.72$, $SD = 1.78$), $F(1,250) = 0.49$, $p = .487$, $\eta_p^2 = .002$. Figure 6.2 provides a visual presentation of the findings.

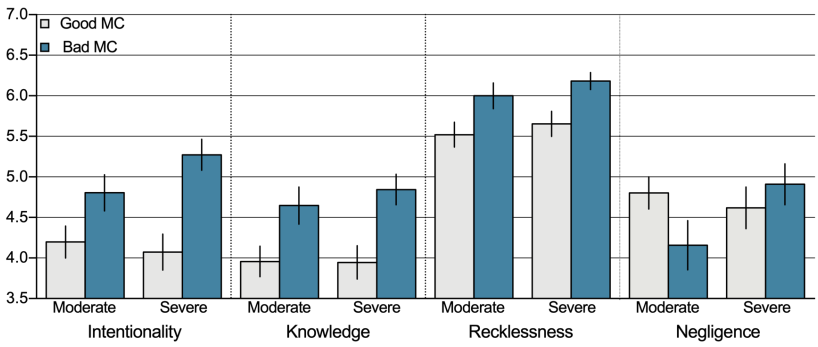

Figure 6.2. Mean scores for the four mental states, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

Regarding the perceived likelihood that the company would ultimately fail and damage its suppliers, an effect was found for moral character $F(1,250) = 9.86$, $p = .002$, $\eta_p^2 = .038$, but not for outcome severity, $F(1,250) = 0.48$, $p = .489$, $\eta_p^2 = .002$, nor for the interaction between the two factors, $F(1,250) = 0.76$, $p = .383$, $\eta_p^2 = .003$. Participants considered the likelihood of failure to be higher in the case with the morally bad director compared to the morally good director ($M = 68.30$, $SD = 24.05$ vs. $M = 58.75$, $SD = 22.44$). Similarly, only an effect of moral character was found for punishment (percentage of damages to be paid by the director), such that participants assigned a higher percentage in the case with the morally bad director than with the morally good director ($M = 79.50$, $SD = 22.61$ vs. $M = 69.53$, $SD = 24.69$), $F(1,250) = 9.92$, $p = .002$, $\eta_p^2 = .038$. No effect was found for outcome severity, $F(1,250) = 2.05$, $p = .152$, $\eta_p^2 = .008$, nor for the interaction, $F(1,250) = 2.53$, $p = .113$, $\eta_p^2 = .010$. The findings for the likelihood of failure and punishment are presented in Figure 6.3.

Figure 6.3. Mean scores for the perceived likelihood of failure and punishment, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

In relation to the moral judgments, a MANOVA with all three measures as dependent variables returned a significant effect for moral character, $F(3,248) = 8.34$, $p < .001$, $\eta_p^2 = .092$, and for outcome severity, $F(3,248) = 3.02$, $p = .030$, $\eta_p^2 = .035$, but not for the interaction, $F(3,248) = 0.44$, $p = .728$, $\eta_p^2 = .005$. The univariate analyses showed that the director's actions were judged as more wrong ($M = 6.16$, $SD = 0.97$ vs. $M = 5.47$, $SD = 1.23$), $F(1,250) = 20.88$, $p < .001$, $\eta_p^2 = .077$, more blameworthy ($M = 6.08$, $SD = 1.14$ vs. $M = 5.56$, $SD = 1.17$), $F(1,250) = 10.13$, $p = .002$, $\eta_p^2 = .039$, and more impermissible ($M = 5.94$, $SD = 1.37$ vs. $M = 5.11$, $SD = 1.38$), $F(1,250) = 20.40$, $p < .001$, $\eta_p^2 = .075$, when the case involved a morally bad director compared to a morally good director.

Regarding outcome severity, the director's actions were judged as more wrong (M = 6.03, SD = 0.98 vs. M = 5.58, SD = 1.29), $F(1,250) = 6.06$, $p = .014$, $\eta_p^2 = .024$, and more blameworthy (M = 6.05, SD = 1.03 vs. M = 5.57, SD = 1.29), $F(1,250) = 7.41$, $p = .007$, $\eta_p^2 = .029$ when the case had a severely bad outcome compared to a moderately bad outcome. No effect of outcome severity was found for the permissibility of the director's actions, $F(1,250) = 2.11$, $p = .147$, $\eta_p^2 = .008$. The findings for moral judgments are presented in Figure 6.4.

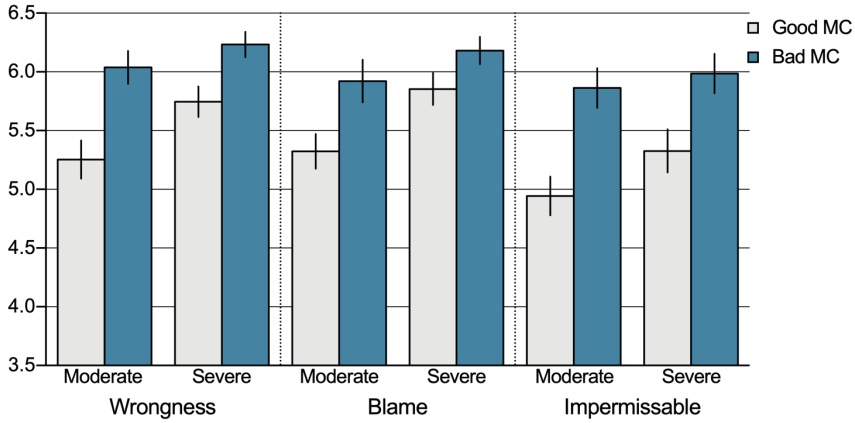

Figure 6.4. Mean scores for the three moral judgments, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

6.2.3 Discussion

Study 1 showed that moral character inferences have a significant influence on mental state ascriptions, as well as the perceived likelihood of failure, punishment, and moral judgments. Only for negligence did moral character not have any effect. This might be due to the fact that people generally considered the director to have acted recklessly. When a participant strongly agrees with the statement "the director knew there was a substantial risk...", it would be odd for this person to then also agree with "the director did not know but should have known there was a substantial risk …". More likely would be to find a reversed effect for negligence, as high attributions of intent, knowledge and recklessness should be accompanied with low attributions of negligence. Interestingly, contrary to previous research that found an effect for outcome severity on intentionality ascriptions (e.g., Kneer & Bourgeois-Gironde, 2017) in the present study outcome severity only affected attributions of blame and wrongness judgments. It seems therefore that when specific information regarding an agent's moral character is provided, outcome severity has very little additive effect.

6.3 STUDY 2

Study 2 aimed to replicate the findings of Study 1 and also to investigate the role of subjective probability. That is, whereas in Study 1 the case stated that the director believed the chance of failure (and thus damaging the company's suppliers) was very small, in Study 2 the director believes the chance of failure is actually very large. Study 2 therefore provides a more stringent test of the effects of moral character inferences as in this study it is explicitly stated the director knows there is a substantial risk of failure and the director even believes the chance this will materialize is very large. Apart from the director's subjective probability of failure, Study 2 is identical to Study 1. However, as the director believes his chance of failure is very large, the dependent variable measuring negligence (i.e., "the director did not know but should have known there was a substantial risk…" becomes obsolete; it was therefore omitted in this study.

In total, 339 participants completed the online survey as we oversampled to compensate for having to exclude participants from analyses (based on the same criteria as in Study 1). Of the original sample, 100 participants were excluded leaving a final sample of 239. The mean age was 49.7 (SD = 17.2) and 53.6% were female. Participants were again recruited using the same Dutch online panel service. None of the participants in Study 2 took part in Study 1 and none had a legal background.

6.3.1 Results

The manipulation check again showed that participants in the bad moral character condition rated the director as morally worse than participants in the good moral character condition (M = 6.22, SD = 1.06 vs. M = 4.50 SD = 1.30), $F(1,235) = 123.96$, $p < .001$, $\eta_p^2 = .345$. Outcome severity again did not affect perceptions of moral character, $F(1,235) = 1.97$, $p = .162$, $\eta_p^2 = .008$.

Next, a MANOVA with the variables measuring the three mental states as dependent variables and moral character condition and outcome severity as independent variables revealed a significant effect for moral character, $F(3,233) = 12.04$, $p < .001$, $\eta_p^2 = .134$, but not for outcome severity, $F(3,233) = 0.45$, $p = .717$, $\eta_p^2 = .006$, nor for the interaction effect, $F(3,233) = 1.52$, $p = .209$, $\eta_p^2 = .019$. Subsequent ANOVAs showed that participants judged (1) the bad director to have acted more intentionally in damaging the suppliers than the good director (M = 5.30, SD = 1.43 vs. M = 4.52 SD = 1.49), $F(1,235) = 16.70$, $p < .001$, $\eta_p^2 = .066$, (2) the bad director to have knowingly caused the damages of the suppliers to a larger extent than the good director (M = 5.70, SD = 1.13 vs. M = 4.80, SD = 1.31), $F(1,235) = 32.48$, $p < .00$, $\eta_p^2 = .121$, and (3) the bad director to have acted more recklessly in damaging the suppliers than the good

director (M = 6.30, SD = 0.88 vs. M = 5.95, SD = 1.05), $F(1,235) = 7.77$, $p = .006$, $\eta_p^2 = .032$). Figure 6.5 provides a visual presentation of the findings.

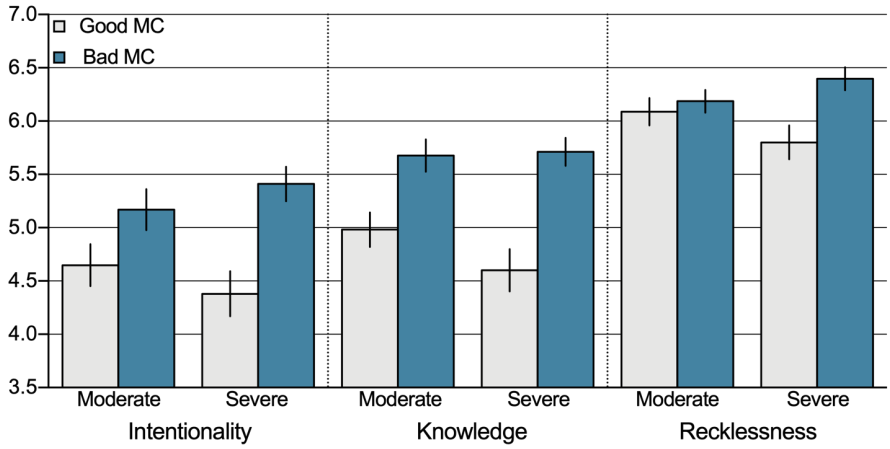

Figure 6.5. Mean scores for the three mental states, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

Also replicating Study 1, for the perceived likelihood of failure an effect was found for moral character $F(1,235) = 7.81$, $p = .006$, $\eta_p^2 = .032$, but not for outcome severity, $F(1,235) = 1.29$, $p = .257$, $\eta_p^2 = .005$, nor for the interaction between the two factors, $F(1,235) = 1.37$, $p = .243$, $\eta_p^2 = .006$. Participants again considered the likelihood of failure to be higher in the bad moral character condition than in the good moral character (M = 70.02, SD = 25.21 vs. M = 61.58, SD = 22.97).

Again replicating Study 1, an effect of moral character was found for punishment $F(1,235) = 14.43$, $p < .001$, $\eta_p^2 = .058$, but not for outcome severity, $F(1,235) = 1.45$, $p = .230$, $\eta_p^2 = .006$, nor for the interaction effect, $F(1,235) = 1.01$, $p = .317$, $\eta_p^2 = .004$. Participants assigned a higher percentage in the case with the morally bad director than with the morally good director (M = 78.88, SD = 24.36 vs. M = 66.51, SD = 24.47). Figure 6.6 visually presents the data for likelihood of failure and punishment.

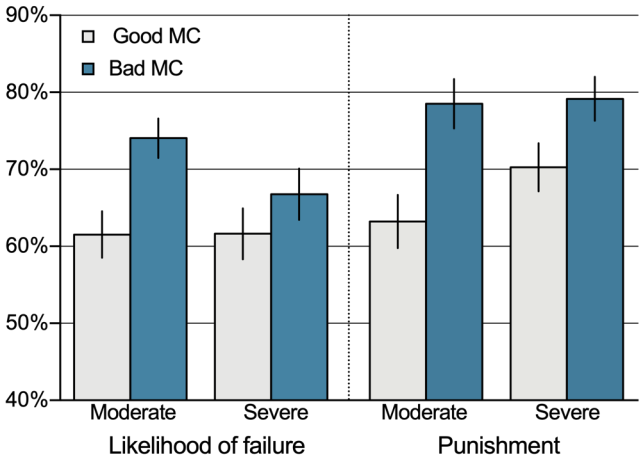

Figure 6.6. Mean scores for the perceived likelihood of failure and punishment, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

Finally, also replicating Study 1, a MANOVA with all three moral judgments as dependent variables returned a significant effect both for moral character, $F(3,233) = 6.84$, $p < .001$, $\eta_p^2 = .081$, as well as for outcome severity, $F(3,233) = 6.55$, $p < .001$, $\eta_p^2 = .078$, but not for the interaction, $F(3,233) = 2.40$, $p = .069$, $\eta_p^2 = .030$. Univariate analyses showed that the director's actions were judged as more wrong ($M = 6.05$, $SD = 1.24$ vs. $M = 5.36$, $SD = 1.37$), $F(1,235) = 15.49$, $p < .001$, $\eta_p^2 = .062$, more blameworthy ($M = 6.06$, $SD = 1.23$ vs. $M = 5.42$, $SD = 1.30$), $F(1,235) = 15.32$, $p < .001$, $\eta_p^2 = .047$, and more impermissible ($M = 5.52$, $SD = 1.51$ vs. $M = 4.85$, $SD = 1.66$), $F(1,235) = 11.65$, $p < .001$, $\eta_p^2 = .047$, when the case involved a morally bad director compared to a morally good director. In case of the severe outcome, the director's actions were judged as more wrong ($M = 5.93$, $SD = 1.28$ vs. $M = 5.55$, $SD = 1.37$), $F(1,235) = 4.00$, $p = .047$, $\eta_p^2 = .017$, but at the same time less impermissible (albeit not statistically significant strictly speaking) when the case had a severely bad outcome compared to a moderately bad outcome, ($M = 5.07$, $SD = 1.77$ vs. $M = 5.38$, $SD = 1.42$), $F(1,235) = 3.33$, $p = .069$, $\eta_p^2 = .014$. For the blameworthiness of the director, we found no effect of outcome severity, $F(1,235) = 0.59$, $p = .445$, $\eta_p^2 = .002$. See Figure 6.7 for a visual representation of these findings.

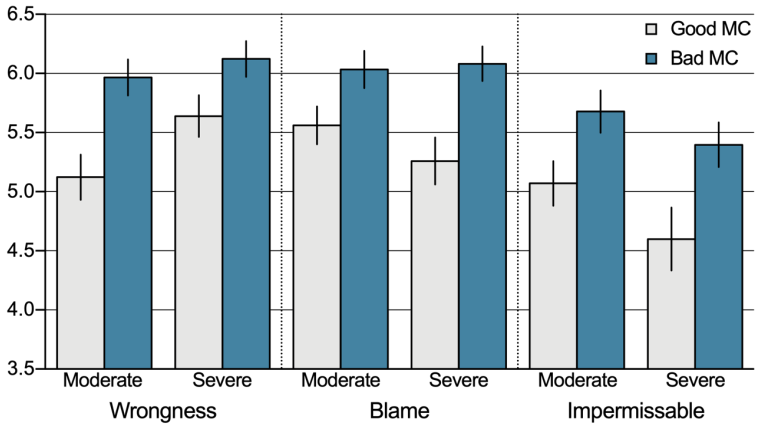

Figure 6.7. Mean scores for the three moral judgments, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

6.3.2 Discussion

Study 2 largely replicated Study 1, providing further support for the notion that moral character inferences have a strong effect on mental state ascriptions, perceived likelihood of failure, punishment, and moral judgments, and that moral character effects even seem to trump outcome effects. Despite the fact that in Study 2 it was explicitly stated the director himself believed the chance of failing and thus harming his suppliers was very large, participants were still affected by moral character inferences such that they were more likely to indicate the director intentionally damaged his suppliers, that he knew he would damage his suppliers, and that he knew there was a substantial risk he would damage the suppliers. Whereas Study 1 found effects of outcome severity for both wrongness and blame in the expected direction, Study 2 only found an effect for wrongness.

6.4 Study 3

A few limitations of Studies 1 and 2 remain that we addressed in Study 3. First, Study 1 and 2 manipulated the director's moral character using the same storyline (i.e., the director being pro or anti animal rights, see Appendix 6.1), while also referring to the director's reputation within international corporate circles. The latter aspect might affect people's judgments regarding the director's competence which might then affect the perceived likelihood of failure. Also, the fact that the same storyline was used makes it possible that the effects

are (to an extent) dependent on this particular storyline. Therefore, Study 3 addressed these issues by no longer referring to the director's reputation within his professional network and by using three different versions of the character manipulation (see Appendix 6.2; each participant received only one of three versions).

