



# How managerial accountability mitigates a halo effect in managers' ex-post bonus adjustments

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## ABSTRACT

To prevent unethical behaviour by employees, many companies include compliance aspects in their compensation schemes. For example, ex-post bonus adjustments allow managers to retract parts of bonuses previously paid to employees in reaction to fraudulent behaviour. We propose that the level of ex-post adjustment due to an employee's misconduct depends on the employee's ex-ante objective performance. We further propose that this effect is reduced when the managers must justify their final bonus decision, in which they can adjust a preliminary determined bonus. We conduct two experiments and find evidence confirming our hypotheses. The participants' subjective ex-post bonus reduction is lower (higher) when the employees' ex-ante objective performance is higher (lower). Additionally, our data show that increasing participants' accountability by asking participants to justify their final bonus decision reduces this effect. Further analyses show – in line with what the halo effect proposes – that participants' perception of employee morality mediates the effect of objective performance on the ex-post bonus reduction. This mediation is moderated by the presence of justification. Our findings expand prior research and can help firms implement remuneration schemes that foster compliant employee behaviour.

## 1. Introduction

Since the turn of the century, there have been several business scandals (e.g., Volkswagen), financial fraud offences (e.g., Bernard Madoff), and banking scandals (e.g., FX market manipulation). These have caused severe consequences for companies, business sectors, and societies at large (Iskandar-Datta and Jia, 2013). As a result, a public debate regarding compensation practice has emerged. Society and the media call for the modification of remuneration schemes because these compensation schemes have been criticized for contributing to such corporate scandals (Blinder, 2009). Companies should no longer base their incentives on financial performance only and should also consider compliant behaviour.

Consequently, many companies have added corporate sustainability and compliance aspects to their compensation schemes. For example,

Daimler AG currently allows its managers to reduce employee bonuses ex-post as a reaction to compliance offences.<sup>1</sup> Based on subjective assessments, the managers can decide whether and how much to adjust the preliminarily determined bonus, which was originally based on financial, objective targets (Daimler, 2019). These ex-post bonus adjustments allow managers to react to unforeseen events, such as dishonest behaviour, fraud, excessive risk-taking, or other compliance offences. In this study, we focus on such 'new' remuneration schemes.

We build on and develop prior research which found that when managers evaluate employee performance, the evaluation of subjective measures is biased by performance on unrelated objective measures (Bol and Smith, 2011; Fehrenbacher et al., 2018). In a similar vein, we propose that the level of an ex-post bonus adjustment due to an employee's compliance misconduct depends on the employee's ex-ante objective performance. We add to the research stream by examining the process

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<sup>1</sup> One reason for the recent increase in such remuneration schemes (e.g., clawback compensation schemes and ex-post bonus adjustments) is a new directive in the European Union. In 2017, the European Parliament updated the Shareholder Rights Directive and suggested that companies should specify the possibility for a company to reclaim variable remuneration (European Union, 2017).

that leads to this behavioural pattern. We propose that managers form a positive (negative) impression of their employees based on the employee's good (bad) objective performance. This positive (negative) impression spills over to the managers' perception of employees' morality; that is, employees who perform well (poorly) objectively are perceived as more (less) moral, ultimately leading to a lower (higher) ex-post bonus reduction. We base this prediction on the halo effect, which suggests that positive assessments of a person carry over from one dimension or character trait to another unrelated dimension (Nisbett and Wilson, 1977; O'Donnell and Schultz, 2005).

Finally, we provide insights into how this effect can be remedied. We propose that the halo effect is smaller – the mediating effect of perceived morality is reduced – when managers must justify their final bonus decision. This hypothesis is motivated by extant research which suggests that decision-making can be improved by a more effortful, slow decision-making mode (Kahneman and Frederick, 2002; Fehrenbacher et al., 2018), and the need to justify one's decision can trigger this type of effortful judgement process (Kennedy, 1995; Tetlock and Lerner, 1999; Libby et al., 2004).

We conducted an experiment using a  $2 \times 2$  between-subjects design in which the participants assume the role of a manager who is asked to perform a bonus allocation decision for an employee. The bonus allocation involves a two-step evaluation process. First, the participants are asked to determine a preliminary bonus based on objective performance measures. Second, through a case describing that the employee engaged in nepotism, the participants are informed that the employee violated the company's corporate governance guidelines. Then, the participants give a final bonus judgement, in which they can adjust the previously determined bonus by reducing it by up to 50 %. The magnitude of the bonus adjustment is our dependent variable.

We manipulate two factors between subjects. One manipulation is the level of the objective employee performance (either high or low). We manipulate the objective performance by providing the participants with a table consisting of different information regarding three contractible objective performance measures. We also provide the participants with information on the degree to which the employee met the target values of each measure. The performance is depicted as either high (overperforming the targets by 20 %) or clearly low (underperforming the targets by 50 %). The second manipulation is the justification component following the final bonus decision. In one condition, the participants are asked to provide a short explanation for their final bonus decision; in the other condition, participants are not asked to provide any justification. In the post-experimental questionnaire, all participants were further asked questions concerning their perception of the employee's morality and competence and their demographic information.

Consistent with our predictions, we find that the participants' bonus reduction is lower (higher) when the employee's objective performance is higher (lower). Our analyses also suggest that increasing accountability serves as an effective measure to reduce the halo effect. When the participants are asked to justify their final bonus decision, the level of adjustment in the high objective performance condition is comparable to that in the low objective performance condition. We further find evidence regarding the process behind this relation by conducting a mediation analysis with partial least squares (PLS) path modelling (Ringle et al., 2014; Nitzl et al., 2016; Hair et al., 2017). The results show that employees' good objective performance increases participants' perception of employees' morality, which leads to lower ex-post bonus adjustments. This analysis provides evidence that the effect of employees' objective performance on the bonus adjustment is the result of a halo effect. The PLS analysis additionally shows that the mediation process of perceived morality is moderated by the presence of justification, as hypothesized. In the condition with justification, the mediating effect of perceived morality is significantly smaller than that in the condition without justification.

To test for the robustness of our results, we conducted an additional

online experiment (N = 270), in which we made adjustments to the original experiment: (i) participants were not asked to provide a preliminary bonus decision based on the employee's objective performance (this is done formulaically) but to solely provide a final bonus decision,<sup>2</sup> (ii) the preliminary bonus awarded to the employee was kept constant across conditions,<sup>3</sup> and (iii) we conducted the experiment with a sample of employees with extensive work experience.<sup>4</sup> The results of this additional experiment are by and large identical to those of the main experiment.<sup>5</sup> These findings show that the results are indeed driven by what our hypotheses suggest and increase both the reliability and external validity of our findings.

We contribute to prior accounting research, which found that the level of objective performance in one area affects the rating of the employee's subjective performance in unrelated areas (e.g., Bol and Smith, 2011; Fehrenbacher et al., 2018). First, we add to this research stream by providing evidence that this effect occurs in incentive constructs, allowing for *bonus reductions* based on *ethical misconduct*. This finding is also important for business practice because such incentive schemes become increasingly prevalent in reaction to various corporate scandals. Second, we add to this literature by providing evidence on the underlying processes that lead to these effects. The mediation model provides strong evidence for a halo effect to occur in ex-post bonus adjustments.<sup>6</sup> Importantly, our moderated mediation analyses provide new insights into how increasing process accountability reduces the halo effect. Although prior research suggests that accountability reduces the halo effect (e.g., Kennedy, 1995; Libby et al., 2004), our results depict the underlying process (via a moderated mediation) in ex-post bonus adjustments. This finding is also important for business practice because many firms use compensation schemes to confine non-compliant and unethical employee behaviour. Our results suggest that ex-post bonus adjustments in combination with managerial accountability can serve such a purpose.

Our results also add to recent research on how calibration committees, which are typically comprised of second-level managers, adjust previously determined bonus levels. These committees are implemented to reduce the subjective biases of supervising managers, although with rather mixed success (Deméré et al., 2019). We show that even the same manager recalibrates his or her preliminary bonus decision based on new information on the employee when held accountable for the calibration decision.

Finally, we contribute to the literature on compliance and corporate social responsibility (CSR) elements in incentive schemes. Previous research has focused on how CSR elements affect managerial behaviour (e.g., Fabrizi et al., 2014; Kolk and Perego, 2014) or how CSR elements attract and motivate employees (e.g., Greening and Turban, 2000; Huber and Hirsch, 2017). Research concerning the compliance aspects of remuneration schemes is scarce. In particular, research investigating the effectiveness of subjective ex-post bonus adjustments, which are perceived as an opportunity to confine employees' behaviour, is lacking, though firms are using them in practice. Our results suggest that these remuneration schemes can – in combination with managerial

<sup>2</sup> This allows us to calculate the dependent variable bonus adjustment independent from the preliminary bonus decision.

