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# The Effects of Transparency and Group Incentives on Managers' Strategic Promotion Behavior

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**ABSTRACT:** We investigate managers' propensity to engage in strategic promotion behavior. Strategic promotion behavior occurs when managers pursue personal economic interests when contributing to employee promotion decisions, such that the probability that relatively lower performing employees are selected for a promotion is increased. We develop theory about how two important organizational characteristics—transparency about individual performance levels and the presence of group incentives—jointly affect managers' tendency to strategically influence promotion decisions. Using a stylized lab experiment, we find that transparency about individual performance levels decreases strategic promotion behavior when group incentives are absent but not when group incentives are present. We discuss how our findings contribute to our understanding of management accounting and control systems.

**Keywords:** discretion; experiment; fairness; incentives; performance evaluation; promotions; strategic behavior; teams; transparency.

## I. INTRODUCTION

Most firms rely on middle managers to motivate, guide, and organize employee labor to pursue and attain organizational goals. In doing so, firm owners and executives endow managers with some decision-making authority over employee promotions (e.g., Hofmann and Indjejikian 2018). Several recent accounting studies examine managers' promotion-related judgments and decisions (e.g., Campbell 2008; Grabner and Moers 2013; Bol and Leiby 2018; Chan, Lill, and Maas 2023). However, this research has paid relatively little attention to the fact that delegating promotion decisions to middle managers inherently entails agency costs, as managers' goals do not necessarily align perfectly with those of the firm. In particular, little research considers managers' propensity to engage in strategic promotion behavior, i.e., behavior that increases the probability that relatively lower performing employees are selected for a promotion. This lack of research is surprising, especially given the prevalence of such behavior in practice, as established

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by prior research and surveys of practice (Longenecker, Sims, and Gioia 1987; Prendergast and Topel 1996; Matuson 2015; Molina 2016; Sullivan 2017; Wells 2017). For example, a survey from the Institute for Corporate Profitability (2016) indicates that a majority of firms believe their managers engage in “talent hoarding,” namely, retaining high-performing employees in their current positions, thereby limiting promotions and assignments to tasks in other parts of the firm. Such behavior is detrimental not only to the employees whose career advancement is adversely affected but also to the broader organization and its owners since it results in a suboptimal allocation of labor resources (Sullivan 2017).

The purpose of this paper is to investigate how two key features of the firm’s management control system—transparency about employees’ individual performance levels and the presence of group incentives—affect managers’ propensity to engage in strategic promotion behavior. Transparency is the extent to which information about individual employees’ performance is available to their peers (e.g., Hofmann and Indjejikian 2022; Maas and Yin 2022).<sup>1</sup> The presence of group incentives refers to the extent to which employees’ compensation (monetary or other tangible rewards) depends on the performance of peers. Such incentives are often used by firms to align the interests of employees with those of a group, team, or division (Bushman, Indjejikian, and Smith 1995; Zenger and Marshall 2000).

Chan (2018) suggests that transparency about employees’ individual performance levels can affect promotion decisions in settings where promoted employees continue to work for the same manager but in a higher-level job. When transparency is low, managers can simply promote the most suitable candidate. However, when transparency is high, managers need to take into account that promoting the most suitable candidate may not always be considered fair by the employees, e.g., because other employees who lack the skills required for the higher-level job perform better in their current job. Indeed, Chan (2018) finds that when transparency is high, managers are less likely to promote the most suitable candidate.

Building on Chan (2018), we study the effects of transparency in settings where promoted employees leave the department and no longer work for the same manager. It is in such settings that opportunities for strategic promotion behavior arise, as managers benefit from promoting weaker performers and retaining good performers. In Chan (2018), managers’ main concern is identifying the promotion decision that maximizes their payoff, whereas we study promotion behavior when there is little uncertainty about what managers need to do to maximize their earnings but earnings-maximizing behavior violates fairness norms. We argue that in such settings managers will tradeoff the monetary benefits of strategic promotion behavior against its nonmonetary costs. We further argue that transparency influences these nonmonetary costs but not in a uniform way. The reason is that transparency reveals not only whether promotions are fair but also how the payoffs of not-promoted employees are affected, which crucially depends on whether group incentives are present.

We theorize that making unfair promotion decisions will be costly to managers but that these costs will be (partly) mitigated if the unfairness can be justified by the expected positive effects for the remaining employees. We therefore hypothesize that transparency and group incentives interactively affect managers’ strategic promotion behavior. Consistent with prior literature (e.g., García-Izquierdo, Moscoso, and Ramos-Villagrasa 2012; Chan 2018), we propose that in the absence of group incentives, employees will expect managers to promote the best performer. In such settings, strategic promotions will be difficult to justify such that greater transparency about individual performance likely reduces managers’ strategic promotion behavior. When group incentives are present however, employees also benefit from keeping good performers in the team while promoting weaker performers “up and out.” Managers may therefore find it easier to justify strategic promotion decisions.

We use a laboratory experiment in which we manipulate transparency about peer performance and the presence of group incentives to test our hypothesis. In the experiment, participants are allocated to five-person groups (“divisions”) consisting of one manager and four employees. The employees in each division engage in a real-effort task involving skill for two periods. Employees’ performance directly affects their own pay and the pay of their manager. At the end of the first period, one of the four employees is promoted. Promotion is important to employees, as promoted employees receive higher earnings per unit of output in the second period and thus have the opportunity to earn higher compensation. However, promoted employees leave their division and, consequently, their performance in the second period no longer affects the pay of the manager. Managers observe the first period performance of each employee in their division,

<sup>1</sup> Organizations can manage the level of transparency through policies to actively distribute individual-level performance information among peers. For example, many firms provide relative performance information (RPI) to establish benchmarks, communicate relative standing, and motivate employees (Tafkov 2013). Potentially related, transparency can enable mutual monitoring, in which employees can observe each other’s effort or performance, thereby controlling each other’s behavior to the benefit of a principal. Transparency is not necessarily the result of a deliberate policy to distribute RPI or create mutual monitoring opportunities, however. It can also arise naturally or be a consequence of the implementation of unrelated policies or technologies. For example, transparency will be higher if employees share the same office space or have access to common data files (Feltham and Hofmann 2012; Hofmann and Indjejikian 2022; Maas and Yin 2021). Ultimately, our focus is on the broader construct of transparency.

and then allocate “recommendation credits” that determine each employee’s probability of receiving the promotion. We use this allocation of recommendation credits to measure managers’ strategic promotion behavior.

Our findings support the interaction hypothesis. Specifically, we find that transparency reduces managers’ strategic promotion behavior when group incentives are absent but not when they are present. Additional analyses confirm that managers’ promotion behavior is affected by considerations of fairness and justifiability and suggest that increasing transparency in the presence of group incentives can even strengthen some managers’ propensity to engage in strategic promotion behavior. The results of a supplemental vignette experiment are consistent with those of the main experiment and provide further support for our hypothesis.

Our study contributes to the literature on managers’ use of discretion and the role of nonmonetary considerations in performance evaluation, compensation, and promotion decisions (Bailey, Hecht, and Towry 2011; Maas, van Rinsum, and Towry 2012; Cardinaels and Yin 2015; Chan 2018; Chan, Lill, and Maas 2023). In particular, we extend prior accounting literature on managers’ promotion decisions, expanding the scope of this literature to include managers’ strategic considerations when recommending employees for promotion. Such behavior is prevalent in organizations (Molina 2016; Sullivan 2017; Wells 2017) but is not easily observed in practice or via other means of research, especially given the often private nature of managers’ beliefs, judgments, and actions, as well as the multifaceted nature of promotion decisions and outcomes. Our controlled, stylized experiment facilitates the observation of managers’ strategic behavior and enables us to test theory explaining the joint effect of two factors that are inherent to firms’ organizational control systems on managers’ propensity to engage in such behavior.

Although our main contribution is to the academic literature, the results of our study are also of potential interest to practitioners. Organizations may surmise that strategic promotion behavior is happening and yet find it difficult to identify factors that are driving it and actions that can be taken to prevent it. Our study certainly does not offer universal, prescriptive advice to firms on how to curb strategic promotion behavior. However, our theory and findings might help managers and accountants better understand how organizational design features affect the tradeoffs and behavior surrounding promotions.

## II. BACKGROUND AND HYPOTHESIS DEVELOPMENT

### Background

Firms often award managers discretion over employees’ performance evaluation and compensation, and a vast literature in accounting and related fields has considered what managers actually do with endowed discretion (Ittner, Larcker, and Meyer 2003; Bol 2008; Maas et al. 2012; Du, Erkens, Young, and Tang 2018; Arnold, Hannan, and Tafkov 2018). A small, but evolving, subset of this literature addresses questions related to managers’ decisions about employee job assignments and promotions. Promotions occur when employees move to a new—typically higher—position in the organizational hierarchy where they often have a broader set of responsibilities and the opportunity to earn higher levels of compensation.

Existing accounting research shows that although on average better-performing employees are more likely to be promoted (Blackwell, Brickley, and Weisback 1994; Campbell 2008; Cichello, Fee, Hadlock, and Sonti 2009), the relation between performance and promotions is not straightforward. For example, better-performing employees may be passed over for promotion because they lack the skills that are required in a higher level position (Grabner and Moers 2003; Chan 2018) or because managers’ cognitive limitations make them place too much weight on employees’ initial performance and too little on more recent performance levels (Black and Vance 2021). We suggest another reason that managers fail to promote the best performing employees is that they factor in their own personal interests.