Second, the fact that the questions pertaining to the director's mental state were presented one by one on separate screens might somehow have affected the results. It has for example been argued that the Knobe effect can be explained by people's pragmatic use of language, as mental state ascriptions can be used to signal disapproval or blame, even though people might not genuinely believe an actor intentionally brought about a certain effect (e.g., Adams & Steadman, 2004b, 2004a). Therefore, in Study 3 we presented the mental state questions on the same screen as this might induce more reflective responses.

Finally, Studies 1 and 2 both used Dutch samples and it therefore remains unknown to what extent the observed effects are limited to this specific population. For Study 3, therefore, participants were recruited using Amazon's Mechanical Turk to investigate the effects in a predominantly US sample.

Similar to Study 1, the director's subjective likelihood of failure was stated as being very small and we therefore again included the negligence measure. In contrast to Studies 1 and 2, Study 3 only included blame as a moral judgment and omitted the measures for wrongness and permissibility, as blame was the key variable of interest (of the moral judgments). Also, in an attempt to elicit stronger outcome effects, the severe outcome in Study 3 was made more severe by stating: "Many [employees] even stated that losing their job meant they could not take proper care of their children anymore."

Only the data of participants who passed three simple comprehension questions (related to the case) was recorded. In total, 423 participants were recruited to ensure sufficient statistical power. Based on the same exclusion criteria used in Studies 1 and 2, 177 participants were excluded from analyses leaving a final sample of 246 participants. The mean age of the final sample was 39.4 (SD = 12.1) and 56.1% were male.

6.4.1 Results

The manipulation check showed that participants rated the morally bad director as morally worse than the morally good director (M = 6.61, SD = 0.70 vs. M = 3.88, SD = 1.49), $F(1,240) = 338.26$, $p < .001$, $\eta_p^2 = .585$. This was independent from the version of the character manipulation that was used, as indicated by a non-significant interaction $F(2,240) = 0.30$, $p = .740$, $\eta_p^2 = .003$.

A MANOVA with the four mental states as dependent variables and moral character and outcome severity as factors returned a significant effect for moral character, $F(4,239) = 16.38$, $p < .001$, $\eta_p^2 = .215$, and a near statistically signi-

ficant effect for outcome severity, $F(4,239) = 2.39$, $p = .051$, $\eta_p^2 = .039$. No significant interaction was found, $F(4,239) = .58$, $p = .680$, $\eta_p^2 = .010$. Subsequent univariate analyses showed that the morally bad director was judged as having acted more intentionally ($M = 4.48$, $SD = 1.54$ vs. $M = 3.13$, $SD = 1.69$), $F(1,242) = 43.00$, $p < .001$, $\eta_p^2 = .151$, knowingly ($M = 4.47$, $SD = 1.65$ vs. $M = 3.25$, $SD = 1.64$), $F(1,242) = 35.97$, $p < .001$, $\eta_p^2 = .129$, and recklessly ($M = 6.10$, $SD = 1.07$ vs. $M = 5.07$, $SD = 1.43$), $F(1,242) = 43.52$, $p < .001$, $\eta_p^2 = .152$, than the morally good director. No effect was found for negligence, $F(1,242) = 2.63$, $p = .106$, $\eta_p^2 = .011$. For outcome severity, the director was judged as having acted more knowingly ($M = 4.03$, $SD = 1.78$ vs. $M = 3.66$, $SD = 1.72$), $F(1,242) = 4.97$, $p = .027$, $\eta_p^2 = .020$ and recklessly ($M = 5.72$, $SD = 1.28$ vs. $M = 5.42$, $SD = 1.44$), $F(1,242) = 5.58$, $p = .019$, $\eta_p^2 = .023$, in case of the severe outcome relative to the moderate outcome (see Figure 6.8).

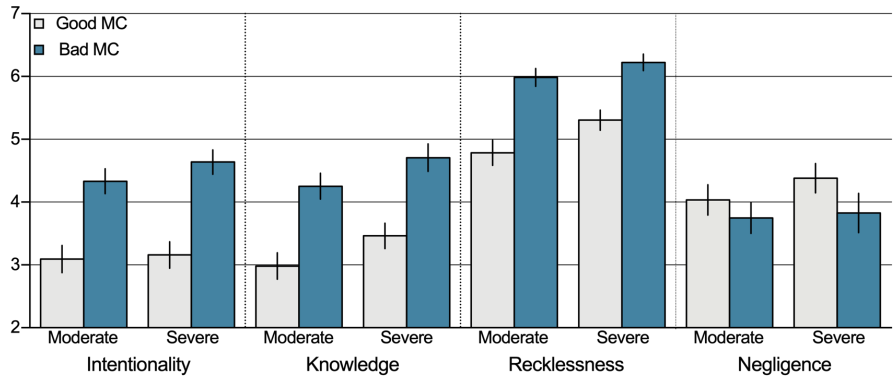

Figure 6.8. Mean scores for the four mental states, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

For the perceived likelihood of failure, an effect was found for both moral character, $F(1,242) = 43.66$, $p < .001$, $\eta_p^2 = .153$, and outcome severity, $F(1,242) = 8.16$, $p = .005$, $\eta_p^2 = .033$, but not for the interaction between the two, $F(1,242) = 0.81$, $p = .369$, $\eta_p^2 = .003$. The likelihood of failure was perceived to be higher in case of the morally bad director versus the morally good director ($M = 77.55$, $SD = 14.73$ vs. $M = 62.84$, $SD = 21.19$), as well as for the severe outcome relative to the moderate outcome ($M = 72.74$, $SD = 17.90$ vs. $M = 67.23$, $SD = 21.15$) (see Figure 6.9). For punishment, the same pattern was observed. A larger percentage of damages to be paid by the director was found for participants in the bad moral character condition relative to the good moral character condition ($M = 83.05$, $SD = 19.24$ vs. $M = 66.19$, $SD = 29.14$), $F(1,242) = 31.33$, $p < .001$, $\eta_p^2 = .115$, as well as for the severe outcome relative to the

moderate outcome (M = 77.19, SD = 22.69 vs. M = 71.60, SD = 29.16), $F(1,242) = 4.70$, $p = .031$, $\eta_p^2 = .019$ (see Figure 6.9).

Finally, participants considered the morally bad director to be more blameworthy than the morally good director (M = 6.55, SD = 0.82 vs. M = 5.73, SD = 1.21), $F(1,242) = 40.04$, $p < .001$, $\eta_p^2 = .142$. No effect was found for outcome severity $F(1,242) = 2.63$, $p = .106$, $\eta_p^2 = .011$, nor was there an interaction effect, $F(1,242) = 0.28$, $p = .599$, $\eta_p^2 = .001$.

Figure 6.9. Mean scores for the perceived likelihood of failure and punishment, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

6.4.2 Discussion

Using a non-Dutch sample, while presenting the mental state questions on the same screen, and while using different moral character manipulations, the results from Study 3 largely replicated those from Studies 1 and 2. Specifically, moral character again had a significant effect on people's mental state attributions, their perceived likelihood of failure, as well as punishment and blame attributions. In Study 3, outcome severity seemed to have a stronger effect (albeit still much weaker than moral character) than observed in Studies 1 and 2. Specifically, in Study 3 we found that outcome severity affected participants' mental state attributions for knowledge and recklessness, as well as their perceived likelihood of failure and punishment attributions. In contrast, previously outcome severity only affected wrongness judgments (Study 1 and 2, not included in Study 3) and blame attributions (Study 1, no effect for blame in Study 3).

Hence, Study 3 provided further support for the notion that moral character inferences affect mental state attributions, as well as other legally relevant

judgments. Further, the findings from Study 3 suggest that outcome severity can in some cases have an effect independent from the effect stemming from moral character inferences.

6.5 Study 4

Ultimately, we wanted to compare a sample of legal professionals (in Study 5) with a sample of lay people. However, in Study 3 some information was included in the case that might have affected judgments of legal professionals in a way that would from a legal standpoint be justified, but that would not be related to moral character inferences per se. Specifically, in the version of the case with the morally bad director, the director states "I don't care at all about our suppliers, all I care about is making my own company profitable again". Legal professionals might infer from such a statement that the director did not take due care to protect his suppliers by for example conducting a proper investigation into the chances of being able to save his company or by calling in outside advisors for a second opinion. A lack of such measures might provide ground for a liability claim and therefore might have affected punishment attributions in the sample of legal professionals. Therefore, in Study 4 (and in Study 5) the case included the following paragraph (see Appendix 6.3 for the full case):

> When pressed by his advisor on the chances of survival, Devin said: 'Our CFO and external consultants have conducted careful analyses of our financial situation and also thoroughly analysed the turnaround plan. We are confident that there is a good chance we can save Yonos from bankruptcy. We believe that we have done everything we can to weigh all factors and consider it necessary to move forward with the turnaround plan. Disclosing our financial problems to our suppliers poses too great a risk. There is of course a possibility that our turnaround plan will fail and that we cannot pay our suppliers due to bankruptcy, but we consider the chance this will happen to be small.'

By including this paragraph, it is made clear the director took due care in relation to protecting his suppliers. Any effects of moral character are therefore unlikely to be due to assumptions about the director's precautionary measures. Participants might still feel the director should have informed his suppliers prior to commencing with his turnaround plan. Study 4 included this normative question as an additional dependent variable. Specifically, participants were asked to indicate on a 7-point Likert scale ranging from (1) "strongly disagree" to (7) "strongly agree" to what extent they agreed with the following statement: "The director should have informed his suppliers about the company's financial problems when placing the orders".

The methods and analysis plan for Study 4 were preregistered. A larger sample size was obtained relative to Study 1-3 to ensure sufficient power to

detect smaller effects. Data was collected for 438 participants using Amazon's MTurk. After excluding participants based on the same criteria as in Study 1-3, a final sample of 306 participants was obtained. The mean age was 40.5 (SD = 12.2), 51% were female, and 98.4% were native English speakers.

6.5.1 Results

The manipulation check showed that participants considered the morally bad director to have a morally worse character than the morally good director (M = 6.48, SD = 0.88 vs. M = 4.09, SD = 1.52), $F(1,300) = 274.43$, $p < .001$, $\eta_p^2 = .478$, and this effect was independent of the version of the manipulation that was used, as indicated by a non-significant interaction effect, $F(2,300) = 1.73$, $p = .180$, $\eta_p^2 = .011$

A MANOVA for the mental state variables returned a significant effect of moral character, $F(4,299) = 18.34$, $p < .001$, $\eta_p^2 = .197$, but not for outcome severity, $F(4,299) = 2.09$, $p = .082$, $\eta_p^2 = .027$, nor for the interaction, $F(4,299) = 1.02$, $p = .398$, $\eta_p^2 = .013$. Univariate analyses showed that the morally bad director was judged as having acted more intentionally (M = 4.45, SD = 1.69 vs. M = 2.86, SD = 1.60), $F(1,302) = 65.90$, $p < .001$, $\eta_p^2 = .179$, knowingly (M = 4.13, SD = 1.68 vs. M = 2.92, SD = 1.44), $F(1,302) = 41.90$, $p < .001$, $\eta_p^2 = .122$, and recklessly (M = 5.91, SD = 1.29 vs. M = 5.21, SD = 1.54), $F(1,302) = 16.26$, $p < .001$, $\eta_p^2 = .051$, but not more negligently, $F(1,302) = 0.18$, $p = .721$, $\eta_p^2 = .001$, than the morally good director. Despite the lack of a significant multivariate effect of outcome severity, a significant univariate effect of outcome severity was found for intentionality, such that the director was judged as having acted more intentionally in case of the severe outcome relative to the moderate outcome, (M = 4.00, SD = 1.79 vs. M = 3.28, SD = 1.80), $F(1,302) = 6.90$, $p = .009$, $\eta_p^2 = .022$ (see Figure 6.10).

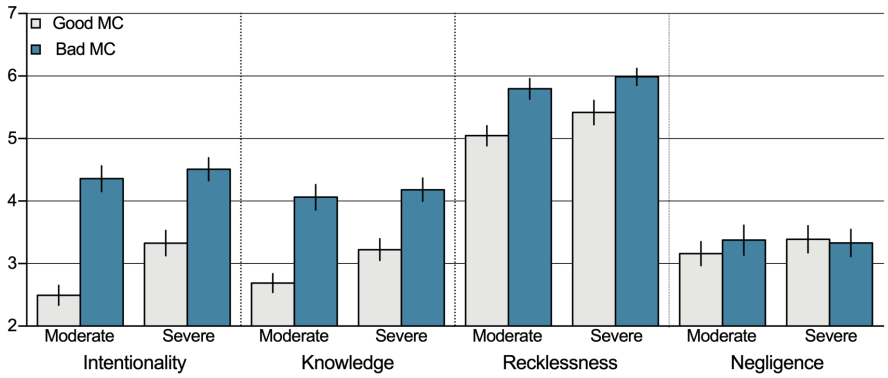

Figure 6.10. Mean scores for the four mental states, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

The perceived likelihood of failure was scored higher in the bad moral character condition relative to the good moral character condition, (M = 70.35, SD = 20.66 vs. M = 60.94, SD = 21.42), $F(1,302) = 13.16$, $p < .001$, $\eta_p^2 = .042$. The perceived likelihood of failure was also higher in case of the severe outcome than in case of the moderate outcome (M = 68.52, SD = 21.07 vs. M = 62.62, SD = 21.66), albeit not statistically significant, $F(1,302) = 3.63$, $p = .058$, $\eta_p^2 = .012$. No interaction effect between moral character and outcome severity was found $F(1,302) = 0.96$, $p = .329$, $\eta_p^2 = .003$. Higher punishment ratings were found for the morally bad director compared to the morally good director (M = 78.47, SD = 26.09 vs. M = 66.44, SD = 28.57), $F(1,302) = 15.40$, $p < .001$, $\eta_p^2 = .049$. No significant effect was found for outcome severity, $F(1,302) = 0.49$, $p = .486$, $\eta_p^2 = .002$, nor for the interaction, $F(1,302) = 1.88$, $p = .172$, $\eta_p^2 = .006$ (see Figure 6.11).

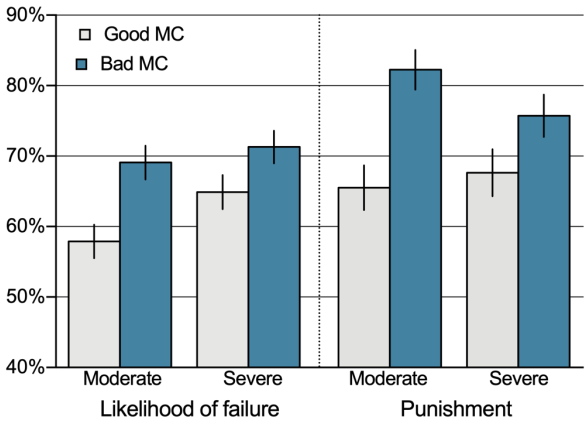

Figure 6.11. Mean scores for the perceived likelihood of failure and punishment, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

Higher blame attributions were found for the morally bad director versus the morally good director (M = 6.51, SD = 0.94 vs. M = 5.72, SD = 1.31), $F(1,302) = 35.64$, $p < .001$, $\eta_p^2 = .106$. No effect of outcome severity, $F(1,302) = 0.04$, $p = .846$, $\eta_p^2 = .000$, nor an interaction effect was found, $F(1,302) = 0.29$, $p = .593$, $\eta_p^2 = .001$. Regarding the normative question (i.e., "the director should have informed his suppliers about the company's financial problems when placing the orders"), higher scores were found for the morally bad director than for the morally good director (M = 6.25, SD = 1.04 vs. M = 5.70, SD = 1.34), $F(1,302) = 15.38$, $p < .001$, $\eta_p^2 = .048$. No effect of outcome severity, $F(1,302) = 0.22$, $p = .643$, $\eta_p^2 = .001$, nor an interaction effect was found, $F(1,302) = 3.34$, $p = .068$, $\eta_p^2 = .011$ (see Figure 6.12).