<sup>3</sup> In the low objective performance condition, we explained that the employee received €10,000, although he could have received €20,000 if he reached the targets. In the high objective bonus condition, we explained that the employee received the maximum bonus of €10,000 because he overperformed on all performance measures.

<sup>4</sup> These participants have an average work experience of 22.2 years (sd = 11.9), and 28.1 % have management responsibilities in their current position.

<sup>5</sup> The sole difference in the results of the additional experiment compared to the original experiment is that we find a full (moderated) mediation rather than a partial mediation as in the main experiment.

<sup>6</sup> This rules out competing theories, such as a simple anchoring effect, as the underlying process.

accountability – serve as a measure to address compliance concerns in practice. This is important, as aligning the behaviour of employees with corporate compliance guidelines and initiatives is decisive for the long-term success of companies. Misalignments in such settings can manifest in hazardous employee behaviour, as observed during the financial crisis (e.g., [Blinder, 2009](#)).

## 2. Background and hypotheses

### 2.1. Compliance and incentive schemes

Recently, firms have increasingly introduced remuneration schemes to also consider compliant employee behaviour. Compliance can be understood as conforming to a rule, law, standard or ethical norm, including legal regulations and a company's internal guidelines or corporate governance rules. Minimizing risk, enhancing efficiency, increasing effectiveness, and protecting the company, its organs and employees are the primary goals of compliance. Compliance is typically discussed within the broader CSR framework ([Schöttl and Ranisch, 2016](#)).<sup>7</sup>

Although there is a developed research stream on employee remuneration and performance evaluation ([Moers, 2005](#)), the consideration of compliance issues in incentive schemes has not attracted much attention to date. This is surprising, given that in the aftermath of the most recent financial crisis, politicians and practitioners called for new modes of incentive schemes that consider compliance aspects.<sup>8</sup> In particular, research concerning the behavioural aspects of the consideration of employee misconduct is lacking.<sup>9</sup> We aim to narrow this gap by examining the role of ex-post bonus adjustments in subjective performance evaluations as a means to confine unethical employee behaviour. Therefore, we transfer these 'new' remuneration schemes, such as those of Daimler, to an experimental setting.

### 2.2. Subjectivity in incentive schemes

Our case describes an incentive scheme in which the manager can use subjective adjustments to consider the compliance misconduct of employees. These ex-post adjustments are an example of how subjectivity can occur in incentive schemes. [Bol \(2008\)](#) argues that "subjectivity entails judgement based on personal impressions, feelings, and opinions, rather than on external facts" (p. 2). Subjectivity can assume three forms as a part of incentive schemes. It can first be included by using subjective performance measures, second, by allowing the subjective weighting of objective performance measures, and third, by allowing ex-post subjective adjustments of objective measures or bonus amounts ([Gibbs et al., 2004](#); [Bol et al., 2015](#)). These ex-post subjective adjustments allow for the reversibility of bonus decisions, which is an

<sup>7</sup> The influence of CSR on executive compensation has been intensively investigated (e.g., [Cai et al., 2011](#); [Fabrizi et al., 2014](#)). Researchers have analysed the effects of incentive options based on environmental or social issues on managers' behaviour ([Kolk and Perego, 2014](#)) and their effects on the to-be-judged person ([Arora and Alam, 2005](#); [Fabrizi et al., 2014](#)).

<sup>8</sup> One example of this type of incentive scheme is the clawback provision. With a clawback provision, managers can be held liable for any negative outcome, such as financial restatement or losses, as a consequence of excessive managerial risk-taking ([Financial Stability Forum, 2009](#); [Hirsch et al., 2017](#)), which is similar to the ex-post subjective bonus adjustment idea. The accounting literature has mainly investigated the effects of clawback provisions on reporting quality ([Chan et al., 2012](#); [Dehaan et al., 2013](#); [Iskandar-Datta and Jia, 2013](#)).

<sup>9</sup> One exception is the study conducted by [Mahlendorf et al. \(2018\)](#), who examined the determinants of financial managers' willingness to engage in unethical pro-organizational behaviour. The authors find no relationship between unethical behaviour and managers' bonuses contingent on nonfinancial targets or subjective evaluations.

important criterion for the effectiveness of incentive schemes ([Merchant and Van der Stede, 2017](#)).

Research concerning the effectiveness of subjectivity in incentive schemes has provided mixed evidence. One research stream describes problems with subjectivity, such as reduced motivation among managers/employees, favouritism or manipulation (e.g., [MacLeod, 2003](#)). Other studies investigated the reasons for relying on subjective assessments in incentive contracts, for example, because objective measures do not completely capture true performance.<sup>10</sup> In our study, we focus on subjective bonus adjustments as a mechanism of subjectivity. Subjective adjustments are explained by [Höppe and Moers \(2011\)](#) as "the ex ante option to ex-post override a formula-based contract" (p. 2024). [Bol et al. \(2015\)](#) suggest that a subjective bonus adjustment "is used when an evaluator revises an objectively determined compensation amount after the contract period has ended" (p. 142). The manager can consider new information or uncontrollable events that could not have been known a priori. Thus, bonus adjustments can contribute to reducing compensation risks and enhancing incentive alignment and employee motivation ([Bol, 2008](#)).

Furthermore, such adjustments can contribute to the realignment of the final bonus with the realistic effort of the employee and his or her behaviour during the considered period ([Bol et al., 2015](#)). The accounting literature has investigated ex-post subjective bonus adjustments as a part of the design of compensation schemes or the conditions under which these adjustments occur ([Baiman and Rajan, 1995](#); [Ederhof, 2010](#); [Höppe and Moers, 2011](#)). [Höppe and Moers \(2011\)](#) found that subjective bonuses are used for risk-reduction purposes. [Woods \(2012\)](#) investigated the influence of prior subjective evaluations of employees on the use of subjective adjustments and found that managers are more likely to make upward adjustments to correct deficiencies in the objective measures. [Bol et al. \(2015\)](#) examined the influence of an uncontrollable negative future event on compensation decisions. The authors found that when such an event is more likely, there is a lower tendency to enlarge an initial bonus amount. However, in this research stream, studies analysing the link among objective performance, ex-post subjective bonus adjustments and possible performance evaluation biases are lacking.

### 2.3. The halo effect in subjective performance evaluations

Prior research finds that biases in managerial decision-making can be, amongst others, attributed to managerial discretion (e.g., [Lipe and Salterio, 2000](#); [Ittner et al., 2003](#)). [Bol and Smith \(2011, p. 1216\)](#) explained that because subjective performance evaluation is a judgement by individuals, several problems occur that "may limit the informativeness and incentive-strengthening role of subjective measures". [Moers \(2005\)](#) showed that the use of subjective measures leads to more compression and leniency in performance ratings. [Bol \(2011\)](#) found a higher tendency towards a leniency bias and a centrality bias associated with information-gathering costs and strong employee-manager relationships. [Kaplan et al. \(2018\)](#) found additional support for the negativity bias in performance evaluations by experimentally examining the effect of an evaluator's perspective on the relative performance evaluations.

[Bol and Smith \(2011\)](#) found that when evaluating subjective dimensions of employee performance, managers are influenced by the

<sup>10</sup> For example, [Bushman et al. \(1996\)](#) found that using subjective performance evaluations in CEO incentive contracts increases a company's growth opportunities. [Murphy and Oyer \(2001\)](#) found that when objective performance measures are less complete, a performance evaluation based on subjective factors becomes more likely. The results of the study conducted by [Gibbs et al. \(2004\)](#) indicate that subjective bonuses are included in compensation contracts to complement the perceived weaknesses of quantifiable performance measures.

level of objective employee performance. This finding has been successfully replicated (e.g., Yustina and Gudono, 2017; Fehrenbacher et al., 2018). This research shows that processing subsequent information is affected by an evaluative disposition. Individuals form an initial disposition and believe that subsequent information should cohere with that disposition, thereby biasing the interpretation of new information (Bond et al., 2007). We transfer this idea to a performance evaluation setting that allows for ex-post adjustment of the preliminary bonus decision. We also propose a specific halo process to be the root of this effect in such a setting and show novel ways to mitigate this effect.