The existing literature on managers’ promotion-related judgment and decision-making has paid relatively little attention to the personal trade-offs that managers face when making promotion decisions. This is surprising, as such trade-offs occur at the most singular level—a one-time decision regarding which individual employee deserves a promotion. More specifically, consider an example scenario in which an internal vacancy exists and a senior manager has asked a division manager to recommend suitable candidates for the open position. If the division manager recommends a high-performing employee for the promotion, they likely yield satisfaction from many sources. For example, enabling the promotion increases the likelihood that the manager is perceived as fair by the employee, which serves as a source of social utility for the manager (e.g., Andreoni and Bernheim 2009), and being able to provide a just reward to the employee allows the manager to reciprocate the employee’s high effort, which also provides social utility (Fehr and Fischbacher 2002; Maas et al. 2012). However, the manager also bears (opportunity) costs related to “losing” the employee’s knowledge, skills, effort, and performance when the promoted employee moves to another division.

We posit that this trade-off can drive a variety of managers' promotion-related actions. Managers who are provided full autonomy over employee promotions can strategically promote employees. That is, they can refrain from promoting their most skilled and hardest working subordinates (Longnecker 1989; Prendergast and Topel 1996). Furthermore, they can seek to promote employees who they would like to see removed from their unit, for example because of their lower ability or effort levels.

In most organizations, however, managers will not have full authority over who is promoted, as promotions are jointly determined by multiple managers throughout the organizational hierarchy. Nonetheless, upper management often leverages lower level managers' knowledge about employees' performance and promotability (Prendergast and Topel 1996; Bol and Leiby 2018). Thus, even when managers do not have full autonomy, they can still behave strategically. For example, managers can provide—or deliberately withhold—information in subtle ways that affect the likelihood that specific employees are promoted.

Indeed, the occurrence of such strategic behavior is a concern in many organizations, as highlighted by, for example, Chamorro-Premuzic and Bhaduri (2017, 2–3):

Those in charge of spotting potential are usually more interested in their own career than others', and they tend to perceive a personal cost to promoting people who are a key asset [...]. [...] when asked to nominate his rising stars he [Ben, the supervisor] makes a conscious decision to exclude his top performer, Sophie. Sophie is an extraordinary resource for Ben, but designating her as a HiPo [High-Potential] would increase the likelihood that she takes on a more senior role and leaves his team [...].

Beyond this anecdote, the prevalence of such behavior is discussed widely in practitioner literature that highlights “talent hoarding” as a primary obstacle to efficient labor allocation within firms, as well as a primary driver of employee dissatisfaction (Matuson 2015; Molina 2016; Sullivan 2017; Wells 2017). A survey conducted by the Institute for Corporate Profitability (2016) finds that more than half of the surveyed managers admitted that talent hoarding occurred in their firm. Such behavior is even more prevalent in low-performing firms. Related to this, Longenecker et al. (1987, 189) provide survey-based evidence related to managers' inflating of employee evaluations “to promote a subordinate ‘up and out’ when the subordinate was performing poorly.”<sup>2</sup>

Assuming that managers sometimes have economic incentives to engage in strategic promotion behavior, we investigate how this behavior is affected by the following two core features of the organizational control system: the level of transparency about employees' performance and the absence versus presence of group incentives.<sup>3</sup> As mentioned, we investigate the role of these two factors because the combination of the level of transparency and the absence versus presence of group incentives is a crucial determinant of the nonmonetary costs that managers incur when they engage in strategic promotion behavior. It is also noteworthy that we can observe different combinations of transparency and group incentives in real-world organizations and that the presence of group incentives does not imply that individual performance is unobservable or unverifiable. Although some organizations may implement group incentives because it is difficult to identify individual contributions to a group output (Alchian and Demsetz 1972), group incentives are also common in settings where individual performance measures are readily available (e.g., Zenger and Marshall 2000) and even in settings where group performance is a simple aggregation of individual inputs (e.g., Bandiera, Barankay and Rasul 2013). In fact, most firms use group incentives alongside individual incentives; for example, department managers' pay is made contingent on both the performance of their own department and of the business unit to which their department belongs (Bushman et al. 1995; Keating 1997).

## Hypothesis Development

The availability of individual performance information to peer employees varies substantially within and across firms (Tafkov 2013; Hofmann and Indjejikian 2022; Maas and Yin 2022). In some settings, employees know very little about their peers' performance levels. Such low levels of transparency may arise naturally, for example because employees work at different locations. Alternatively, the availability of individual performance information can be actively limited, for example via an information suppression policy implemented by the firm (Feltham and Hofmann 2012).

<sup>2</sup> Peter and Hull (1969) label a similar phenomenon, “percussive sublimation,” highlighting the potential for employees to be “pseudo-promoted” to move them from the workflow.

<sup>3</sup> In addition to the assumption that managers are expected to benefit from engaging in strategic promotion behavior, we also make three other basic assumptions when developing our hypothesis. First, we assume that employees can make identifiable individual contributions to a group output that is valuable to their manager. Second, we assume that managers can influence which of the employees in their team is selected for a promotion. Third, we assume that managers do not choose the state of transparency or group incentives, as such autonomy, which likely influences their own response to these factors. As further discussed in Section III, we believe these assumptions do not impede the generalizability of our theory to most real-world settings.



A reason for such a policy could be that firms are concerned that employees might engage in counterproductive knowledge sharing (Berger, Fiolleau, and MacTavish 2019). In other settings, individual performance information is more visible. For example, employees may work closely together, allowing for greater availability of information regarding others' performance. Similarly, firms may publicize staff members' performance levels to increase alignment among employees, establish benchmarks, and/or motivate other employees through social comparison (Hannan, McPhee, Newman, and Tafkov 2013; Tafkov 2013).

When there is transparency about individual performance levels, employees will be able to infer from promotion decisions whether the best performing employee was promoted. Chan (2018) argues and finds that employees perceive it as fair if the best performer is promoted and that the promotion of anyone else but the best current performer is frowned upon and may even reduce employees' future effort. In addition, existing research suggests that managers care about distributing rewards in proportion to employees' contributions (Fehr, Fischbacher, and Gächter 2002; Maas et al. 2012; Demeré, Krishnan, Sedatole, and Woods 2016; Arnold et al. 2018) and about appearing fair and honest in their interactions with their subordinates (Dana, Cain, and Dawes 2006; Andreoni and Bernheim 2009; Ariely, Bracha, and Meier 2009; Bailey et al. 2011). Building on these studies, we argue that transparency increases managers' psychological discomfort of taking actions that are considered unfair by their employees as well as managers' expectations of negative consequences, such as reduced effort levels, that may result from employees' responses to such unfairness.

Although a concern for fairness may thus decrease managers' inclination to engage in strategic promotion behavior as transparency increases, we propose that this effect will be weaker in the presence of group incentives than when group incentives are absent. Group incentives occur when employees' pay is at least partly determined by aggregate performance, such as team performance or business unit earnings (e.g., Bushman et al. 1995; Keating 1997). Firms typically introduce group incentives to encourage cooperation by aligning employees' interests with those of their peers and of the firm (Baker 2000; Zenger and Marshall 2000).

Although group incentives may have beneficial effects on effort and performance (e.g., Conroy and Gupta 2016), we argue that they can also weaken the negative effect of transparency on managers' strategic behavior. The reason is that managers can hide behind the excuse that they are acting in the team's best interest when they engage in strategic promotion behavior.

Although increasing transparency in the presence of group incentives will still reveal whether a fair promotion decision was made, it will simultaneously reveal whether the decision that was made is in the best interest of the remaining team members. When group incentives are present, all team members can expect benefits from keeping the strongest performers in their team and from the expulsion of weaker performers. This can provide managers with some "moral wiggle room" (Dana, Weber, and Kuang 2007) and make it easier for them to justify their strategic behavior. This reasoning is supported by accounting studies suggesting that managers are more likely to increase their earnings by lying about cost or performance figures, if their dishonesty also benefits others (Church, Hannan, and Kuang 2012; Maas and Van Rinsum 2013). Moreover, research in management and organizational psychology suggests that group members may indeed be more forgiving of strategic promotions that are in their own interest, as studies have shown that group members tend to reject weaker performers if they believe that these weaker performers minimize their contribution to the group's objectives and thus hold the group back (LePine and Van Dyne 2001; Jackson and LePine 2003).<sup>4</sup>

In summary, we argue that in absence of group incentives, increasing transparency will have a negative effect on strategic promotion behavior, as depicted by the downward sloping line in Figure 1. Under a group incentive scheme, however, transparency reveals not only the fairness of promotion decisions but also whether the manager acts in the team's interest. Dependent on the exact weight given to the latter consideration in promotion decisions, the effect of transparency under group incentives will either remain slightly negative (but less so than in the absence of group incentives), be neutral, or even be positive. The potential for this effect of transparency to be positive (given group incentives) follows from managers' focus on serving both themselves and the nonpromoted employees and this effect providing sufficient justification for some managers to actually increase strategic promotion behavior (i.e., beyond that exhibited absent transparency). This is graphically shown by the top line in Figure 1.<sup>5</sup> In summary, we predict the following:

**H1:** Transparency about individual performance levels decreases strategic promotion behavior to a greater extent when group incentives are absent than when they are present.

<sup>4</sup> Of course, employees' first preference is likely to be promoted themselves. But, in the absence of this event, the next preference is to reduce the influence of low-performing employees and retain the influence of high-performing employees, thereby enhancing division performance and the employee's own compensation.

<sup>5</sup> Notably, to the extent that managers in nontransparent organizations use the presence of group incentives to justify strategic promotion behavior to themselves (as opposed to the employees), our theory is consistent with the presence of a positive main effect of group incentives on strategic promotion behavior. Since our focus is on the interaction of transparency and group incentives, we do not predict this effect in a formal hypothesis.