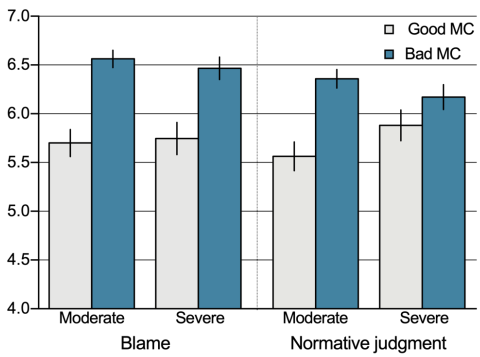

Figure 6.12. Mean scores for blame judgments and the normative judgments regarding what the director *should* have done, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

6.5.2 Discussion

Study 4 fully replicated Study 3 for the effects of moral character, but some differences were observed for outcome severity. Whereas in Study 3 we found outcome effects for the mental states knowledge and recklessness, Study 4 only found an effect for intentionality. Additionally, whereas Study 3 found an effect of outcome severity for the perceived likelihood of failure and punishment attributions, no such effects were found in Study 4. Hence, across the studies thus far the results for outcome severity have been somewhat inconsistent and generally small. So far it seems therefore that moral character inferences have a significantly more pronounced and consistent effect than outcome severity.

6.6 Study 5

Study 5 was identical to Study 4 and we aimed to compare the lay people sample used in Study 4 with a sample of legal professionals. The methods and analyses plan for Study 5 were preregistered. Participants were professionals specialized in the areas of insolvency law, business restructuring and/or recovery and were all members of INSOL International, which is a world-wide federation of national associations of professionals who specialize in turnaround and insolvency. Participants were approached via e-mail with an invitation to participate in our study. The participants' e-mail addresses were obtained from INSOL International's online membership directory. We initially aimed to recruit 350 participants, but in an attempt to reach 240 legal professionals from the UK specifically, we recruited 425 participants in total. In the end, we managed to recruit 124 legal professionals from the UK. After excluding 24 participants based on the preregistered exclusion criteria (same as in Studies 1-4), we obtained a final sample of 401 participants.

The mean age of this final sample was 48.4 (SD = 11.2) and 81.5% were male. Participants had on average 22.3 years of professional experience (SD = 10.8), and 85.8% indicated that investigating or deciding over directors' liability issues is part of their job.[2] In the final sample, 54 different nationalities were represented, with the top three consisting of the United Kingdom (29.4%), Australia (14.0%), and Canada (7.7%). Appendix 6.4 contains a complete overview of the nationalities represented in the survey.

2 Analyses with only participants who indicated to investigate or decide over directors' liability issues resulted in similar results and significance levels and therefore did not affect the conclusions.

6.6.1 Results

Despite not hitting the target sample size for UK participants, we checked whether this factor (UK vs. non-UK) interacted with moral character or outcome severity for any of the DVs. No significant interactions were found (all *p*s > .101) and we therefore do not distinguish between UK and non-UK legal professionals in further analyses.

The manipulation check showed that participants rated the morally bad director as having a worse character than the morally good director ($M = 5.79$, $SD = 1.16$ vs. $M = 3.30$, $SD = 1.36$), $F(1,395) = 384.29$, $p < .001$, $\eta_p^2 = .493$, and this was independent from the version used as indicated by a non-significant interaction, $F(2,395) = 0.20$, $p = .820$, $\eta_p^2 = .001$.

A MANOVA with the four mental states as DVs and moral character and outcome severity as factors returned a significant effect for moral character, $F(4,394) = 16.03$, $p < .001$, $\eta_p^2 = .140$, but not for outcome severity, $F(4,394) = 0.60$, $p = .663$, $\eta_p^2 = .006$, nor for the interaction, $F(4,394) = 0.65$, $p = .625$, $\eta_p^2 = .007$. Univariate analyses showed effects of moral character for intentionality ($M = 3.46$, $SD = 1.83$ vs. $M = 2.24$, $SD = 1.42$), $F(1,397) = 56.43$, $p < .001$, $\eta_p^2 = .124$, knowledge ($M = 3.11$, $SD = 1.61$ vs. $M = 2.28$, $SD = 1.22$), $F(1,397) = 32.21$, $p < .001$, $\eta_p^2 = .077$, and recklessness ($M = 5.33$, $SD = 1.65$ vs. $M = 4.42$, $SD = 1.85$), $F(1,397) = 26.72$, $p < .001$, $\eta_p^2 = .063$, but not for negligence, $F(1,397) = 0.74$, $p = .389$, $\eta_p^2 = .002$ (see Figure 6.13).

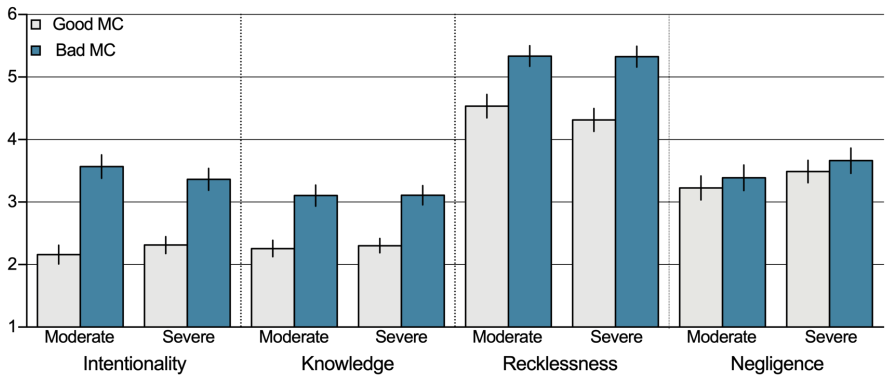

Figure 6.13. Mean scores for the four mental states, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character)

For the perceived likelihood of failure, an effect was found for moral character ($M = 56.52$, $SD = 19.60$ vs. $M = 47.17$, $SD = 20.63$), $F(1,397) = 22.19$, $p < .001$, $\eta_p^2 = .053$, but not for outcome severity, $F(1,397) = 0.01$, $p = .941$, $\eta_p^2 = .000$, nor for the interaction, $F(1,397) = 1.99$, $p = .159$, $\eta_p^2 = .005$. For punishment,

an effect was found for moral character (M = 45.73, SD = 37.44 vs. M = 34.55, SD = 38.63), $F(1,397) = 9.21$, $p = .003$, $\eta_p^2 = .023$, but not for outcome severity, $F(1,397) = .80$, $p = .371$, $\eta_p^2 = .002$, nor for the interaction, $F(1,397) = 3.04$, $p = .082$, $\eta_p^2 = .008$ (see Figure 6.14).

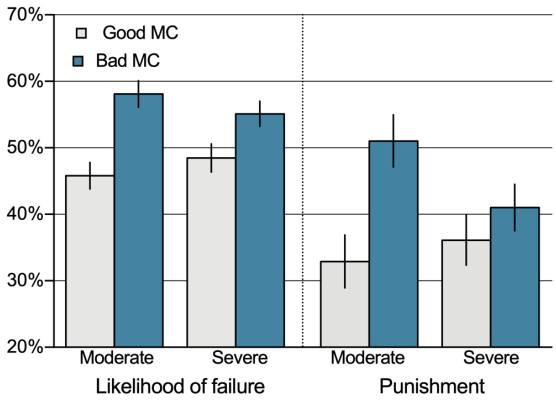

Figure 6.14. Mean scores for the perceived likelihood of failure and punishment, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

For blame, an effect was found for moral character (M = 5.27, SD = 1.62 vs. M = 4.41, SD = 1.83), $F(1,397) = 24.62$, $p < .001$, $\eta_p^2 = .058$, but not for outcome severity, $F(1,397) = 0.07$, $p = .798$, $\eta_p^2 = .000$, nor for the interaction, $F(1,397) = 0.62$, $p = .433$, $\eta_p^2 = .002$. For the normative question, the effect of moral character did not reach statistical significance (M = 4.36, SD = 1.71 vs. M = 4.05, SD = 1.81), $F(1,397) = 3.49$, $p = .063$, $\eta_p^2 = .009$, nor was there an effect of outcome severity, $F(1,397) = 0.33$, $p = .565$, $\eta_p^2 = .001$, or of the interaction, $F(1,397) = 2.02$, $p = .156$, $\eta_p^2 = .005$ (see Figure 6.15).

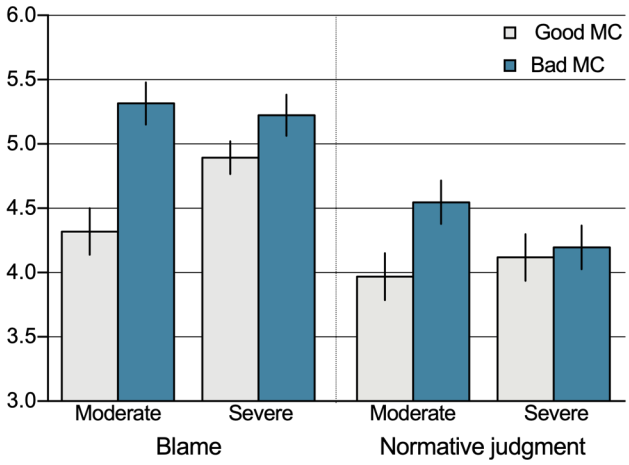

Figure 6.15. Mean scores for blame judgments and the normative judgments regarding what the director *should* have done, separated by outcome severity (moderate vs. severe) and moral character (Good MC = good moral character; Bad MC = bad moral character).

Exploratory analyses were conducted to directly compare lay people with legal professionals. We tested whether the population factor of lay people vs. legal professionals interacted with moral character or outcome severity for any of the DVs. Only a significant interaction was found between the population factor and outcome severity for intentionality, $F(1,699) = 4.26$, $p = .039$, $\eta_p^2 = .006$. Whereas lay people judged the director to have acted more intentionally in case of the severe outcome relative to the moderate outcome ($M = 4.00$, $SD = 1.79$ vs. $M = 3.28$, $SD = 1.80$), $F(1,302) = 6.90$, $p = .009$, $\eta_p^2 = .022$, no such effect of outcome severity in intentionality judgments was found for legal professionals ($M = 2.85$, SD = 1.70 vs. M = 2.85, SD = 1.81), $F(1,397) = 0.20$, $p = .891$, $\eta_p^2 = .000$. However, considering we did not find a significant multivariate interaction effect (i.e., with all four mental states as DVs) between the population factor and outcome severity, $F(4,700) = 1.98$, $p = .095$, $\eta_p^2 = .011$, the difference between the two populations in intentionality judgments due to outcome severity should be interpreted with caution. We did consistently find a main effect for the population factor across all DVs, apart from negligence, with higher scores for lay people than for legal professionals (see Table 6.1).

Table 6.1. Mean scores for lay people and legal professionals across the DVs, as well as significance tests for the mean differences.

DV	Lay people (N = 306) M (SD)	Legal professionals (N = 401) M (SD)	$F(1,705)$	p	η_p^2
Intentionality	3.65 (1.83)	2.85 (1.75)	34.45	< .001	.047
Knowledge	3.53 (1.68)	2.70 (1.49)	47.69	< .001	.063
Recklessness	5.56 (1.46)	4.88 (1.81)	28.47	< .001	.039
Negligence	3.30 (1.88)	3.45 (1.95)	0.99	.320	.001
Likelihood of failure	65.61 (21.53)	51.88 (20.63)	73.99	< .001	.095
Punishment	72.42 (27.98)	40.18 (38.40)	153.43	< .001	.179
Blame	6.11 (1.21)	4.84 (1.78)	114.86	< .001	.140
Normative judgment	5.97 (1.23)	4.20 (1.76)	224.41	< .001	.241

6.6.2 Discussion

Overall, Study 5 largely replicated Study 4 and the data therefore suggests that legal professionals are similarly affected by moral character inferences as lay people in their mental state attributions, as well as in their perceptions of the likelihood of failure, their punishment attributions, and their blame attributions. However, two differences between the two samples surfaced. First, intentionality judgments were affected by outcome severity in the sample of lay people, but not in the sample of legal professionals. Second, an effect of moral character was found for the normative judgment in lay people, but not in legal professionals. Interestingly, across all DVs (apart from negligence) we found lower scores for legal professionals than for lay people, suggesting that legal professionals were generally less punitive in their judgments.

6.7 General Discussion

The current paper put forward a novel account of the folk psychology of intentional action and set out to provide empirical support for its central role of moral character inferences in morally laden contexts. Also, the paper aimed to shed further light on the relationship between outcome effects and moral character inferences in mental state attributions as well as other legally relevant judgments (i.e., likelihood of failure, punishment, blame). Finally, an important contribution of the current paper is that we compared lay people with legal professionals to test whether the latter group can also be influenced by ir-

relevant character information when being presented with a detail rich case on a topic in which they are specialized.

Overall, we found overwhelming support for the notion that irrelevant information pertaining to an agent's moral character influences mental state attributions, perceptions of a company's outlook, as well as blame and punishment attributions. Such effects were found irrespective of the way in which the mental state questions were presented (i.e., separate versus jointly), the way in which moral character was manipulated (i.e., the 'story' that was used), small changes that were made to the case, and of the specific population under investigation (i.e., Dutch lay people, US lay people, legal professionals).

Effects of outcome severity were rather small and inconsistent. For blame attributions only an effect of outcome severity was found in Study 1. Wrongness judgments were affected by outcome severity in both Studies 1 and 2. In Study 3 we found outcome effects for the mental states knowledge and recklessness, as well as for the perceived likelihood of failure and punishment. In Study 4 we only found an effect of outcome for intentionality judgments and in Study 5 we did not find any effect of outcome severity. Moreover, we did not find any evidence for an interaction effect between moral character inferences and outcome severity. It seems therefore that when (irrelevant) character information is provided, outcome information has very little additive effect.

6.7.1 Theoretical Implications

The above findings help shed light on some discussions in the literature. First, concerning the debate on whether moral considerations affect mental state ascriptions, the studies presented here suggest that at least in morally laden contexts moral considerations do indeed affect mental state ascriptions, which goes against accounts that argue evaluative factors can be explained away by non-moral factors (e.g., Guglielmo & Malle, 2010a, 2010b; Machery, 2008; Wright & Bengson, 2009). In relation to the debate on whether evaluative considerations affecting mental state ascriptions represent a bias or whether such considerations are a constitutive component of intentional action (see for example Cova, 2016; Kneer & Bourgeois-Gironde, 2017), the present studies speak in favour of the former.

One category of bias accounts that has received some criticism is that focusing on the blameworthiness of an agent (e.g., Alicke, 2008; Nadelhoffer, 2004a, 2004b, 2006). A lot of weight has been given to a study among seven individuals with brain damage (i.e., impairment of emotional processing) for whom the typical asymmetry in intentionality judgments in the chairman scenario was observed nonetheless (Young & Cushman, 2006). This finding has been used to argue that blame processes cannot account for the Knobe effect. However, the current studies provide strong evidence that at least in

morally laden contexts the blameworthiness of an agent as derived from his/her moral character does affect mental state ascriptions as well as related judgments. Hence, even though it is possible that the necessity of affective processing might be limited, we probably should not throw out the proverbial baby with the bath water. The current research extends previous blame accounts by showing that the blameworthiness of the agent need not be derived from the action or (side-) effect under consideration, but is rather, ultimately, derived from inferences regarding the agent's moral character, which might be based on unrelated information sources.

Finally, Cova (2016) has listed four criteria that any adequate account of intentional action should meet, which our Moral Character Account does. First, Cova states: "A proper account should explain both the Knobe Effect and the Skill Effect." The Skill Effect refers to findings discussed in the introduction of this paper, showing that skill or control is a relevant factor for intentionality judgments in non-moral contexts (marksman shooting a target), but not (or at least much less so) in morally laden contexts (marksman killing his aunt). Our MCA's distinction between morally neutral and morally laden contexts that dictates which concept of intentionality is made salient (i.e., causal or moral responsibility, respectively), can perfectly account for both the Knobe Effect as well as the Skill Effect. Cova's second condition is: "A proper account should explain why asymmetries similar to the original Knobe Effect can be observed in cases involving no moral violation." We have argued that the sales case as put forward by Wright and Bengson (2009), on which this condition is based, does not actually constitute a morally neutral scenario and can be explained by moral coherence processes following from moral character judgments. Cova's third condition is: "A proper account should accommodate the fact that the agent's attitude towards a side-effect (whether he brings it about reluctantly, indifferently, or joyfully) has an impact on our ascriptions of intentionality." Our MCA incorporates agents' attitudes towards side effects in such a way that these speak to the agents' moral characters. Bringing about a bad side effect wholeheartedly signals a worse moral character than bringing about the same side effect reluctantly or regretfully. Cova's last condition is: "A proper account should account for the fact that norms seem able to drive asymmetries similar to the Knobe Effect independently of side-effects' valence." This condition was inspired by the racial identification law in Nazi Germany scenario and we have argued that the findings can be explained by our MCA's required proportionality between an agent's moral character and the blame that is implied by acting in a norm-violating manner. Even though the agent in that specific scenario fulfilled the requirements of a morally reprehensible law, the blame that would be implied by saying he intentionally did so would be disproportionate to the amount of blame the agent deserved based on his character.

In short, based on the criteria set out by Cova (2016), our MCA seems to be the most adequate account available. Based on meeting Cova's criteria as

well as the empirical support for our account provided in this paper, we consider our MCA to be of value for helping us understand the folk psychology of intentional action, while also being able to explain a host of related mental state ascriptions as well as other legally relevant judgments such as causality, freedom, foreseeability, etc.

