Causal Attribution, Benefits Sharing, and Earnings Management*

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ABSTRACT

We conduct two experiments to investigate the joint effect of two justification factors of earnings management—namely, attribution for the firm's underperformance and benefits accruing to other employees from inflating reported earnings. This investigation is important because prior research examines the effects of individual justification factors, whereas real-world settings entail more complexity involving multiple justification factors. In Experiment 1, we predict and find that managers are more likely to manage earnings when the firm's underperformance is caused by an external event *and* misreported earnings benefit other employees besides the reporting manager. Furthermore, we show that the extent to which participants use moral justifications mediates the effect of benefits sharing on earnings management, but only when causal attribution is external, and that it mediates the effect of causal attribution on earnings management, but only when benefits are shared. In Experiment 2, we use a neutral control condition that makes no mention of inconsistent incentives to demonstrate that it is the combination of causal attribution and benefits sharing that triggers earnings management. We contribute to the accounting and psychology literature by proposing and testing a theory that explains how multiple justification factors interact to cause opportunistic behavior. Our results suggest that policy-makers and governing parties should consider developing a holistic view of possible justification factors, focusing on situational opportunities created by combinations of factors rather than individual factors alone.

Keywords: earnings management, causal attribution, benefits sharing, justifiability, fairness

Attribution causale, partage des bénéfices et gestion des résultats

RÉSUMÉ

Les auteurs mènent deux expériences pour étudier l'effet combiné de deux facteurs de justification de la gestion des résultats, à savoir l'attribution de la sous-performance de l'entreprise ainsi que les bénéfices tirés de l'augmentation des résultats déclarés et accordés aux autres employés. Cette étude est importante, car les recherches antérieures examinent les effets des facteurs de justification individuels, alors que les situations réelles sont plus complexes et impliquent plusieurs facteurs de justification. Dans l'expérience 1, les auteurs formulent et constatent que les gestionnaires sont plus susceptibles de gérer les résultats lorsque la sous-performance de l'entreprise est causée par

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un événement externe *et* que les résultats erronés profitent à d'autres employés que le gestionnaire responsable des rapports financiers. De plus, ils montrent que la mesure dans laquelle les participants utilisent des justifications morales atténue l'effet du partage des bénéfices sur la gestion des résultats, mais seulement lorsque l'attribution causale est externe, et qu'elle atténue l'effet de l'attribution causale sur la gestion des résultats, mais seulement lorsque les bénéfices sont partagés. Dans l'expérience 2, les auteurs utilisent une condition contrôle neutre qui ne fait aucune mention de mesures incitatives et incohérentes pour démontrer que c'est la combinaison de l'attribution causale et du partage des bénéfices qui déclenche la gestion des résultats. Les auteurs contribuent à la littérature comptable et psychologique en proposant et en testant une théorie qui explique comment de multiples facteurs de justification interagissent pour provoquer un comportement opportuniste. Leurs résultats suggèrent que les décideurs politiques et les partis au pouvoir devraient envisager de développer une vision holistique des facteurs de justification possibles, en se concentrant sur les opportunités situationnelles créées par des combinaisons de facteurs plutôt que par de seuls facteurs individuels.

Mots-clés : attribution causale, équité, gestion des résultats, justifiabilié, partage des bénéfices

1. Introduction

Earnings management is an issue that regularly captures the attention of regulators (SEC 2013), the financial press (*The Economist* 2014), and academics alike. Firm executives can manage reported earnings by manipulating accounting estimates or by altering operating decisions (Cohen and Zarowin 2010; Kothari et al. 2016; Roychowdhury 2006), and research shows that they manage earnings for a variety of economic reasons, such as meeting earnings targets (Ayers et al. 2006; Burgstahler and Dichev 1997), maximizing the value of performance-based compensation (Cheng and Warfield 2005), and minimizing political costs (Han and Wang 1998). Firm managers generally have the opportunity and ability to manage earnings for self-serving reasons (Cohen et al. 2010). They have incentives to do so particularly when a firm is at risk of not meeting important performance benchmarks, such as internal profit targets or analysts' forecasts, as not meeting such benchmarks has adverse financial and nonfinancial consequences for themselves, employees, and firm outsiders such as investors (Cohen et al. 2010). Theory suggests that notwithstanding the opportunity and incentive to manage earnings, whether firm managers engage in misreporting in large part depends on whether they can cross the "moral hurdle" by reframing or justifying this action as something "good" (Bandura et al. 1996; Cohen et al. 2010).[1] Focusing on a broad setting where a firm is at risk of missing a performance target, we examine the joint effect of two situational factors that managers are likely to consider and that can offer an opportunity to rationalize, or justify, managing earnings to increase reported performance: (i) whether the firm's underperformance can be attributed internally or externally (hereafter, causal attribution) and (ii) whether other employees benefit financially from managed earnings (hereafter, benefits sharing).[2]

Examining causal attribution and benefits sharing as potential justifications for earnings management is important—both as individual factors on their own and in combination. Managers commonly make attributions for firm performance (Baginski et al. 2004). To the extent that firm underperformance causes managers to suffer wealth or reputational losses, theory suggests that

1. The fraud triangle describes three dimensions that contribute to an individual's decision to commit fraud: opportunity, incentive, and rationalization (Cressey 1953). Cohen et al.'s (2010) empirical analysis of 39 corporate fraud cases that went public between 1992 and 2005 finds that opportunity and incentive are present in all of the cases in their sample. Moreover, they develop a theoretical framework that postulates that moral obligation is an element of rationalization, which is a key risk factor for corporate fraud.
2. There is some debate in the psychology literature on whether the processes of justification and rationalization are distinct and how they interact. In this paper, we do not distinguish between justification and rationalization given the lack of consensus in the psychology literature.

managers will be more likely to perceive unfairness if this underperformance is due to external factors than internal factors (Detert et al. 2008; Schweitzer and Gibson 2008; Trevino 1986). Perceived unfairness provides managers with an opportunity to rationalize earnings management (Cohen et al. 2007) so that an external attribution for the firm's underperformance may help them justify earnings management.

Differences across firms' organizational control systems, such as pay-for-performance policies, and organizational structures lead to significant variations in benefits sharing between reporting managers and other employees in practice (Hollensbe and Guthrie 2000). Higher-level managers are typically paid, at least in part, based on accounting profits (The Conference Board 2020). In contrast, lower-level employees may receive a fixed salary only, receive some incentive pay based on financial performance (profit sharing), or get compensated based on a variety of other nonfinancial metrics (Magnan and Martin 2019). This creates natural variation such that the anticipated benefits of manipulating reported performance are shared in some firms but not in others. Sharing the benefits of manipulated earnings may also provide managers with an opportunity to justify earnings management (Church et al. 2012).

We examine causal attribution and benefits sharing in combination because they are exemplars of effective and salient justification factors for earnings management. By testing their joint effect, we offer theory that answers a broader question of how multiple justification factors that are independently effective and similarly salient interact to trigger earnings management. This broad question is important because prior studies investigate individual factors that allow managers to justify or rationalize earnings management (Brown 2014; Church et al. 2012; Kim et al. 2017), whereas real-world settings entail more complexity. For example, while managers may be tempted to engage in earnings management after seeing a more egregious example of fraud in the news, they are simultaneously also aware of the unfair consequences of those actions on others, such as employees, which may curb this temptation (Cohen et al. 2007). In other words, more than one justification factor is often salient, and these factors can also conflict with each other in terms of their influence on managers' propensity to engage in earnings management (Murphy and Dacin 2011). We develop and test theory related to managers' propensity to engage in earnings management in this more complicated but realistic setting that involves two justification factors.

We posit that multiple justification factors are more likely to escalate opportunistic behavior when they are internally consistent, meaning that all salient factors favor the opportunistic action. If only some of the factors prompt opportunistic behavior while others discourage it, the factors that discourage opportunistic behavior will weaken the effect of the factors that favor it. For instance, an internal attribution of underperformance will temper the triggering effect of benefits sharing on earnings management. Similarly, the effect of an external attribution of underperformance will be limited when the benefits of earnings management are not shared. Based on this, we predict that earnings management is more likely to happen when both external attribution and benefits sharing are present than when only one or neither of them is present.[3]

To test our predictions, we conduct two experiments. For Experiment 1, we recruit 116 MBA students who learn about a firm that is experiencing reduced current-year profits due to an adverse event. We use a 2×2 between-participants design and independently manipulate the cause of the firm's underperformance (internal vs. external) and the sharing of anticipated benefits (sharing vs. no sharing). Participants are asked to record an estimate for a new product's warranty expense and can meet or beat the firm's profit target by recording a lower warranty expense.