We hypothesize that the level of objective employee performance affects the manager when the manager has the option to reduce the employee's bonus in response to a compliance offence. We propose that this effect occurs in the absence of managerial accountability. We expect managers to form an overall good impression about an employee who performs well objectively, which makes managers perceive the employee as also more moral.<sup>11</sup> The perception of others' moral values and the associated consequences for one's behaviour has a long tradition in psychological research. This research suggests that individuals are generally concerned about others' moral character because it determines whether they are likely to be harmful or helpful to the self (e.g., Wojciszke et al., 1998). This research has robustly shown that when forming impressions about others, individuals weigh perceived morality information as equally or even more important than the perception of others' competence or sociability (e.g., Leach et al., 2007; Goodwin et al., 2014). Perceived morality has a strong implication for the selection of friends, spouses, or group formation processes (e.g., Cottrell et al., 2007). Also, the willingness to cooperate with others depends on the extent to which the interaction partner is perceived as moral (Van Lange and Liebrand, 1989).

In accounting research, the perception of others' morality and its implications for accounting-related judgements has received less attention. One exception is the study by Gibson et al. (2020), which finds that investors infer a manager's commitment to honesty from whether a manager has engaged in earnings management in the past. The authors also show that this perceived morality impression affects investors' investment choices. We propose that perceived employee morality also affects managers' reactions to employee compliance violations, which provides novel insight into the role of morality perceptions in accounting. We generally expect managers to reduce the employee's bonus ex-post as a consequence of the employee's compliance violations. However, in line with what the halo effect proposes, we expect managers to perceive employees who perform well objectively as also more moral, which makes the manager ex-post adjust the employee's bonus less as a reaction to a compliance violation compared to an employee who does not perform well objectively.

The halo effect is a well-documented phenomenon defined as a "marked tendency to think of the person in general as rather good or rather inferior and to colour the judgement of the [person's specific performance attributes] by this general feeling" (Thorndike, 1920, p. 25). Balzer and Sulsky (1992, p. 975) describe this effect as "within-rather phenomenon that results from a rater's favourable or unfavourable impression of a rate". The halo effect predicts that individuals transfer impressions about an individual or object to an unrelated characteristic of that same individual or object (Thorndike, 1920; Dion et al., 1972; Fox et al., 1983). For example, individuals consider

attractive people to also be more socially competent (e.g., trustworthy and honest) than unattractive people (Dion et al., 1972). Importantly, there is also research showing that individuals rely on unrelated cues (e.g., attractiveness) when forming impressions about these individuals' moral character or integrity (e.g., Surawski and Ossoff, 2006).

We propose that the halo effect also applies to our setting, where managers form an impression of an employee's moral character based on the employee's objective performance. This adds to prior accounting literature on the halo effect. In an auditing context, Tan and Jamal (2001) found that memos written by outstanding seniors are evaluated more positively than memos written by average seniors. O'Donnell and Schultz (2005) investigated biases in business risk audit settings and found that strategic risk assessments have an influence on auditors' judgements. Recent research has also noted a halo effect in a CSR setting. Reichert and Sohn (2021) show that the pro-social behaviour of a company changes the perception of the trustworthiness of a manager who implements a control system, leading to fewer negative employees' reactions to control when the company engages in charitable giving compared to companies not engaged in charitable giving.

We propose that a halo effect also occurs in managers' ex-post bonus adjustments in the absence of managerial accountability. We expect managers to perceive employees who perform well objectively as also more moral, which makes the manager ex-post adjust the employee's bonus less as a reaction to a compliance violation compared to an employee who does not perform well objectively. Thus, we propose the following two hypotheses:

**H1.** A manager's bonus reduction is lower (higher) when an employee's objective performance is higher (lower) in the absence of managerial accountability.

**H2.** A manager's perception of an employee's morality mediates the relation between an employee's objective performance and a manager's bonus reduction in the absence of managerial accountability.

#### 2.4. Justification as a means to improve performance evaluation judgements

We propose that the halo effect reduces in the presence of managerial accountability. We further propose that the need to justify the final bonus puts the manager in a more effortful and self-critical decision-making mode. Research in psychology provides evidence suggesting that decision-making can be influenced by different decision modes as follows: a rather slow, analytic and conscious mode versus a fast, intuitive and unconscious mode (Kahneman and Frederick, 2002; Evans, 2008).

When individuals tend to respond quickly and use their own experiences and heuristics to make judgements, there is a higher risk that they will reach incorrect conclusions and do not consider all available context-specific information, ultimately leading to biased judgements. However, judgements can be improved by using a more effortful, slow decision-making mode (Tversky and Kahneman, 1974; Kahneman and Frederick, 2002). Such a deliberative mode can reduce or eliminate biases (Chapman and Johnson, 2002; Kahneman and Frederick, 2002). Specifically, the effects of simple heuristics (such as the halo effect) can be mitigated because individuals develop explicit conscious choices through more effortful cognitive processing (Luft and Shields, 2010). Building on that, recent management accounting studies have found that performance evaluation judgements are less biased when participants are in a more deliberate decision mode. More specifically, Fehrenbacher et al. (2018) show that objective dimensions of employee performance affect a manager's evaluation of the respective employee's subjective performance. Importantly, the authors also find that this effect is significantly reduced when managers are in a more deliberate decision mode.

We build on and extend this research by proposing that a halo effect in ex-post bonus adjustments can be reduced when the manager is asked

<sup>11</sup> We define morality in line with prior research as an individual's tendency to feel and behave in an ethical versus unethical manner (Cohen and Morse, 2014). Psychological research found that moral behaviour is to some degree determined by individual moral traits such as one's moral identity (Aquino and Reed, 2002) or honesty-humility (Ashton and Lee, 2009). These traits typically encompass dimensions like honesty, empathy for others or loyalty (amongst others). We poll the perception of the interaction partner's (the employee's) moral traits (see Section 3.2 for details).

to justify the final bonus decision. We expect that the need to justify the final bonus decision places the manager in a more effortful thinking mode that includes self-critical thought processes. We base our assumption on the social contingency model of accountability (Tetlock, 1983; Tetlock and Lerner, 1999, p. 573), which suggests that “accountability serves as a linkage construct by continually reminding people of the need to a) act in accord with prevailing norms, and b) advance compelling justifications or excuses for conduct that deviates from those norms”. Accountability can be defined as the “expectation that one may be called on to justify one’s beliefs, feelings, and action to others” (Lerner and Tetlock, 1999, p. 255). Accountability is used to regulate problematic behaviour, such as unethical decision-making. In business practice, companies use systems such as performance evaluation systems or codes of ethical conduct to “communicate behavioural and accountability expectations” (Kish-Gephart et al., 2010, p. 7).<sup>12</sup>

Prior accounting research has suggested that accountability serves as an effort-inducing incentive and fosters counterfactual thinking (Kennedy, 1995). Accountability can improve self-critical thoughts and reduce biased decision-making (Lerner and Tetlock, 2003; Pitesa and Thau, 2013). These self-critical thoughts include considering evidence that would not support an initial evaluation (Kennedy, 1995). Libby et al. (2004) show that requiring justification for their performance evaluation improves managers’ judgements. We propose that justification as a measure used to increase process accountability reduces a halo effect in ex-post bonus adjustments by increasing self-critical thought (Tetlock and Lerner, 1999; Kahneman and Frederick, 2002). We expect that the halo effect, that is, the mediating role of morality in the relationship between the objective performance and the bonus adjustment, is smaller when the manager needs to justify the final bonus decision. Given the process model outlined in H2, which proposes that morality mediates the relationship between objective performance and the bonus adjustment, justification should moderate this mediation process. Therefore, we propose the following:

**H3.** The need to justify the final bonus decision reduces the mediating role of an employee’s morality between the objective performance and a manager’s bonus reduction.

Our conceptual model in Fig. 1 summarizes the relationships among our main variables of interest, as hypothesized above.

### 3. Methods

#### 3.1. Experimental task

To test our hypotheses, we conducted an experiment in which the participants were asked to assume the role of a manager at a hypothetical company. The participants were asked to make a bonus allocation decision for one employee. The bonus allocation decision is a two-step evaluation process. First, the objective component of the bonus must be determined based on financial performance indicators. In the second step, the participant can reduce the preliminarily determined bonus after considering the unethical behaviour of the employee. We provided information regarding a compliance offence committed by the to-be-judged employee during the period considered. Based on this additional information, the participants were asked to make a final bonus decision in which they could reduce the preliminary bonus awarded to the employee.