6.7.2 Practical Implications

In addition to the above theoretical considerations, the findings should also concern legal practice. That is, given the evidence presented here of legal professionals being affected in their judgments by irrelevant information concerning an agent's moral character, the question should be to what extent this is problematic and what can be done to prevent such biased judgments. Even though lawyers are not the ultimate decision makers in legal cases, in many jurisdictions they nonetheless play a pivotal role and are sometimes the only ones who can bring a liability claim against a director in an insolvency proceeding. Hence, whereas previous work already voiced concerns regarding the impartiality of juries (consisting of lay-people)(Nadelhoffer, 2006), the current research suggest legal professionals might not be exempt.

Whereas previous research already found that judges are equally susceptible to the Knobe effect as lay people and that this most likely constitutes a bias (Kneer & Bourgeois-Gironde, 2017), the present research extends these findings by demonstrating that moral considerations can also affect legally relevant judgments other than intentionality, such as ascriptions of knowledge and recklessness, post-hoc perceptions regarding the likelihood of an adverse event occurring, as well as blame and punishment attributions. Regarding the perceived likelihood of failure as measured in the sample of legal professionals of the current research, we even found that moral character information can push likelihood perceptions from below the midpoint when the director had a good moral character (i.e., 47.2%) to above the midpoint when the director had a bad moral character (i.e. 56.5%). This is particularly relevant in alleged cases of wrongful trading as directors face liability when they continue to trade while it is 'more likely than not' that their company will become insolvent. Hence, perceptions of good moral character might tip the scale in a director's favour while a director's bad moral character might bias likelihood perceptions in such a way that in hindsight it will appear as if the company was facing insolvency and the director can thus be held liable for continuing to trade.

It is important to point out that character information might not only bias judgments in criminal proceedings where character evidence is admissible and actually a common element of court hearings in the US (see Federal Rules of Evidence; Saltzburg, Martin, & Capra, 1998), but also in civil cases such as is used in the present studies. The current findings therefore highlight and further extend the concerns that have been raised regarding the admissibility

of character information in criminal proceedings (e.g., Hunt & Budesheim, 2004; Maeder & Hunt, 2011; Uviller, 1982) to civil cases. Despite that character evidence not playing a similar role in civil cases as it currently does in criminal proceedings, in civil cases too there are many ways in which lawyers and judges are exposed to information that directly speaks to a tortfeasor's character.

Parallel to the discussion whether character information should be admissible or not in criminal proceedings, we encourage legal scholars to engage with psychologists and philosophers to think of ways to limit the biasing effect character information might have.

6.7.3 Limitations and Future Research

A few limitations and open questions remain. First, to get a better understanding of how moral character information and outcome information might independently or jointly affect mental state attributions and related judgments, more research is needed. In the current studies we only included two bad outcomes which differed in severity. We consider it worthwhile to test the relationship between character and outcome when using outcomes of opposite valance (i.e., good and bad outcomes).

Second, the absence of any strong or consistent outcome effect might have been due to the participants not really considering the outcomes to be that bad at all. Possibly, people care more about the environment being harmed in some way than about businesses going bankrupt. It would therefore be worthwhile to further investigate outcome effects in relation to moral character effects while using outcomes that trigger a stronger emotional response.

Third, in the present studies it turned out to be difficult to convince the participants of the director's good moral character, as indicated by scores around the midpoint of the scale in the good moral character condition. Participants might still have used the director's actions (jeopardizing the company's creditors) to infer that his character was less than ideal. Alternatively, participants might have had a strong bias against corporate directors such that even engaging in very charitable behaviour, being a loyal family man and good father, or being an outspoken environmentalist might not have been sufficient to wash away people's preconceptions about corporate directors. The fact that participants did not consider the morally good director to be a very good person means our findings are perhaps on the conservative end and it would therefore be worthwhile to study the hypotheses in different settings using different study materials to better manipulate agents' moral character.

Finally, even though our Moral Character Account of the folk psychology of intentional action suggests that moral character effects only come into play in morally laden contexts, it would be worthwhile to test under which circum-

stances such character effects might also play a role in morally neutral contexts. It might be that there is some cross-over from moral responsibility to causal responsibility when the (side-)effect is something one can get credit for. For example, in the shooting competition scenario, people might be reluctant to say the highly skilled marksman intentionally hit the target when the marksman is described as having a very bad moral character, as achieving something difficult that requires a lot of skill is typically something worthy of praise and people are probably reluctant to praise a morally bad marksman.

6.7.4 Conclusion

In this paper we have put forward a novel account of the folk psychology of intentional action and have argued that it can explain all existing data demonstrating asymmetries in mental state ascriptions, while also being able to account for data related to judgments such as causality, freedom, and foreseeability. The central tenet of our account is the role of moral character inferences in morally laden context. We have provided evidence for the notion that, even when keeping many factors that have previously been argued to explain intentionality judgments fixed, moral character inferences based on irrelevant information can still bias mental state ascriptions and other legally relevant judgments. Apart from advancing theorizing around the folk psychology of intentional action, the findings clearly pose a problem for legal practice as biased judgments stemming from character information threaten the notion of a fair trial. Directions for future research have been suggested to better understand the precise role that character inferences might have on important judgments.

7 General Discussion

Given that each of the previous chapters already offers critical reflections on the findings as well as the limitations and future directions for research, in this chapter I focus on the overarching conclusions that can be drawn and what these mean for both legal scholarship and legal and banking practice. I first briefly reiterate the goal of this dissertation as well as the key findings of each chapter. Next, I discuss the key contributions of this dissertation, both for academia and for practice. I conclude this discussion by elaborating on avenues for future research that I consider to be promising.

7.1 Summary of the key findings

In this dissertation I set out to: "*(1) investigate whether cognitive biases affect legal professionals' and financiers' judgments in the context of business failure and insolvency, and (2) to improve our understanding of the mechanisms underlying these biases and of boundary conditions.*" To this end, we conducted several studies primarily among legal professionals, but also among bankers and college students. Chapter 2 demonstrated among this latter population that certain decisions can be automatically activated by environmental cues, even when we have previously learned that such decisions will result in negative outcomes. Despite being far removed from legal practice due to the controlled nature of this study as well as the arbitrariness of the decisions, it serves as a demonstration that external factors can automatically affect our decisions in undesirable ways and outside of conscious awareness. Perhaps even more important, this chapter suggests that decision biases might be aggravated when control processes are limited, which is typically the case when operating under stress, when being sleep deprived, or when dealing with strict time constraints. Given that such conditions are not uncommon for legal professionals and financiers, it is possible that these professionals are particularly susceptible to certain biases.

Chapter 3 demonstrated among a sample of bankers that sense-making processes regarding the cause of a company's financial distress can be affected by similarity bias such that more external causal attributions are made in the case of high degrees of perceived similarity between bankers and entrepreneurs. Moreover, the same bias was found to affect bankers' trust in the entrepreneur. Interestingly, no significant relationship was found between

perceived similarity and the likelihood of extending credit, suggesting that bankers in the specific context of credit decisions involving distressed assets might overall be less affected by similarity bias than other financiers such as venture capitalists.

Chapter 4 showed that legal professionals can be biased in their assessments of business valuations and business valuators. Specifically, the study showed that the outcome of a deal, the similarity with a valuator, as well as the gender of a valuator can affect legally relevant judgments and evaluations pertaining to valuators and their valuations. Such biases in the context of business valuation risk obscuring the efficient settlement of valuation disputes as well as unfounded trust or distrust in a particular valuation. Indeed, in the context of business failure specifically, biased evaluations of business valuations and valuators risks continuing a business that in reality is no longer economically viable, or alternatively the liquidation of a company that in reality had a solid chance of surviving.

Chapter 5 demonstrated that learning about a company's bankruptcy caused legal professionals to perceive the bankruptcy as more foreseeable and also to evaluate the company director's actions more negatively compared to when these professionals were unaware the company went bankrupt. Additionally, we found that the degree to which legal professionals believe in free will was related to the extent to which they were affected by outcome information, such that those with stronger free will beliefs demonstrated a larger bias in evaluations of directors' decision quality, as well as a larger bias in foreseeability judgments.

Finally, Chapter 6 showed that irrelevant information pertaining to a director's moral character influences mental state attributions, perceptions of a company's outlook, as well as blame and punishment attributions. Thus, in the context of business failure, financiers might be more sceptical of a company's outlook when it is run by a morally bad director versus when it is run by a morally good director, thereby possibly giving insufficient weight to more important information. Likewise, legal professionals might in hindsight unduly hold a director liable for wrongful trading as a result of the director's character. Additionally, in this chapter we put forward a novel account of the folk psychology of intentional action and provided empirical support for the central role of moral character inferences.

In sum, then, this dissertation's primary aim was to investigate whether cognitive biases affect legal professionals' and financiers' judgments in the context of business failure and insolvency, and combined the results summarized above provide ample support for the idea that these professionals can indeed be affected by cognitive biases when making sense of business failure. The second aim was to improve our understanding of the mechanisms underlying these biases and of boundary conditions. Several advances have been made in this dissertation. First, even though Chapter 2 did not investigate sense-making processes of legal professionals or financiers in the context of

business failure, it did further our understanding of how external cues can bias our decisions and the conditions under which such a bias can be aggravated. Specifically, a certain action can be triggered when the associated effect is presented due to the affectively laden bidirectional action-effect associations. Thus, once one has learned that a certain action results in a negative outcome, being presented with a negative cue can trigger that action. Moreover, this study shows that this clearly maladaptive process is probably more likely to occur when control processes aimed at preventing such actions from being activated are minimized.

Second, Study 3 contributed to the second aim by zooming in on the specific context of distressed credit and financiers' decision making, demonstrating that bankers appear to be only partially affected by similarity bias. Whereas previous research identified clear similarity biases among early-stage equity investors (e.g., venture capitalists), we found that perceived similarity was related only to causal attributions and perceived trustworthiness, and only indirectly with the ultimate credit decision. Hence, we suggest that certain idiosyncrasies of bankers might, to a degree, protect them from being affected by similarity bias in their credit decisions.

Third, in Chapter 4 a boundary condition was identified regarding the gender bias. Specifically, we found that only men were affected by gender bias in the sense that this group had more trust in the valuator's work when that valuator was also male. Women on the other hand did not show this bias.

Fourth, in Chapter 5 we show advances in understanding the drivers behind hindsight bias. Across two studies we found that those believing stronger in free will demonstrated a stronger hindsight bias in foreseeability judgments as well as a stronger outcome bias in evaluations of a directors' actions. Belief in free will was used as a proxy for people's punitive desires, suggesting that the need to blame and condemn wrongdoers might be an important driver of these biases.

Finally, Chapter 6 furthers our understanding of the role of moral character inferences in mental state ascriptions as well as a range of other judgments such as blame, punishment, and the likelihood a company will fail. This chapter shows that irrelevant and unrelated character information can bias legally relevant judgments such that these are harsher for morally bad directors.

Combined, this dissertation provides evidence for the existence of cognitive biases among legal professionals and financiers when making sense of business failure, as well as furthering our understanding of these biases. Before discussing the broader implications of the findings presented here, a critical reflection on the limitations of the methodology used is warranted.

7.2 Limitations of the methods used

Throughout my undergraduate and graduate studies, I have been trained to conduct experimental research. Initially I was trained in the kind of experimental research described in Chapter 2 (i.e., focussing on behavioural data in a controlled lab environment), and later on in the use of online vignettes. Due to this training and experience, I have come to appreciate both the advantages and disadvantages of the experimental method. A major benefit is that this method allows for causal inferences to be drawn and to isolate a particular effect one is interested in. In the case of hindsight bias for example, using vignettes makes it possible to test whether people answer differently when they are informed on the outcome of a case versus when they are not. In real life, it is impossible to establish with any certainty whether someone is affected by hindsight bias, because we will never know whether someone would have judged differently if outcome information had been absent. The same is true for the effects of moral character inferences. In real life, we can never tell with certainty that someone let character information affect their judgments, because we will never know how that person would have judged had the character of the agent under consideration been different. Using vignettes, we can keep all other factors constant and truly isolate the element we are interested in.

As discussed multiple times throughout this dissertation, the key weakness of using vignettes is the generalizability of the findings to real-world contexts. I aimed to develop vignettes that were detail-rich and realistic, which contributes to the generalizability of the findings (Aguinis & Bradley, 2014). Feedback received from the legal professionals on the vignettes used was generally very positive, and participants responded positively with regard to the realism of the vignettes. However, I also received feedback stating that not enough information was provided in the vignettes to make well-founded judgments. This is understandable as in real-life cases there is typically much more information available. The question then is, to what extent do the findings generalize to real-world contexts?

Three possibilities exist. First, it could be that for whatever reason, the findings do not generalize at all and legal professionals and financiers in real life are hardly affected by cognitive biases. Second, it could be that the effects found in this dissertation generalize perfectly and that the effect sizes are roughly the same in real life. Finally, it could be that the effect sizes observed in this dissertation are actually on the conservative side and that in real life cognitive biases pose a much bigger problem than one might expect based on our findings. It is perhaps hard to make a convincing argument in favour of any of these three hypotheses, but in light of the abundance of evidence for the existence of cognitive biases across a wide range of domains, I personally consider the first hypothesis unlikely. Given that the biases studied in this dissertation rely to some degree on moral intuitions or emotions in

general, it could be argued that such underlying processes might be stronger in a real-world context, based on the assumption that emotions will be experienced stronger in real life than when using online vignettes.

All in all, I trust the studies in this dissertation offer unique insights into how legal professionals and bankers can be biased in their judgments, while appreciating the limitations of the methods used and the benefits of complementing these findings in the future with additional research using different methods.

7.3 Implications for psychological science and legal scholarship

A challenging aspect of this dissertation has been to conduct research that will ultimately provide useful insights for practitioners, while at the same time contribute to the academic fields of psychological science and legal scholarship. Balancing between practically and theoretically oriented research proved quite a challenge. In the next section I discuss the implications for practice, so I will first briefly reflect on this dissertation's contribution to the academic literature.

For psychological science, the key contributions of this dissertation lie not so much in the demonstration of biases in judgments and decisions, as there is already overwhelming evidence for this phenomenon, but they can be found elsewhere. First, an important contribution is that certain biases were demonstrated in ecologically valid samples of legal professionals and bankers. That is, much criticism has recently hit the field of psychological science (in particular social psychology) in the aftermath of fraudulent research and the failure to replicate key findings (for an overview, see Shrout & Rodgers, 2018). Moreover, criticisms have been expressed regarding the generalizability of findings when using WEIRD samples (Western, Educated, Industrialized, Rich, and Democratic; Henrich, Heine, & Norenzayan, 2010). Even though this dissertation did not systematically test for differences between WEIRD and non-WEIRD samples, several studies were conducted among professionals from across the globe and thus also included people from non-WEIRD societies. Therefore, the studies presented in this dissertation contribute to the field of psychological science by demonstrating that the biases studied in this dissertation can also be found when using more ecologically valid samples from diverse backgrounds.

The second contribution of this dissertation for psychological science is the advances made in terms of understanding the drivers behind particular biases and what boundary conditions might be, as described in section 7.1. Despite the fact that psychologists have been studying cognitive biases for several decades, there is still work to be done when it comes to fully understanding the underlying mechanisms and the circumstances under which biases might be attenuated or aggravated in practice. For example, as discussed in Chapter 3 the topic of financial decision making in the context of financial

distress is highly understudied as well as the extent to which different types of financiers might be affected by biases in this context. Likewise, Chapter 5 discussed the limitations of the current literature when it comes to hindsight bias among legal professionals (i.e., limited research attention, mixed results, low statistical power) and the mechanisms driving the different types of hindsight bias that are currently not yet fully understood. As a final example, in Chapter 6 we discussed the state of the literature when it comes to asymmetries in mental state attributions, put forward a novel theory to account for the existing data, and presented new empirical evidence for the central role of moral character inferences.

