

The Power to Reward vs. the Power to Punish: The Influence of Power Framing on Individual-Level Exploration

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Abstract. This article adopts a relational perspective to demonstrate that characteristics of the dyadic relationship between supervisors and their employees are critical to understanding individual-level exploration—understood as the extent to which organizational members pursue new opportunities and experiment with changes to current practices. To this end, we introduce the concept of power framing—that is, whether the control over valued resources is emphasized as the ability to reward or to punish—and propose that supervisor power framing shapes employee exploration. In an experimental study, we demonstrate that reward (versus punishment) power framing increases employee exploration behavior and that this effect is mediated by perceived trustworthiness of the supervisor. In a second survey study, we replicate these findings in a field sample and show that the relationship between reward power framing and exploration depends on the degree to which the focal employee is sensitive to power characteristics (i.e., power distance orientation). This investigation advances scholarship on the microfoundations of exploration while also highlighting the ability of leaders to alter trustworthiness perceptions and induce employee exploration through power framing.

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Introduction

Mounting evidence suggests that, in order to prosper, organizations must not only pursue activities that exploit their current capabilities but also activities that explore new ones (March 1991, Lavie et al. 2010). However, organizations often struggle to commit to search and experimentation despite their importance for long-term success, as their payoff tends to be distant and uncertain (Brusoni et al. 2020). Organization theorists have thus devoted considerable attention to the conditions that promote exploration activities (Greve 2003, Sitkin et al. 2011) and more recently have turned to the microfoundations of individual-level exploration (see Reypens and Levine (2018) for a review). Consistent with the early suggestion by March (1991) that the social context is a major driver of people's motivation to explore, there has been much promise in using the structure of actors' social networks to explain variations in individual-level exploration (Keum and See 2017, Rogan and Mors 2017, Lee 2019).

Although it now seems clear that their social environment plays a critical role in organizational members' exploration, important questions remain unanswered. First, research has yet to adopt a truly relational approach

to individual-level exploration. Previous work has focused on how network characteristics—such as network density and heterogeneity (Rogan and Mors 2014), network-level hierarchy (Keum and See 2017), and changes in social networks (Lee 2019)—guide exploration behavior. However, much less is known about the role of dyadic relationships between actors and how relational characteristics may influence exploration. Adding this perspective is critical because a structuralist approach alone may ignore the heterogeneity in social relations and actor attributes (Lavie 2021), which can be at least as important as structural configurations in predicting managerial activities (Moran 2005). Consequently, incorporating a relational perspective in the study of individual-level exploration can cast substantial light on the influence of social context on individual-level exploration. Second, despite the widely acknowledged importance of social-psychological processes for microfoundational inquiry in organizational theory (Powell et al. 2011, Zucker and Schilke 2020, Piezunka and Schilke 2023), the precise mechanisms through which the social context affects individual exploration have yet to be elaborated. Such mechanisms are central to the development of generalizable theory (Davis and Marquis

2005) and particularly vital for understanding the underpinnings of exploration activities (Gavetti 2011).

To address these gaps, we examine the roles of power and trust—arguably the two most quintessential relational concepts (Luhmann 1979, Bachmann 2001)—in individual-level exploration. Power is a ubiquitous yet complex phenomenon within organizations (March 1966) that can influence both the level of trust between organizational members (Schilke et al. 2015) and the attention given to different strategic issues (Ocasio et al. 2018). Consistent with prior work (Cook et al. 2006, Fiske and Berdahl 2007, Magee and Galinsky 2008), we conceptualize power as the extent to which one party in a relationship has control over resources valued by the other party. Drawing on sociological research showing that power is multifaceted and that punishment and reward power in social exchange relationships are not equivalent (Molm 1997), we argue that power has nonintuitive effects on exploration behavior, depending on how it is framed. We define reward power framing as emphasizing the ability to reward through providing positive outcomes, and punishment power framing is defined as emphasizing the ability to punish through providing negative outcomes (Molm 1988). To better understand how power framing affects exploration, we examine how it alters a key dimension of trust within dyadic relationships, which we propose in turn shapes exploration activity.