Our experimental design was inspired by Bol and Smith (2011). We

altered the subjective evaluation component described by Bol and Smith (2011) to allow only a negative adjustment of the bonus. In the post-experimental questionnaire, we elicited process information and personality information from each participant. We conducted a 2 × 2 between-subjects experimental design. Our first manipulation focused on the objective performance of the employee (high versus low). The participants were presented a table containing information regarding three contractible objective performance criteria. These key performance indicators include sales volume, market share and earnings before interest and taxes (EBIT). Each criterion was displayed with a target value pre-defined at the beginning of the period considered and a corresponding actual value reported at the end of the period considered. The table also informed the participants of the degree to which the employee met the target values of each criterion (in %). The degree of achievement was manipulated as either high or low. In the high objective performance condition, the to-be-judged employee clearly over-achieved each target (20 % on average). In the low performance settings, the to-be-judged employee clearly missed the targets (50 % on average). Second, we manipulated the justification of the final bonus decision (absent versus present). In one condition, the participants were asked to explain why they did or did not reduce the bonus amount. They were told that the justification statement would be sent to the top management of the company for information and discussion purposes. In the Appendix, we present exemplary justification statements from the participants.

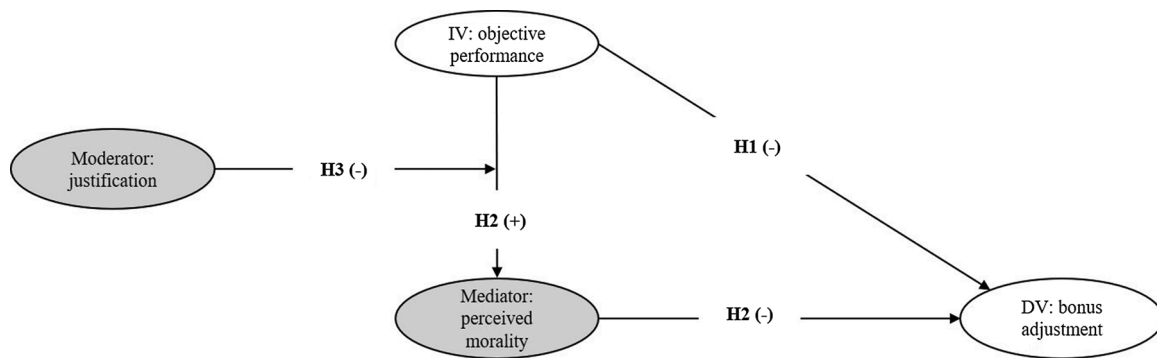
#### 3.2. Experimental procedures

In total, 83 MBA students and 80 M.Sc. students (business administration) participated in the study.<sup>13</sup> Consistent with the prior literature, we relied on students as proxies for managers (Arnold and Triki, 2018; Fehrenbacher et al., 2018). The students received course credit for participation. Three participants were excluded because their answers were incomplete. Thus, we conducted our analysis with 160 participants, of which 28 % were female. The participants were aged 28.1 years (sd = 4.9) on average and were randomly matched to one of the four cells. Each participant read the case description. We explained that they should assume the role of a manager at an owner-managed company that produces and sells clothing for professionals in the medical industry. We further explained the market situation (the company is the market leader in a very competitive industry) and the corporate strategy of the company. The main goals of the strategy were defined as 1) high efficiency, 2) high investment in innovation and marketing campaigns, 3) conscientious and individual care of customer relations and 4) responsible corporate governance and compliant behaviour by managers and employees. We provided the participants with detailed information regarding the incentive scheme. The bonus scheme was described as a two-step evaluation process. First, the participants were asked to determine a preliminary bonus based on objective performance measures.<sup>14</sup> In the second part, the participants were informed that the employee violated compliance rules and corporate governance guidelines because the employee engaged in nepotism (see the Appendix for details). Based on their knowledge of the compliance offence, the participants were asked to determine the final bonus. In response to the offence, the participants could reduce the previously established bonus

<sup>13</sup> We obtained approval for our study from the institution at which the experiment was conducted.

<sup>14</sup> We acknowledge that this is different from prior research (e.g., Bol and Smith, 2011; Fehrenbacher et al., 2018) that relied on a setting in which the level of objective performance is manipulated, and in which the manager only has discretion over the subjective component of the evaluation process. We believe that our setting speaks to many situations in practice. However, we also test, in an additional online experiment, a setting in which the preliminary decision is not made by the manager (see section 3.3.).

<sup>12</sup> The literature distinguishes between two main types of accountability: process accountability and outcome accountability. Process accountability suggests that individuals have to be accountable for how they decide and the results of their decisions. In contrast, outcome accountability suggests that the results of an individual’s decision are the criteria for the assessment of these decisions (Lerner and Tetlock, 1999; Pitesa and Thau, 2013).



**Fig. 1. Theoretical Model.**

Note: Dependent Variable: bonus adjustment. Independent Variable: objective performance (0 = low, 1 = high). Mediator: perceived morality. Moderator: justification (0 = absent, 1 = present).

amount by up to 50 %. This adjustment rule was explained to the participants before they set the preliminary bonus amount. Our dependent variable (bonus adjustment) is the difference between the preliminary bonus decision and the final bonus (relative to the preliminary bonus decision).<sup>15</sup> Hence, the dependent variable is calculated as follows:

$$\text{Bonus adjustment} = [1 - (\text{amount of final bonus decision in €} / \text{amount of preliminary bonus decision in €})] * 100 \%$$

In one condition, participants were told that they needed to justify their decision regarding the final bonus amount with a written statement. We explained that as part of a responsible and open leadership culture, all control-relevant decisions (including bonus decisions) are communicated and discussed with the company's top management. Therefore, the participants were asked to explain why they adjusted the preliminary bonus and how they reached a decision for the bonus adjustment. Subsequently, the participants were asked to answer understanding and manipulation check questions. Furthermore, we elicited additional information and demographics from the participants in the post-experimental questionnaire. In particular, we asked how much they attributed certain characteristics, i.e. perceived competence and perceived morality, to the employee. Perceived competence serves as a manipulation check for our manipulation of the objective employee performance (Cronbach's  $\alpha = 0.90$ ). The perceived morality questionnaire contains three questions about the participant's perception of the employee's honesty, compassion and trustworthiness (Cronbach's  $\alpha = 0.61$ ).<sup>16</sup> We relied on rigorously tested instruments that assess moral values, such as the moral identity questionnaire (Aquino and Reed, 2002) or the honesty-humility subscale of the HEXACO questionnaire (Ashton and Lee, 2009). However, we had to simplify the questionnaire given that these original instruments capture the participant's own moral values rather than their perception of others' morality. Specifically, we asked participants to "please think now of Mr. Werner Berger [the employee's name in the case description] and state to what extent you ascribe the following characteristics to him", and listed all three items on perceived competence (professionally competent, has good business skills and brings the company financially forward) and three items on morality (trustworthy, compassionate and honest) in random order. The participants rated their agreement on a five-point Likert scale ranging from 1 (I strongly disagree) to 5 (I strongly agree). Furthermore,

<sup>15</sup> For example, if a participant decided on a preliminary bonus of €15,000 (preliminary bonus decision) and a €12,000 bonus after having learnt about the compliance offence (final bonus decision), the bonus adjustment is  $[1 - (\text{€}12,000 / \text{€}15,000)] * 100 \%$  = 20 %.

<sup>16</sup> For the main analyses, we calculate the mean of the perceived morality questions. For the PLS analysis, perceived morality is evaluated and calculated as a reflective multi-item scale.

we adopted the honesty-humility subscale of the HEXACO personality assessment scale (Ashton and Lee, 2009) to measure the participants' moral attitude (Cronbach's  $\alpha = 0.62$ ), again on a five-point Likert scale.<sup>17</sup> We also included the moral identity scale of Aquino and Reed (2002) to measure the participants' moral values (Cronbach's  $\alpha = 0.71$ ) on a five-point Likert scale. We used a translated version of the questions developed by Merz and Tanner (2009). We elicited this information to ensure that participants' moral values were comparable across conditions.<sup>18</sup>

### 3.3. Additional online experiment

We conducted an additional online experiment to validate our setting and results. The experimental materials were similar to the original experiment with some adjustments. Participants did not make the preliminary bonus decision based on the employee's objective performance. We explained that the preliminary bonus was determined through a formalistic plan. Hence, participants made a single decision, namely, the final bonus decision, after having learnt about the employee's compliance violation.<sup>19</sup> Similar to the original experiment, we explained that the bonus reduction should not be more than 50 % from the preliminary bonus. However, we explicitly explained that the final bonus is fully at the participant's own discretion. Hence, the 50 % maximum was explained as a 'should' and not a 'must'.<sup>20</sup> Additionally, we kept constant across conditions the bonus that was formulaically rewarded based on objective measures. In the low objective performance condition, we stated that based on the formalistic plan, the employee received a €10,000 bonus, but he could have received €20,000 if he reached the targets. In the high objective performance condition,

<sup>17</sup> The German version of the HEXACO questionnaire is available at [www.hexaco.org](http://www.hexaco.org). The translated English language items were originally developed by Marcus et al. (2007).