A third contribution of this dissertation to both psychological science and legal scholarship is the advances made on motivated moral reasoning research. Indeed, a central theme of the discussed findings is that both moral judgments and subsequent motivated reasoning processes can bias our judgments. Specifically, whereas moral and legal judgments should be the result of an unbiased review of the available facts and assessments regarding for example causality, intentionality, and foreseeability, it appears that initial moral reactions can bias sense-making processes in such a way that people are unconsciously motivated to match their final judgments with their initial intuitions (for an excellent review of motivated moral reasoning, see Ditto, Pizarro, & Tannenbaum, 2009). When faced with a company's bankruptcy, legal professionals will in some cases experience some degree of contempt towards the company directors in light of the damages caused to creditors or because of their perceptions of the directors' moral characters. Whatever the source of their moral intuitions, motivated moral reasoning processes would suggest that negative evaluations surrounding company directors will bias the subsequent sense-making processes and insolvency investigations. It is not unlikely that undue attention will be focused on the directors' actions at the expense of external, circumstantial, contextual factors. More weight will be given to arguments and facts that are in line with initial moral intuitions, and information that contradicts this view will be downplayed. Ambiguous information will be explained in ways that are consistent with the professionals' preconceptions and less rigorous judgmental standards will be applied to information consistent with rather than inconsistent with these preconceptions (e.g., Clark, Chen, & Ditto, 2015; Ditto et al., 2009; Sood, 2013). As stressed before in this dissertation, it is important to realize that such biased sense-making of business failure is an unconscious process and does not involve disingenuous lawyers, judges, or bankers per se. Rather, those engaging in biased sense-making will do so under the illusion of objectivity (Hughes & Zaki, 2015; Kunda, 1990; Nadler & Mueller, 2017; Sood & Darley, 2012). That is, those involved will most likely be convinced that they have engaged in a careful, rational, and objective analysis of the available evidence and are perhaps even convinced that they have done so in an unbiased manner.

It is clearly worrisome for both legal scholarship and legal practice that motivated moral reasoning underlies the judgments of legal professionals, even when they are convinced they are acting objectively. Fortunately, recent years have seen increased attention to motivated reasoning processes (Clark, Chen, & Ditto, 2015; Ditto et al., 2009; Sood, 2013). However, apart from the occasional paper in a law review (e.g., Haidt, 2013; an excellent paper that deserves more attention), the majority of such work is confined to the psychological literature. In this dissertation I combined insights from motivated cognition, motivated moral reasoning, as well as those derived from the recent increase in attention for the central role of moral character inferences in moral judgments. I hope therefore that this dissertation will contribute to legal scholarship by raising awareness of and providing evidence for the ways in which moral judgments can shape legal professionals' sense-making processes and subsequently bias legal judgments.

7.4 Implications for legal practice

Like me, psychologists might look at some of the findings presented in this dissertation and not be surprised at all. Demonstrating biases in human judgments is interesting and useful (and in my view even fun), but not groundbreaking in light of the abundance of existing evidence. Hence, the fact that legal professionals and financiers are actually human and thus succumb to cognitive biases is no surprise. Still, in my experience legal professionals and even legal scholars generally find it difficult to accept this fact. Acknowledging the anecdotal nature of the following, I frequently encounter legal professionals who publicly deny being affected by unconscious biases. They might be willing to say that people in general can be affected by cognitive biases, but not them as they have been trained to be objective and rational when analysing legal cases. I believe this to be a classic case of 'bias blind spot'. I have also met well-known legal philosophers who were certain that legal professionals might be affected by information about a director's professional reputation, but definitely not by *irrelevant* character information. Chapter 6 of this dissertation suggests otherwise. When giving workshops or lectures attended by legal or financial professionals, I ask them about their familiarity with the notion of biases and heuristics and for example the work of Tversky and Kahneman. Some have read Kahneman's well-known book Thinking Fast and Slow, but the vast majority have not and are unaware of the work done in psychology relevant to legal and financial decision making. Based on the assumption that such encounters are not unique, I believe there is still quite a long way to go before legal decision making will be infused with more realism.

What can and should be done to ultimately limit the effects biases can have on legal and financial reasoning and decision making? A proper answer to this question would probably encompass several additional dissertations, which

is why I will refrain from trying to come up with a comprehensive answer. Nonetheless, I will put forward some suggestions that I believe might hold promise and which I have come across during the span of my PhD research. In light of these suggestions, it is important to note that no solid debiasing 'trick' currently exists. Any effort to counter the effects of biases will therefore probably require substantial efforts and monetary investments. It therefore becomes relevant to determine how important stakeholders of legal proceedings consider it to be to have 'bias free' courts. In criminal law it is more obvious who should carry the burden of improving legal decision making (i.e., the government), but who will bear the additional costs in civil procedures? Thus, some of the suggestions made below might be less realistic than others due to the costs involved. Ultimately it matters what we care about more as a society; is it preventing false positives (assigning blame/liability where in reality there should be none) or false negatives (assuming no blame/liability where this should have been the case)? In case of the former, some suggestions I make below may warrant further investigation.

A necessary first step I believe is to raise further awareness among financiers, legal practitioners and legal scholars about the effects that biases and motivated reasoning processes can have in financial decision making and legal proceedings. Such awareness is important as without it, no one will be motivated to make an effort to counter the effects of cognitive biases. In light of raising awareness, I also see an essential role for law schools. In addition to the standard curriculum, law schools should offer courses focused on teaching students about psychology (as also suggested by, for example, Haidt, 2013). This way, the new generation of attorneys and judges will enter the workforce knowing full well which factors might threaten their reasoning. Also, if radical changes were required to deal with the effects of biases in legal reasoning, this new generation would probably be more supportive of such changes than the current generation.

One way to counter the risks of cognitive biases clouding insolvency investigations specifically, might be to refrain from conducting such investigations altogether, apart from situations in which there is a clear suspicion of fraud or in cases where a corporate insolvency has such significant societal impact that people will want to know what happened. Such a position has been argued by for example Dutch insolvency law professor Reinout Vriesendorp (Vriesendorp, 2017). Such a measure would likely decrease false positives, but risks increasing false negatives (for thorough reviews of adaptations of courts in response to hindsight bias, see Rachlinski, 1998, 2000a).

Other potential solutions to counter the risk of cognitive biases can be found in the field of forensic science. In forensic investigations, a case manager is appointed who gathers all the relevant information and who liaises with all the relevant stakeholders (e.g., police, prosecutors, crime scene investigators). Given that this case manager is exposed to information that might have biasing effects (e.g., moral character information), it is acknowledged that this

case manager is not able to evaluate the available evidence in an unbiased manner (e.g., comparing fingerprints found at the crime scene with those of suspects). Thus, the case manager filters the available information and only passes on the essential information necessary for a second investigator to conduct the investigation. Such a process has been called "linear sequential unmasking", which entails that at each step of an investigation, it is determined which information is essential to complete that step and that increasing amounts of information is disclosed at later stages (Dror et al., 2015; Stoel, Berger, Kerkhoff, & Dror, 2014)

Applied to the context of directors' liability in relation to insolvency, can trustees appointed with the task of conducting an insolvency investigation conduct such an investigation in an unbiased manner given the exposure to a wealth of information with potentially biasing effects? As should be clear by now, this is highly unlikely. Therefore, it might be worthwhile appointing independent investigators or a second trustee who will collaborate with the main trustee (who would then serve as the case manager). This would limit the risk of biases tainting the investigation, but would clearly add significantly to the cost of insolvency investigations. In case limited funds are available in the estate, it might not always be feasible to hire additional investigators. The same applies to bankers' decision making. They may want to separate the decision making process from the investigation phase and have two separate bankers (or more) appointed to a client: one who interacts with the entrepreneur and (at least) one who is shielded from potentially biasing information such as first impressions of the client. However, not only would this be a costly solution, it would perhaps also, paradoxically, be met with scepticism from clients who probably want the ultimate decision maker to have due regard for their unique circumstances and narrative. The same paradox exists when delegating financial decision making to algorithms. Even though such algorithms are expected to have superior abilities when it comes to predicting a company's future outlook and thus its credit worthiness in times of distress, people are yet somewhat reluctant to fully rely on algorithms that are unable to communicate their 'thought process' (i.e., black box problem). Also, clients will probably be reluctant to have their entire future be dependent on the advice of an algorithm.

In cases where using additional investigators or advanced algorithms is not an option, it would be beneficial if trustees and financiers would be equipped with a better toolkit when it comes to conducting insolvency investigations. Currently, little guidance exists as to how to conduct such investigations. Generally, lawyers are trained to analyse jurisprudence, not to conduct scientifically sound investigations into bankruptcies. It is therefore not surprising that such investigations can be methodologically flawed and thus allow results to be biased. It would therefore help if attention was paid in law schools to how to conduct sound investigations.

In addition to hiring external investigators or providing training courses and/or guidance to trustees, courts might themselves be able to improve their investigations from a methodological standpoint to limit unwanted psychological effects. As has been convincingly argued by emeritus professor Raimond Giard (e.g., Giard, 2017), the opportunities for methodological improvements in investigations in civil proceedings are plentiful, for example when it comes to substantive truth finding.

A question I find particularly intriguing is what effect it might have when we change our perspective on business failure and start viewing it as normal or even the default, and business success as 'surprising' and as the outlier. Many of the discussed biases and processes of motivated moral reasoning have as their starting point a certain degree of moral outrage or negative emotion. Such emotions or outrage are the result of being confronted with a situation that is surprising and/or in violation of people's innate sense of fairness. Indeed, it has been well established that people have a need to mentally construct the world in a way that is comforting, fair and just, morally predictable and controllable, a world in which people "get what they deserve and deserve what they get" (Clark et al., 2015; Ditto et al., 2009; Lerner, 1980). Given this belief in a just world, and the inherently intuitive and automatic nature of moral judgments, it is not surprising that being confronted with business failure automatically triggers sense-making processes that are partly motivated by the desire to reconstruct this event in such a way that it fits with our worldview. After all, if a business' failure was the result of corrupt or at least incapable management, that is a coherent story. The directors will be blamed, and perhaps even held liable, and thus get what they deserve. Admitting that a company's failure was the result of bad luck is highly discomforting and unsatisfying. It implies the same can happen to ourselves. For this reason, people prefer to attribute others' success to luck and their failure to their own wrongdoing (unless they are part of our in-group, in which case this pattern is reversed), a phenomenon called 'defensive bias' or 'self-serving bias' (e.g., Miller & Ross, 1975; Thornton, 1984; Tyler & Devinitz, 1981). If their success was a matter of luck, this implies we can be bestowed with the same luck. If their failure was a matter of their own wrongdoing, we can avoid the same fate by simply not making the same mistakes.

One implication of all this might be that if we did not perceive a certain event as being surprising or abnormal, or in violation with our belief in a just world, we may not experience much negative affect when being confronted with that event, nor would we have the need to make sense of that event in a biased and motivated manner. Translated into the context of business failure, what would happen if we would look at business failure as being normal, as something that would not require any explanation because going bankrupt is simply what companies ultimately do? What if we would rather look at a business' success as something that is out of the ordinary and therefore much more interesting to investigate? Interestingly, statistically speaking business

failure *is* much more likely than success. As mentioned before, typically only 50% of new businesses survives the first five years of trading and after 15 years only 25% still exist (BLS, 2019). In that sense, business failure *is* in fact the norm (see also Verdoes & Verweij, 2018). I find it an intriguing hypothesis that motivated moral reasoning processes (and thus biased perspectives of business failure) might be attenuated when we make such a paradigm shift.

To conclude this dissertation, I have argued that in order to counter the effects of cognitive biases in both financial and legal judgments surrounding business failure, first and foremost it is important to raise more awareness about the psychological influence on the reasoning and sense-making of financial and legal professionals. Next, I have argued that attention should be given to the methods currently used in insolvency investigation and legal proceedings and how these might be improved such that the risk of biases is diminished. Finally, I have put forward a somewhat speculative, yet intriguing (at least in my view) hypothesis concerning the potential benefits of a paradigm shift in our thinking about business failure. All three of these suggestions require substantial further research as currently very little is known about how we can debias our reasoning and judgments. For now, I trust this dissertation will contribute to the goal of understanding if, when, and how human sense-making processes and decision making is affected by cognitive biases and how we can ultimately reduce such biases to make sure that important judgments are as rational and fair as they can be.

Summary

The starting point of this dissertation was the observation that (1) financiers and legal professionals need to make several important judgments when faced with an insolvent business and (2) that humans in general are notoriously susceptible to cognitive biases when faced with complex problems under certainty and time restrains. The main question therefore was:

> *To what extent do these professionals succumb to the effects of cognitive biases when making sense of business failure?*

Moreover, in addition to investigating the existence of several biases in financial and legal reasoning, this dissertation sought to further our understanding of the mechanisms underlying these biases and whether certain boundary conditions exist. In light of the importance of ensuring fair trials and safeguarding people's trust in the legal system, as well as in light of the severe consequences for individuals (e.g., company directors) if they are held liable for damages, it is important to know whether biases can cloud financial and legal professionals' judgments and if so how this works.

To answer these two questions, several studies were conducted among legal professionals, financial professionals, and college students. In the latter population, it was demonstrated (Chapter 2) that under certain conditions, negative environmental cues can automatically trigger decisions that have previously been learned to result in negative outcomes. Despite being far removed from legal practice due to the controlled nature of this study as well as the arbitrariness of the decisions, it serves as a demonstration that external factors can automatically affect our decisions in undesirable ways and outside of conscious awareness, as well as that such biased decision making might be aggravated when self-control processes are minimized. Among a sample of bankers (Chapter 3), it was demonstrated that sense-making processes regarding the cause of a company's financial distress can be affected by similarity bias to the extent that more external causal attributions are made in the case of high degrees of perceived similarity between bankers and entrepreneurs. Moreover, the same bias was found to affect bankers' trust in the entrepreneur. Interestingly, no significant relationship was found between perceived similarity and the likelihood of extending credit, suggesting that bankers in the specific context of credit decisions involving distressed assets might overall be less affected by similarity bias than other financiers such as

venture capitalists. Among a sample of legal professionals, it was been demonstrated in Chapter 4 that this group can be biased in their assessments of business valuations and business valuators. Specifically, the study showed that the outcome of a deal, the similarity with a valuator, as well as the gender of a valuator, can all affect legally relevant judgments and evaluations pertaining to valuators and their valuations. These biases in the context of business valuation risk obscuring the efficient settlement of valuation disputes as well as unfounded trust or distrust in a particular valuation, which can then lead to suboptimal decisions to insolvent companies. In Chapter 5 it was demonstrated that learning about a company's bankruptcy causes legal professionals to perceive the bankruptcy as more foreseeable and that they evaluate the company director's actions more negatively compared to when these professionals are unaware the company went bankrupt. Additionally, we found that the degree to which legal professionals believe in free will is related to the extent to which they are affected by outcome information, to the extent that those with stronger free will beliefs demonstrate a larger bias in evaluations of directors' decision quality, as well as a larger bias in foreseeability judgments. Finally, Chapter 6 showed that irrelevant information pertaining to a director's moral character influences mental state attributions, perceptions of a company's outlook, as well as blame and punishment attributions. Furthermore, this chapter put forward a novel account of the folk psychology of intentional action and provides empirical support for the central role of moral character inferences.

Combined, these results provide ample support for the idea that legal and financial professionals can be affected by cognitive biases when making sense of business failure. Additionally, the research in this dissertation has shed more light on the underpinnings of a number of biases. For example, a new insight is that believing in free will is associated with hindsight bias, suggesting that people's innate desire to punish wrongdoers might cause people to perceive past events in such a way that it is coherent with their moral intuitions. Additionally, this dissertation has drawn further attention to the role that moral character inferences have on legally relevant judgments.

A central theme of the research described in this dissertation is that motivated reasoning processes play an important role in legal and financial judgments. In short, motivated reasoning implies that people's initial moral intuitions guide their subsequent sense-making processes in such a way that people are unconsciously motivated to arrive at a conclusion that is coherent with their initial reaction/intuition. I believe that this is where this dissertation makes an important contribution to the field of legal scholarship. Research pertaining to motivated reasoning processes has only recently started gaining popularity in the psychological literature and therefore has not yet penetrated the field of legal scholarship, let alone legal practice. Despite its importance, knowledge of cognitive biases in general and of motivated moral reasoning in particular is largely absent among financiers and legal professionals. There-

fore, in the discussion section of this dissertation I argue that much work still needs to be done to first of all raise awareness of these key psychological insights among practitioners. Additionally, I argue that substantial improvements can be made in insolvency investigations as well as judicial investigations to limit the effects biases can have. Finally, I put forward a hypothesis pertaining to a change in mindset regarding business failure. Specifically, I hypothesize that normalizing business failure might help overcome some of the biases in sense-making processes stemming from moral intuitions.

Samenvatting (Dutch Summary)

BETEKENIS GEVEN AAN FALEN
Een sociaal psychologisch perspectief op financiële en juridische oordelen in de context van insolventie

Het vertrekpunt van dit proefschrift was de observatie dat (1) financiers en juridische professionals een reeks belangrijke oordelen moeten vormen en beslissingen moeten maken wanneer zij te maken krijgen met een (bijna) insolvente onderneming, en (2) dat mensen in het algemeen vatbaar zijn voor *cognitieve biases* wanneer zij met complexe problematieken te maken krijgen gekenmerkt door bijvoorbeeld een hoge mate van onzekerheid en tijdsdruk. De primaire vraag die ik behandel in dit proefschrift is derhalve:

> *In welke mate zijn financiers en juridische professionals onderhevig aan de effecten van cognitieve biases wanneer zij het falen van een onderneming trachten te duiden?*

Naast het onderzoeken van biases in de redenaties van financiers en juristen heb ik tevens getracht nader licht te schijnen op de mechanismen onderliggend aan deze biases en op mogelijke randvoorwaarden. Gezien het belang van een rechtvaardige rechtsgang en het waarborgen van het vertrouwen in ons rechtssysteem, alsook bezien in het licht van de mogelijk ernstige gevolgen voor bijvoorbeeld bestuurders als zij aansprakelijk gesteld worden voor geleden schade, is het van groot belang te weten of biases het objectief oordelen van financiers en juristen bemoeilijken, en zo ja hoe dit precies werkt.