3. It is possible that one of the two factors overwhelms the effect of the other and thereby drowns out any incremental effect. If one of the factors is perceived to be more relevant or salient than the other, this factor may lead to earnings management even when the other factor does not justify earnings management. In that case, we would observe a main effect of this factor and no interaction effect between the two factors.

We use the recorded warranty expense in dollars as a measure of accrual-based earnings management.

In line with our hypotheses, we find that participants record a significantly lower warranty expense—that is, manage earnings more, when the firm's underperformance is caused by an external event *and* other employees benefit financially from the managed earnings, relative to the conditions in which the underperformance originated from an internal cause or benefits are not shared. Further analysis shows that moral justification mediates the effect of benefits sharing on participants' reporting decisions, but only when causal attribution is external. Similarly, moral justification mediates the effect of causal attribution on participants' reporting decisions, but only when benefits are shared. We conduct a second experiment, which shows that the combination of external attribution and benefits sharing leads to more earnings management, relative to a control condition where both factors are less salient. The joint effect of external attribution and benefits sharing is mediated by moral justification, providing additional evidence for our theoretical framework.

We contribute to the literature on managerial accounting choices and earnings management in several ways. Church et al. (2012) examine the effect of benefits sharing and show that managers' budget reports include more slack when the resulting benefits are shared with nonreporting employees than when the benefits are enjoyed by the manager alone. We extend this study by showing that an internal attribution is a boundary condition of the effect of benefits sharing. Specifically, we find that benefits sharing does not result in more misreporting when an inconsistent, salient second factor does not support the manager's self-serving action. To the best of our knowledge, this is the first study to apply causal attribution in the earnings management literature. The results of our experiments also speak to the results of Cohen et al. (2007), who show that managers are less likely to take opportunistic actions when they perceive the consequences of their actions to be unfair. We complement their research in two ways. First, while Cohen et al. (2007) show that managers' concerns about causing unfair consequences temper opportunistic behavior, we show that managers who perceive that they are the target of unfair consequences may increase opportunistic behavior. Our study and Cohen et al. (2007) collectively show that fairness concerns impact managers' opportunistic behavior whether the manager is the cause or the target of unfairness. Second, we demonstrate a boundary condition of this fairness effect. The effect of a situational factor that induces a feeling of unfairness (i.e., attribution) on managers' opportunistic behavior is lessened when the benefits of managers' opportunistic behavior are not shared. More broadly, our results demonstrate the impact of conflicting influences on managers' behavior.

Our study also contributes to the literature on the relationship between self-serving justifications and opportunistic behavior. Spanning the areas of psychology, economics, and business, this body of research examines how one self-serving justification, such as observing the counterfactual (Shalvi et al. 2011) or ambiguity (Schweitzer and Hsee 2002), can trigger opportunistic and unethical behavior.[4] Notably, Hsee (1995, 1996) posits an elastic justification theory which predicts that a task-irrelevant but self-serving factor that the decision maker would like to consider can directionally influence the decision maker's choices when there is ambiguity or elasticity in the features of a task-relevant factor.[5] Importantly, this theory only considers one justification.

4. Shalvi et al. (2015) provide a review and a framework for the antecedents and consequences of unethical behaviors. They propose two routes to do wrong but feel moral, namely previolation justification and postviolation justification. Their examples of previolation justifications include ambiguity, self-serving altruism, and moral licensing. Their examples of postviolation justifications include cleansing, confessing, and distancing.

5. In one of Hsee's (1995) experiments, participants take on the role of a real estate appraiser appointed by the seller of a unit to compare the appraised value of the unit with another condo. The irrelevant but tempting factor relates to whether the buyer or the seller is the appraiser's fiancé. The elasticity of the relevant factor relates to the similarities between the two condo units. He finds that elasticity in these features results in a higher valuation for the condo unit when the appraiser's fiancé is the seller of the condo rather than the buyer. Using Hsee's (1995, 1996) terminology, in our setting, the task-relevant factor for the warranty expense task is the information about the warranty expense, and the task-irrelevant factors are the cause of the firm's underperformance and benefit sharing.

We extend this literature by providing a theoretical model and evidence suggesting that in complex settings where more than one justification factor is salient, justifications are more likely to promote opportunistic behavior when they are internally consistent than when they are not. This finding suggests that examining self-serving justifications individually is likely insufficient to fully understand opportunistic behavior in practice due to the presence of interaction effects.

Given that financial reporting is accompanied by uncertainty and ethical ambiguity, our findings highlight the nuanced interactions between multiple potential justifications for earnings misreporting, which should be of interest to practitioners such as those charged with corporate governance, regulatory oversight, and enforcement. Our study contributes toward a better understanding of the "psychological pathways to fraud" (Murphy and Dacin 2011, 614) and can inform fraud prevention efforts. Our results suggest that multiple justification factors, above and beyond economic pressures, which are held constant in our experiments, trigger misreporting by executives primarily when they are internally consistent. Policy-makers and other practitioners charged with the design and enforcement of governance mechanisms should aim to develop a more holistic view of possible justification factors, focusing on situational opportunities created by combinations of factors rather than individual factors alone.

2. Background and hypothesis development

Earnings management represents an action that is often in a manager's self-interest but ethically ambiguous. Firm management is tasked with truthful reporting of firm performance while simultaneously being evaluated and compensated based on reported figures (PCAOB 2016; The Conference Board 2020). Consequently, managers have incentives to disclose favorable firm performance even when true performance is unfavorable. These circumstances can create a conflict between doing the normatively right thing and acting opportunistically. Individuals intuitively attempt to solve these ethical dilemmas by reframing the immoral action as something "good" (Bandura et al. 1996; Cohen et al. 2010). This process is particularly relevant in ethically ambiguous situations as it allows the individual to engage in selfish and immoral behavior while avoiding adverse psychological consequences (Festinger 1962).

Prior accounting research has examined the effect of rationalization, a psychological process that forms one side of the fraud triangle (Cressey 1953). For example, Murphy (2012) reports that misreporting individuals who misreport extensively engage in rationalization. Mayhew and Murphy (2014) document that the instruction of an authority figure to misreport enhances managers' rationalization and propensity of misreporting. Brown (2014) shows that highlighting examples of major fraud cases after managers have engaged in earnings management makes them less likely to perceive their own misreporting as unethical. Integrating the fraud triangle and the theory of planned behavior, Cohen et al. (2010) assert that attitude/rationalization is a function of attitude toward the fraud, subjective norms, perceived behavioral control, and moral obligation.

In practice, managers face a complex judgment environment where multiple justification factors are salient to them simultaneously. We develop a theoretical model that predicts how multiple unrelated factors that could allow managers to rationalize earnings management interact to influence their reporting decisions.[6,7] We contend that, when multiple justification factors are independently effective and similarly salient, they are more likely to prompt misreporting when

6. We focus on two factors to make our theory development more tractable; however, our prediction that internal consistency matters should hold when more factors are salient. We make no assumption that managers weigh each factor equally. Whether factor weightings moderate our predicted effects is an interesting question for future research.

7. By unrelated, we mean factors that provide justifications independent of one another such that variation in one factor does not alter the potential justification offered by the other. When two factors are related and contingent on each other to provide justifications—for example, because they both alter the consequences of an action on external parties—our model may not hold because the interaction effects would likely be determined by the inherent relationship between the two factors. In contrast, our model examines the effect of multiple independent factors as justifications for earnings management.

they are internally consistent. If some factors suggest that the action is justifiable, while others suggest otherwise, the factors are internally inconsistent. Factors that are inconsistent are not expected to induce the action of misreporting because they send contradicting signals. That is, the signal suggesting that the action is not justifiable will weaken the signal suggesting that the action is justifiable, which is expected to prevent the individual from successfully reframing the action. Therefore, we posit that multiple salient factors are more likely to trigger misreporting when both factors suggest that this action is justifiable.

We examine two independent factors that may provide justification for earnings management. The first factor we examine is causal attribution.[8] When a firm misses performance targets or expectations, the perceived cause of underperformance will influence the manager's reaction (Detert et al. 2008; Schweitzer and Gibson 2008; Weiner 1985). Broadly speaking, the firm may miss expectations due to factors within the firm that are generally under the control of management or due to external factors over which the manager has limited, if any, control. When the poor performance is due to uncontrollable external forces, it will be likely perceived as unavoidable or "bad luck." As a result, the manager may perceive any negative repercussions as unfair (Detert et al. 2008). In contrast, when the problem originated from within the firm or when the executive had control over what led to the firm's underperformance, it is harder to justify earnings management from a fairness perspective.