<sup>18</sup> For our randomization, we test whether honesty-humility and moral identity differ between the high objective versus low objective performance conditions. The results show that this is not the case for both honesty-humility ( $t = -0.573$ ;  $p = 0.502$ ) and moral identity ( $t = -0.149$ ;  $p = 0.882$ ). Thus, we show that our randomization was successful.

<sup>19</sup> This speaks directly to those settings in practice that rely on formalistic bonus plans to ex-ante contract on objective performance measures and that are complemented with an ex-post subjective adjustment based on non-contractible information (e.g., Kelly et al., 2015).

<sup>20</sup> Due to the weaker upper bound in the online experiment, we find substantial variation in bonus adjustments, ranging from 0 to 100 %. We observe a non-skewed distribution for the bonus adjustment and perceived morality.

we stated that the employee received the maximum of €10,000 because he reached all targets.<sup>21</sup> Thus, the dependant variable can be calculated as:

$$\text{Bonus adjustment} = [1 - (\text{amount of final bonus decision in } \text{€}/\text{€}10,000)] * 100 \%$$

We relied on this setting to ensure that the absolute bonus amount does not by and in itself affect the adjustment decision. Except for these adjustments, the experimental materials were identical to that of the original study.

We conducted this additional online experiment with 270 employees from various industries. For the data collection, we used the online data collection service Respondi, which offers a pool of employees representing the population of employees in German-speaking countries. The participants of this additional online experiment, of whom 56.7 % are female, are on average 45.2 years old (sd = 10.9). They have 22.2 years (sd = 11.9) of work experience, and 28.1 % have management responsibilities in their current position. The participants received €0.50 for participating from the data collection service Respondi. On average, it took participants 10 min to complete the task.

## 4. Results

### 4.1. Manipulation checks and descriptive statistics

We first report all results for the original experiment and present a concise summary of the results for the additional online experiment in Section 4.4. Six of 160 subjects failed the manipulation check.<sup>22</sup> We conducted our analysis with and without these participants, and excluding these six participants did not qualitatively influence the significance of our statistical results. Thus, we performed all our analyses with the full sample.<sup>23</sup> We first tested for differences in perceived employee competence between the high and low objective performance conditions. The results show that the participants in the high (objective) performance condition perceived the employee as more competent ( $m = 4.2$ ) than did the participants in the low (objective) performance condition ( $m = 2.6$ ) ( $t = 12.838$ ;  $p < 0.001$ , not tabulated), which suggests that our manipulation was successful.

Table 1 shows descriptive statistics for participants' preliminary bonus decision based on the employee's objective performance, participants' final bonus decision based on new information on the employee's misconduct, and the bonus adjustment used as the dependent variable in the analyses. As expected, participants' preliminary bonus decision was higher in the high objective performance cells than in the low objective performance cells. Importantly, the final bonus decision was higher in the high objective bonus without justification cell than in the three other cells.

### 4.2. The halo effect in ex-post bonus adjustments (H1 and H2)

To test our hypotheses, we compared the participants' bonus adjustments across conditions. Fig. 2 provides insight into our results. The bonus reduction in Cell 1 (high objective performance; no justification) differs from that in the other cells. Fig. 2 also indicates that the

<sup>21</sup> For example, if the participant decided on a €7,000 bonus after having learnt about the compliance offence, the adjustment of 30 % is the dependent variable for this participant  $[1 - (\text{€}7,000 / \text{€}10,000)] * 100 \% = 30 \%$ .

<sup>22</sup> The participants answered 'no' in the justification cells in response to the following question: "Did you have to comment on your bonus decision?"

<sup>23</sup> We tested whether the participants' age or gender affected the results. We did not find that our main variables of interest were related to age or gender and, importantly, through various ANCOVA tests, we confirmed that all results hold when controlling for age and gender. This also applies to the additional online experiment, where we additionally controlled for work experience.

**Table 1**  
Summary of Descriptive Statistics.

	N	Preliminary bonus Mean (sd)	Final bonus Mean (sd)	Bonus adjustment Mean (sd)	Perceived morality Mean (sd)
Cell 1: high no (1/0)	42	14,643 (1,032)	11,220 (2,427)	23.5 % (14.9)	2.9 (0.52)
Cell 2: high yes (1/1)	40	14,500 (1,569)	9,025 (2,556)	37.7 % (16.1)	2.7 (0.75)
Cell 3: low no (0/0)	43	6,702 (1,526)	4,162 (1,516)	37.8 % (17.0)	2.5 (0.64)
Cell 4: low yes (0/ 1)	35	7,000 (1,741)	4,019 (1,292)	41.3 % (12.9)	2.7 (0.69)

Note: Preliminary bonus: first bonus decision in €; Final bonus in €; Perceived morality (mean of three perceived morality questions; measured on a five-item Likert scale).

difference between the no-justification cells (Cell 1 and Cell 3) is larger than the difference between the justification cells (Cell 2 and Cell 4). The values are shown in Table 2, Panel A.

We performed a two-way ANOVA with objective performance, presence of justification and their interaction as the independent variables and bonus adjustment as the dependent variable (Table 2, Panel B). We found a significant effect of both independent variables ( $F = 13.453$ ,  $p < 0.001$ ;  $F = 13.046$ ,  $p < 0.001$ ) and a significant interaction ( $F = 4.843$ ;  $p = 0.029$ ). Comparing the means of the bonus adjustments across the four cells indicates that in the scenario with a high objective performance without justification (Cell 1), the willingness to reduce the bonus is the lowest compared to that in all other cells (Table 2, Panel A). We conducted a contrast analysis and found that Cell 1 significantly differs from the other three cells ( $t = -5.574$ ,  $p < 0.001$ , not tabulated).<sup>24</sup> This finding suggests that the interaction observed in the ANOVA between financial performance and justification is driven by Cell 1.<sup>25</sup> We conducted an additional post hoc test of the no-justification cells (Cell 1 and Cell 3). The mean bonus reduction in the no-justification cells is 23.5 % (Cell 1, high objective performance). In Cell 3 (low objective performance), the mean reduction is 37.8 %. The participants in the low (objective) performance setting reduced the preliminary bonus significantly more than did the participants in the high-performance setting ( $t = -4.133$ ;  $p < 0.001$ ) (Table 2, Panel C). Thus, we found evidence that the level of objective performance affects the bonus adjustment. These findings confirm H1.

Regarding H2, we examined whether perceived morality has a mediating effect on the relationship between objective performance and the bonus adjustment. Table 1 shows the means and standard deviations for perceived morality. We found that participants perceive the employee as more moral in the high objective performance condition than in the low objective performance condition ( $t = 1.914$ ,  $p = 0.057$ , not tabulated). Additionally, contrast analyses suggest that participants

<sup>24</sup> For contrast coding, we converted our cells to different coefficients (Cell 1 = 3; Cell 2 = -1; Cell 3 = -1; and Cell 4 = -1). In line with Guggenmos et al. (2018), we also tested for residual between-cells variance and total between-cells variance. There is no remaining unexplored variance among Cell 2, Cell 3 and Cell 4 ( $p = 0.536$ , not tabulated), and the  $r^2$  of 0.9565 means that over 95 % of the between-cells variance is explained by our hypothesized contrast. The proportion of between-cell variance remaining unexplained by the contrast is very low ( $q^2 = 0.0435$ ). This finding suggests that our planned contrast captures the variance in the data well.

<sup>25</sup> Also, our results suggest that the main effect of the justification is solely driven by Cell 1.

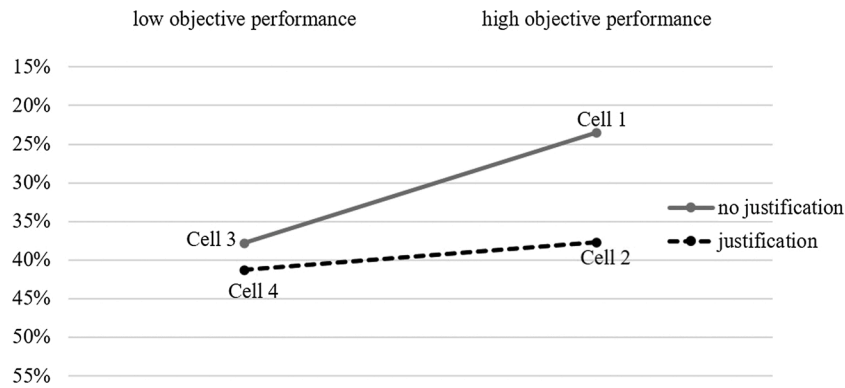


Fig. 2. Mean Reduction in Bonus Across the Four Cells.