**FIGURE 1**  
**Predicted Effects of Transparency and Group Incentives on Strategic Promotion Behavior**

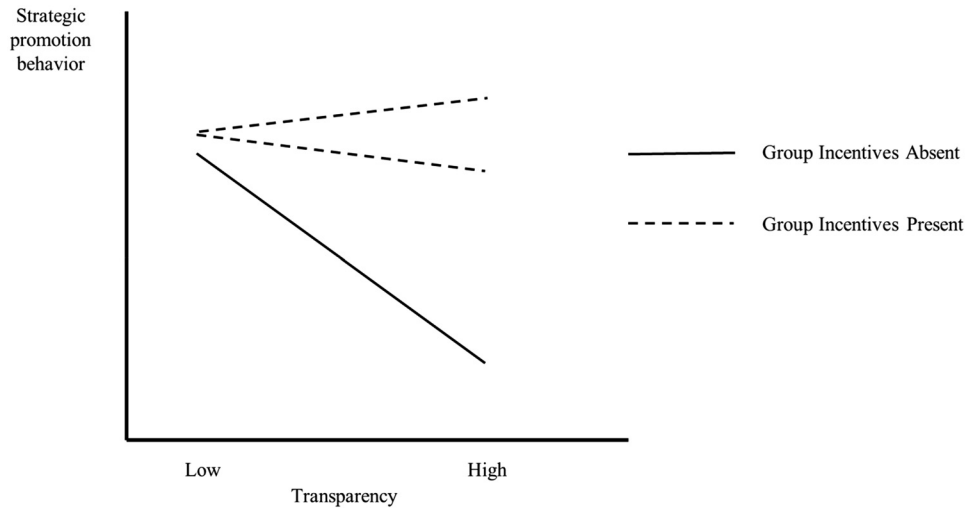


Figure 1 illustrates the predicted interaction effect of transparency about individual performance levels and the presence (versus absence) of group incentives on strategic promotion behavior. Our hypothesis is that transparency decreases strategic promotion behavior to a greater extent when group incentives are absent than when they are present, i.e., that the dashed line will be less steeply downward sloping than the solid line (and potentially even upward sloping).

### III. METHOD

#### Participants and Procedures

To test our hypothesis, we conducted a  $2 \times 2$  between-subjects experiment that was programmed in z-Tree (Fischbacher 2007) and conducted in a computer lab at a large Western European university.<sup>6</sup> The participants were 85 members of the lab's subject pool, mainly undergraduate or master students majoring in economics or business. The participants' age ranged from 18 to 56, with an average of 23.2 years; 54.1 percent identified as male and 45.9 percent as female. Experimental sessions lasted approximately 60 minutes. Participants' earnings ranged from €2.50 to €25.10, with an average of €12.69, including a €2.50 show-up fee. One-way ANOVAs reveal that average pay, age, and work experience do not vary across conditions and Chi-square statistics reveal the same for sex and educational background (all  $p > 0.1$ ).

Upon arrival, participants were randomly assigned to a computer workstation and independently read a hard copy of the instructions. They then took a comprehension quiz, and the session continued as soon as all participants attained a 100 percent score. Participants then engaged in six rounds of the task. They were informed that the first round was a practice round and that this round did not involve compensation. Their understanding of this was confirmed via a comprehension check question. After the final round, participants completed a postexperimental questionnaire, learned which of rounds 2 through 6 was randomly selected as the compensation round, and then received their payment. Participants remained anonymous throughout the session.

#### Task and Experimental Setting

At the start of each round, all participants in the session were randomly assigned to five-person groups ("divisions"). Within each group, one participant was randomly assigned to the role of manager, while the remaining four group members were assigned to the role of employee.<sup>7</sup> In each round, employees engaged in a first 120-seconds-long period of a

<sup>6</sup> The design of the experiment was reviewed and approved by the Research Ethics Committee of the school where the experiment was conducted.

<sup>7</sup> We ran four separate sessions, one for each condition. Three sessions were run with 20 participants and 1 session with 25 participants. The number of participants varies between sessions because of no-shows. Furthermore, as discussed subsequently, each session consisted of five rounds. In each round, five participants were randomly matched to form a group of four employees and one manager. We thus have 85 observations of managers' behavior (3 sessions  $\times$  4 managers  $\times$  5 rounds + 1 session  $\times$  5 managers  $\times$  5 rounds) and 340 observations of employees' behavior.

real effort task (Period 1). The real-effort task consisted of a series of open-ended multiplication problems that were displayed in a fixed order.<sup>8</sup> Managers then received a report containing their division's employees' performance (the number of correctly solved problems for each employee).

After reviewing the performance information, managers made recommendation decisions. Specifically, managers distributed a total of 100 "recommendation credits" among the four employees (they were required to allocate all 100 credits). Each recommendation credit allocated to an employee increased this employee's likelihood of being promoted by 1 percent. Recommendation credit allocations were not visible to the employees. The computer then determined which employee obtained the promotion, using a random number generator and taking into account the employee-specific probabilities reflected in managers' recommendation credit allocations. The number of recommendation credits allocated to the weakest performing employee serves as our main measure of the extent to which managers engage in strategic promotion behavior, as this is a clear indicator of managers' intentions to distort the promotion process to serve their own interests.

Employees learned whether they were promoted or not and then engaged in the same task during a second 120-seconds-long period (Period 2). In Period 2, promoted employees had the opportunity to earn higher compensation than not-promoted employees for a similar level of effort. At the end of Period 2, performance levels and payoffs were calculated and displayed, and the round ended.

Managers in all conditions received compensation based on the performance of their division's employees. In Period 1, managers received 400 points  $\times$  the average number of correct answers across all four employees. In Period 2, managers received 400 points  $\times$  the average number of correct answers across the three remaining (i.e., not promoted) employees.<sup>9</sup> Employees were paid according to the incentive scheme in their experimental condition, as described below.

We manipulated our two independent variables between-subjects. First, we manipulated transparency about individual performance levels (i.e., the number of multiplication problems completed accurately in Period 1) at two levels, namely, low and high. Employees in the low transparency conditions received feedback only about their own performance and the aggregate performance of the four employees of their division. They did not receive any information about the other employees' individual performance levels.<sup>10</sup> Employees in the high transparency conditions received the same information but in addition received information about the specific performance levels of each of the three other employees in their division (employees were identified by letters that were assigned randomly at the beginning of each round, e.g., "employee A," "employee B"). Managers received the same information in all conditions, as follows: individual performance figures for each employee in their division, as well as a calculation of their employees' aggregate and average performance.

Second, we manipulated the presence of group incentives. In Period 1, employees in the group incentives absent conditions received 150 points for each problem they correctly solved. Employees in the group incentives present conditions received 100 points for each correct answer, as well as 50 points  $\times$  the average number of correct answers for all four employees in the division. In Period 2, employees were paid differently, according to status, as follows: promoted employees earned 400 points for each correct answer, whereas not-promoted employees continued to be compensated as in Period 1, according to the experimental condition they were in (in Period 2, not-promoted employees' group-based pay component was based on the average performance of the three remaining employees). Note that an employee who performs at the division average should expect the same payoff under both incentive schemes.

### Additional Discussion of Design and Setting

We purposefully use a stylized experiment to conduct a clean test of our theory (Swieringa and Weick 1982; Libby, Bloomfield, and Nelson 2002). Thus, our research setting allows us to cleanly manipulate our independent variables of interest while holding other factors constant and minimizing potential confounds. Inherently, this approach requires that our operational setting abstracts away several factors that may increase or decrease strategic promotion behavior in the real world. We briefly discuss some important features of our experimental design below, explaining how they relate to assumptions underlying our theory and how they may affect the theory's generalizability.

<sup>8</sup> Managers had the option of also completing the multiplication task, without implications for the group or any of its members.

<sup>9</sup> During the experiment, compensation was expressed in "points." Points were translated into euros at an exchange rate of 0.1 eurocent per point.

<sup>10</sup> The low transparency conditions thus involved some information-sharing, as employees were informed about aggregate employee performance for the round. This allowed them to calculate the average performance level in their division and compare their own performance to this average (albeit not to other employees' individual performance levels). The main reason for this design choice was that knowledge of the average performance level is a requirement for our group incentive scheme contract. By also providing information about the division's aggregate performance to participants in the group incentives absent conditions, we avoid confounding the incentive scheme manipulation with the availability of information about aggregate/average performance levels.



First, we deliberately created a setting in which managers have both the opportunity and an economic incentive to engage in strategic promotion behavior. In real world settings, the opportunity for strategic behavior surrounding promotions can be significant (Longenecker, Sims, and Gioia 1987; Matuson 2015; Molina 2016; Sullivan 2017; Wells 2017), especially when firms rely heavily on managers' information to determine employee promotions. However, managers' opportunity for strategic behavior can also be more constrained. Such constraints might include limits on managers' promotion-related judgments and decisions or the implications thereof (i.e., managers might only have limited influence on which of their subordinates is promoted). Other constraints are more endogenous. For instance, a manager's repeated interactions with a given employee might limit the extent to which the manager can be strategic (i.e., a deserving employee can only be passed over for promotion a few times) and a talented labor pool makes it easier for managers to replace top performers. Notably, we do not explicitly model these constraints in our study because our intention is to create a setting in which strategic promotion is likely (but not guaranteed) to occur, in order to be able to observe how such behavior is affected by our independent variables. Regarding managers' economic incentives to engage in strategic promotion behavior, recall that our theory assumes that such incentives are present. Consequently, we created a setting in which managers' monetary payoff is likely maximized if the lowest performing employee is promoted. As indicated, we assume that economic incentives for strategic promotion behavior often exist in the real world; however, we also acknowledge that they will typically be less straightforward, although not necessarily weaker, than in our experimental setting. As our theory focuses on how managers trade-off the (monetary) benefits of strategic promotion behavior against the (nonmonetary) costs of such behavior, it does not generalize to real world settings in which managers do not expect any potential benefits from promoting weaker performers.