Teneinde deze twee vragen te beantwoorden heb ik een reeks onderzoeken uitgevoerd onder juristen en bankiers, alsook onder studenten. Onder studenten heb ik aangetoond (in Hoofdstuk 2) dat het onder bepaalde omstandigheden mogelijk is om specifieke handelingen automatisch te activeren door hen te presenteren met negatief geladen omgevingscues, ondanks dat van deze handelingen eerst geleerd is dat zij resulteren in ongewenste uitkomsten. Gezien de steekproef onder wie deze studie is uitgevoerd (i.e. studenten) en het arbitraire karakter van de handelingen (i.e., toetsaanslagen), kan gezegd worden dat deze studie ietwat ver verwijderd is van de rechtspraktijk. Desondanks zijn er twee aspecten aan te wijzen die relevant zijn voor zowel financiers als juristen. Ten eerste is deze studie een demonstratie van de idee

dat omgevingsfactoren op automatische en onbewuste wijze invloed kunnen hebben op menselijke beslissingen. Ten tweede suggereert deze studie dat dergelijke processen mogelijk in kracht toenemen, en derhalve niet afdoende verhinderd kunnen worden door meer functionele mentale processen, wanneer de mogelijkheid op zelfcontrole verminderd is. Gegeven dat zowel juristen als financiers veelal opereren onder condities waarbij zelfcontrole mogelijk verminderd is (e.g., slaapgebruik, tijdsdruk, stress), is het mogelijk dat juist onder dergelijke omstandigheden de invloed van biases sterker is.

In hoofdstuk 3 heb ik onderzocht in hoeverre bijzonder beheer bankiers (i.e., bankiers gespecialiseerd in ondernemingen verkerend in zwaar weer) onderhevig zijn aan biases wanneer zij proberen te verklaren hoe een onderneming in zwaar weer terecht is gekomen. De resultaten van dit onderzoek lieten zien dat bankiers onderhevig zijn aan 'similarity bias' op zo'n manier dat zij de oorzaak van het zwaar weer eerder aan externe omstandigheden toewijzen dan aan de ondernemer wanneer zij zich meer kunnen vereenzelvigen met de betreffende ondernemer. Daarnaast bleken de bankiers ook meer vertrouwen te hebben in ondernemers met wie zij een hoge mate van gepercipieerde gelijkheid vertoonden. Echter, we vonden geen significante directe (maar wel een indirecte) relatie tussen de mate van gepercipieerde gelijkheid en de aannemelijkheid van het verstrekken van aanvullend krediet. Deze laatste bevinding suggereert dat bijzonder beheer bankiers mogelijkerwijs in minder sterke mate beïnvloed worden door similarity bias dan financiers die opereren onder andere omstandigheden, zoals venture capitalists (durfkapitalisten).

In hoofdstuk 4 heb ik onderzocht in hoeverre juridische professionals beïnvloed kunnen worden door biases bij het evalueren van bedrijfswaarderingen en bedrijfswaardeerders in de context van insolventie. Deze studie toonde aan dat deze groep professionals zich bij dergelijke evaluaties kan laten leiden door de uitkomst van een transactie, de mate van gepercipieerde gelijkheid met de waardeerder, alsook zijn/haar geslacht. Zo hebben juridische professionals meer vertrouwen in bedrijfswaardeerders en hun werk als zij zich meer met hen kunnen vereenzelvigen en laten zij zich bij het beoordelen van waardeerders en hun werk (deels) leiden door de uitkomst van een transactie op zo'n manier dat een onfortuinlijke transactie negatieve weerslag heeft op de waardeerder. Tot slot, mannelijke juristen hadden meer vertrouwen in mannelijke dan in vrouwelijke waardeerders, terwijl vrouwelijke juristen niet een dergelijke gender bias lieten zien. Biased evaluaties van bedrijfswaardeerders en van waarderingen brengen het risico met zich mee dat suboptimale beslissingen worden genomen omtrent insolvente ondernemingen.

In hoofdstuk 5 heb ik onderzocht in hoeverre het achteraf oordelen over het handelen van bestuurders inzake een faillissement ongewenst beïnvloed kan worden door 'hindsight bias' en 'outcome bias'. Outcome bias ziet op het meewegen van de gevolgen van het handelen van bestuurders in het beoordelen van het betreffende handelen. Hindsight bias ziet in casu specifiek op oordelen over de voorzienbaarheid van een faillissement en hoe deze overschat

kunnen worden doordat men wetenschap heeft van dat faillissement. De resultaten van dit onderzoek lieten zien dat zowel het handelen van bestuurders als de voorzienbaarheid van een faillissement anders beoordeeld worden als men wetenschap heeft van de afloop van een onderneming. Daarnaast laat dit onderzoek zien dat niet alle juristen in even sterke mate onderhevig zijn aan hindsight bias en outcome bias. Zij die sterker geloven in vrije wil laten een verstrekte bias zien ten opzichte van zij die minder sterk geloven vrije wil. De verklaring die ik hiervoor opwerp is dat zij die sterker geloven in vrije wil een sterkere drang hebben om mensen verantwoordelijkheid te houden voor falen en hen hiervoor te straffen.

Tot slot onderzoek ik in hoofdstuk 6 in hoeverre irrelevante informatie ten aanzien van het morele karakter van bestuurders invloed kan hebben op juridisch relevante oordelen in de context van insolventie. De resultaten laten zien dat de intenties van bestuurders negatiever beoordeeld worden wanneer de bestuurder een moreel verwerpelijk karakter heeft ten opzichte van wanneer de bestuurder een moreel goed karakter heeft. Het morele karakter van een bestuurder heeft tevens invloed op de gepercipieerde waarschijnlijkheid dat een onderneming zal failleren, alsook ten aanzien van oordelen aangaande schuld en te betalen schadevergoeding.

Tezamen geven deze studies antwoord op de onderzoeksvraag door bewijs te leveren voor de idee dat cognitieve biases invloed kunnen hebben op belangrijke oordelen en beslissingen van juridische professionals en financiers ten aanzien van ondernemingen in zwaar weer of in staat van insolventie. Daarnaast draagt het gepresenteerde onderzoek bij aan het begrijpen van de precieze mechanismen die ten grondslag liggen aan deze biases. Ter illustratie, een vernieuwend inzicht dat volgt uit dit proefschrift is dat de menselijke behoefte aan het verantwoordelijk houden van mensen voor vermeende overtredingen ervoor kan zorgen dat zij het verleden construeren op zo'n manier dat dit narratief consistent is met hun initiële morele intuïties. In deze dissertatie heb ik tevens laten zien dat percepties omtrent de morele karakters van bestuurders een rol spelen bij dergelijke morele intuïties in de hieropvolgende reconstructies en juridisch relevante oordelen.

Een centraal thema van deze dissertatie dat voortvloeit uit het voorgaande is dat onbewust gemotiveerde redenaties ("motivated reasoning processes") een belangrijke rol spelen in zowel financiële als juridische oordelen. In essentie betekent dit dat de morele intuïties die iemand ervaart, bijvoorbeeld bij het kennisnemen van een faillissement of bij het evalueren van een bestuurder, een sturend effect hebben in de oorzakelijke analyses, op zo'n manier dat mensen onbewust gemotiveerd zijn om gevolgtrekkingen te maken die consistent zijn met deze morele intuïties. Ik ben van mening dat dit is waar dit proefschrift een belangrijke bijdrage kan leveren aan de juridische literatuur. Onderzoek naar onbewust gemotiveerde redenaties staat nog in de kinderschoenen en neemt pas sinds kort toe in populariteit in de psychologische

literatuur en heeft derhalve de juridische literatuur nog niet bereikt, laat staan de rechtspraktijk.

Ondanks dat de beschikbare kennis omtrent cognitieve biases en onbewust gemotiveerde redenaties van groot belang is voor zowel juristen als financiers, hebben deze professionals, gemiddeld genomen, deze kennis nog niet eigen gemaakt. In de discussie van dit proefschrift (hoofdstuk 7) heb ik daarom beargumenteerd dat er nog werk te verzetten is om in de eerste plaats de bewustwording te verhogen onder juristen en financiers van relevantie inzichten uit de psychologie. Tevens heb ik beargumenteerd dat er winst te behalen is in het verbeteren van insolventie onderzoeken en waarheidsvinding door juristen (bijvoorbeeld i.h.k.v. de gebruikte methodologie) om zodoende de kans op biases te verminderen. Tot slot heb ik in de discussie een hypothese geopperd die ziet op een radicale verschuiving in de zienswijze ten aanzien van het falen van ondernemingen. Deze hypothese omvat het idee dat het normaliseren van falen mogelijkerwijs kan helpen bij het voorkomen van biases in oorzakelijke analyses door morele oordelen en intuïties te neutraliseren.

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Appendices

Appendix 4.1

Nationalities of the Participants

	N	%	Cumulative %		N	%	Cumulative %
United Kingdom	72	26.5	26.5	Italy	2	.7	91.9
Australia	44	16.2	42.6	Luxembourg	2	.7	92.6
South Africa	25	9.2	51.8	Portugal	2	.7	93.4
Canada	15	5.5	57.4	Singapore	2	.7	94.1
United States	13	4.8	62.1	Slovakia	2	.7	94.9
Nether-lands	13	4.8	66.9	Belgium	1	.4	95.2
Nigeria	12	4.4	71.3	Bermuda	1	.4	95.6
Brazil	10	3.7	75.0	Brit.Virg. Isl.	1	.4	96.0
New Zealand	7	2.6	77.6	Cayman Islands	1	.4	96.3
Ireland	6	2.2	79.8	Colombia	1	.4	96.7
China	4	1.5	81.3	Ghana	1	.4	97.1
Finland	4	1.5	82.7	Hungary	1	.4	97.4
Russia	4	1.5	84.2	Jamaica	1	.4	97.8
Argentina	3	1.1	85.3	Peru	1	.4	98.2
Japan	3	1.1	86.4	Philippines	1	.4	98.5
Malaysia	3	1.1	87.5	Poland	1	.4	98.9
Bahamas	2	.7	88.2	Romania	1	.4	99.3
France	2	.7	89.0	Spain	1	.4	99.6
Guatemala	2	.7	89.7	Trinidad & Tob.	1	.4	100
India	2	.7	90.4	**TOTAL**	272	100	100
Indonesia	2	.7	91.2				

Appendix 4.2

Valuation Case

History

Recently, one of UK's respectable fashion companies, 'International Women Clothing' ('the Company'), went bankrupt. Exceeding an annual turnover of GBP 100 million and having more than 350 people employed, the Company was unable to become profitable during the last years, partly due to a decline in consumer spending. After many years of different retrenchment programs and financial restructurings, no meaningful improvements became visible. In the last year the loss exceeded an amount of GBP 12 million. The banks and financiers of the Company decided to end the funding. A bankruptcy was inevitable after being in the market for more than twenty years.

Current situation

We would like you to put yourself in the shoes of the trustee who is appointed by the court and whose main task is to optimize the revenues in the interest of the creditors. There is a potential candidate to relaunch the Company and that offers a serious chance for continuation of the Company (i.e., by means of a transfer of all assets of the bankrupt Company including most of its personnel). The most important assets are tradenames, distribution rights, inventory, software, and leases of prime properties.

The secured and unsecured creditors of the Company are exposed to a deficit of approx. GBP 25 million, including all costs to settle the estate. You strive to sell the assets of the bankrupt Company for at least this amount to minimize any shortage of the estate. By doing so, you may possibly satisfy all creditors. All Company's stakeholders are of the opinion that these sales proceeds of the assets are realistic to expect. Importantly, outsiders follow the results in this bankruptcy with great interest as the (former) statutory director and main shareholder of the Company is well introduced in high society.

The potential buyer of the assets of the Company is a well-known European private equity firm ('PE-firm') specialized in fashion retail through one of its funds, but above all experienced in turnarounds of distressed companies. To prepare the negotiations with this potential buyer, you need some advice on the estimated value of the assets. Indeed, private equity is known for its financial knowledge and you want to avoid selling the assets too low. To realize a quick deal, you start the negotiations with this potential buyer who you know has the required capital to buy the assets. You hire a valuation professional who provides support in this delicate matter.

Although the available budget for this work is limited as it increases the costs of the estate, it may eventually support in maximizing the sales proceeds.

About the valuation professional and the valuation firm

You are introduced to a valuator called [Laura/Andrew][1] Matthews. [Laura/Andrew][1] Matthews is in [her/his][1] [twenties/thirties/forties/fifties/sixties][1] and is a certified valuation analyst accredited by the Association of Certified Business Valuators in the UK. [Laura/Andrew][1] has a BA in economics with a specialization in business valuation and has worked in different capacities in finance. For quite some years now [she/he][1] is active as a professional business valuator. [Laura/Andrew][1] Matthews works for [a/an] [small, local valuation/international Big Four][2] firm.

Valuation

[Laura/Andrew][1] Matthews performed the valuation and presents the report, explaining the applied valuation assumptions and corresponding calculations in detail. A Discounted Cash Flow method (DCF, i.e. an intrinsic valuation) was used to calculate the present value of the future cash flows, applying an appropriate discount rate. The content of the valuation report includes the following main topics:

- About the DCF-method
- Historical performance
- Return on capital, Reinvestment rate and Growth rate
- Cash flow (from assets) projection
- Discount rate
- DCF-value of the assets (reflecting cash flow, growth, risk)

Unfortunately, it appears that the assets are valued at (rounded) GBP 18 million, around GBP 7 million less than the creditors deficit. Although a potential sale of GBP 18 million would imply a (mean) recovery rate of around 72%, senior unsecured and senior subordinated bond holders will lose a lot of money, contrary to earlier expectations.

The conclusion of the valuator is that based on the assumptions described in the report, the value of the assets at valuation date is GBP 18,25 million. Based on this outcome, a sale of the assets will very likely result in a deficit of the estate. Moreover, in the negotiations with the potential buyer it will now become more difficult to achieve sales proceeds close to GBP 25 million as they will probably do their math as well.

1 NB either Laura or Andrew, resp. his or her, resp. twenties or thirties or forties or fifties or sixties, depending on the experimental condition.

2 NB either a small, local valuation firm, or an international Big Four firm, depending on the experimental condition.

Appendix 4.3

Positive and Negative Outcome Scenarios

Positive deal:

You moved forward with the PE-firm and started the negotiations based on the GBP 18 million valuation. The buyer probably made his own calculations as they were reluctant to accept the value of GBP 18 million. The Company's creditors and other stakeholders were surprised by how long the deal took to close, knowing that private equity normally is keen to jump on a good opportunity. During the negotiation process, you were approached by a few other interested parties who ended their interest after hearing the negotiation price was GBP 18 million. Nonetheless, in the end the deal was closed for GBP 18 million. The Company's creditors and other stakeholders felt that the deal was a good one and that a higher price for the assets was unattainable. They reported feeling satisfied, believing that a deal to cover the whole deficit of the estate was not feasible.

Negative deal:

You moved forward with the PE-firm and started the negotiations based on the GBP 18 million valuation. The buyer probably made his own calculations as they accepted the value of GBP 18 million instantly. The Company's creditors and other stakeholders were surprised by how fast the deal was closed, knowing that private equity normally takes the time to negotiate. Additionally, after closing this deal, you were approached by a few other interested parties who indicated a value of GBP 25 million and above. Based on these factors, the Company's creditors and other stakeholders felt that the deal was not a good one and that a higher price for the assets was attainable. They reported feeling frustrated, believing that a good enough deal to cover the whole deficit of the estate was feasible.