The second factor we examine is benefits sharing. Managers may be able to reframe earnings management as something good when the benefits of that action are shared—that is, people other than the manager stand to benefit from a misrepresentation of firm performance (Wiltermuth 2011). In that case, managers may feel that their earnings management is helping others (Church et al. 2012). Psychologically, this helps managers opportunistically interpret the consequences of their behavior by focusing on the benefits. In line with this notion, Wiltermuth (2011) and Gino et al. (2013) show that individuals cheat more when others can benefit from their cheating. In a managerial accounting setting, Church et al. (2012) document that benefits sharing increases the amount of budgetary slack that participants are willing to record. Therefore, it is easier to justify earnings management when benefits are shared than when they are not shared.

Applying our multifactor model to the current setting, we predict that managers will be more likely to conduct earnings management when attribution is external and benefits are shared, relative to when attribution is internal or benefits are not shared. When attribution is external and benefits are shared, the two justification factors are consistent in that they both indicate that earnings management is justifiable. In contrast, when attribution is external but benefits are not shared or when benefits are shared but attribution is internal, the two factors provide inconsistent signals about the justifiability of earnings management. As a result, this inconsistency will render the justification of earnings management unsuccessful, and earnings management will be constrained. Based on this discussion, we formally propose the following hypotheses (see Figure 1 for a graphical representation of the ordinal interaction):

8. Prior studies in accounting look at causal attribution in various contexts: to examine investors' assessments of managers (Anderson et al. 2015; Cianci and Kaplan 2010), to document self-serving attributions by managers when they perform well (Libby and Rennekamp 2012), and to investigate how explanations affect market participants' reactions to bad news (Barton and Mercer 2005; Elliott et al. 2011). However, existing research in this literature provides no theory or evidence on how causal attribution for past unfavorable outcomes influences future decision-making. While Libby and Rennekamp (2012) also test the effect of causal attribution of past performance on managers' decision-making, they focus on the setting of favorable past performance. In fact, Libby and Rennekamp (2012) show that an internal attribution for past favorable performance may cause a behavioral change, while we posit that an external attribution for past unfavorable performance may cause a behavioral change. The authors find that managers tend to attribute past good firm performance to their own actions; this increases managers' willingness to issue earnings forecasts, as they are more confident that future firm performance will also be good. Examining the impact of causal attribution on earnings management decisions is incrementally important as it allows us to fill a theoretical void in this literature.

HYPOTHESIS 1 (H1). *Earnings management will be higher when the cause of the underperformance is external to the firm and benefits are shared than when the cause is internal to the firm and/or benefits are not shared.*

HYPOTHESIS 2 (H2). *Earnings management will not differ among the following conditions: (i) the cause of the underperformance is internal to the firm and benefits are not shared; (ii) the cause of the underperformance is internal to the firm and benefits are shared; and (iii) the cause of the underperformance is external to the firm and benefits are not shared.*

3. Research design of Experiment 1

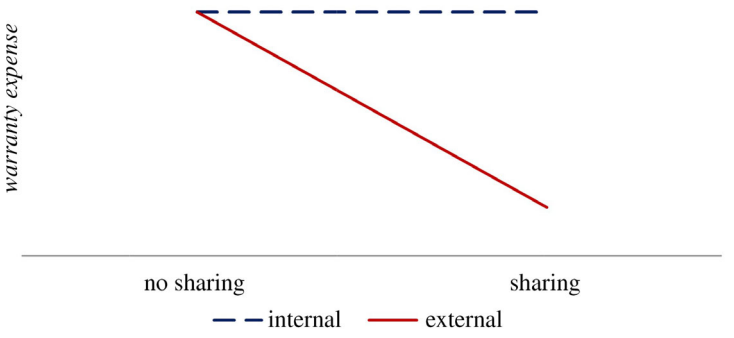
Participants

We recruit MBA students from two large universities in Singapore to proxy for managers who are in a position to manage earnings. This is in line with prior studies on related topics (Brown 2014; Cohen et al. 2007), which feature graduate business students as participants. Following the guidelines of Libby et al. (2002), participants with some prior work experience and a basic understanding of accounting are expected to be sufficiently sophisticated to solve the case. This participant pool is likely to confront situations such as the one described in the case after they graduate, which makes their decision process relevant for outcomes in practice. Since the underlying theory relies on fundamental psychological and cognitive processes, the findings should also generalize to more experienced professionals, such as division managers and management accountants.

Procedure and manipulations

Experiment 1 features a 2×2 between-participants design, in which *causal attribution* (internal vs. external) and *benefits sharing* (sharing vs. no sharing) are independently manipulated (see Appendix for the conceptual model). The participants act as division managers for Hooli Inc. and read a case in which they need to record the warranty expense for the current year. The case materials are adapted from Brown (2014). First, the participants learn about the responsibilities of a division manager and the division's recent financial performance, which is in line with the company's profit targets. Then, the cause of the underperformance manipulation is administered

Figure 1 Predicted effects of *causal attribution* and *benefits sharing* on participants' *warranty expense* estimates



Notes: This figure summarizes the predictions of H1 and H2. Both *causal attribution* (internal vs. external) and *benefits sharing* (no sharing vs. sharing) are independently manipulated between participants, and the *warranty expense* estimate is our operationalization of earnings management, whereby a lower *warranty expense* implies higher earnings and, thus, more earnings management (see section 3 for details).

by informing the participants that the division appears unable to achieve the budgeted operating profit target due to a machine breakdown caused by insufficient maintenance (internal condition) or caused by an adverse weather event (external condition). Subsequently, the materials indicate that, due to the division's underperformance, there will be no bonus for the division manager while the rest of the division remains unaffected (no sharing condition); alternatively, there will be no bonus for the division manager or the other employees of the division (sharing condition). In other words, the division employees are penalized (unaffected) by the division's underperformance, and they will (not) benefit from earnings management in the sharing (no sharing) condition.

Following these descriptions, the participants answer several affect questions about the aforementioned events. Using seven-point Likert scales, the questions ask to what extent the participants experience emotions such as guilt, shame, or anger. In addition, we include several other process measures.[9]

After this, the participants are informed that it is the end of the financial year and that they have one more major decision to make before finalizing the division's financial records. Specifically, the participants are asked to estimate and record the expected warranty expense for a new product. The materials include a table with warranty expense estimates and a description of how the division usually computes such an expense.[10] This gives them the opportunity to achieve the division's profit target, despite the machine breakdown, by recording an expense lower than the most appropriate amount, thereby engaging in earnings management. See supporting information in online Appendix A for this part of the instrument.[11] Our dependent variable is the amount of *warranty expense* (in dollars). After the main case, we administer a number of additional questions, including manipulation checks, a personality questionnaire, and demographics.

4. Results of Experiment 1

Descriptive statistics and manipulation checks

A total of 116 MBA students are recruited for the study, of which 69 (59.5%) are male and 47 (40.5%) are female.[12] The average participant is 29 years of age, has worked full-time for a little more than 6 years, and completed on average 2 accounting courses and 2 finance courses (Table 1, panel A).[13] Given the simplicity of the case and the underlying theory, the participants are considered appropriate for the study (Libby et al. 2002). The participants receive approximately US$15 (S$20) fixed compensation for their participation.

After the main study, the participants answer several manipulation-check questions to ensure that the materials are properly understood. We ask the participants why the division underperformed (insufficient maintenance or adverse weather event) and who is directly affected by the adverse consequences (other employees are not directly affected or other employees will not receive a bonus). Eighty-six participants (74.1%) answer all manipulation checks correctly, while 27 (3) fail one (both) of the manipulation checks, implying that the majority of participants process the materials as intended.[14] This result is corroborated by two additional Likert scale questions. The first question measures *controllability*, in which the

9. We replicate our main findings in another experiment where we shift the affect questions and other process measures to the postexperimental questionnaire.
10. The setting is intentionally held as simple as possible to enable all participants to compute the best warranty expense estimate. In addition, the materials explicitly mention the most appropriate warranty expense amount as well as the amount that would enable the manager to achieve the profit target. This should rule out the possibility that participants choose a certain expense level due to misunderstanding or miscalculation.
11. See supporting information in online Appendix A as an addition to the online article.
12. Institutional Review Board (IRB) approval was obtained from the institution where the study was conducted.
13. Our main results are robust to the inclusion of gender, age, and length of work experience as covariates.
14. The reported results are based on the full sample of 116 participants. Inferences are unchanged when we exclude participants who fail both manipulation checks.