Second, another assumption of our theory, and a deliberately designed feature of our operational setting, is that employees benefit from being promoted and thus prefer being promoted over remaining in their group. In our experiment, the compensation paid to promoted employees is more than twice that received by nonpromoted employees. Furthermore, since there is no interaction among employees and thus no opportunity for team identity or other social ties to develop, there is likely no intrinsic motivation to remain part of the subgroup of nonpromoted employees. We acknowledge that in the real world, employees may sometimes prefer to stay in their current position instead of moving to another, despite thus forgoing much higher compensation. This may in turn increase or decrease strategic promotion behavior depending on whether the specific employee's preference is aligned with their manager's preference.

Third, our theory assumes that employees can make identifiable individual contributions to a group output that is valuable to their manager. In our experiment, each employee produces only one performance signal, which is always observed by the manager and, depending on the level of transparency, is also shared with the employees' peers. In the real world, there may be multiple performance signals, and increasing transparency about one dimension of performance does not necessarily imply increasing transparency about all other dimensions. For example, even in transparent firms managers may have private information that allows them to better differentiate between strong and weak candidates for promotion (e.g., managers may have information about employees' specific abilities as opposed to just performance) (Grabner and Moers 2013; Chan 2018). However, such private information is likely subjective and difficult to verify. We deliberately refrain from including this type of information in our experiment because its presence would weaken the study's internal validity, while not altering our predictions.

Specifically, allowing for additional private information would weaken the study's internal validity because it would be more difficult to cleanly discern managers' promotion recommendations based on their actual perceptions of employee's suitability for promotion from those involving intentional strategic behavior. This would especially be the case if the different performance signals were inconsistent about which employee deserves to be promoted. The presence of additional private information would not alter our prediction because even when employees realize that managers have such information, they would not be immune to the effect of higher transparency about individual performance levels. The reason is that employees, by definition, cannot assess the quality and content of managers' private information and may therefore choose to ignore or discredit it, instead anchoring on the information that is available. Managers, in turn, will likely realize that employees will focus on the verifiable information that is available when assessing the fairness and appropriateness of the promotion decision. Indeed, Chan (2018) shows that even when managers have private information about which employee's skill set is best suited for the higher level position, their promotion decisions are still influenced by whether or not employees know how their current performance compares to that of their peers.<sup>11</sup>

<sup>11</sup> This discussion does point toward a boundary condition of our theory. We would not expect our reasoning to hold in (arguably rare) situations in which employees know with certainty that current performance is not informative at all about performance after promotion, and current performance also does not in any other way affect employees' perceptions of entitlement for promotion. Such a situation equates to one in which employees have no information or idea regarding their own or their peers' promotability and is thus well outside the scope of our study.

Fourth, rather than choosing who gets promoted directly, managers in our experiment allocate available "recommendation credits" that influence employees' likelihood of receiving a promotion. We made this design choice to model a setting in which managers inform, but do not necessarily ultimately determine, employee promotions. This setting allows us to more reliably observe managers' preferences regarding which employees get promoted and avoids having to infer such preferences and behavior from binary promotion choices. In addition, our measure generalizes to many tactics in which managers can engage to strategically influence promotion decisions. It is also in line with real world settings in which recommendations for promotions will nearly always be private, such that employees can never be sure whether they were (not) promoted because of what their manager told the selection committee. Notably, because employees do not have certainty about manager's actions, our approach is also a conservative design choice that likely works against us finding support for our hypothesis.

Finally, although we explicitly model promotion benefits as the opportunity to receive higher compensation for the same performance, our study is intended to generalize to settings involving promotion-related benefits beyond direct compensation (e.g., prestige, status, expanded responsibilities, and opportunities). Related, although we label the manager's decision a promotion decision, our theory generalizes to other scenarios in which employees need to be selected for a position that provides them with benefits but results in them reporting to a different manager.

## IV. RESULTS

### Descriptive Statistics and Preliminary Analyses

We have data from 85 divisions, with each consisting of four employees and one manager. [Table 1](#) contains descriptive statistics about employee performance in Period 1, which is the work period preceding the promotion decision. Performance varies between 0 and 43 accurately solved multiplication problems, and the mean number of accurately solved problems in Period 1 is 21.47. An untabulated ANOVA indicates a nonsignificant difference in average performance levels across conditions ( $F_{3,81} = 1.82, p = 0.151$ ).

[Table 2](#) contains descriptive statistics about the dependent variable, namely, managers' allocation of recommendation credits. *Credits\_to\_Worst* is the number of recommendation credits that the manager assigned to the employee with the lowest performance in Period 1. To calculate the descriptive statistics for observations with a tie for lowest performance, we took the average allocation to the tied lowest performers in these divisions.<sup>12</sup> [Table 2](#) reveals that managers in all four conditions gave a substantial proportion of the recommendation credits to the worst performer. This proportion ranges from 34.70 percent in the high transparency-group incentives absent condition, to 71.25 percent in the high transparency-group incentives present condition. The average across the conditions is 57.13 percent, which is statistically different from 0 ( $t_{84} = 12.439, p < 0.001$ ). The worst performer received the most recommendation credits of all four employees, on average, in all four conditions. Notably, as discussed earlier, it is not the intention of our study to draw conclusions regarding the overall incidence level of behavior facilitating the promotion of the weakest performer. Rather, we intended to create a setting in which strategic promotion behavior occurs, such that potential variation in such behavior as driven by the independent variables of interest can be observed. These descriptive statistics suggest that we succeeded in creating such a setting.

Finally, [Table 3](#) presents descriptive statistics about employee performance in Period 2, following the promotion decision. On average, the performance of promoted employees in Period 2 is 22.74 and the performance of not-promoted employees is 24.70. This difference is significant ( $t_{338} = 2.21; p = 0.028$ ). Moreover, there is some variation in employee performance across conditions, both for promoted and for not-promoted employees.<sup>13</sup>

### Hypothesis Test

To test the hypothesis, we analyze our data using the method Generalized Estimating Equations (GEE) ([Ballinger 2004](#); [Shah, Ball, and Netessine 2017](#)). We use GEE because our observations are not independent, as several managers

<sup>12</sup> In seven divisions, there is a tie for lowest performance (in five cases between two employees and in two cases between three employees). In only one case did the manager allocate different numbers of credits to the tied employees. For our main analyses, we include all observations. Our results are inferentially identical if we test our hypothesis in a subsample of observations without ties ( $n = 78$ ).

<sup>13</sup> A detailed analysis of employees' postpromotion performance is beyond the scope of our study. However, we note that the performance level of the promoted employee varies significantly across conditions ( $F_{3,81} = 2.95; p = 0.038$ ). Bonferroni-corrected *post hoc* tests reveal that the performance of the promoted employee is marginally higher in the high transparency-group incentives present condition (25.95) than in both the low transparency-group incentives absent (21.12;  $p = 0.098$ ) and the high transparency-group incentives absent condition (20.60;  $p = 0.071$ ). The average performance of the three not-promoted employees in Period 2 also varies across conditions ( $F_{3,251} = 2.90; p = 0.035$ ). In addition, Bartlett's test indicates that there is heterogeneity in the variance ( $\chi^2 = 17.32; p = 0.001$ ). The only (marginally) significant *post hoc* comparison after applying a Games-Howell adjustment is between the high transparency-group incentives absent condition, in which the average performance level is the lowest (22.45), and the low transparency-group incentives present condition, in which the average performance is the highest (26.05;  $p = 0.080$ ).

**TABLE 1**  
**Descriptive Statistics about Period 1 Performance Levels in Each Experimental Condition**

Statistics by Level	Group Incentives Absent		Group Incentives Present		Overall (n = 85)
	Low Transparency (n = 25)	High Transparency (n = 20)	Low Transparency (n = 20)	High Transparency (n = 20)	
Highest performance level in Period 1					
Mean	28.28	29.65	31.65	28.10	29.35
Std. Dev.	4.82	7.63	7.53	4.52	6.26
Minimum	18	17	20	21	17
Maximum	38	42	43	38	43
Lowest performance level in Period 1					
Mean	15.72	10.20	13.10	12.95	13.15
Std. Dev.	4.96	6.01	5.08	8.52	6.44
Minimum	7	0	6	0	0
Maximum	25	24	21	26	26
Average performance level in Period 1					
Mean	21.92	19.51	22.78	21.58	21.47
Std. Dev.	3.74	4.99	4.85	4.96	4.68
Minimum	12.25	8.75	14.00	13.50	8.75
Maximum	28.75	30.50	30.25	30.75	30.75

This table contains descriptive statistics about employee performance levels in Period 1 in each of the four experimental conditions and overall. Employee performance is measured as the number of correctly solved multiplication problems. In the low transparency conditions, employees were not informed about each other's individual performance after Period 1, whereas in the high transparency conditions, they were informed. In the group incentives absent conditions, employees were paid based on their individual performance only, whereas in the group incentives present conditions employees' pay was partly based on the aggregate performance of all employees in the division. n = 85.