Overall, our conceptual model proposes that managers' power framing influences employee exploration behavior. To test this position, we conducted two complementary studies that respectively identify causality (Study 1) and demonstrate ecological validity (Study 2). In support of our theoretical account, our experimental study reveals that power framed as the ability to reward positively affects exploration behavior. Replicating and extending these findings, a field survey of organizational decision makers corroborates our results and further reveals an important moderator.

Our theoretical model and empirical results make several contributions. First, we contribute to the literature on the microfoundations of exploration (e.g., Mom et al. 2015, Keum and See 2017, Lee and Meyer-Doyle 2017, Lee 2019) by providing insights into how malleable characteristics of interpersonal relationships can influence exploration behavior. Understanding how to induce targeted exploration is an important issue in contemporary inquiry (Lee and Meyer-Doyle 2017, Lee 2019), and we show that power framing adds an important missing piece to it. Moreover, our approach responds to recent calls for research on how exercising power through rhetorical tactics can enable strategic change (Ocasio et al. 2018). Second, we address the need for microfoundational inquiry to identify concrete social-psychological processes (Powell et al. 2011, Zucker and Schilke 2020, Piezunka and Schilke 2023) by introducing a key mechanism to explain variation in exploration. The mechanism of trust (i.e., the

willingness to be vulnerable to the actions of another party; Mayer et al. 1995) and the conditional effects theorized in this paper help to unpack the fundamental struggle of how to motivate employees to innovate (March 1991). Third, this paper follows the tradition of prior work that examines organizational decision-making issues through experiments (Malhotra and Murnighan 2002, Raveendran et al. 2016, Schilke 2018) and addresses calls for experimental approaches that provide causal evidence about the sources of exploration (Reyppens and Levine 2018, Di Stefano and Gutierrez 2019). Our experimental study can be adapted for examining a variety of potential exploration drivers and should thus prove useful for advancing knowledge of the microfoundations of organization theory (Puranam et al. 2015, Schilke et al. 2019).

Conceptual Development

Power Framing and Exploration

The concept of exploration can be defined as “search, variation, risk taking, experimentation, play, flexibility, discovery, innovation,” whereas exploitation refers to “refinement, choice, production, efficiency, selection, implementation, execution” (March 1991, p. 71). At the individual level, exploration involves organizational members searching for new possibilities, evaluating diverse options, and learning a new skill or additional knowledge (Mom et al. 2009). In contrast, exploitation at the individual level pertains to employee activities that are familiar, routine, and can be properly conducted using current knowledge and skills (Mom et al. 2009). Comparing the two, exploration involves greater novelty (Levinthal and March 1993), longer-term goals (Tushman and O'Reilly 1996), and higher risk (Jansen et al. 2006). Because the potential rewards of exploration are both distant and uncertain, there is an inherent tendency to prioritize exploitation over exploration (March 1991), to the extent that the lack of employees' exploration can lead to the loss of competitive advantage and threaten organizational survival (Auh and Menguc 2005, Jansen et al. 2006). As a result, research on the microfoundations of the exploration-exploitation dilemma has endeavored to identify what can be done to induce targeted exploration (Lee and Meyer-Doyle 2017, Lee 2019).

The starting point of the microfoundational approach is the idea that exploration substantially originates from members of organizations. Among the different types of organizational members, available evidence suggests that primary sources of new initiatives are middle managers (Wooldridge and Floyd 1990, Burgelman 1991, Burgelman and Grove 2007) and frontline employees (Løvås and Ghoshal 2000, Rotemberg and Saloner 2000, Foss 2003). According to the central insight of network theory (Kilduff and Brass 2010), the relationships middle managers and frontline employees have within the social structure fundamentally shape key behaviors,