TABLE 1
Descriptive statistics and manipulation checks

Panel A: Descriptive statistics of the sample—Experiment 1

	Mean	SD	Median
Age	29.23	4.35	28
Work experience (in years)	6.09	4.04	5
Number of accounting courses	1.86	1.71	1
Number of finance courses	2.08	2.07	1

Panel B: Manipulation check question means (SD)—Experiment 1[a]

	causal attribution			
	internal	external	Diff.	*t*
controllability	0.89	−0.39	1.28	5.03***
	(1.37)	(1.38)		
locus	1.23	−0.17	1.40	5.41***
	(1.34)	(1.44)		

Panel C: Descriptive statistics of the sample—Experiment 2

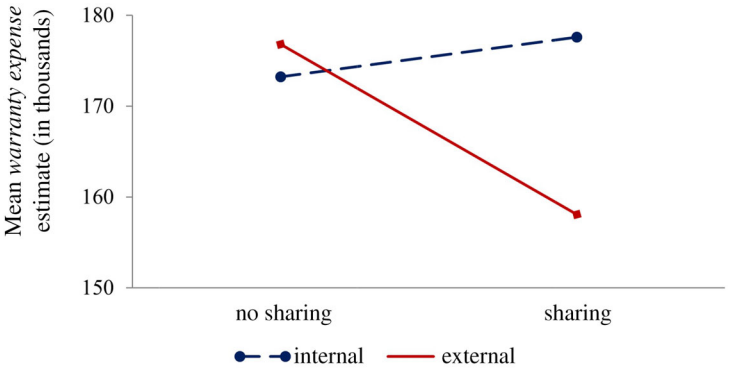
	Mean	SD	Median
Age	35.93	8.41	34
Work experience (in years)	15.08	8.86	13
Number of accounting courses	3.36	5.25	2
Number of finance courses	2.86	4.01	2

Notes: [a]Participants are asked to what extent they perceive the machine breakdown to be uncontrollable/controllable and internal/external to the organization on a seven-point Likert scale ranging from −3 (uncontrollable/external) to +3 (controllable/internal). See Figure 1 for an explanation of the *causal attribution* conditions. *** represents a significance level of 0.01.

participants are asked to which extent they perceive the machine breakdown to be uncontrollable/controllable (−3 = *fully uncontrollable*, 0 = *neutral*, and +3 = *fully controllable*). The second question measures *locus*, in which the participants are asked to which extent they perceive the machine breakdown to be internal/external (−3 = *entirely external*, 0 = *neutral*, and +3 = *entirely internal*) to the organization. As shown in panel B of Table 1, participants in the external condition perceive the event to be more uncontrollable (mean = −0.39, SD = 1.38) relative to participants in the internal condition (mean = 0.89, SD = 1.37). Similarly, participants perceive the event as more external to the organization in the external condition (mean = −0.17, SD = 1.44) than in the internal condition (mean = 1.23, SD = 1.34).[15] The differences are statistically significant (both $p < 0.01$).[16]

15. The mean of our *controllability* measure is significantly below zero (mean = −0.39, $t_{58} = 2.17$, $p = 0.03$) in the external condition. The mean for our *locus* measure is not significantly different from zero (mean = −0.17, $t_{58} = 0.90$, $p = 0.37$). This may be due to the fact that even though the source is external, the machine breakdown occurs "inside the company." Consequently, the participants may not perceive it as clearly external.
16. All reported significance levels are two-tailed unless stated otherwise.

Figure 2 Effects of *causal attribution* and *benefits sharing* on participants' *warranty expense* estimates: Experiment 1



Notes: This figure summarizes our results from Experiment 1. Both *causal attribution* (internal vs. external) and *benefits sharing* (no sharing vs. sharing) are independently manipulated between participants, and the *warranty expense* estimate is measured in dollars (see section 3 for details).

Our theory suggests that causal attribution is related to perceived fairness: managers will perceive negative repercussions of poor performance to be less fair when the poor performance is due to external forces than internal forces. As a construct-level manipulation check of *causal attribution*, we ask the participants to indicate the extent to which they agree with the following statement: "It was fair that the machine overheated and broke down." This question is designed to verify that our manipulation of *causal attribution* has the intended effect on the participants' perceived fairness of the adverse event. The participants respond on a seven-point Likert scale (-3 = *strongly disagree*, 0 = *neither agree nor disagree*, and $+3$ = *strongly agree*). In a two-way ANOVA, we find a significant main effect of *causal attribution* ($p < 0.01$) such that perceived fairness is higher when attribution is internal than external (untabulated). There is no main effect of *benefits sharing* or interaction effect between *causal attribution* and *benefits sharing* on this variable (both $p > 0.44$).

Hypothesis testing

H1 predicts that earnings management will be higher in the external/sharing condition than the other conditions. H2 predicts earnings management will not differ among the following conditions: (i) internal/no sharing, (ii) internal/sharing, and (iii) external/no sharing. Collectively, they predict an ordinal interaction effect. As shown in Figure 2 and panel A of Table 2, the reported *warranty expense* is the lowest (and therefore, earnings management is highest) in the external/sharing condition relative to the other three conditions, with little difference between the other three conditions ($158.06 vs. $173.21, $177.59, and $176.79, in thousands, respectively).

To formally test our hypotheses, we run a robust regression model with *warranty expense* as the dependent variable and the manipulated variables, including their interaction, on the right-hand side. We use a robust regression analysis because our dependent variable exhibits a bimodal distribution, which is a distribution with two peaks, rather than one.[17] The results are summarized in Table 2, panel B. We document insignificant effects of *causal attribution* and *benefits sharing* (both $p > 0.72$) and a significantly negative two-way interaction effect ($t_{112} = -2.08$, $p = 0.04$).

17. It exhibits a bimodal distribution because there are two key values by design. One key value is $200,000, which is the expected value of *warranty expense*. The other is $150,000, which allows the division to meet its performance target.

TABLE 2
Estimates of *warranty expense*: Experiment 1

Panel A: Mean *warranty expense* (SD) in thousands [sample size]

	benefits sharing		
causal attribution	no sharing	sharing	Total
internal	173.21 (28.81) [$n = 28$]	177.59 (34.29) [$n = 29$]	175.44 (31.51) [$n = 57$]
external	176.79 (25.39) [$n = 28$]	158.06 (38.94) [$n = 31$]	166.95 (34.25) [$n = 59$]
Total	175.00 (26.97) [$n = 56$]	167.50 (37.76) [$n = 60$]	

Panel B: Robust regression outputs[a]

Source	Coeff.	Std. err.	*t*	*p*
causal attribution	2,954.17	8,402.66	0.35	0.73
benefits sharing	825.94	8,329.91	0.10	0.92
causal attribution×*benefits sharing*	−24,280.93	11,686.56	−2.08	0.04
Constant	174,021.10	5,941.58	29.29	<0.01

Panel C: Planned contrast test

	df	*F*	*p*
Contrast[b]	1	6.82	0.01
Residual between-cells variance	2	0.15	0.86

Panel D: Pairwise comparisons

Source	df	*t*	*p*
external/sharing vs. internal/sharing	58	2.06	0.02[c]
external/sharing vs. external/no sharing	57	2.16	0.02[c]
external/sharing vs. internal/no sharing	57	1.68	0.05[c]
external/no sharing vs. internal/no sharing	56	−0.49	0.63
external/no sharing vs. internal/sharing	55	−0.10	0.92
internal/sharing vs. internal/no sharing	55	−0.52	0.61

Notes: [a]Both *causal attribution* and *benefits sharing* are manipulated between participants; *causal attribution* equals one (zero) when the attribution is external (internal), and *benefits sharing* equals one (zero) when benefits are shared (not shared); and *warranty expense* is measured in dollars (see section 3 for details). [b]Contrast weights: −3 for the external/sharing condition and +1 for the other three conditions, respectively. [c]One-tailed.

Pairwise comparisons, presented in panel C of Table 2, show that the mean *warranty expense* in the external/sharing condition is significantly lower (and thus, earnings management is higher) than the mean of the internal/sharing condition ($t_{58} = 2.06$, $p = 0.02$, one-tailed), that of the external/no sharing condition ($t_{57} = 2.16$, $p = 0.02$, one-tailed), and that of the internal/no sharing condition ($t_{57} = 1.68$, $p = 0.05$, one-tailed). These results support H1, suggesting that an external attribution, relative to an internal attribution, leads to more earnings management when benefits are shared, but not when benefits are not shared. Moreover, benefits sharing, relative to no sharing, leads to more

earnings management when attribution is external, but not when attribution is internal.[18] In addition, the means of the internal/sharing condition, the external/no sharing condition, and the internal/no sharing condition do not differ significantly (all $p > 0.60$), consistent with H2.