**TABLE 2**  
**Descriptive Statistics about Managers' Strategic Promotion Behavior in Each Experimental Condition**

Statistics	Group Incentives Absent		Group Incentives Present		Overall
	Low Transparency	High Transparency	Low Transparency	High Transparency	
n	25	20	20	20	85
Mean	64.28	34.70	56.50	71.25	57.13
Std. Dev.	38.43	41.89	38.19	45.19	42.34
Minimum	0	0	0	0	0
Maximum	100	100	100	100	100

This table reports descriptive statistics (observed means, Std. Dev., and minimum and maximum values) for *Credits\_to\_Worst*, our measure of strategic promotion behavior, in each of the four experimental conditions. *Credits\_to\_Worst* is the proportion of recommendation credits that the manager assigned to the employee with the lowest performance level in Period 1. n = 85.

provide multiple observations (i.e., some participants played the role of manager in multiple rounds). GEE allows us to take into account the underlying correlation structure of the data and to calculate robust standard errors (Zeger and Liang 1986; Hanley, Negassa, Edwardes, and Forrester 2003; Hubbard et al. 2010). We estimate the models with an exchangeable working correlation matrix structure.<sup>14</sup>

<sup>14</sup> We have observations from 61 different supervisor participants. Of these 61 participants, four supervisors contribute three observations, 16 contribute two observations, and the remaining 41 contribute one observation. In our GEE analyses, clusters are defined by participant identifiers (IDs) and the within-subjects variable is the round in which the observation occurred.

**TABLE 3**  
**Descriptive Statistics about Period 2 Performance Levels in Each Experimental Condition**

Statistics	Group Incentives Absent		Group Incentives Present		Overall
	Low Transparency	High Transparency	Low Transparency	High Transparency	
Performance of not-promoted employee in Period 2					
n	75	60	60	60	255
Mean	24.99	22.45	26.05	25.23	24.70
Std. Dev.	5.965	9.252	6.905	5.933	7.157
Minimum	11	0	13	13	0
Maximum	41	42	41	45	45
Performance of promoted employees in Period 2					
n	25	20	20	20	85
Mean	21.12	20.60	23.70	25.95	22.74
Std. Dev.	5.349	6.954	6.689	7.388	6.791
Minimum	11	8	12	12	8
Maximum	33	33	36	44	44

This table contains descriptive statistics reflecting employee performance levels in Period 2 of the experiment in each of the four experimental conditions, and overall.  $n = 85$ .

**TABLE 4**  
**Effects of Transparency and Group Incentives on Managers' Strategic Promotion Behavior**

Parameter	Wald $\chi^2$	df	p-value
Source			
<i>Transparency</i>	0.85	1	0.355
<i>Group_Incentives</i>	2.71	1	0.100
<i>Transparency</i> $\times$ <i>Group_Incentives</i>	6.45	1	0.011
Simple effects			
Effect of transparency			
When group incentives are absent	5.72	1	0.017
When group incentives are present	1.37	1	0.241
Effect of group incentives			
When transparency is low	0.53	1	0.466
When transparency is high	7.03	1	0.008

This table contains model effects and contrasts of predicted margins obtained using generalized estimating equations. The dependent variable is *Credits\_to\_Worst* that is our measure of managers' strategic promotion behavior. *Credits\_to\_Worst* is the proportion of recommendation credits that the manager assigned to the employee with the lowest performance level in Period 1. *Transparency* is a dummy variable that takes on the value 1 (0) if the observation is from a high (low) transparency condition. In the low transparency conditions, employees were not informed about each other's individual performance after Period 1, whereas in the high transparency conditions, they were informed. *Group\_Incentives* is a dummy variable that takes on the value 1 (0) if the observation is from a group incentives present (Absent) condition. In the group incentives absent conditions, employees were paid based on their individual performance only, whereas in the group incentives present conditions, employees' pay was partly based on the aggregate performance of all employees in the division.  $n = 85$ .

We create two dummy variables. *Transparency* has value 1 (0) for observations from the high (low) transparency condition. *Group\_Incentives* has value 1 (0) in the group incentives present (absent) condition. We specify a model with *Credits\_to\_Worst* as the dependent variable and *Transparency*, *Group\_Incentives* and their interaction as independent variables.

Recall that the hypothesis predicts that transparency decreases strategic promotion behavior to a greater extent when group incentives are absent than when group incentives are present. Consistent with the hypothesis, the results in Table 4 show that the *Transparency*  $\times$  *Group\_Incentives* interaction term has a significant effect on *Credits\_to\_Worst*

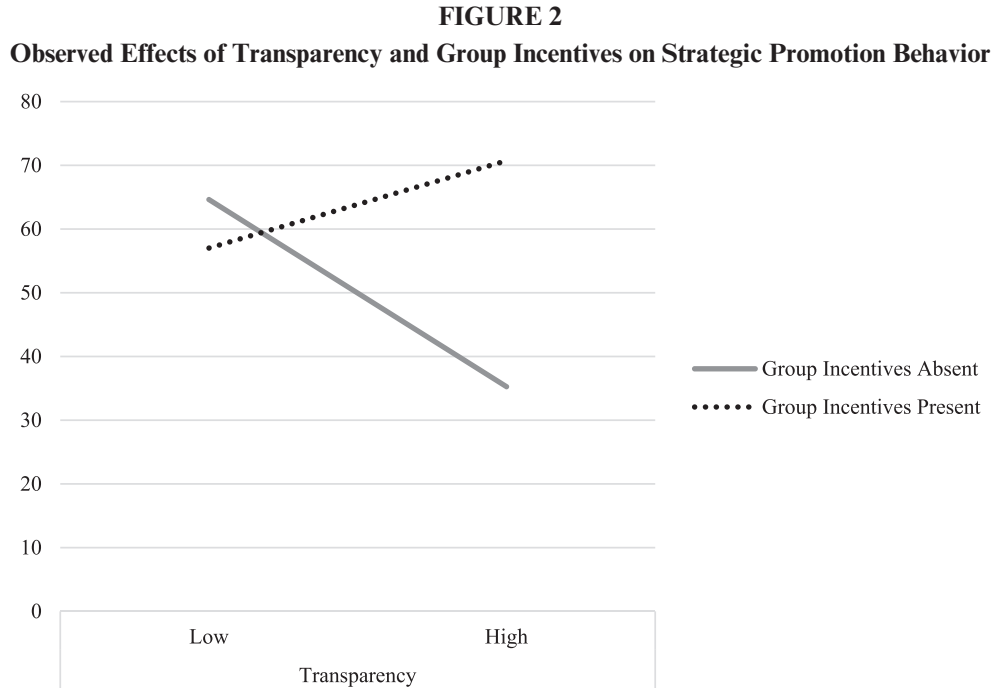


Figure 2 depicts the estimated marginal means of *Credits\_to\_Worst*, our main measure of strategic promotion behavior, in each of the four experimental conditions. *Credits\_to\_Worst* is the proportion of recommendation credits that the manager assigned to the employee with the lowest performance level in Period 1. In the low transparency conditions, employees were not informed about each other's individual performance after Period 1, whereas in the high transparency conditions, they were informed. In the group incentives absent conditions, employees were paid based on their individual performance only, whereas in the group incentives present conditions, employees' pay was partly based on the aggregate performance of all employees in the division.  $n = 85$ .

(Wald  $\chi^2 = 6.45$ ,  $p = 0.011$ ). Planned comparisons of marginal means reveal that although increasing transparency reduces managers' strategic promotion behavior when group incentives are absent ( $-29.37$ , Wald  $\chi^2 = 5.72$ ,  $p = 0.017$ ), transparency does not affect managers' strategic promotion behavior when group incentives are present ( $13.70$ , Wald  $\chi^2 = 1.37$ ,  $p = 0.241$ ).<sup>15</sup> Figure 2 plots estimated marginal means per condition, and shows diverging slopes of the lines that reflect the effect of transparency in the absence and presence of group incentives. These results strongly support our hypothesis.<sup>16</sup>

### Additional Analyses

#### *Robustness to Alternative Dependent Variables*

We conduct a number of additional analyses with alternative dependent variables. First, it is possible that the potential alternative motive to allocate points in line with relative employee performance affects our results. We therefore rerun our main analysis with a new dependent variable, *Credits\_to\_Worst\_over\_Relative\_Performance*. This variable is calculated by subtracting the points that would be allocated to employees based on their individual performance relative to the division employees' aggregate performance from the credits actually assigned to this employee. As reported in Table 5, Panel A, the results of this analysis are inferentially identical to the results of our main analysis. Specifically, the

<sup>15</sup> Results in Table 4 also show that the main effect of *Transparency* on *Credits\_to\_Worst* is not significant (Wald  $\chi^2 = 0.85$ ,  $p = 0.355$ ), whereas the main effect of *Group\_Incentives* on *Credits\_to\_Worst* borders on statistical significance (Wald  $\chi^2 = 2.71$ ,  $p = 0.100$ ). Furthermore, marginal means comparisons indicate that the presence of group incentives does not affect strategic promotion behavior when transparency is low (Wald  $\chi^2 = 0.53$ ,  $p = 0.466$ ) but significantly increases strategic promotion behavior when transparency is high (Wald  $\chi^2 = 7.03$ ,  $p = 0.008$ ).

<sup>16</sup> We also run our main analysis using a conventional regression model that includes random effects for individual managers. The results of this additional analysis are similar to those of our main analysis; the interaction is significant ( $p = 0.011$ ), as is the simple effect of transparency when group incentives are absent ( $p = 0.018$ ). As in our main analysis, the simple effect of transparency when group incentives are present is not significant ( $p = 0.224$ ). The only notable difference is that the main effect of group incentives in this additional analysis is marginally significant ( $p = 0.098$ ), whereas this main effect borders on significance in our main analysis ( $p = 0.100$ ). Thus, support for our hypothesis is not contingent on our use of GEE.