including their exploration activities. Two distinct aspects of understanding how behavior is influenced by social context are (1) characteristics of the pattern or structure of relationships (Coleman 1988, Burt 1992) and (2) characteristics of the relationships themselves (Tichy et al. 1979, Kilduff and Tsai 2003, Freeman 2004). Consistent with the former aspect, applications of a network view to individual-level exploration behavior have focused on the broader network structure (Lazer and Friedman 2007). For example, Rogan and Mors (2014) examined both internal and external networks and found that network density, contact heterogeneity, and the overall informality of the network influenced whether managers engaged in exploration. Additional work by Rogan and Mors (2017) showed that when networks are built through personal resources, rather than firm resources, there is an increase in exploration activity. Furthermore, Keum and See (2017) found that the level of hierarchy within the broader organizational structure had a detrimental effect on idea generation but a beneficial effect on exploration during the selection stage. Finally, Lee (2019) considered changes in the social structure with a natural experiment wherein changes in spatial proximity facilitated the reconfiguration of social networks and increased individual-level exploration.

To augment such analyses of structural configurations, we argue that an examination of relational characteristics of manager-employee relationships can add significant insight into individual-level exploration. A relational perspective contributes substantial explanatory power to the analysis of social context (Uzzi 1997), as it allows for a deeper dive into the nature of dyadic relationships that is often absent in structural approaches but is critical to understanding actors' motivations and behaviors resulting from social interactions (Lawler and Yoon 1998). Specifically, whereas the structure of relationships within a social network may affect an actor's range and extent of available resources that facilitate exploration (Lee 2019), it is often the more immediate context of the social relationship that affects the *enactment* of these resources (Moran 2005). In other words, although network structure can help explain the capacity to explore, a relational perspective allows for understanding the motivation to explore.

To advance a truly relational account of exploration in organizations, this paper examines the nature of manager-employee relationships and how it may influence employees' exploration activities.¹ One critical relationship characteristic that is particularly salient in organizational contexts, which are typically hierarchically structured, is that of power differences between levels in the organization (Simon 1951, Blau 1964, Weber 1978). As defined previously, power can be understood as the "asymmetric control over valued resources in social relations" (Magee and Galinsky 2008, p. 361), and those resources can be used to reward or to punish (French and Raven 1959, Thibaut and Kelley 1959, Emerson

1962, Galinsky et al. 2003, Keltner et al. 2003). Indeed, most social relations involve some degree of control over positive or negative outcomes (Molm 1988), and this dual control allows for supervisors to frame power as the ability to either reward or punish. Control over a given resource can be framed as the ability to reward by providing access, or it can be framed as the ability to punish by restricting access. An in-depth analysis of the effects of rewarding and punishing suggests that reward and punishment power in social exchange relationships are not equivalent (Molm 1997), and the difference between management's use of contingent rewards versus punishments has important implications for employee behavior (Podsakoff et al. 2010).

There are several reasons for this investigation to focus on reward and punishment power. The first is managerial discretion in adopting one or the other framing (Molm et al. 1994). In the manager-employee relationship, some examples of inequalities of power include control over decision-making authority, performance reviews, salaries, opportunities for desired assignments, and access to resources within the organization. With each of these resources, managers have some discretion to decide how their power is framed—as the provision of either positive or negative outcomes. For example, when a manager controls opportunities for highly desired assignments, the manager could emphasize to employees that good performance will result in a recommendation to receive one of those assignments. However, the same manager could emphasize to employees that bad performance will result in a recommendation not to receive one of those assignments. Similarly, if a manager has the ability to assign undesirable work tasks that will extend the workday, this control can be framed as the ability to reward by not assigning the extra task or to punish by assigning additional work.

The second reason to embrace the notion of power framing is the potential for emphasizing reward power—as opposed to punishment power—to motivate exploration behaviors. Discursive framing can substantially alter the cognitions and behaviors of employees (Kaplan 2008, Mantere and Vaara 2008), and a focus on positive versus negative framing directly influences the issues of risk, long-term returns and the search for novel and unorthodox solutions that are fundamental to exploration.