As our theory implies an ordinal interaction, we conduct a planned contrast test to specifically test the ordinal interaction predicted jointly by H1 and H2 (see Figure 2). The assigned weights are -3 for the external/sharing condition and $+1$ for the other three conditions, respectively. Results show that the specified contrast is significant ($F_{1,112} = 6.82$, $p = 0.01$), and the residual between-cells variance is insignificant ($F_{2,112} = 0.15$, $p = 0.86$). The proportion of between-cells variance not explained by the contrast (i.e., q^2) is 4.5% (untabulated). Overall, the results are consistent with our hypotheses.

Mediation analysis

We posit that earnings management is a type of morally ambiguous action and that factors such as *benefits sharing* and *external attribution* may be used as justifications to prompt earnings management. However, these justification factors have the biggest effects when they provide consistent signals about the justifiability of earnings management. To provide evidence on our theoretical model, we analyze participants' rationales underlying their reporting decisions.

When participants decide on the amount of *warranty expense*, they are also asked to provide open-ended, qualitative explanations for their choice. Specifically, participants answer two questions: (i) "How did you decide on the amount of warranty expense? What facts did you consider? Briefly describe your thought process" and (ii) "Why do you consider the chosen estimate an appropriate amount of warranty expense (and not more or less)? Briefly summarize your reasoning." Conceptually, both questions offer the participants an opportunity to justify their reporting decision, and answers to the two questions are relatively short. Thus, we examine the participants' responses to both questions jointly.

We analyze participants' responses to these open-ended questions based on four rationale types: (i) *moral justification*—participants reframe conduct/action as morally worthy or not self-serving; (ii) *moral ambiguity*—participants argue that it is not clear whether it is morally wrong to report a lower warranty expense; (iii) *downplaying* of consequences—participants argue that no one was hurt, argue that there is no harm, or otherwise trivialize the consequences of their conduct/action; and (iv) *blame shifting*—participants argue that somebody or something else is to blame for the conduct/action or its consequences.[19] We provide an overview of the four rationale types and corresponding examples in supporting information in online Appendix B.

One research assistant and one author, the former unaware of our hypotheses and both blind to conditions, independently code participants' responses by counting the number of cognitions (or mentions) of each type. Cohen's kappa equals 0.74, suggesting substantial interrater agreement (Landis and Koch 1977). Initial disagreements are resolved by the two raters through discussions.

We aggregate the first two types of rationales to capture the psychological process of *moral justification* (Bandura et al. 1996) and aggregate the latter two types to capture the psychological process of *downplaying*. We expect that *moral justification*, but not *downplaying*, is the primary driver of our interaction effect. The mediation effect through *downplaying* is expected to be

18. As an alternative dependent variable, we use an indicator variable to capture whether the participants engage in (earnings-increasing) earnings management. The dummy variable is equal to one when a participant chooses a *warranty expense* figure of less than $200,000, and zero otherwise. Results are similar to those using the *warranty expense* figure.

19. We exclude rationales associated with employee bonus and machine breakdown because they are accessible only to the participants in the sharing and internal conditions, respectively. Hence, including such rationales will bias our analysis. We obtain similar results when including those types of rationales in the number of justifications. Moreover, we observe no rationales in relation to advantageous comparison, suggesting that the effects we document differ from the findings of Brown (2014).

TABLE 3
Mediation analysis: Experiment 1

Panel A: Mean *moral justification* (SD) [sample size]

	benefits sharing		
causal attribution	no sharing	sharing	Total
internal	0.18 (0.39) [$n = 28$]	0.34 (0.48) [$n = 29$]	0.26 (0.44) [$n = 57$]
external	0.07 (0.26) [$n = 28$]	0.65 (0.61) [$n = 31$]	0.37 (0.55) [$n = 59$]
Total	0.13 (0.33) [$n = 56$]	0.50 (0.57) [$n = 60$]	

Panel B: Mean *downplaying* (SD) [sample size]

	benefits sharing		
causal attribution	no sharing	sharing	Total
internal	0.11 (0.31) [$n = 28$]	0.10 (0.31) [$n = 29$]	0.11 (0.31) [$n = 57$]
external	0.18 (0.48) [$n = 28$]	0.26 (0.44) [$n = 31$]	0.22 (0.46) [$n = 59$]
Total	0.14 (0.40) [$n = 56$]	0.18 (0.39) [$n = 60$]	

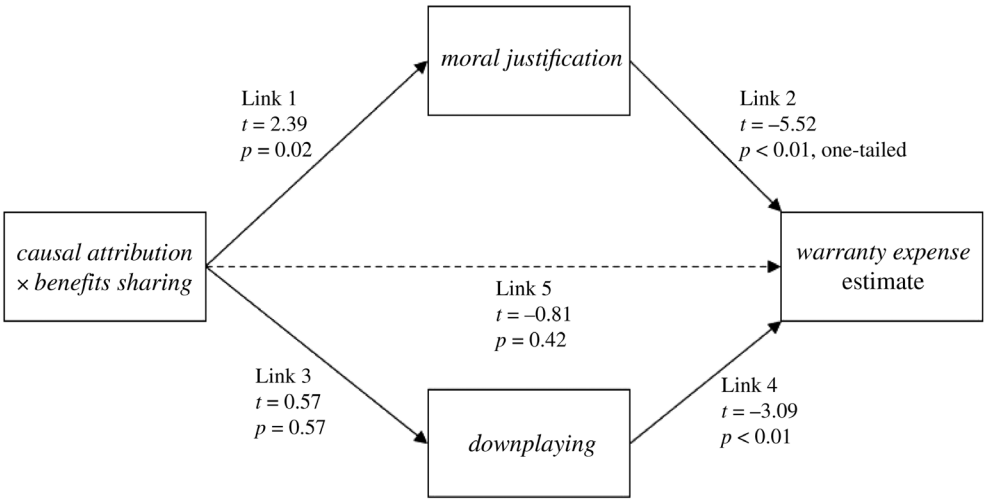
Notes: Both *causal attribution* and *benefits sharing* are independently manipulated between participants. In panel A, the measure is the mean number of participants' rationales related to *moral justificatio*n and *moral ambiguity*. In panel B, the measure is the mean number of participants' rationales related to *downplaying* of consequences and *blame shifting*.

weaker since the manipulated variables do not alter negative consequences of earnings management so that trivialization of harm should be constant across conditions. Similarly, since earnings management is unlikely to cause perceivable harm in the given case, the participants have few incentives to shift any blame on somebody else. Rather, sharing of benefits and external attribution increase the participants' ability to reframe earnings management as morally right and less self-serving, which is captured by the *moral justification* construct.

We provide descriptive statistics for *moral justification* in Table 3, panel A. The pattern of the means is consistent with our expectations. An untabulated ANOVA shows a significant two-way interaction effect between *causal attribution* and *benefits sharing* ($F_{1,112} = 5.70$, $p = 0.02$). Furthermore, pairwise comparisons find that the mean of the external/sharing condition is significantly higher than the mean of any other condition (all $p < 0.01$, one-tailed, untabulated). Moreover, benefits sharing has no effect when attribution is internal ($p = 0.17$, untabulated), and attribution has no effect when benefits are not shared ($p = 0.38$, untabulated). These results provide evidence that two independent factors provide increased justifications for earnings management when they are internally consistent.

We provide descriptive statistics for *downplaying* in Table 3, panel B. The pattern of the means is inconsistent with our two-factor model, and an untabulated ANOVA shows that the two-way interaction effect between *causal attribution* and *benefits sharing* is insignificant ($F_{1,112} = 0.32$, $p = 0.57$). In addition, tests of simple effects show no significant results (all

Figure 3 Mediation analysis: Experiment 1



Notes: This figure summarizes the results of our mediation analysis. The *t*-statistics and corresponding *p*-values are reported next to each link. Both *causal attribution* and *benefits sharing* are independently manipulated between participants; see section 3 for details. We analyze participants' responses to open-ended questions based on four rationale types: (i) *moral justification*, (ii) *moral ambiguity*, (iii) *downplaying* of consequences, and (iv) *blame shifting*. We aggregate the first two types of rationales to capture the psychological process of *moral justification* and aggregate the latter two types to capture the psychological process of *downplaying*.

$p > 0.13$).[20] This is in line with the notion that *downplaying* is not a driver of the documented interaction effect.