**TABLE 5**  
**Supplemental Analyses**

**Panel A: Effects of Transparency and Group Incentives on *Credits\_to\_Worst\_over\_Relative\_Performance***

Parameter	Wald $\chi^2$	df	p-value
<i>Transparency</i>	0.33	1	0.568
<i>Group_Incentives</i>	3.00	1	0.083
<i>Transparency</i> × <i>Group_Incentives</i>	5.03	1	0.025

**Panel B: Effects of Transparency and Group Incentives on *All\_Credits\_to\_Worst***

Parameter	Wald $\chi^2$	df	p-value
<i>Transparency</i>	0.14	1	0.712
<i>Group_Incentives</i>	1.36	1	0.244
<i>Transparency</i> × <i>Group_Incentives</i>	11.13	1	<0.001

This table contains model effects obtained using generalized estimating equations with two alternative specifications of the dependent variable. Panel A reports results with *Credits\_to\_Worst\_over\_Relative\_Performance* as the dependent variable. *Credits\_to\_Worst\_over\_Relative\_Performance* is calculated by subtracting the points that would be allocated to the employee based on their performance relative to the peer group's total performance from the credits actually assigned to this employee. Panel B reports results with *All\_Credits\_to\_Worst* as the dependent variable. *All\_Credits\_to\_Worst* is a dummy with a value of 1 when all credits were assigned to the worst performer, and 0 otherwise. Because in this analysis the dependent variable is binary, the model is specified with a logit link. *Transparency* is a dummy variable that takes on the value 1 (0) if the observation is from a high (low) transparency condition. In the low transparency conditions, employees were not informed about each other's individual performance after Period 1, whereas in the high transparency conditions, they were. *Group\_Incentives* is a dummy variable that takes on the value 1 (0) if the observation is from a group incentives present (Absent) condition. In the group incentives absent conditions, employees were paid based on their individual performance only, whereas in the group incentives present conditions, employees' pay was partly based on the aggregate performance of all employees in the division.  $n = 85$ .

interaction term *Transparency* × *Group\_Incentives* has a significant effect on strategic promotion behavior (Wald  $\chi^2 = 5.03$ ,  $p = 0.025$ ).<sup>17</sup> Simple effects analyses (not tabulated) show that in the absence of group incentives, there is a marginally significant negative effect of transparency (Wald  $\chi^2 = 3.65$ ,  $p = 0.056$ ), whereas in the presence of group incentives, the effect of transparency is positive but not significant (Wald  $\chi^2 = 1.53$ ,  $p = 0.217$ ).

Next, probably the clearest (and most extreme) instances in which managers act strategically are when they allocate all 100 recommendation credits to the worst performer, promoting this employee with certainty. To explore this more extreme behavior, we code each observation using a dummy variable, *All\_Credits\_to\_Worst*, indicating whether all of the credits were provided to the worst-performing employee. We estimate a logit model for this dependent variable that is otherwise similar to our main analysis model. We again find inferentially identical results. As reported in Table 5, Panel B, the interaction term *Transparency* × *Group\_Incentives* is significant (Wald  $\chi^2 = 11.13$ ,  $p < 0.001$ ), and simple effects analyses (not tabulated) suggest a negative effect of transparency in absence of group incentives (Wald  $\chi^2 = 8.16$ ,  $p = 0.004$ ) and a positive effect of transparency when group incentives are present (Wald  $\chi^2 = 7.05$ ,  $p = 0.008$ ).

Ultimately, our conclusions are robust to these alternative measures of strategic promotion behavior—which are not without limitations. The *Credits\_to\_Worst\_over\_Relative\_Performance* variable assumes that employees' relative performance is the benchmark for recommendation credit allocation for all managers, which is not necessarily the case. For example, some managers may consider promotion with certainty (e.g., assigning all credits to the best performer) a more justified benchmark. The *All\_Credits\_to\_Worst* measure is clear but reflects an extreme form of strategic promotion behavior that does not capture more subtle strategic actions.

### Postexperimental Questionnaire Data

We used a postexperimental questionnaire (PEQ) to collect demographic information and to learn more about the participants' beliefs and the reasoning behind their decisions. However, it should be noted that, given that the participants in our experiment completed multiple rounds of the task and most participants played different roles, the interpretation of participants' answers to the items in the questionnaire is not straightforward and should thus be undertaken with caution.

<sup>17</sup> Unlike our main analysis, the main effect for *Group\_Incentives* is marginally significant (Wald  $\chi^2 = 3.00$ ,  $p = 0.083$ ).

We analyzed the responses of the 61 participants who acted as manager at least once to a number of items asking them how important specific considerations were when they allocated their recommendation credits. These responses were measured on seven-point Likert scales (1 = “very unimportant”; 7 = “very important”). The data indicate that managers were primarily concerned about how the allocation would affect their own payoff (mean = 6.21; Std. Dev. = 1.36). To a lesser extent, they were also concerned about how the allocation would affect the payoffs of the employees (mean = 3.82; Std. Dev. = 2.28). Consistent with existing research on social preferences (e.g., [Fehr and Fischbacher 2002](#); [Kamas and Preston 2012](#)), we observe more heterogeneity among managers when responding about the payoffs of the employees.

Next, we use the PEQ data to further explore managers’ motivations to engage in strategic promotion behavior. Specifically, we examine how managers’ stated beliefs about employees’ expectations are aligned with their allocation of the recommendation credits. Our theory holds that strategic behavior is a function of fairness concerns and the ability to justify selfish actions using employees’ interests. In the questionnaire, we asked managers to indicate, on a seven-point Likert scale, their level of (dis)agreement with three statements outlining that the best performer deserved recommendation credits (“I assumed the Employees expected me to allocate [ALL/MOST/AT LEAST SOME] of the recommendation credits to the BEST performer”). We average these items to construct a reliable scale of the extent to which managers were concerned about the *fairness* of their credit allocation ( $\alpha = 0.843$ ). Similarly, we construct a measure of the extent to which managers considered the employees’ interests as an excuse to act strategically. The three items we use for this measure reflect the manager’s argument that allocating credits in line with strategic promotions is desired by the employees (“I assumed the Employees expected me to allocate [ALL/MOST/AT LEAST SOME] of the recommendation credits to the WORST performer,”  $\alpha = 0.810$ ). Next, we convert these two variables into a single variable by subtracting the average of the three items related to the “excuse argument” from the average of the items related to the “fairness argument.” We label the managers who score above the midpoint on this scale HIGH\_FAIR managers, as for those managers fairness concerns dominate, and those who scored below the midpoint HIGH\_EXCUSE managers. Note that the midpoint of the scale (0) equals the median.<sup>18</sup> Next, we run our main analysis separately for the two subsamples of managers ([Maas et al. 2012](#)).

For HIGH\_FAIR managers, we find a significant main effect for transparency (Wald  $\chi^2 = 5.49$ ,  $p = 0.019$ ). Neither the main effect for group incentives (Wald  $\chi^2 = 1.34$ ,  $p = 0.247$ ) nor the interaction term (Wald  $\chi^2 = 0.27$ ,  $p = 0.603$ ) are significant. Results are graphically depicted in [Figure 3](#), Panel A. The figure shows that managers who are more concerned with fairness motives reduce their strategic promotion behavior in response to increased transparency, irrespective of the presence of group incentives. This is in line with our theoretical reasoning related to fairness.

For HIGH\_EXCUSE managers, we find nonsignificant main effects for transparency (Wald  $\chi^2 = 0.63$ ,  $p = 0.427$ ) and group incentives (Wald  $\chi^2 = 0.01$ ,  $p = 0.933$ ), whereas the interaction term is significant (Wald  $\chi^2 = 6.62$ ,  $p = 0.010$ ). Results for this subsample are displayed in [Figure 3](#), Panel B. This graphical depiction shows that these managers reduce their strategic promotion behavior in response to increased transparency when group incentives are absent (i.e., the downward-sloping line in [Figure 3](#), Panel B). In contrast, when group incentives are present, HIGH\_EXCUSE managers *increase* their strategic promotion behavior in response to increased transparency (i.e., the upward sloping line), consistent with their relatively lower concern for fairness. Collectively, these results are in line with our reasoning that the employees’ monetary interests based on group incentives serve as an excuse for strategic promotion behavior under high transparency.<sup>19</sup>

### Additional Experiment

Our main experiment uses a stylized design in the experimental economics tradition. Although this design enables hypothesis testing with high internal validity, it inherently requires simplifications and abstractions from real world settings ([Bloomfield, Nelson, and Soltes 2016](#); [Kachelmeier and King 2002](#)). To verify the robustness of our findings in more contextualized environments, we ran an additional scenario-based experiment. In this experiment, participants read a vignette that asks them to assume the role of a manager and describes a typical setting in which strategic promotion behavior is possible, i.e., a setting in which the manager may benefit if the weakest performer in the team were selected for promotion. We manipulated transparency and the presence of group incentives between-subjects by varying the description of the setting. The dependent variable strategic promotion behavior was captured by asking participants