Theoretical work on regulatory focus (Weber and Mayer 2011, Tuncdogan et al. 2015, Ahmadi et al. 2017) provides the background for these expectations. According to regulatory focus theory, individuals are motivated to achieve two kinds of end goals: avoiding pain and approaching pleasure (Higgins 1998). When individuals focus on pain avoidance, which Higgins (2002) described as a concern for the presence or absence of negative outcomes, decision making is oriented toward stability and minimizing mistakes (Friedman and Förster 2001). However, when individuals focus on approaching pleasure,

which is characterized by a concern with the presence or absence of positive outcomes (Higgins 2002), their decision making is oriented toward growth and seizing opportunities (Friedman and Förster 2001, Gino and Margolis 2011). Reward power framing is consistent with an emphasis on approaching pleasure and is likely to trigger the cognitions associated with this motivation. When actors are focused on approaching desired outcomes, they are more willing to take risks (Hamstra et al. 2011), they tend to focus more on the distant future (Pennington and Roese 2003), and they increase the creation of knowledge and unorthodox solutions (Friedman and Förster 2001). Thus, reward power framing is likely to generate a focus on the presence of positive outcomes and motivate decision making oriented toward exploration, which is risky and unpredictable (March 1991, Gupta et al. 2006). Positive framing also has the potential to broaden the range and novelty of cognitions and action (Fredrickson 2003, Amabile et al. 2005), which is likely to increase consideration of new directions and possibilities to explore (Håkonsson et al. 2016). Therefore, we argue that managers framing power as the ability to reward (versus to punish) will increase exploration activity among their subordinates.

Hypothesis 1. *Supervisor reward power framing (versus punishment power framing) has a positive effect on employee exploration.*

Mediating Role of Trustworthiness

Thus far, we have discussed how the characterization of power in the dyadic relationship between manager and employee influences behavior by focusing on the main effect of manager power framing on employee exploration. We now develop the argument that an important causal explanation of this effect is related to relationship quality. Specifically, we argue that the manager's perceived trustworthiness serves as a key mechanism, and we theorize a mediated model in which we anticipate that the effect of power framing on exploration will operate to a significant extent through a key component of trustworthiness.

It is widely acknowledged that trustworthiness is a multidimensional construct and that the constituent components can have distinct consequences (Pirson and Malhotra 2011, Levine and Schweitzer 2015, Schilke and Cook 2015). In this paper, we build on the relational perspective of managerial trustworthiness (Tyler 1989, 1994; Colquitt and Rodell 2011), according to which people view authorities through the lenses of (1) benevolence and (2) integrity when assessing trustworthiness and subsequent actions.² Benevolence is the extent to which a trustee is believed to want to do good to the trustor (Mayer et al. 1995) and includes expectations that the trustee is caring and is concerned for others. The expectation that the trustee desires to do good to the trustor is a result of the perception that the trustee is motivated to

behave in a way that is beneficial to both parties. Integrity, on the other hand, is the perception that the trustee adheres to a set of principles that the trustor finds acceptable (Mayer et al. 1995) and includes expectations about shared values, respectable principles, and fairness. Integrity is increased by the consistency of past actions and congruence between words and actions. For integrity to be perceived, the trustee must adhere to a set of principles that the trustor deems acceptable.

Here, we propose that reward power framing is positively related to both benevolence and integrity. When managers communicate the intention to provide positive outcomes, they signal a desire to do good to the employee (Rubin et al. 2010). Consequently, managers who reward positive performance are perceived as benevolent. Conversely, the negative valence of punishment power framing is likely to weigh heavily on employees (Kahneman and Tversky 1984) and to undermine benevolence perceptions (Weber and Bauman 2019). Regarding integrity, when managers focus on rewards, this increases perceptions that these managers adhere to good leadership behavior (Judge and Piccolo 2004), which will likely strengthen perceptions of integrity. In addition, framing power as the ability to provide desired outcomes signals dignity and respect, which are valued principles that underlie perceptions of integrity (Colquitt and Rodell 2011). Conversely, punishment power framing is often perceived as unfair by the power-disadvantaged party (Molm et al. 1994), with fairness perceptions being a key ingredient to perceived integrity (Mayer et al. 1995). We therefore expect that reward (as opposed to punishment) power framing will strengthen perceptions of both benevolence and integrity. This position is consistent with prior research tying supervisors' use of rewards and punishments to their perceived trustworthiness (Podsakoff et al. 2006). When actors are perceived to possess the ability to bring about desired outcomes, they are also perceived as more trustworthy (March and Olsen 1975), both in terms of their benevolence and their integrity.