Next, we test a mediation model, which is depicted in Figure 3. The model contains *causal attribution* and *benefits sharing* as the independent variables, *moral justification* and *downplaying* as the mediators in parallel, and the *warranty expense* estimate as the dependent variable. The first link shows a significant two-way interaction effect on *moral justification* such that, when both benefits sharing and external attribution are present, managers mention more moral justifications compared to when either or both are absent ($p = 0.02$). The second link establishes that *moral justification* is negatively associated with *warranty expense* estimate ($p < 0.01$, one-tailed), suggesting that participants manage earnings more when context enables them to come up with more moral justifications. The third link shows an insignificant two-way interaction effect on *downplaying* ($p = 0.57$), and the fourth link shows that *downplaying* is negatively associated with *warranty expense* estimate ($p < 0.01$). The third and the fourth links suggest that the justification factors in our study do not interact to induce *downplaying* in general, but the participants who engage in downplaying manage earnings more. The finding that *downplaying* facilitates unethical actions, such as earnings management, is consistent with prior studies, including Bandura et al. (1996). Last, the direct effect of the two-way interaction on *warranty expense* estimate is insignificant ($p = 0.42$), controlling for the possible mediators.

20. The simple effects approach marginal significance. More specifically, the mean of the external/sharing condition (0.26), while being the highest among all conditions, is statistically similar to the means of all other conditions: $p = 0.13$ for the comparison with the internal/sharing condition (mean = 0.10), $p = 0.15$ for the comparison with the internal/no sharing condition (mean = 0.11), and $p = 0.44$ for the comparison with the external/no sharing condition (mean = 0.18). The other three conditions are similar to each other (all $p > 0.47$).

A 5,000-samples bias-corrected bootstrap process (untabulated) with *causal attribution* as the main independent variable and *benefits sharing* as the moderator yields a 95% confidence interval of −24,123.80 to −2,542.61 for the moderated mediation relation from *causal attribution* to *warranty expense* estimate through *moral justification*. Examining the mediation effect of *causal attribution* at each level of *benefits sharing*, we find that the 95% confidence interval is between −18,306.25 and −1,268.69 when benefits are shared, but that the 95% confidence interval is between −1,931.78 and 9,631.18 when benefits are not shared. In contrast, the 95% confidence interval is −8,339.55 to 4,229.79 for the indirect effect through *downplaying*. Not surprisingly, the 95% confidence interval includes zero whether benefits are shared (between −8,721.71 and 344.19) or not shared (between −6,599.85 and 2,484.93). These results suggest that our measure of *moral justification* mediates the effect of *causal attribution* on participants' reporting decisions, but only when benefits are shared.

Likewise, a similar bootstrap process (untabulated) with *benefits sharing* as the main independent variable and *causal attribution* as the moderator produces a 95% confidence interval of −24,407.92 to −3,235.34 for the moderated mediation relation from b*enefits sharing* to *warranty expens*e estimate through *moral justification*. Testing the mediation effect of *benefits sharing* at each level of *causal attribution*, we find that the 95% confidence interval is between −28,502.04 and −10,672.00 when attribution is external, but that the 95% confidence interval is between −13,993.29 and 1,656.66 when attribution is internal. In contrast, the 95% confidence interval is −8,543.90 to 3,905.73 for the indirect effect through *downplaying*. The 95% confidence interval includes zero whether attribution is external (between −7,043.34 and 3,215.89) or internal (between −3,383.12 and 3,743.25). These results suggest that *moral justification* mediates the effect of *benefits sharing* on participants' reporting decisions, but only when attribution is external. Overall, the results of the mediation analysis lend additional support to our proposed theoretical model.[21]

Supplemental analysis

An alternative explanation for the results could be that the manipulations somehow alter the participants' perceived importance or perceived economic benefits of achieving the profit target. Specifically, one could argue that achieving the target is more important when a larger group of people is affected (when benefits are shared); hence, participants should be more likely to manage earnings in this case. It is important to note, however, that this notion would merely predict a main effect of *benefits sharing*, rather than the interaction effect we document.

To address this potential concern, we ask the participants to indicate the extent to which they agree with the following statement: "Meeting the operating profitability target is important." Responses are recorded on a seven-point Likert scale (−3 = *strongly disagree*, 0 = *neither agree nor disagree*, and +3 = *strongly agree*). As expected, participants agree that meeting the target is important (mean = 1.85, which is significantly different from zero, $t_{115} = 22.26$, $p < 0.01$). However, the perceived importance of the profit target does not differ significantly by condition (all $p > 0.78$). Our inferences are the same when we include the participants' answers to this question

21. We also examine the sum of all types of rationales, which we term *total rationales*. In an untabulated mediation model with *total rationales* as the sole mediator, we find a significant two-way interaction effect on *total rationales*. When both *benefits sharing* and *external attribution* are present, managers provide more rationales compared to when either or both are absent ($p = 0.04$). In turn, *total rationales* is negatively associated with *warranty expense* estimate ($p < 0.01$). Furthermore, the direct effect of the two-way interaction on *warranty expense* estimate is insignificant ($p = 0.34$), controlling for the mediator. A bootstrap process with 5,000 samples (bias-corrected) yields a 95% confidence interval of −26,663.14 to −974.59 (−25,606.48 to −810.87) for the moderated mediation when *benefits sharing* is the main independent variable (moderator) and *causal attribution* is the moderator (main independent variable). Since these confidence intervals do not include zero, we conclude that *total rationales* mediates the effect of *causal attribution* when benefits are shared and that *total rationales* mediates the effect of *benefits sharing* when attribution is external.

as a covariate in the main analysis. In conclusion, perceived importance of the profit target does not explain the results.

5. Experiment 2: Follow-up study with a neutral control condition

Experiment 1 suggests that the combination of *external attribution* and *benefits sharing* leads to greater earnings management compared to the other conditions. However, because our comparison groups in the first experiment do not include a control group and always involve either information about internal/external attribution or the absence/presence of *benefits sharing*, we are unable to draw conclusions about the incremental effects of *external attribution* or *benefits sharing* on earnings management.

To test whether an external attribution or sharing of benefits has incremental effects, we conduct Experiment 2 featuring a 2×2 between-participants design, in which we manipulate the presence of *external attribution* and *benefits sharing*. Specifically, this study includes the following four conditions. The first condition represents the control and contains no explicit information about *external attribution* or *benefits sharing*. This condition serves as a "neutral" benchmark by capturing what managers do in a situation where neither of the two justification factors is made salient.[22]

The second condition is an external-attribution-only condition, which contains the same external-attribution information (i.e., adverse weather) as our first experiment but no mention of benefits sharing. The third condition is a benefits-sharing-only condition, which informs participants that benefits are shared—using the same wording as Experiment 1—but contains no mention of attribution. Examining the second and third conditions allows us to test for the incremental effect of either *external attribution* or *benefits sharing* on earnings management. Last, we also include the external/sharing condition used in Experiment 1.

We recruit 120 manager participants from Prolific, an online labor market catering to academic researchers (https://www.prolific.co). We use Prolific's built-in prescreening mechanisms, and potential participants must fulfill the following criteria: (i) have a middle- or upper-level management role, (ii) work in business administration or finance sector, (iii) have a college degree or above, and (iv) have an approval rate of at least 97% for past tasks.[23] Less than 0.5% of Prolific workers are eligible for our study. We pay US$4 for each participant. On average, participants spend 12 minutes on the study, implying an average hourly rate of US$20.

The average participant is 36 years old with 15 years of work experience, including 8 years in accounting or finance, and has taken approximately 3 accounting and 3 finance courses (see panel C of Table 1). Sixty percent of the participants have been in charge of the preparation of financial reports as part of their job. These statistics suggest that the Prolific participants are more experienced in accounting than our MBA participants. Their profiles are also in line with those of the participants in prior studies on related topics (Cohen et al. 2007).[24] All participants pass our attention check. Overall, we believe that these participants are appropriate for our task and adequate proxies for division managers. Experiment 2 follows the same procedure as the first experiment. The wording used in the manipulations of *external attribution* and *benefits sharing* is identical to Experiment 1 for the conditions in which this information is provided.

We present descriptive statistics in Table 4, panel A, and illustrate the pattern of means in Figure 4. As in Experiment 1, the chosen *warranty expense* figure is the dependent variable. We

22. Note that self-serving incentives for the manager to manage earnings are still present in the control condition in that the manager's bonus increases if the participant manages earnings. Moreover, there is a possibility that participants make an internal attribution in the control condition despite the lack of explicit information about attribution. The self-serving incentive and possible implicit attribution are held constant across conditions in this study.

23. Because Prolific elicits subject characteristics independently of specific studies, it minimizes the risk of dishonest responses to its prescreening questions (Palan and Schitter 2018). Our ex post verification of participants' job titles confirms that the participants indeed meet the criteria we set in the prescreening.

24. In Cohen et al. (2007), 88% of the participants are 40 years old or younger, and 79% of the participants have 10 years of work experience or less. The average participant of Brown (2014) is 26 years old with an average work experience of 4 years.