Appendix 5.1

Overview of the participants' nationalities in Study 1

	N	%	Cumulative %		N	%	Cumulative %
United Kingdom	253	34.8	34.8	Scotland	7	1.0	93.5
Germany	68	9.4	44.2	Hungary	6	.8	94.4
Romania	65	8.9	53.1	Netherlands	5	.7	95.7
Ireland	39	5.4	58.5	Estonia	5	.7	95.7
Italy	36	5.0	63.4	Luxembourg	4	.6	96.3
Poland	28	3.9	67.3	Unknown	3	.4	96.7
France	24	3.3	70.6	Czech Republic	3	.4	97.1
Spain	21	2.9	73.5	Kosovo	3	.4	97.5
Switzerland	17	2.3	75.8	Latvia	3	.4	97.9
Portugal	16	2.3	78.0	Bulgaria	2	.3	98.2
Greece	14	1.9	79.9	Croatia	2	.3	98.5
Sweden	13	1.8	81.7	Iceland	2	.3	98.8
Belgium	12	1.7	83.4	Serbia	2	.3	99.0
Non-Europe	12	1.7	85.0	Turkey	2	.3	99.3
Denmark	11	1.5	86.5	Albania	1	.1	99.4
Finland	11	1.5	88.0	Cyprus	1	.1	99.6
Slovakia	11	1.5	89.5	Liechtenstein	1	.1	99.7
Austria	8	1.1	90.6	Norway	1	.1	99.9
Lithuania	7	1.0	91.6	Slovenia	1	.1	100
Russia	7	1.0	93.6	**TOTAL**	727	100	100

Appendix 5.2

The business case of Study 1

The publicly listed company 'Automotive Parts Group' (APG) was experiencing financial difficulties for quite some time. For eight years straight they were loss-making and in 2014 they were facing a projected € 100 million loss on a total turnover of approximately € 1,2 billion. The cash reserves were also in a critical state that year and in the absence of any intervention, bankruptcy was inevitable. Originally, APG was a small manufacturer of car-parts supplying German carmakers. Despite starting off small, at the time of the crisis APG was a huge company with 97 different product groups and a global presence.

To turn the company around, a Dutch captain of industry named Cees van Gelder was asked to replace the CEO at APG. Before his position at APG, Cees was the CEO of a Paris-based corporation of luxury fashion brands, with a yearly turnover of around € 800 million and sound profits. Cees' professional background and specialism is marketing and sales management. The appointment of Cees van Gelder as the turnaround CEO of APG was received with skepticism by 'industry watchers'. Despite being esteemed by his peers and recognised as a compelling leader, it was said he did not have the right background for APG.

After three months as head of the company, Cees presented his turnaround plan that consisted of three major pillars. First, a rigorous internal culture shift was deemed necessary; from secrecy to transparency and honest communication. Cees wanted to create a culture in which senior management focused primarily on the needs of the customers again, and in which mediocrity was no longer accepted. In addition, Cees wanted his senior management team to tell him honestly when things were not going well so they could all help each other out.

Second, Cees van Gelder put together a rigorous cost-cutting program. Several factories were shut down and 30% of staff was laid off, which combined resulted in a cost reduction of € 50 million.

Finally, Cees decided to ask for additional loans of € 50 million, putting a mortgage on all of APG's assets. This was considered a risky strategy as failing to turnaround the company would mean losing the company to the lenders. A group of major shareholders objected to this move as they too thought this to be a very risky strategy, but Cees followed through anyway, telling the shareholders that the additional loans were necessary to prevent imminent bankruptcy.

Paragraph containing the outcome of the case, only presented in the outcome condition:

Unfortunately, APG's shareholders turned out to be right. The company's high running costs and additional loans of € 50 million put the business over the edge into bankruptcy. Not only were APG's employees left without a job, several of APG's suppliers

were also put out of business as APG was their most important customer. Furthermore, many small shareholders saw all their assets evaporate.

Appendix 5.3

Analyses of exploratory questions of Study 1

For exploratory reasons, we conducted analyses to see if there is a difference between the No-outcome condition and the Negative-outcome condition for the variables measuring whether participants believe outcome information *should* affect their legal judgments and whether they believe it *would* (in the No-outcome condition) or *did* (in the Negative-outcome condition) affect their judgments. Interestingly, whereas 43.6% in the No-outcome condition believed they should not be affected by outcome information but that they probably still would be affected (likely the most realistic position to take), this percentage dropped in the Negative-outcome condition, in which only 14.9% believed they were affected by the outcome information when they thought they should not be. Hence, it appears as though in hindsight, people are more confident in their abilities to not be affected by outcome information, compared to when these people predict their behavior in foresight. Indeed, whereas 39.3% indicated in foresight to expect not to be affected by outcome information when they also believed they should not be, in hindsight this percentage increased to 69.3%. The complete set of descriptive statistics can be found in the table below.

		No-outcome condition			Negative-outcome condition		
		Would you be affected?			Were you affected?		
		Yes	No	Total	Yes	No	Total
Should	Yes	45 (14.8%)	7 (2.3%)	52 (17.0%)	69 (21.9%)	28 (8.9%)	97 (30.8%)
you be	No	133 (43.6%)	120 (39.3%)	253 (83.0%)	47 (14.9%)	171 (69.3%)	218 (69.2%)
affected?	Total	178 (58.4%)	127 (41.6%)	305 (100%)	116 (36.8%)	199 (63.2%)	315 (100%)

Appendix 5.4

Overview of the participants' nationalities in Study 2

	N	%	Cumulative %		N	%	Cumulative %
Australia	204	20.4	20.4	Trinidad and To.	3	.3	96.2
United Kingdom	145	14.5	34.8	Italy	3	.3	96.5
Canada	109	10.9	45.7	Poland	3	.3	96.8
South Africa	101	10.1	55.8	Bermuda	2	.2	97.0
USA	71	7.1	62.9	Filipins	2	.2	97.2
New Zealand	61	6.1	69	Guatemala	2	.2	97.4
Brazil	57	5.7	74.7	Switzerland	2	.2	97.6
Finland	39	3.9	78.5	Sweden	2	.2	97.8
Malaysia	26	2.6	81.1	Thailand	2	.2	98.0
India	25	2.5	83.6	Uganda	2	.2	98.2
China	16	1.6	85.2	Czech Republic	2	.2	98.4
Ghana	15	1.5	86.7	Albania	1	.1	98.5
Nigeria	14	1.4	88.1	Bahama's	1	.1	98.6
Japan	10	1.0	89.1	British Virgin Isl.	1	.1	98.7
Mexico	9	.9	90.0	Cayman Islands	1	.1	98.8
Mauritius	8	.8	90.8	Malta	1	.1	98.9
Singapore	7	.7	91.5	Nepal	1	.1	99.0
Colombia	6	.6	92.1	Sri Lanka	1	.1	99.1
France	5	5	92.6	Zimbabwe	1	.1	99.2
Russia	5	.5	93.1	Belgium	1	.1	99.3
Argentina	4	.4	93.5	Cyprus	1	.1	99.4
Germany	4	.4	93.9	Hungary	1	.1	99.5
Indonesia	4	.4	94.3	Kenya	1	.1	99.6
Uruguay	4	.4	94.7	Luxembourg	1	.1	99.7
Chile	3	.3	95.0	Spain	1	.1	99.8
Netherlands	3	.3	95.3	Taiwan	1	.1	99.9
Korea	3	.3	95.6	Missing	1	.1	100
Peru	3	.3	95.9	**TOTAL**	1002	100	100

Appendix 5.5

Business case of Study 2

The publicly listed company 'Automotive Parts Group' (APG) was experiencing financial difficulties for quite some time. For eight years straight they were loss-making and in 2014 they were facing a projected € 50 million loss on a total turnover of approximately € 600 million. The cash reserves were also in a critical state that year and in the absence of any intervention, bankruptcy was inevitable. Originally, APG was a small manufacturer of car-parts supplying German carmakers. Despite starting off small, at the time of the crisis APG was a huge company with 97 different product groups and a global presence.

To turn the company around, a Dutch captain of industry named Cees van Gelder was asked to replace the CEO at APG. Before his position at APG, Cees was the CEO of a Paris-based corporation of luxury fashion brands, with a yearly turnover of around € 800 million and sound profits. Cees' professional background and specialism is marketing and sales management. The appointment of Cees van Gelder as the turnaround CEO of APG was received with skepticism by 'industry watchers'. Despite being esteemed by his peers and recognised as a compelling leader, it was said he did not have the right background for APG.

After three months as head of the company, Cees presented his turnaround plan that consisted of three major pillars.

(1) A major internal culture shift was deemed necessary; from secrecy to transparency and honest communication. Cees wanted to create a culture in which senior management focused primarily on the needs of the customers again, and in which mediocrity was no longer accepted.

(2) Cees van Gelder closed several factories and 15% of staff was laid off. However, many major shareholders were disappointed by these measures as they were expecting a more rigorous cost-cutting program.

(3) Cees decided to take out additional loans of € 50 million, putting a mortgage on all of APG's assets. The additional loans were allocated to product and brand innovation. Cees wanted to produce the best products that were in highest demand and for the best price.

A group of major shareholders objected to this move as they thought this to be a very risky strategy, especially due to the lack of a rigorous cost-cutting program. Failing to turnaround the company would mean losing the company to the lenders. Cees was well aware of the risks involved, but followed through anyway, telling the shareholders that the additional loans were necessary to prevent imminent bankruptcy. In Cees' vision, focussing on innovating and investing was the only way to secure a financially stable future for APG.

Negative outcome:

Unfortunately, APG's shareholders turned out to be right. The company's high running costs and additional loans of € 50 million put the business over the edge into bankruptcy. The internal culture shift did not quite work out as hoped and has been perceived as naive. Not only were APG's employees left without a job, several of APG's suppliers were also put out of business as APG was their most important customer. Furthermore, many small shareholders went bust and saw all their assets evaporate. APG's former employees and shareholders blame Cees van Gelder for the company's bankruptcy.

Positive outcome:

In the end, Cees' turnaround plan worked like a charm. The additional credit of € 50 million allowed APG to develop market leading products that were very well received, resulting in a significant increase in revenue. Additionally, production processes were made more efficient which led to further cost reductions. Not only did APG avoid bankruptcy, they are currently reporting huge profits and experience massive growth across the business. APG's staff and shareholders have praised Cees van Gelder for his leadership and fellow CEOs have nominated Cees for a number of industry awards.

Neutral outcome (only presented when measuring likelihood of three scenarios):

Although a bankruptcy has been avoided for the foreseeable future, APG has by no means rid itself from its troubled past. The internal culture shift has been slow to result in any tangible positive effects and the newly developed products are not quite living up to the expectations. With running costs still high and revenue growth less than hoped, APG's long-term future is still very insecure. Even though the major shareholders appreciate Cees van Gelder's role in avoiding bankruptcy, they are still skeptical about the chosen path and worry about what is to come.

Appendix 5.6

Analyses of exploratory questions of Study 2

We again conducted analyses to see if there is a difference between the No outcome and Negative outcome condition on the variables measuring whether participants believe outcome information should affect their legal judgments and whether they believe it would/did. Again we find that people appear in hindsight more confident in their belief that they are not affected by outcome information than they are in foresight when predicting their behaviour. In foresight, 40.4% said they should not be affected by outcome information, but believed they would still be affected. In hindsight, in case of the negative outcome, only 19.9% believed they were affected by the outcome information while they also believed they should not have been. Likewise, in foresight 28.9% of the participants believed they should not and would not be affected by outcome information, whereas in hindsight in case of the negative outcome 45.3% believed they were not affected when they also should not have been. The complete set of descriptive statistics can be found in the table below.

		No-outcome condition			Negative-outcome condition		
		Would you be affected?			Were you affected?		
		Yes	No	Total	Yes	No	Total
Should	Yes	75 (27.1%)	10 (3.6%)	85 (30.7%)	71 (25.7%)	25 (9.1%)	96 (34.8%)
affected?	Total	187 (67.5%)	90 (32.5%)	277 (100%)	126 (45.7%)	150 (54.3%)	276 (100%)

Appendix 6.1

Case used in Study 1-2

Yonos is a private company based in the Netherlands that manufactures premium suitcases. Yonos started in the early 1990s as a small company serving the local market with its signature premium suitcase. Afterwards, Yonos became an internationally operating company with a wide collection of suitcases, as well as a number of related accessories. However, in 2014 Yonos was experiencing financial difficulties. It had been making a loss for several years and in 2014 it was heading for the worst financial year since the company was founded twenty years ago. The founder, CEO and majority shareholder of the company is Devin Savelberg. He received his education in the Netherlands and worked as an executive at several different companies before founding Yonos in 1994. Devin Savelberg is a well-known figure in international corporate circles.	
Bad moral character	**Good moral character**
However, within these circles he has a terrible reputation. He is known for using his influence to pro-actively block the development of animal shelters, as he believes the real estate can better be used for commercial purposes. The CEO tried to keep his anti-animal rights activism under the radar, but it became public when a local journalist noticed he used his private wealth to buy a piece of land, only to shut down the animal rescue shelter that was situated on the land.	Within these circles, he has an excellent reputation. He is mostly known for the founding of a non-profit organization that builds and develops animal shelters aimed at rescuing dogs who have been abused in illegal dogfights. These dogs require substantial medical care, as well as a lot of attention and devotion to help them recover. Apart from running the organization, Devin Savelberg also spends one day a week working at the shelters, helping with more hands-on tasks. The CEO tried to keep his admirable activities under the radar, but they became public when a local journalist noticed he donated a large chuck of his private wealth to his non-profit organization.

In a response to the crisis at Yonos, and as a final effort to save the company from bankruptcy, Devin formulated a plan to turn the company around. The most important aspect of the turnaround plan was the launch of a new and innovative line of luxury suitcases. Devin expected this new product line to sell very well, allowing Yonos to increase its revenue substantially and ultimately regain profitability. To reduce costs, unprofitable product lines were terminated and several production facilities were closed.

For the new product line, Yonos needed to place large orders with its suppliers. However, if the turnaround plan would fail and Yonos would ultimately go bankrupt, it would not be able to pay for the orders and thus damage Yonos' suppliers.

A director can be held liable for damages to third parties if at the time of incurring debts (for example when placing an order with suppliers), the director knew or could reasonably have known that there was no realistic prospect of paying these debts.

An internal e-mail exchange revealed that Devin's advisor informed him of the relevant laws and advised him to consider informing Yonos' suppliers of its dire financial state before placing the orders. Devin and his advisor could impossibly oversee how badly their suppliers might be damaged. Informing the suppliers would allow the suppliers to make an informed decision as to whether or not they would still deliver the goods despite Yonos' financial problems.

Importantly, however, disclosing the financial situation of Yonos to its suppliers meant risking being withheld delivery of the orders, as the suppliers might have worried they would not get paid. If the suppliers would not deliver, Yonos would definitely go bankrupt. If the suppliers would deliver, Devin would at least have a chance at saving his company from bankruptcy.

Bad moral character	**Good moral character**
The same e-mail exchange revealed that Devin responded to his advisor with "I don't care at all about our suppliers, all I care about is making my own company profitable again. Besides, I have some significant gambling debts and need the dividends to settle those." When pressed by his advisor on the chances of survival, Devin said: **Study 1:** I believe the chance we will fail and won't be able to pay for the orders is small. **Study 2:** I believe the chance we will fail and won't be able to pay for the orders is very big. He concluded with: "Go ahead and place the orders, and don't disclose our financial difficulties".	The same e-mail exchange revealed that Devin responded to his advisor with "I care deeply about our suppliers. We have great relationships with all of them. However, I have to ensure our company becomes profitable again as I am committed to taking care of our employees." When pressed by his advisor on the chances of survival, Devin said: **Study 1:** Luckily, I believe the chance we will fail and won't be able to pay for the orders is small. **Study 2:** I'm afraid the chance we will fail and won't be able to pay for the orders is unfortunately very big. He concluded with: "It hurts me to say it, but go ahead and place the orders, and don't disclose our financial difficulties".
The suppliers delivered the orders and production of the new product line started, and soon afterwards the product line was launched. However, in the end the new product line of luxury suitcases did not sell as well as anticipated, pushing Yonos into bankruptcy. As a result, Yonos was unable to pay for the last orders they placed with its suppliers.	
Moderately bad outcome	**Severely bad outcome**
Luckily, the adverse effects for Yonos' suppliers were limited. All suppliers were financially healthy and could handle the slight reduction in their cashflows. After the small dip, all suppliers remained profitable and managed to continue growing. Nonetheless, several suppliers decided to collectively sue Devin for damages.	Unfortunately, the adverse effects for Yonos' suppliers were severe. A few of the suppliers were in financial distress themselves and could not handle the decline in their cashflow. These suppliers had to file for bankruptcy and their employees are now left without a job. As a result, many of these employees went personally bankrupt and some lost their entire retirement savings. Several suppliers decided to collectively sue Devin for damages.