Note: Dependent Variable: bonus adjustment. Independent Variables: objective performance and justification.

Table 2  
Summary of Results for the Bonus Adjustment.

Panel A: Mean (standard deviation) of the Bonus Adjustment			
	N	Mean (standard deviation)	
Cell 1: high no (1/0)	42	23.5 %	(14.9)
Cell 3: low no (0/0)	43	37.8 %	(17.0)
Difference between low and high		14.3 %	(2.1)
	N	Mean (standard deviation)	
Cell 2: high yes (1/1)	40	37.7 %	(16.1)
Cell 4: low yes (0/1)	35	41.3 %	(12.9)
Difference between low and high		3.6 %	(-3.2)
Panel B: ANOVA			
Source of Variation	df	F	p
Manipulation 1 (Objective performance)	1	13.453	0.000
Manipulation 2 (Justification)	1	13.046	0.000
Interaction: Manipulation 1 * Manipulation 2	1	4.843	0.029
Error Term	156		
Panel C: Comparisons across Cells			
	df	T	p
T-Test of No-Justification Cells (Cell 1 and Cell 3)	83	-4.133	0.000
T-Test of Justification Cells (Cell 2 and Cell 4)	73	-1.053	0.296
T-Test of Cells with high objective performance (Cell 1 and Cell 2)	80	4.146	0.000
T-Test of Cells with low objective performance (Cell 3 and Cell 4)	76	0.990	0.325

Note: Dependent Variable: bonus adjustment. Independent Variables: objective performance (0 = low, 1 = high) and justification (0 = absent, 1 = present).

in Cell 1 perceive the employee as more moral compared to all other cells ( $t = 2.303, p = 0.023$ , not tabulated).<sup>26</sup> Importantly, we next conducted a mediation analysis using PLS path modelling.<sup>27</sup> With

<sup>26</sup> We converted our cells to different coefficients for the contrast coding test (Cell 1 = 3; Cell 2 = -1; Cell 3 = -1; and Cell 4 = -1). There is no remaining unexplored variance among Cell 2, Cell 3 and Cell 4 ( $p = 0.333$ , not tabulated), and the  $r^2$  of 0.674 means that over 67 % of the between-cells variance is explained by our hypothesized contrast. The proportion of between-cell variance remaining unexplained by the contrast is low ( $q^2 = 0.326$ ). This finding suggests that our planned contrast captures the variance in the data well.

<sup>27</sup> PLS-SEM is a variance-based analysis (Farrar and Guo, 2017) and is the preferred and recommended approach to estimate mediation models when some variables are not perfectly normally distributed or the sample size is relatively small as is often the case in experimental research (Nitzl, 2016; Sarstedt et al., 2020).

different PLS model fit statistics, we confirmed the validity and reliability of our construct measurements, the quality of the inner path model and the overall model's goodness-of-fit.<sup>28</sup> Fig. 3 depicts the paths and the respective coefficients and p-values. As can be gleaned from the picture, the process model strongly supports our proposed halo effect. The analysis confirms the mediating role of perceived morality in the relationship between objective performance and participants' bonus adjustments. The positive path coefficient between objective performance and perceived morality (path coefficient (path 1) = 0.192;  $p = 0.020$ ) shows that when employees' objective performance is high, perceived morality is also high. In addition, the path coefficient between perceived morality and bonus adjustment (path coefficient (path 2) = -0.290;  $p < 0.001$ ) indicates that the higher the perceived morality, the lower the bonus reduction.<sup>29</sup> These results support H2 and show that the results are driven by a halo effect rather than, for example, a simple anchoring effect. There remains a direct positive effect of the objective bonus on the bonus adjustment (path coefficient (path 3) = -0.221;  $p = 0.004$ ), which suggests that perceived morality partially mediates the effect of objective performance on ex-post bonus adjustments.

### 4.3. The moderating role of justification (H3)

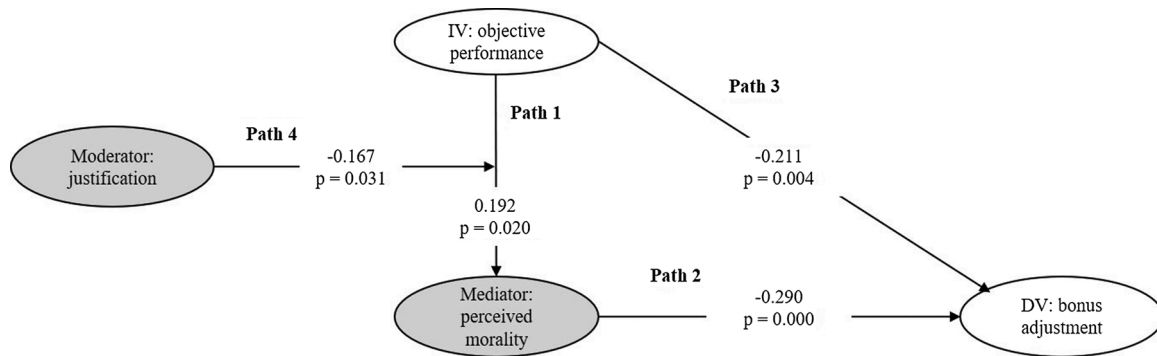
In H3, we propose that justification reduces the halo effect. Our results concerning the bonus adjustments provide evidence consistent with our hypothesis. The difference between the cells with justification (Cell 2 and 4) is lower than that in the no-justification cells. The post hoc analyses of the justification cells (Cell 2 and Cell 4) indicate that there is no significant difference between the mean adjustments of these two cells ( $t = -1.053; p = 0.296$ ) (Table 2, Panel C). Thus, we do not find an effect of the objective performance on the ex-post bonus adjustments in the presence of justification.

To obtain more granular insights into the processes that drive these results, we additionally included justification as a moderator in the PLS model. This approach allowed us to test whether the mediation process

<sup>28</sup> Following the recommendation of Hair et al. (2020) for PLS, we evaluated and confirmed our model's quality using a composite confirmatory analysis (CCA). Based on the CCA, the model quality (in terms of its reliability and validity) of the reflective measurement model (construct perceived morality) is well above the thresholds (Cronbach's  $\alpha = 0.607$ ; Composite reliability = 0.761; AVE = 0.538; HTMT: all ratios are below 0.38). To assess the inner path models, we ran a two-tailed bias correcting bootstrapping test on a significance level of 0.05 (e.g., Hair et al., 2020). The model, its paths, the respective coefficients and the p-values are shown in Fig. 3. Further goodness-of-fit measures show that the proposed model is a good fit to the data (SRMR = 0.066;  $Q^2$ : perceived morality = 0.025; bonus adjustment = 0.136).

<sup>29</sup> In addition, we find a significant correlation between perceived morality and perceived competence ( $r = 0.403, p < 0.001$ ).





**Fig. 3. Moderated Mediation with PLS.**

Note: Dependent Variable: bonus adjustment;  $R^2 = 0.152$ . Independent Variable: objective performance (0 = low, 1 = high). Mediator: perceived morality (reflective measurement model with three items; measured on Likert scales from 1 to 5, 1 = strongly disagree, 5 = strongly agree). Moderator: justification (0 = absent, 1 = present).

**Table 3**  
Summary of Descriptive Statistics for Robustness Experiment.

	N	Final bonus Mean (sd)	Bonus adjustment Mean (sd)	Perceived morality Mean (sd)
Cell 1: high no (1/0)	79	7,588 (2,335)	24.1 % (23.4)	3.2 (0.86)
Cell 2: high yes (1/1)	64	6,198 (3,155)	38.0 % (31.6)	3.0 (1.05)
Cell 3: low no (0/0)	66	6,152 (2,247)	38.5 % (22.5)	2.7 (0.90)
Cell 4: low yes (0/1)	61	6,148 (2,401)	38.5 % (24.0)	2.8 (0.82)

Note: Preliminary bonus was set on €10,000 in every condition; Final bonus in €; Perceived morality (mean of three perceived morality questions; measured on a five-item Likert scale).

outlined above in H2 is indeed smaller among the participants who had to justify their final bonus decision as proposed in H3. Our data support this assumption. Fig. 3 shows a significant moderating effect of justification on the relationship between objective performance and perceived morality (path coefficient (path 4) =  $-0.167$ ;  $p = 0.031$ ).<sup>30</sup> The moderated mediation suggests that the mediating effect of perceived morality is significantly reduced when the participants need to justify their final bonus decisions. Taken together, these results strongly support H3.