TABLE 4
Estimates of *warranty expense*: Experiment 2

Panel A: Mean *warranty expense* (SD) in thousands [sample size]

	benefits sharing		
external attribution	absent	present	Total
absent	170.83 (27.92) [$n = 30$]	164.00 (35.97) [$n = 30$]	167.42 (32.11) [$n = 60$]
present	167.33 (43.41) [$n = 30$]	153.33 (26.04) [$n = 30$]	160.33 (36.12) [$n = 60$]
Total	169.08 (36.17) [$n = 60$]	158.67 (31.59) [$n = 60$]	

Panel B: Robust regression outputs[a]

Source	Coeff.	Std. err.	*t*	*p*
external attribution	−10,034.54	8,691.98	−1.15	0.25
benefits sharing	−8,332.91	8,691.98	−0.96	0.34
external attribution×*benefits sharing*	−85.04	12,292.32	−0.01	0.99
Constant	171,488.50	6,146.16	27.90	<0.01

Panel C: Planned contrast test

	df	*F*	*p*
Contrast[b]	1	3.84	0.05
Residual between-cells variance	2	0.30	0.74

Panel D: Tests of simple effects

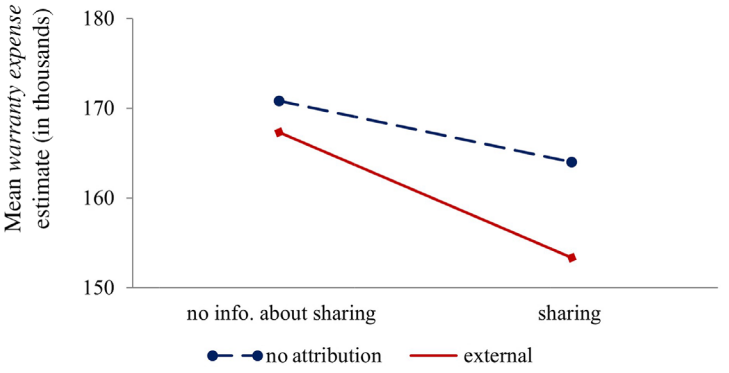
Source	df	*t*	*p*
external/sharing vs. control	58	5.64	0.02
external/sharing vs. benefits sharing only	58	1.32	0.19
external attribution only vs. control	58	−0.37	0.71
external/sharing vs. external attribution only	58	1.52	0.14
benefits sharing only vs. control	58	−0.82	0.41

Notes: [a]Both the presence of *external attribution* and *benefits sharing* are manipulated between participants; *external attribution* equals one (zero) when external-attribution information is (not) provided, and *benefits sharing* equals one (zero) when information about *benefits sharing* is (not) provided; and *warranty expense* is measured in dollars, as in Experiment 1; see section 5 for details about Experiment 2. [b]Contrast weights: −3 for the external/sharing condition and +1 for the other three conditions, respectively.

observe the following. First, the extent of participants' earnings management in the external/sharing condition is similar between Experiment 1 ($158.06, in thousands) and Experiment 2 ($153.33, in thousands).[25] This result provides support that the samples from the two different participant pools process and act on the provided information in a similar way. Second, similar to the results from Experiment 1, *warranty expense* in Experiment 2 is the lowest (i.e., earnings management is the highest) in the external/sharing condition relative to the other three conditions, with small differences

25. The two means are statistically identical ($t_{59} = 0.556$, $p = 0.580$), subject to the caveat that this involves comparisons across experiments.

Figure 4 Effects of *external attribution* and *benefits sharing* on participants' *warranty expense* estimates: Experiment 2



Notes: This figure summarizes the results of Experiment 2. Both *external attribution* and *benefits sharing* are independently manipulated between participants, and *warranty expense* estimate is measured in dollars (see section 3 for details).

among the other three conditions ($153.33 vs. $170.83, $167.33, and $164.00, in thousands, respectively).[26] Third, the mean of the control condition ($170.83, in thousands) is the highest among all conditions in Experiment 2 and similar to those of the conditions with lower earnings management in Experiment 1 (between $173.21 and $177.59, in thousands). These results provide preliminary evidence that the combination of *external attribution* and *benefits sharing* leads to greater earnings management compared to a control condition where neither the inconsistent incentive of internal attribution nor the absence of *benefits sharing* is made explicit.

As in Experiment 1, we use robust regression analysis and report the results in panel B of Table 4. We find insignificant coefficients for all variables, including the interaction term (all $p > 0.25$). Given the ordinal nature of the expected interaction, we conduct a planned contrast test with the same set of weights as those used for the first experiment: -3 for the external/sharing condition and $+1$ for the other three conditions, respectively. Results (see panel C of Table 4) show that the specified contrast is significant ($F_{1,116} = 3.84$, $p = 0.05$), and the residual between-cells variance is insignificant ($F_{2,116} = 0.74$, $p = 0.86$). The q^2 is 13.6% (untabulated).

Next, we conduct tests of simple effects, which produce the following results (see panel D of Table 4). First, we find significantly less earnings management in the control condition compared to the external/sharing condition ($t_{58} = 5.64$, $p = 0.02$). This suggests that the combination of two consistent situational factors—here, *external attribution* and *benefits sharing*—leads to increased earnings management compared to the neutral benchmark setting in which neither factor is made salient. Second, the control condition does not differ from either the external-attribution-only condition ($t_{58} = -0.37$, $p = 0.71$) or the benefits-sharing-only condition ($t_{58} = -0.82$, $p = 0.41$). This is consistent with our theory that *external attribution* or *benefits sharing* alone cannot trigger earnings management relative to the control condition. Third, earnings management is directionally higher in the external/sharing condition, relative to the benefits-sharing-only condition, but this increase is not statistically significant ($t_{58} = 1.32$, $p = 0.19$). Likewise, earnings management is directionally higher in the external/sharing condition, relative to the external-attribution-only condition, again without achieving conventional levels of statistical significance ($t_{58} = 1.52$, $p = 0.14$). The effects are weaker here because, unlike in Experiment 1 where the

26. We are not aware of any study that shows that external attribution or benefits sharing alone leads to earnings management, relative to a neutral control condition.

comparison groups provide a salient opposite incentive (i.e., internal attribution as the comparison group for the external condition and explicit no sharing as the comparison group for the sharing condition), the control group of Experiment 2 is silent on these opposite incentives.

To provide additional support for the proposed theoretical link and to examine the robustness of our findings, we also examine participants' rationales. As in the first experiment, one research assistant and one author blindly code participants' rationales to identify and classify the justifications underlying participants' reporting decisions. Cohen's kappa equals 0.71, suggesting substantial interrater agreement (Landis and Koch 1977), and initial disagreements are resolved by the two raters through discussions. Consistent with the mediation analysis of Experiment 1 (untabulated), we find that *moral justification* is higher in the external/sharing condition than in the control condition (0.33 vs. 0.13; $p = 0.05$, one-tailed) and is negatively associated with *warranty expense* ($p = 0.04$, one-tailed). *Downplaying* does not differ significantly between the external/sharing condition and the control condition (0.30 in the external/sharing condition vs. 0.10 in the control condition; $p = 0.16$), while being negatively associated with *warranty expense* ($p = 0.04$, one-tailed). A bootstrap process with 5,000 samples (bias-corrected) yields a 95% confidence interval of −3,115.15 to −58.69 for the indirect effect of experimental condition (i.e., external/sharing vs. control) on *warranty expense* through *moral justification*. In contrast, the 95% confidence interval is −2,504.59 to 51.72 for the indirect effect through *downplaying*. These results suggest that *moral justification* mediates the joint effect of *external attribution* and *benefits sharing* on participants' reporting decisions, relative to the control condition, which is consistent with the mediation results from Experiment 1.

Overall, the results of Experiment 2 provide additional support for our theoretical framework.[27] The combination of two consistent justification factors leads to greater earnings management, relative to the control condition, and this effect is mediated by participants' increased propensity for moral justifications. These findings are not consistent with the idea that a single factor leads to incrementally more earnings management.

6. Conclusion

This paper examines how multiple justification factors interact as potential triggers to alter managers' propensity to engage in income-increasing earnings management. We experimentally show that earnings misreporting is significantly more likely to occur when the firm's underperformance is caused by an external event *and* misreported earnings benefit other employees besides the reporting manager, relative to situations where the firm's underperformance is caused by an internal event or where benefits are not shared with other employees. A mediation analysis shows that moral justification mediates the effect of benefits sharing on earnings management, conditional on external attribution, and that it mediates the effect of causal attribution on earnings management, conditional on benefits sharing. Our results support the proposed theory that multiple factors are more effective in prompting misreporting when they are internally consistent. In contrast, factors that are inconsistent do not lead to increases in earnings management.