Appendix 6.2

Case and moral Character manipulations used in Study 3

Yonos is a private company based in the Netherlands that manufactures premium suitcases. Yonos started in the early 1990s as a small company serving the local market with its signature premium suitcase. Afterwards, Yonos became an internationally operating company with a wide collection of suitcases, as well as a number of related accessories. However, in 2014 Yonos was experiencing financial difficulties. It had been making a loss for several years and in 2014 it was heading for the worst financial year since the company was founded twenty years ago. The founder, CEO and majority shareholder of the company is Devin Savelberg. He received his education in the Netherlands and worked as an executive at several different companies before founding Yonos in 1994.	
Bad moral character version 1	**Good moral character version 1**
Within his own social circles he has a terrible reputation. Devin is known for using his influence to pro-actively block the development of animal shelters, as he believes the real estate can better be used for commercial purposes. The CEO tried to keep his anti-animal rights activism under the radar, but it became public when a local journalist noticed he used his private wealth to buy a piece of land, only to shut down the animal rescue shelter that was situated on the land.	Within his own social circles he has an excellent reputation. Devin is mostly known for the founding of a non-profit organization that builds and develops animal shelters aimed at rescuing dogs who have been abused in illegal dog-fights. The CEO tried to keep his admirable activities under the radar, but they became public when a local journalist noticed he donated a large part of his private wealth to his non-profit organization.

Bad moral character version 2	**Good moral character version 2**
Within his own social circles he has a terrible reputation. Devin is known for being untrustworthy and disloyal. He has had several marriages and all of his ex-wives left him after he had cheated on each of them on a regular basis. Moreover, he has several children with different wives but hardly pays any attention to them.	Within his own social circles he has an excellent reputation. Devin is known for being a very trustworthy and loyal person. He married his high school sweetheart and they are still in a happy marriage and have four children. Despite his demanding job, Devin is adamant when it comes to spending time with his children. He frequently takes his wife and children on weekend camping trips.
Bad moral character version 3	**Good moral character version 3**
Within his own social circles he has a terrible reputation. Devin is known for his polluting behavior and general disregard for environmental concerns. He explicitly stated that he considers it more important that he himself is comfortable and has an easy time rather than making even a slight effort to not actively harm the environment.	Within his own social circles he has an excellent reputation. Devin is known for his environmentally friendly behavior and general concern for the planet's well-being. He explicitly stated that he considers it more important to make an effort to actively protect the environment rather than being comfortable and having an easy time.

In a response to the crisis at Yonos, and as a final effort to save the company from bankruptcy, Devin formulated a plan to turn the company around. The most important aspect of the turnaround plan was the launch of a new and innovative line of luxury suitcases. Devin expected this new product line to sell very well, allowing Yonos to increase its revenue substantially and ultimately regain profitability. To reduce costs, unprofitable product lines were terminated and several production facilities were closed.

For the new product line, Yonos needed to place large orders with its suppliers. However, if the turnaround plan would fail and Yonos would ultimately go bankrupt, it would not be able to pay for the orders and thus damage Yonos' suppliers.

A director can be held liable for damages to third parties if at the time of incurring debts (for example when placing an order with suppliers), the director knew or could reasonably have known that there was no realistic prospect of paying these debts.

An internal e-mail exchange revealed that Devin's advisor informed him of the relevant laws and advised him to consider informing Yonos' suppliers of its dire financial state before placing the orders. Devin and his advisor could impossibly oversee how badly their suppliers might be damaged. Informing the suppliers would allow the suppliers to make an informed decision as to whether or not they would still deliver the goods despite Yonos' financial problems.

Importantly, however, disclosing the financial situation of Yonos to its suppliers meant risking being withheld delivery of the orders, as the suppliers might have worried they would not get paid. If the suppliers would not deliver, Yonos would definitely go bankrupt. If the suppliers would deliver, Devin would at least have a chance at saving his company from bankruptcy.

Bad moral character	**Good moral character**
The same e-mail exchange revealed that Devin responded to his advisor with "I don't care at all about our suppliers, all I care about is making my own company profitable again. Besides, I have some significant gambling debts and need the dividends to settle those." When pressed by his advisor on the chances of survival, Devin said: I believe the chance we will fail and won't be able to pay for the orders is small. He concluded with: "Go ahead and place the orders, and don't disclose our financial difficulties".	The same e-mail exchange revealed that Devin responded to his advisor with "I care deeply about our suppliers. We have great relationships with all of them. However, I have to ensure our company becomes profitable again as I am committed to taking care of our employees." When pressed by his advisor on the chances of survival, Devin said: Luckily, I believe the chance we will fail and won't be able to pay for the orders is small. He concluded with: "It hurts me to say it, but go ahead and place the orders, and don't disclose our financial difficulties".
The suppliers delivered the orders and production of the new product line started, and soon afterwards the product line was launched. However, in the end the new product line of luxury suitcases did not sell as well as anticipated, pushing Yonos into bankruptcy. As a result, Yonos was unable to pay for the last orders they placed with its suppliers.	
Moderately bad outcome	**Severely bad outcome**
Luckily, the adverse effects for Yonos' suppliers were limited. All suppliers were financially healthy and could handle the unpaid invoices without any issues. All suppliers remained profitable and continued growing. Nonetheless, several suppliers decided to collectively sue Devin for damages.	Unfortunately, the adverse effects for Yonos' suppliers were very severe. A few of the suppliers were in financial distress themselves and could not handle the decline in their cashflow. These suppliers had to file for bankruptcy and their employees are now left without a job. As a result, many of these employees went personally bankrupt and some lost their entire retirement savings. Many even stated that losing their job meant they could not take proper care of their children any more. Consequently, several suppliers decided to collectively sue Devin for damages.

Appendix 6.3

Case and moral character manipulations used in Study 4-5

Yonos is a private company based in the Netherlands that manufactures premium suitcases. Yonos started in the early 1990s as a small company serving the local market with its signature premium suitcase. Afterwards, Yonos became an internationally operating company with a wide collection of suitcases, as well as a number of related accessories. However, in 2014 Yonos was experiencing financial difficulties. It had been making a loss for several years and in 2014 it was heading for the worst financial year since the company was founded twenty years ago. The founder, CEO and majority shareholder of the company is Devin Savelberg. He received his education in the Netherlands and worked as an executive at several different companies before founding Yonos in 1994.	
Bad moral character version 1	**Good moral character version 1**
Within his own social circles he has a terrible reputation. Devin is known for using his influence to pro-actively block the development of animal shelters, as he believes the real estate can better be used for commercial purposes. The CEO tried to keep his anti-animal rights activism under the radar, but it became public when a local journalist noticed he used his private wealth to buy a piece of land, only to shut down the animal rescue shelter that was situated on the land.	Within his own social circles he has an excellent reputation. Devin is mostly known for the founding of a non-profit organization that builds and develops animal shelters aimed at rescuing dogs who have been abused in illegal dog-fights. The CEO tried to keep his admirable activities under the radar, but they became public when a local journalist noticed he donated a large part of his private wealth to his non-profit organization.

Bad moral character version 2	**Good moral character version 2**
Within his own social circles he has a terrible reputation. Devin is known for being untrustworthy and disloyal. He has had several marriages and all of his ex-wives left him after he had cheated on each of them on a regular basis. Moreover, he has several children with different wives but hardly pays any attention to them.	Within his own social circles he has an excellent reputation. Devin is known for being a very trustworthy and loyal person. He married his high school sweetheart and they are still in a happy marriage and have four children. Despite his demanding job, Devin is adamant when it comes to spending time with his children. He frequently takes his wife and children on weekend camping trips.
Bad moral character version 3	**Good moral character version 3**
Within his own social circles he has a terrible reputation. Devin is known for his polluting behavior and general disregard for environmental concerns. He explicitly stated that he considers it more important that he himself is comfortable and has an easy time rather than making even a slight effort to not actively harm the environment.	Within his own social circles he has an excellent reputation. Devin is known for his environmentally friendly behavior and general concern for the planet's well-being. He explicitly stated that he considers it more important to make an effort to actively protect the environment rather than being comfortable and having an easy time.

In a response to the crisis at Yonos, and as a final effort to save the company from bankruptcy, Devin formulated a plan to turn the company around. The most important aspect of the turnaround plan was the launch of a new and innovative line of luxury suitcases. Devin expected this new product line to sell very well, allowing Yonos to increase its revenue substantially and ultimately regain profitability. To reduce costs, unprofitable product lines were terminated and several production facilities were closed.

For the new product line, Yonos needed to place large orders with its suppliers. However, if the turnaround plan would fail and Yonos would ultimately go bankrupt, it would not be able to pay for the orders and thus damage Yonos' suppliers.

A director can be held liable for damages to third parties if at the time of incurring debts (for example when placing an order with suppliers), the director knew or could reasonably have known that there was no realistic prospect of paying these debts.

An internal e-mail exchange revealed that Devin's advisor informed him of the relevant laws and advised him to consider informing Yonos' suppliers of its dire financial state before placing the orders. Devin and his advisor could impossibly oversee how badly their suppliers might be damaged. Informing the suppliers would allow the suppliers to make an informed decision as to whether or not they would still deliver the goods despite Yonos' financial problems.

Importantly, however, disclosing the financial situation of Yonos to its suppliers meant risking being withheld delivery of the orders, as the suppliers might have worried they would not get paid. If the suppliers would not deliver, Yonos would definitely go bankrupt. If the suppliers would deliver, Devin would at least have a chance at saving his company from bankruptcy.

When pressed by his advisor on the chances of survival, Devin said: 'Our CFO and external consultants have conducted careful analyses of our financial situation and also thoroughly analyzed the turnaround plan. We are confident that there is a good chance we can save Yonos from bankruptcy. We believe that we have done everything we can to weigh all factors and consider it necessary to move forward with the turnaround plan. Disclosing our financial problems to our suppliers poses too great a risk. There is of course a possibility that our turnaround plan will fail and that we cannot pay our suppliers due to bankruptcy, but we consider the chance this will happen to be small.'

Bad moral character	**Good moral character**
The same e-mail exchange revealed that Devin concluded with 'Anyway, I don't care at all about our suppliers, all I care about is making my own company profitable again. Go ahead and place the orders, and don't disclose our financial difficulties'.	The same e-mail exchange revealed that Devin concluded with 'I care deeply about our suppliers. We have great relationships with all of them. However, I have to ensure our company becomes profitable again. It hurts me to say it, but go ahead and place the orders, and don't disclose our financial difficulties'.
The suppliers delivered the orders and production of the new product line started, and soon afterwards the product line was launched. However, in the end the new product line of luxury suitcases did not sell as well as anticipated, pushing Yonos into bankruptcy. As a result, Yonos was unable to pay for the last orders they placed with its suppliers.	
Moderately bad outcome	**Severely bad outcome**
Luckily, the adverse effects for Yonos' suppliers were limited. All suppliers were financially healthy and could handle the unpaid invoices without any issues. All suppliers remained profitable and continued growing. Nonetheless, several suppliers decided to collectively sue Devin for damages.	Unfortunately, the adverse effects for Yonos' suppliers were very severe. A few of the suppliers were in financial distress themselves and could not handle the decline in their cashflow. These suppliers had to file for bankruptcy and their employees are now left without a job. As a result, many of these employees went personally bankrupt and some lost their entire retirement savings. Many even stated that losing their job meant they could not take proper care of their children any more. Consequently, several suppliers decided to collectively sue Devin for damages.

Appendix 6.4

Overview of the participants' nationalities in Study 1

	N	%	Cumulative %		N	%	Cumulative %
United Kingdom	118	29.4	29.4	Cyprus	2	0.5	92.5
Australia	56	14.0	43.4	Ghana	2	0.5	93.0
Canada	31	7.7	51.1	Mauritius	2	0.5	93.5
South Africa	26	6.5	57.6	Nigeria	2	0.5	94.0
United States	19	4.7	62.3	Singapore	2	0.5	94.5
New Zealand	19	4.7	67.1	Spain	2	0.5	95.0
Germany	10	2.5	69.6	Albania	1	0.2	95.3
Ireland	10	2.5	72.1	Bermuda	1	0.2	95.5
Brazil	9	2.2	74.3	Croatia	1	0.2	95.8
Finland	7	1.7	76.1	Czech Republic	1	0.2	96.0
Malaysia	7	1.7	77.8	The Netherlands	1	0.2	96.3
Unknown	6	1.5	79.3	Estonia	1	0.2	96.5
India	5	1.2	80.5	Guatamala	1	0.2	96.8
Switzerland	5	1.2	81.8	Hong Kong	1	0.2	97.0
Denmark	4	1.0	82.8	Iceland	1	0.2	97.3
Romania	4	1.0	83.8	Japan	1	0.2	97.5
Sweden	4	1.0	84.8	Korea	1	0.2	97.8
France	3	0.7	85.5	Latvia	1	0.2	98.0
Greece	3	0.7	86.3	Lithuania	1	0.2	98.3
Hungary	3	0.7	87.0	Mexico	1	0.2	98.5
Italy	3	0.7	87.8	Rwanda	1	0.2	98.8
Poland	3	0.7	88.5	Serbia	1	0.2	99.0
Portugal	3	0.7	89.3	Slovakia	1	0.2	99.3
Russia	3	0.7	90.0	Slovenia	1	0.2	99.5
Austria	2	0.5	90.5	Sri Lanka	1	0.2	99.8
Belgium	2	0.5	91.0	Turkey	1	0.2	100
China	2	0.5	91.5	**Total**	401	100	
Colombia	2	0.5	92.0				

Acknowledgements

As will have become evident from the preface of this dissertation, I believe I do not deserve any real praise for completing my PhD. Rather, I have many people to thank who played an important part in the process.

First, I would like to thank Jan Adriaanse and Jean-Pierre van der Rest for hiring me in the first place. I can imagine it was a risky move at the time to hire a psychologist who stepped away from academia several years back. I would like to thank Jan specifically for all the enthusiasm and encouragement, as these have had a very positive and motivating effect.

I also owe a great deal of gratitude to Marc Broekema. Thank you for all the opportunities you provided me with and for taking a leap of faith by taking on a psychologist in a corporate finance firm.

Helen Pluut, I can imagine it must have been difficult at times to have to supervise a PhD student who really does not want to be supervised. However, I definitely needed the occasional reality check, so thanks a lot for putting up with me and for having become a confidant much more than a supervisor.

Kees van den Bos, thank you very much for wholeheartedly and selflessly guiding and advising me throughout my PhD trajectory. Feeling a bit lost among all the lawyers, I benefited a lot from your experience and support.

Joshua Knobe, based on limited information you invited me to Yale and introduced me to great research and an invaluable network of people I am now happily collaborating with. Thank you so much for all your kind gestures. They are much appreciated.

Reinout, it was actually your inaugural lecture and our discussions prior to that on hindsight bias that inspired me to pursue this line of research. Needless to say, those events had an important and beneficial impact on my PhD trajectory, so thank you for that.

I have been very lucky with my supportive department and great colleagues. Maral, Peter, Tim, Ellen, Lisette, Niels, Dick, Jessie, Gert-Jan, Morshed, thanks for making the past years so enjoyable.

In addition to my colleagues, I also need to thank my friends. Two I would like to highlight. Myrthel, I am still convinced that if it wasn't for you, I would not have even graduated from our Master's programme. I greatly value the support we provide each other and look forward to visiting you and your new life in London soon. Shanna, in onze Grutto-tijd hadden we toch nooit gedacht dat ik ooit een proefschrift zou schrijven, laat staan over dit onderwerp. Vele belangrijke momenten hebben we al gedeeld en het doet mij veel

plezier dat ik ook mijn promotie met jou zal delen. Heel veel dank voor je vriendschap en alle steun door de jaren heen.

In addition to my friends, my support system consists for an important part of my family. It is evident that without the support of my mother and father I would never have made it here. Who knows how life would have turned out without you preventing me from having to drop a level in high school due to bad behaviour, and without you forcing me to recommence studying while I just wanted to be on the streets with my skateboard, just to mention two pivotal events out of many. Thanks for everything!

Finally, I owe by far the most to you, Natalie. Thank you for your patience, understanding, love, and care. Je suis désolé pour tout le mal que je t'ai fait. Tu me manques et je t'aime pour toujours.

Curriculum Vitae

Niek Strohmaier, born on June 3rd 1987 in Harderwijk, completed his Bachelor of Science in 2011 and Master of Science (cum laude) in 2013 at Utrecht University, both in Psychology, while at the same time engaging in numerous extracurriculars, such as the Young Leaders League, the Louis Bonaparte Society, and the Dutch National Student Union. After graduating, Niek studied macroeconomics and corporate strategy in London at the London School of Economics and Political Sciences (LSE). He then moved to the United Kingdom to work in the headhunt industry for two years. In 2016, he returned to academia and joined the Department of Business Studies at the Leiden Law School of Leiden University to start his PhD research on the psychology of legal decision making in the context of business failure and insolvency, under the supervision of prof. Jan Adriaanse and dr. Helen Pluut. While at Leiden University, Niek joined BFI Global in Amsterdam to gain experience in corporate finance and dispute resolution. Moreover, to start his formal legal training, he entered the Advanced LL.M. program in Law & Finance at Leiden University. In March 2020, he will, conditional on obtaining his PhD, start his position as an Assistant Professor at Leiden Law School, while continuing his legal training as well as his consulting work at BFI.

In the range of books published by the Meijers Research Institute and Graduate School of Leiden Law School, Leiden University, the following titles were published in 2019 and 2020

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