**4.4. Results for the additional online experiment**

To test for the robustness of our results, we conducted an additional online data collection with 270 employees.<sup>31</sup> The descriptive statistics of this additional experiment are shown in Table 3.

The results for the additional online experiment are by and large identical to the ones for the main experiment. First, our manipulation check was successful because participants in the high objective performance condition perceived the subordinate as more competent ( $m = 4.0$ ) than did participants in the low objective performance group ( $m = 2.7$ ) ( $t = 12.2$ ;  $p < 0.001$ , not tabulated). Second, the descriptive statistics for final bonus, bonus adjustments and perceived morality across the four cells reveal a pattern similar to that in the original experiment

<sup>30</sup> We include justification as a moderator to test H3 in this model. Excluding justification as a moderation does not change the direction, strength or significance of the paths described in H2.

<sup>31</sup> See Section 3.3 for details on how this design differs from the original experiment.

**Table 4**  
Summary of Results for the Bonus Adjustment in the Robustness Experiment.

Panel A: Mean (standard deviation) of the Bonus Adjustment			
	N	Mean (standard deviation)	
Cell 1: high no (1/0)	79	24.1 %	(23.4)
Cell 3: low no (0/0)	66	38.5 %	(22.5)
Difference between low and high		14.4 %	(-0.9)
Panel B: ANOVA			
Source of Variation	df	F	p
Manipulation 1 (Objective performance)	1	5.701	0.018
Manipulation 2 (Justification)	1	5.004	0.026
Interaction: Manipulation 1 * Manipulation 2	1	4.947	0.027
Error Term	266		
Panel C: Comparisons across Cells			
	df	T	p
T-Test of No-Justification Cells			
(Cell 1 and Cell 3)	143	-3.754	0.000
T-Test of Justification Cells			
(Cell 2 and Cell 4)	123	-0.101	0.920
T-Test of Cells with high objective performance			
(Cell 1 and Cell 2)	141	3.025	0.003
T-Test of Cells with low objective performance			
(Cell 3 and Cell 4)	125	0.010	0.992

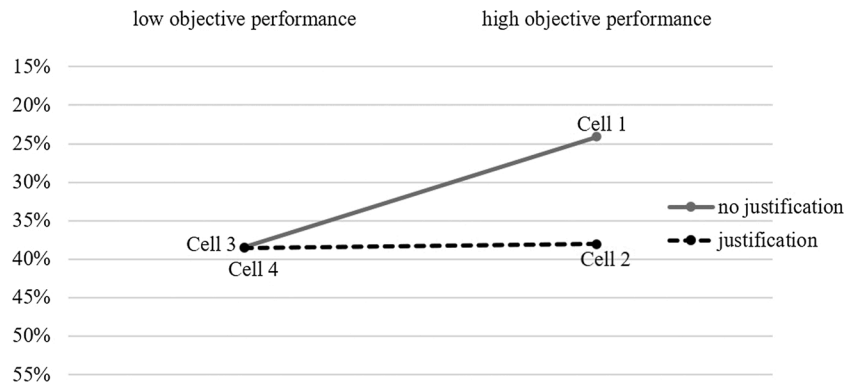
Note: Dependent Variable: bonus adjustment. Independent Variables: objective performance (0 = low, 1 = high) and justification (0 = absent, 1 = present).

(see Tables 3 and 4 Panel A).

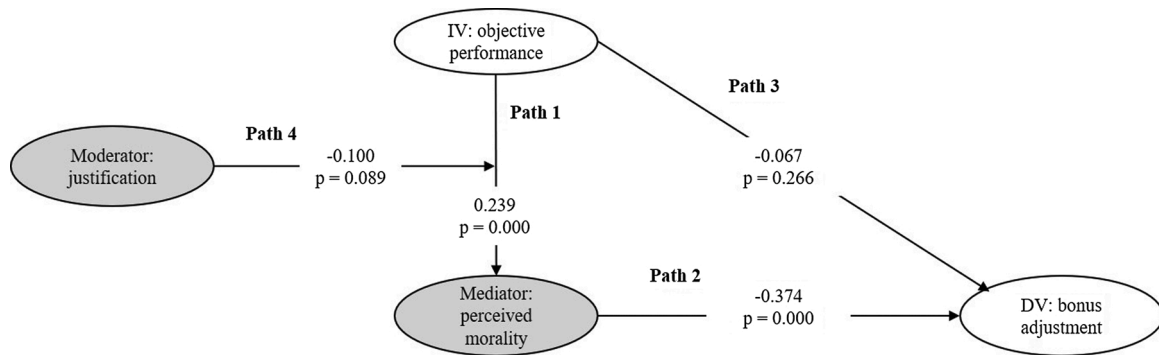
We calculated an ANOVA with the bonus adjustment as the dependent variable and objective performance and justification as independent variables. The results mirrored those of the main experiment. We replicated both the main effects and the interaction (Table 4 Panel B, Fig. 4).

Contrast analyses again show that Cell 1 (high objective performance, no justification) significantly differs from the other three cells ( $t = -4.174$ ;  $p < 0.001$ , not tabulated).<sup>32</sup> We further replicated the

<sup>32</sup> For contrast coding, we converted our cells to different coefficients (Cell 1 = 3; Cell 2 = -1; Cell 3 = -1; and Cell 4 = -1). There is no remaining unexplored variance among Cell 2, Cell 3 and Cell 4 ( $p = 0.993$ , not tabulated), and the  $r^2$  of 0.998 means that over 99 % of the between-cells variance is explained by our hypothesized contrast. The proportion of between-cell variance remaining unexplained by the contrast is very low ( $q^2 = 0.002$ ).



**Fig. 4. Mean Bonus Reduction in the Robustness Experiment.**  
 Note: Dependent Variable: bonus adjustment. Independent Variables: objective performance and justification.



**Fig. 5. Moderated Mediation with PLS for Robustness Experiment.**  
 Note: Dependent Variable: bonus adjustment;  $R^2 = 0.157$ . Independent Variable: objective performance (0 = low, 1 = high). Mediator: perceived morality (reflective measurement model with three items; measured on Likert scales from 1 to 5, 1 = strongly disagree, 5 = strongly agree). Moderator: justification (0 = absent, 1 = present).

moderated mediation model (Fig. 5; Table 3 shows descriptive statistics for perceived morality). Using different PLS model fit statistics, we confirmed the validity and reliability of our construct measurements, as well as the quality of the inner path model and the overall goodness-of-fit.<sup>33</sup>

We again found that perceived morality is higher in the high objective performance condition than the low objective performance

<sup>33</sup> Again, we followed the recommendation of Hair et al. (2020) and performed a CCA to evaluate and confirm our PLS model’s quality using CCA. The measurement model quality (in terms of its reliability and validity) of the reflective measurement model (construct perceived morality) is well above the thresholds (Cronbach’s  $\alpha = 0.852$ ; Composite reliability = 0.908; AVE = 0.768; HTMT: all ratios are below 0.42). To assess the inner path models, we ran a two-tailed bias-correcting bootstrapping test on a 0.05 significance level. The model, its paths, the respective coefficients and the p-values are shown in Fig. 5. Further goodness-of-fit measures show that the proposed model is a good fit to the data (SRMR = 0.055;  $Q^2$ : perceived morality = 0.045; bonus adjustment = 0.147).

condition ( $t = 3.849, p < 0.001$ ), and a contrast analysis showed that perceived morality is higher in the high objective performance absent justification cell than in all three other cells ( $t = 3.618, p < 0.001$ ).<sup>34</sup> Importantly, we also observed the mediating role of perceived morality as hypothesized. Specifically, the results show that a high objective performance increases participants’ perception of employee morality (path coefficient (path 1) = 0.239;  $p < 0.001$ ), and perceived morality reduces the bonus adjustment (path coefficient (path 2) =  $-0.374; p < 0.001$ ). Justification again moderates the mediating role of perceived morality (path coefficient (path 4) =  $-0.100; p = 0.089$ ) in line with what H3 proposes. The direct effect of objective performance on the dependent variable is, in contrast to the main experiment, not significant (path coefficient (path 3) =  $-0.067; p = 0.266$ ), which means we found a full mediation rather than a partial mediation in the additional experiment. These results underpin the robustness of the results of our main experiment and provide greater external validity for our results.