The main contributions, practical implications, and future research opportunities of our study are summarized in Table 5. First, we contribute to the interdisciplinary literature on the determinants of individuals' opportunistic behavior by proposing and testing a novel theoretical model that explains how two or more justification factors interact to cause opportunistic behavior. In line with the theoretical framework of the fraud triangle (Cressey 1953), the results are consistent with the notion that managers' propensity to engage in unethical actions is significantly affected by contextual and social factors that alter the manager's propensity to engage in distorted reasoning and moral justification. We enrich the literature on the fraud triangle by showing the joint effects of multiple determinants of rationalization. Our model should extend to other determinants of

27. We caution readers that while the observed pattern is consistent with our theory, the statistical effects are less than conclusive due to the weak interaction effect produced by the robust regression.

TABLE 5
Key takeaways

Result	Implications/takeaways	Future research opportunities
Propensity to manage earnings is significantly higher when the firm's underperformance is caused by an external event *and* misreported earnings benefit other employees besides the reporting manager, relative to situations where the firm's underperformance is caused by an internal event or where benefits are not shared with other employees	1. Our study is the first to show that causal attribution affects earnings management 2. We extend Church et al. (2012) by showing that internal attribution is a boundary condition of the effect of benefits sharing 3. Our study and Cohen et al. (2007) collectively show that fairness concerns impact managers' opportunistic behavior whether the manager is the cause or the target of unfairness. Moreover, we demonstrate a boundary condition of the fairness effect. The effect of a situational factor that induces a feeling of unfairness (i.e., attribution) on managers' opportunistic behavior is lessened when the benefits of managers' opportunistic behavior are not shared	1. Effects of justification factors that are less clearly in favor of earnings management, such as when the causes of firm performance are ambiguous or when potential benefits are more indirectly shared with others 2. Impact of earnings management on share price, which benefits both the manager and external parties, such as the shareholders of the firm 3. Role of beneficiaries when benefits are shared: Church et al. (2012) show that the preferences of beneficiaries play a role. Will the effect of benefits sharing differ when the benefits are shared with subordinates versus peer managers?
The combination of two consistent justification factors leads to greater earnings management, relative to a neutral benchmark condition where neither factor is made salient	1. In complex settings where more than one justification factor is salient, the factors are more likely to promote opportunistic behavior when they are internally consistent than when they are not, which suggests that examining justification factors individually is likely insufficient to fully understand behavior in practice due to interaction effects 2. Our study enriches the literature on the fraud triangle by showing the joint effects of multiple determinants of rationalization, holding constant incentive and opportunity	1. Extend our model by considering institutional (organizational structure, etc.), personal (mindsets, moral flexibility, etc.), and cultural (norms, altruism, etc.) moderators 2. What if managers do not weigh the situational factors equally? 3. Does our model apply to contexts where the nature and implications of justification factors are more ambiguous because decision-makers have the ability to selectively access information in most real-world settings?

(The table is continued on the next page.)

TABLE 5 (continued)

Result	Implications/takeaways	Future research opportunities
	3. Our model potentially applies to other determinants of rationalization, such as unethical behavior by peers (Brown 2014) and charitable causes (Cohen et al. 2010) 4. Policy-makers and enforcement agencies should aim to develop a more holistic view, focusing on situational opportunities created by combinations of factors, rather than individual factors, when designing and implementing governance mechanisms to limit situations in which a combination of justification factors triggers unethical behavior by managers	
Moral justification mediates the effect of benefits sharing on participants' reporting decisions, but only when causal attribution is external. Moral justification mediates the effect of causal attribution on participants' reporting decisions, but only when benefits are shared	We add to the research on the rationalization side of the fraud triangle (Cressey 1953): Our results suggest that managers' propensity to engage in unethical actions is affected by contextual and social factors that offer opportunities for distorted reasoning and moral justification	

rationalization that we do not specifically examine in this study, such as unethical behavior by peers (Brown 2014) and charitable causes (Cohen et al. 2010).

The findings of our two experiments also speak to the accounting literature on managers' opportunistic reporting decisions. Church et al. (2012) show that benefits sharing motivates misreporting, which is consistent with the result of our external condition. We extend Church et al. (2012) by showing that internal attribution is a boundary condition of the effect of benefits sharing. Moreover, Cohen et al. (2007) show that managers' fairness concern about their own actions curbs their tendency to report dishonestly. We complement Cohen et al. (2007) by showing that managers' fairness concern also matters when the manager is adversely affected by unfair events and that the fairness effect is muted when benefits are not shared.

Our findings are important because ethical situations in firms are inherently ambiguous, yet, typically have a significant impact both on various stakeholders inside and outside the firm. Thus, it is necessary to understand when and why individual managers engage in ethically ambiguous behaviors such as earnings management and how various factors interact to encourage or curtail it. The current study takes a first step toward improving our theoretical understanding in this regard by examining two situation-specific social determinants, an individual's causal attribution and anticipated benefits sharing.

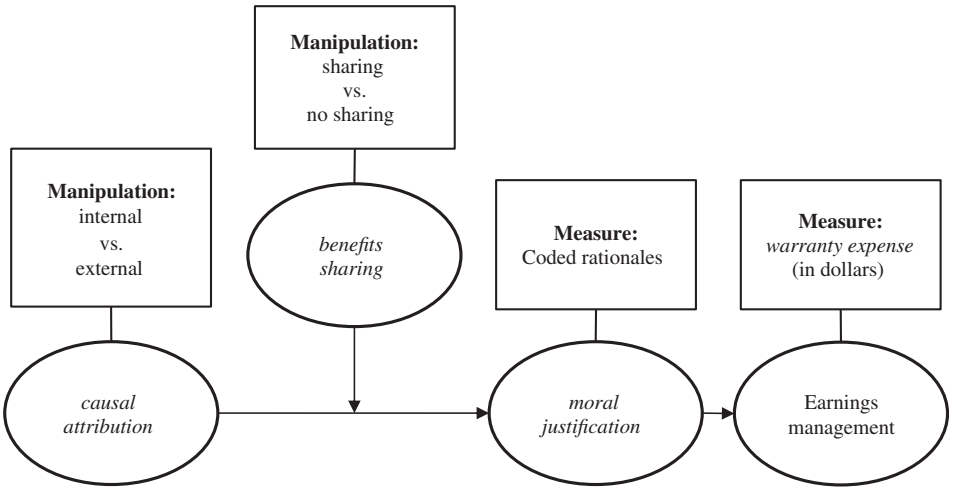
The findings reported here are relevant for practitioners in accounting and business settings, including those charged with regulatory oversight and enforcement, as they can offer insights as to when and where fraud is likely to be committed. Policy-makers and firm directors should aim to develop a more holistic view of possible situational factors when designing and implementing

governance mechanisms to limit situations in which a combination of factors triggers unethical behavior by managers. For example, a bonus-sharing scheme is particularly problematic when managers can easily find external attributions for underperformance. In addition, enforcement agencies may consider focusing their efforts on areas where situational factors provide multiple consistent opportunities for managers to rationalize unethical behavior, such as industry-wide economic shocks that are uncontrollable for individual firms and managers.

Our study opens several avenues for future research. For example, future research may examine the limits and boundary conditions when more than two justification factors are salient. When there are three or more justifications, how do justifications interact in the context of misreporting? Our results hint at interesting questions related to the relative importance (weighting) of salient factors in this context. Future research can also examine if and how managerial behavior changes when the causes of firm performance are ambiguous or mixed, and how executives perceive situations in which potential benefits are more indirectly shared with others, such as when a higher share price benefits the manager and shareholders of the firm. Moreover, it may be interesting to explore whether the rank of beneficiaries of earnings management matters. Will the effect of benefits sharing differ when the benefits are shared with subordinates versus peer managers?

Since our theoretical model is novel, it can be enhanced in various ways. For instance, it would be interesting to extend the scope of our model by examining institutional and cultural moderators of the model. Another option is to explore how personal characteristics such as mindsets (Dweck 2012) and moral flexibility matter to the explanatory power of our model (Gino 2016). The experimental materials allow us to define the key characteristics of our setting very clearly in that (i) participants are deviating from the normal reporting practice if they choose to manage earnings, (ii) the cause of the underperformance is known, and (iii) benefits are either clearly shared or not (depending on the experimental condition). Future research may explore whether our model also applies to contexts where the nature and implications of justification factors are more ambiguous because decision-makers have the ability to selectively access information in most real-world settings.

Appendix: Conceptual model



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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix A. Dependent measure in the main experiment

Appendix B. Examples of coded rationales