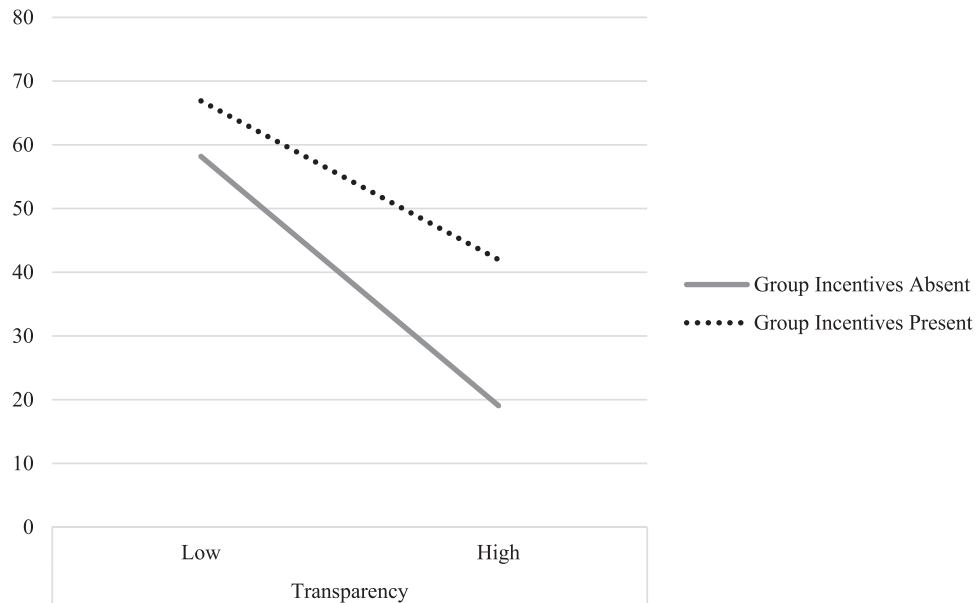
<sup>18</sup> The mean of this variable is  $-0.568$  (Std. Dev. = 2.88).

<sup>19</sup> Using GEE, we also estimate a three-way interaction model with the two manipulations as factors and a continuous version of the manager type measure as third independent variable. Untabulated results show that three-way interaction coefficient is not significant ( $z = -0.93$ ,  $p = 0.352$ ). This suggests that notwithstanding the results of the additional analyses, support for our main hypothesis is not significantly affected by manager type. We again caution readers against overinterpreting the findings related to the PEQ data.

FIGURE 3

Observed Effects of Transparency and Group Incentives on Strategic Promotion Behavior for Different Manager Types

Panel A: Results for HIGH\_FAIR Managers



Panel B: Results for HIGH\_EXCUSE Managers

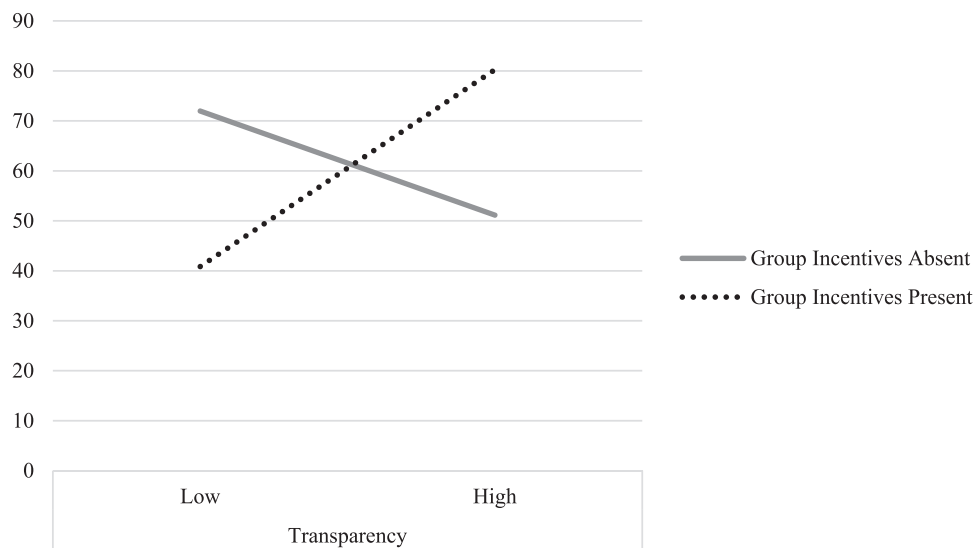


Figure 3 presents the results of the experiment for two different subsamples. Panel A depicts the estimated marginal means of *Credits\_to\_Worst*, our main measure of strategic promotion behavior, in each of the four experimental conditions for HIGH\_FAIR managers, and Panel B depicts these same margins for HIGH\_EXCUSE managers. Managers are classified as HIGH\_FAIR or HIGH\_EXCUSE based on six items in the post-experimental questionnaire that measure their stated beliefs about employees' preference for a fair versus a favorable allocation of the recommendation credits. *Credits\_to\_Worst* is the proportion of recommendation credits that the manager assigned to the employee with the lowest performance level in Period 1. In the low transparency conditions, employees were not informed about each other's individual performance after Period 1, whereas in the high transparency conditions, they were informed. In the group incentives absent conditions, employees were paid based on their individual performance only, whereas in the group incentives present conditions, employees' pay was partly based on the aggregate performance of all employees in the division. n = 40 for Panel A and n = 45 for Panel B.

**FIGURE 4**  
**Results Additional Experiment**

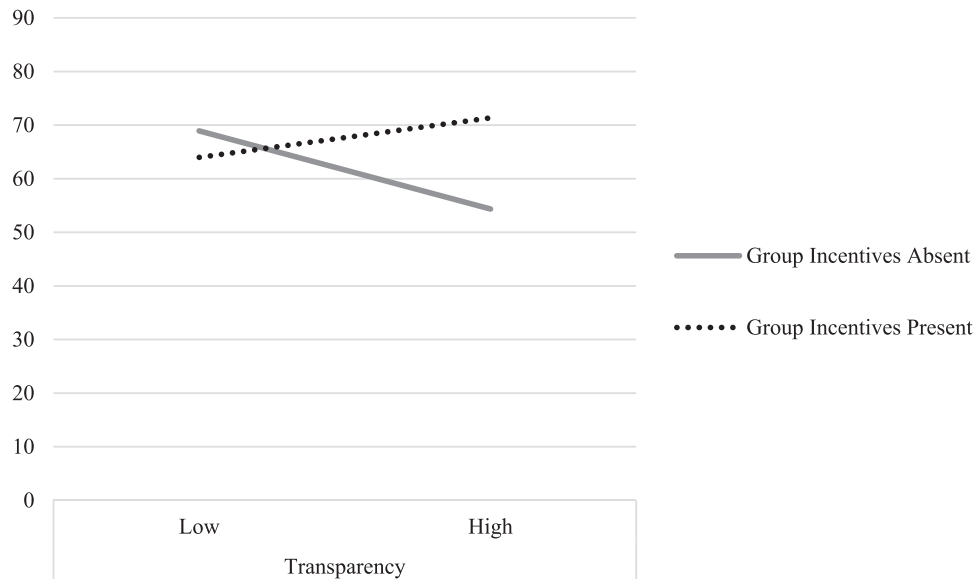


Figure 4 illustrates the results of the additional experiment. In the experiment, participants read a vignette that asks them to assume the role of a manager who has the opportunity of engaging in strategic promotion behavior, i.e., recommending the promotion of a weak performer instead of a stronger performer. Participants indicate on a 0 (extremely unlikely) to 100 (extremely likely) scale how likely they are to engage in such behavior. Transparency and the absence versus presence of group incentives are manipulated in the vignette.  $n = 201$ .

about the likelihood that they would promote the weakest-performing employee (measured on a 101-point scale from 0 = *Extremely unlikely* to 100 = *Extremely likely*). The vignette with the manipulations and the question that was used to measure the dependent variable are in [Appendix A](#).

We recruited U.S. participants with more than five years of work experience on Amazon Mechanical Turk using the MTurk Toolkit of CloudResearch.com ([Litman, Robinson, and Abberbock 2017](#)).<sup>20</sup> In total, 201 participants completed the experiment.<sup>21</sup> The results are reported in [Table 6](#) and illustrated in [Figure 4](#). [Table 6](#), Panel A provides descriptive statistics, Panel B provides the results of a factorial ANOVA, and Panel C provides planned contrasts. The results show that, on average, participants' responses suggest a moderate likelihood of strategic promotion behavior (mean = 62.81, Std. Dev. = 30.20). This finding is important because it indicates that strategic promotion behavior is unlikely to exist only in stylized settings in which managers' monetary incentives are relatively straightforward. A factorial ANOVA indicates that the variation in the likelihood of strategic promotion behavior is explained by our independent variables and that the pattern is similar to our main experiment. More specifically, we find a marginally significant interaction effect of *Transparency* and *Group\_Incentives* ( $F = 3.07$ ,  $p = 0.082$ ). As in our main experiment, increasing transparency decreases strategic promotion behavior when group incentives are absent ( $t = -2.345$ ,  $p = 0.021$ ), but it does not affect strategic promotion behavior when group incentives are present ( $t = 0.039$ ,  $p = 0.969$ ).<sup>22</sup> In summary, a more contextualized judgment and decision-making experiment confirms that strategic promotion behavior may exist outside of the laboratory and that its prevalence is affected by the interaction of transparency and the presence of group incentives as hypothesized.

<sup>20</sup> The experiment was approved by the Ethics Committee at the school of one of the authors.

<sup>21</sup> The target sample size was 200 and we received 201 completed instruments. We included several attention checks in the instrument, and although some participants failed a check, on average, the results indicate that participants paid attention and had an accurate understanding of the scenario. We thus leave all 201 observations in the sample.