<sup>34</sup> As above, we converted our cells to different coefficients for the contrast coding test (Cell 1 = 3; Cell 2 = -1; Cell 3 = -1; and Cell 4 = -1). Marginally significant variance remains among Cell 2, Cell 3 and Cell 4 ( $p = 0.085$ , not tabulated), and the  $r^2$  of 0.684 means that over 68 % of the between cells variance is explained by our hypothesized contrast. The proportion of between-cell variance remaining unexplained by the contrast is low ( $q^2 = 0.316$ ).

## 5. Discussion

To avoid managerial misconduct, currently, many companies establish corporate sustainability and compliance components in incentive schemes. These components are typically measured by subjective assessments. Our results from the two experiments provide consistent evidence that these instruments should be imposed with caution as we find that the participants' bonus reduction is lower (higher) when the employee's objective performance is higher (lower). We show that an employee's good objective performance serves as a halo for the manager's perception of the employee's morality and affects the ex-post subjective bonus adjustment. Additionally, we tested the moderating role of accountability on this halo process. When the participants are asked to justify their final bonus decisions, the level of adjustment in the high performance condition is comparable to the level in the low performance condition. Furthermore, we found that justification moderates the mediating role of perceived morality as follows: the mediating role of perceived morality when justification is present is significantly smaller than that when justification is absent.

Our findings make several contributions. We contribute to prior research on ex-post subjective bonus adjustments in incentive schemes (Höppe and Moers, 2011; Woods, 2012; Bol et al., 2015). Specifically, we contribute to this stream of research in three important ways. We provide the first experiment using an incentive construct that allows for negative adjustments to punish compliance misconduct and unethical behaviour. We also provide evidence on the underlying processes that result in bonus adjustments, namely, a halo effect via perceived employee morality that mediates the influence of objective performance on the subjective bonus adjustment. Hence, we also provide novel insights for accounting research into the pivotal role of the perception of others' moral values. Finally, we add to prior research by showing that increasing process accountability reduces the halo effect. Our moderated mediation model provides novel insights into the channels that drive the results.

These findings also enrich a growing body of research on the role of calibration committees in performance evaluation. Calibration committees are typically comprised of second-level managers and are implemented to reduce the subjective biases of supervising managers with rather mixed success (Demeré et al., 2019). We show that a manager recalibrates his or her initial judgement based on new information on the employee in the presence of justification. We believe that these ex-post adjustments schemes could be used in conjunction with calibration committees. For example, calibration committees could be addressees of the justification statements. These committees could then be given final discretion about the size of the bonus. Such a setting would benefit from within-rater recalibration and external verification. Future research could test the effectiveness of such a setting.

Our results also add to the ongoing debate on whether graduate students behave and decide differently than experienced decision-makers. Our results from the two experiments suggest this is not the case which provides comfort to extant research in behavioural accounting, especially research on performance evaluation that relies on student samples.

Finally, we contribute to the literature on compliance and ethical elements in incentive schemes. Research is scarce on how subjective bonus adjustment elements may reduce employee misconduct, although firms already apply them in practice. Our results suggest that these incentive schemes serve as an effective tool to constrain employee misconduct, when managers are held accountable for their bonus decisions.

This study comes with limitations. One limitation is that there might be no 'no-justification' situation in a real-life setting because even in the absence of a formalized justification system, managers often have to informally justify their bonus decisions to others. In more bureaucratic organizations, there might be few settings in which managers make bonus decisions without having to provide any type of formal or

informal justification or explanation of their decisions. However, there exist settings in practice – most probably in small or owner-managed firms – in which managers make bonus decisions absent any need to justify the decision. In these cases, middle managers are typically provided with financial resources (as a budgeted sum for their team), which they are allowed to allocate to individual team members as bonus payments without any need to justify such bonus decisions. Thus, at least there is heterogeneity in how justification is implemented in corporate reality. Additionally, given that these ex-post bonus reductions in incentive schemes are relatively novel and are becoming more popular due to legislative actions and stakeholder pressure (such as in the 2017 EU Shareholder Rights Directive), our research can inform practice as to how these schemes should be implemented.

Second, we asked participants to limit the adjustment to 50 % of the preliminary bonus in the original experiment and gave participants in the additional experiment more discretion (however, we made explicit that they should obey the 50 % rule). Although this reflects the idea of ex-post bonus adjustments, it also creates a ceiling for participants in our experiment. Limiting discretion in the adjustment level is typical in business practice.<sup>35</sup> However, future research should investigate how the bonus adjustments depend on different levels of managerial discretion about the size of the potential adjustment.

Furthermore, we polled participants' perception of employee morality in the post-experimental questionnaire. This perception is negatively correlated with participants' bonus adjustment; however, we cannot empirically provide evidence for a causal relationship between these two variables. Future research could aim to test for a causal relationship between the two variables by explicitly manipulating the perception of employee morality.

Finally, the framework by Kennedy (1993; 1995) suggests two processes through which justification can decrease biases: higher effort and/or more self-critical thought. We propose that an increase in effort in the form of more self-critical thought reduces the halo effect in our scenario. We expect that writing a justification report puts managers into a devil's advocate role of their preliminary evaluation, thus most likely increasing counterfactual thinking. However, we cannot provide data on these specific cognitive processes. Future research could examine these types of effort-inducing processes in greater detail.

Following the prior financial crisis and the ensuing public debate regarding management compensation, the demand for modifications of remuneration schemes has gained support. We experimentally test the behavioural impact of a concrete remuneration design that has seldom been used in practice to date. Therefore, we also contribute to business practice. Our research can help companies develop remuneration schemes that foster compliant employee behaviour. Practitioners can implement decision justifications or a form of disclosure to improve evaluation processes and establish remuneration schemes that contribute to companies' long-term interests and sustainability.

### Data availability

The data from this study and the experimental setting are available from the researchers upon request

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<sup>35</sup> For example, Daimler (2019) limits the maximum negative bonus adjustment to 25 % of the yearly bonus.

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## Appendix A

### *Nepotism Description*

In the next step, you should assess the responsible and compliant behaviour of Werner Berger. Under the responsibility of Werner Berger, an extension of a Textilum office building was started in his area during the past business year. As a part of responsible corporate governance, Textilum has a compliance policy for the allocation of investment projects. This rule states that for each major investment, at least three offers from different companies must be obtained before a decision regarding the allocation of the contract is made. It is known to you that Mr. Berger awarded the construction contract with good conditions for Textilum to the company Herold. He has not obtained any other offers from other companies. The contractor Herold is led by Klaus Berger, who is the brother of the area manager Werner Berger. Although this connection is known to you, the information does not reach the management or employees of Textilum or the public.

### *Examples of Participants' Statements in the Justification Condition*

#### High objective performance condition

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##### Translated from German

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The bonus was reduced because Mr. Berger did not adhere to the compliance rule, and instead of three, he has only obtained one offer. Without this information, he would have received the full bonus.

The compliance rule states that at least three offers must be obtained. This was not done. Also, the family connection was not reported. This could possibly lead to bad publicity for the company and threatens a loss of image. For these reasons, the bonus is reduced.

Violation of company-internal regulations at the management level. Executives are role models for other employees. Nevertheless, Mr. Berger receives a bonus for the high achieved targets in sales.

Breach of compliance rules (no three offers were obtained) → No proper behaviour of Werner Berger; according to corporate strategy, great importance is attached to responsible corporate management and compliant behaviour of executives and employees. A discount is justified as the goal of responsible leadership was not achieved; violation of rule is to sanction.

The bonus was reduced due to disregard of the company's compliance rule. Mr. Berger has thus violated the guidelines for responsible corporate governance. This must have consequences.

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#### Low objective performance condition

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##### Translated from German

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The bonus was adjusted because Mr. Berger did not adhere to the company's internal criteria. As a leader, however, he should be a role model for his employees and observe the rules. If all employees behave this way, this would have a very negative impact on the company.

50 % achievement of the targets in the first step shows little ambition and willingness to perform; further reduction by a) nepotism and b) disregard of existing company guidelines.

I adjusted the bonus because Mr. Berger did not comply with the compliance rules for investment projects. Compliance is not about making decisions that are advantageous in the short term but about adhering to certain ground rules (for example, requesting multiple contractors in a given case).

50 % target achievement → 50 % bonus; reduction bonus by max. 50 % due to compliance issue.

Target achievement of Mr. Berger is well below the target agreement; even if he has negotiated the construction contract for Textilum under favourable conditions, he has violated the principles of good corporate governance (compliance guideline!).

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