<sup>22</sup> In our main experiment, we find that strategic promotion behavior is lower in the condition in which transparency is high and group incentives are absent than in the other three conditions. A custom (+1 -3 +1 +1) contrast shows that this pattern is also present in the data from the additional experiment. Following the procedure recommended by [Guggenmos, Piercey, and Agoglia \(2018\)](#), we establish that this contrast is significant ( $F = 5.55$ ,  $p = 0.019$ ), whereas the remaining between-cells variance is not ( $F = 0.46$ ,  $p = 0.635$ ).

**TABLE 6**  
**Results Additional Experiment**

**Panel A: Descriptive Statistics**

Transparency Level	Statistics	Group Incentives		Overall
		Absent	Present	
Low	n	51	49	100
	Mean	68.92	64.00	66.51
	Std. Dev.	27.91	27.96	27.90
High	n	52	49	101
	Mean	54.36	64.22	59.14
	Std. Dev.	34.74	28.38	32.04
Overall	n	103	98	201
	Mean	61.56	64.11	62.81
	Std. Dev.	32.23	28.02	30.20

**Panel B: Results Factorial ANOVA**

Parameter	Sum of Squares	df	Mean Square	F	p-value
Model	5,797.45	3	1,932.48	2.15	0.095
Transparency	2,585.52	1	2,585.52	2.88	0.091
Group_Incentives	308.45	1	308.45	0.34	0.558
Transparency × Group_Incentives	2,749.83	1	2,749.83	3.07	0.082
Error	176,667.99	197	869.79		

**Panel C: Planned Comparisons**

Effect of transparency	df	t	p-value
When group incentives are absent	101	-2.345	0.021
When group incentives are present	96	0.039	0.969
Effect of group incentives			
When transparency is low	98	-0.881	0.381
When transparency is high	99	1.56	0.122

This table presents the results of the additional experiment. In the experiment, participants read a vignette that asks them to assume the role of a manager who has the opportunity of engaging in strategic promotion behavior, i.e., recommending the promotion of a weak performer instead of a stronger performer. Participants indicate on a 0 (extremely unlikely) to 100 (extremely likely) scale how likely they are to engage in such behavior. Transparency and the absence versus presence of group incentives are manipulated in the vignette. Panel A presents descriptive statistics, Panel B presents the results of a factorial ANOVA, and Panel C presents follow-up planned comparisons between conditions (p-values are two-tailed). n = 201.

## V. DISCUSSION AND CONCLUSION

Although existing literature has established that managers engage in strategic promotion behavior (e.g., Longenecker 1989; Prendergast and Topel 1996; Matuson 2015; Molina 2016; Chamorro-Premuzic and Bhaduri 2017; Sullivan 2017; Wells 2017), no study that we are aware of has directly examined managers' strategic promotion decisions or the factors that influence these decisions. Using a stylized lab experiment, we find support for our hypothesis that transparency reduces managers' strategic promotion behavior when group incentives are absent but not when they are present. Results from a supplemental vignette experiment corroborate this result.

Our findings contribute to the emerging accounting literature on promotion decisions (Campbell 2008; Grabner and Moers 2013; Bol and Leiby 2018; Chan 2018; Chan, Lill, and Maas 2023). Only recently has this literature begun to explicitly take into account that managers' promotion decisions may be influenced by considerations other than maximizing the value of the firm. We extend this line of research by investigating how managers factor in their own economic interests in promotion decisions. We conclude that managers' strategic promotion behavior is significantly reduced if it



is both harmful for—and detectable by—their subordinates. Importantly, this conclusion broadens the perspective on the effects of transparency about individual performance levels on subjective promotion decisions. Specifically, Chan (2018) shows that the provision of performance information can undermine the effectiveness of promotion decisions from the owners' perspective, whereas our study shows that under different circumstances, transparency can also have the opposite effect of increasing the probability that the best suited candidates are selected (i.e., by mitigating managers' strategic behavior).

Second, our study contributes to the literature on incentive system design by highlighting a potential downside of group incentives. Organizations use group incentive systems to motivate employees to coordinate their efforts and increase their productivity (FitzRoy and Kraft 1987; Babcock et al. 2015). We show that in situations in which individual contributions to group output are observable by all group members, group incentives can encourage managers to prioritize the interests of their team over the interests of the organization as a whole. Specifically, our study shows that group incentives can induce strategic promotion behavior by middle managers, which is detrimental to the career of the best performing employees as well as owners.

More generally, our study extends the existing literature on how control system design affects the behavior of middle managers, which in turn affects employee effort. Much of the existing management accounting literature focuses on principal-agent settings, ignoring that middle managers often have substantial discretion in implementing organizational policies and making economically relevant decisions (e.g., Baiman 2014). Recent studies emphasize, however, that middle managers' responses to control systems shape organizational outcomes (e.g., Bol, Kramer, and Maas 2016; Yin 2021). Our study contributes to this literature by examining how managers use their discretion in promotion processes.

When drawing conclusions based on this study's findings, it is important to be aware of its limitations. First, in our study, the managers' recommendations are never made public. Although this likely reflects many practical settings, it would nevertheless be interesting to see whether transparency about recommendations or promotion decisions made by employees' direct managers changes the extent to which managers act strategically. Second, our study mainly relies on a rather extreme measure of strategic promotion behavior, namely, *Credits\_to\_Worst*. This measure reflects not only managers' foregoing the promotion of the best performer but also managers' enabling of the worst performer as a replacement for the promoted position. Strategic promotion behavior can take many less extreme forms. Thus, questions remain regarding the extent to which our independent variables affect the various (often more subtle) tactics managers' use to engage in strategic promotion behavior. Third, we do not explicitly model differences in pre- and postpromotion tasks. This intentional choice allows for a clean test of our theory and valid measurement of managers' behavior. Nonetheless, future research could investigate managers' propensity to engage in strategic promotion behavior when they have greater opportunity to "hide behind" the subjective nature of assessing future potential in more ambiguous settings. Fourth, the participants played multiple rounds of the experiment and roles were assigned randomly at the beginning of each round. This "stationary replication" design (e.g., Camerer and Loewenstein 2004) allowed us to increase our sample size and thus the power of our tests, and yet, we cannot completely rule out that it may have affected participants' behavior. For example, supervisors might have been more concerned about employee well-being than they would have been in a one-shot game because they anticipated playing the employee role themselves in a future round. To minimize such effects, all interactions were anonymous, preventing reputation building and opportunities for reciprocal (tit-for-tat) behavior across rounds. Furthermore, any remaining effects of this design likely influence the overall incidence of strategic promotion behavior, whereas our conclusions and contribution follow from the interaction among our factors of interest.

Finally, we did not impose explicit constraints on managers' strategic promotion behavior in our study. Although descriptive and anecdotal evidence suggest it is a serious problem in organizations, we cannot fully rule out that in practice the disincentives for strategic behavior are such that it is rare in some organizations and that transparency and the presence of group incentives would be less important antecedents than in our experiments. Note, however, that our setup does include an important potential economic cost of engaging in strategic promotion behavior, as employees who are dissatisfied with the promotion outcome had the opportunity to retaliate by withholding their effort in the postpromotion period, thus reducing the manager's payoff. Future research could examine the influence of other potential constraints, including reputational consequences that follow repeated behavior and managers' accountability to their own superior. Although we are not aware of theory suggesting that our variables' interactive effect would not hold in the presence of such factors, we acknowledge that this ultimately requires further study.

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## APPENDIX A

### Research Instrument Additional Experiment

#### All Conditions

Assume you are a team manager at a call center. You lead a small team of employees who answer phone calls from clients of an insurance firm.

You and your team just learned that the call center wants to create a new team that will take care of specialized questions from clients. The general manager of the call center asked you whether there are any people on your team who you would like to recommend for joining this new team.

Several people in your team have told you that they are very excited about the opportunity of joining this new team because the work is more interesting and the pay is better. Two people who are interested in joining the new team are Lisa, who is the best performer of your team, and Amy, who is the weakest performer.

You are sure that Lisa would do a great job if she were selected for the new team. While Amy's performance falls short of that of Lisa and her other team mates, it is still at an acceptable level. Thus, you also expect Amy to do reasonably well if she moved to the new team. In fact, there is a chance that she will flourish in her new job—you have seen it happen before.

You realize that if top performer Lisa left and joined the new team, the overall performance of your team would go down. If weakest performer Amy joined the new team on the other hand, the overall performance of your team would go up.

The overall performance of your team is important to you because it determines your bonus. Thus, your pay would go down if Lisa left the team and go up if Amy were selected.

#### Group Incentives Absent Conditions

The people on your team receive a bonus based on their individual performance. Thus, their pay would not go down if Lisa left the team or go up if Amy were selected.

#### Group Incentives Present Conditions

Like you, the people on your team receive a bonus based on the overall performance of the team. Thus, their pay would also go down if Lisa left the team and go up if Amy were selected.

(continued on next page)



**APPENDIX A (continued)****Low Transparency Conditions**

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Within your team, information about individual performance levels is treated with strict confidentiality. Therefore, only you know that Lisa is the strongest performer and Amy is the weakest performer. Also, the remaining team members will not be able to compare the performance of the team member who is selected for the new team with their own performance or with the performance of the other team mates.

**High Transparency Conditions**

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Within your team, information about individual performance levels is freely shared among all team members. Therefore, everyone in your team knows that Lisa is the strongest performer and Amy is the weakest performer. Also, the remaining team members will be able to compare the performance of the team member who is selected for the new team with their own performance and the performance of the other team mates

**All Conditions**

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*In the situation described above, how likely is it that you would recommend Amy (the weakest performer) for the new team?*

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