Turning to the consequences of benevolence and integrity perceptions, we propose that the dimension of benevolence will have a positive effect on exploration. Benevolence signals that the employee is valued (Wang and Cheng 2010), including greater support for creative work (Amabile 1988). When employees feel confident that managers will provide such support, they will be less likely to worry about potential negative outcomes associated with new and untested ideas. Employees who perceive managers as benevolent will feel less threatened and more positive, which can increase their willingness and ability to generate creative ideas (Zhou and George 2003). Benevolence perceptions can thus foster exploration-related behaviors such as information exchange (Currall and Judge 1995) and mutual learning (Boisot 1995, Nonaka and Takeuchi 1995). All these outcomes of perceived benevolence support the expectation of a greater

willingness of employees to pursue activities associated with exploration.

Although perceived integrity can be important within manager-employee relationships and can be a result of power framing, we have no conceptual reason to expect that adhering to acceptable principles will be meaningfully linked to subsequent exploration activity. For example, in a study by Svare et al. (2020), benevolence was a strong predictor of innovative behaviors such as communication and knowledge sharing, whereas perceived integrity was not. Thus, we hypothesize the following regarding the mediating effect of benevolence:

Hypothesis 2. *Perceived benevolence mediates the positive effect of supervisor reward power framing (versus punishment power framing) on employee exploration, such that reward power framing has a positive effect on perceived benevolence, and perceived benevolence in turn has a positive effect on exploration.*

Moderating Role of Power Distance Orientation

The proposed relationships thus far have focused on the role of the manager. However, it is important to acknowledge that not all employees will react in a similar manner to perceptions of manager benevolence. Because behavior is influenced by both contextual and intrapersonal forces (Bandura 1986), it is thus necessary to consider how individual differences between employees may attenuate or amplify the impact of benevolent leadership on exploration.

One theoretically relevant difference between employees that we argue influences the effect of benevolence is power distance orientation (PDO; Cole et al. 2013). Originally conceptualized as a dimension of national culture (Hofstede 2001), PDO varies significantly at the individual level (Clugston et al. 2000), where it refers to the degree to which individuals expect top-down direction and believe that power disparities are legitimate (Tyler et al. 2000, Kirkman et al. 2009). Although they tend to accept stratified differences, a widely held normative expectation of individuals high in PDO is that leaders act benevolently and are focused on the betterment of those they lead (Pellegrini and Scandura 2008). That is, these individuals expect that managers treat subordinates well (Wang et al. 2012, Lin et al. 2013). This expectation is a key reason why they are willing to be vulnerable to those higher in the hierarchy (Aycan 2006). As such, for people high in PDO, benevolence is an important currency in the exchange relationship and a critical component of what is expected of leaders (Li and Xing 2021). If benevolence expectations are not met by leaders, however, high-PDO individuals will understand this as a norm violation—with important implications for their workplace behavior.

According to expectancy violations theory (EVT; Burgoon 1993), people hold expectations about how a

counterpart should behave in a given situation. When important norms associated with a given relationship are violated, there is an increase in uncertainty and subsequent behavior aimed at reducing this uncertainty (Burgoon and Le Poire 1993). Applying this general logic of EVT to the specific expectations held by high-PDO employees regarding benevolent leadership, we argue that when these expectations are violated, these employees are likely to experience strong feelings of uncertainty, which they then seek to reduce. Consistent with our earlier arguments regarding regulatory focus, we expect that the consequence of this desire for uncertainty reduction is a reduced willingness to explore risky options and unpredictable outcomes (Friedman and Förster 2001). Thus, for individuals high in PDO, a lack of benevolent leadership will result in a lowered willingness to explore compared with low-PDO individuals who do not hold such benevolent leadership expectations. This position has seen some initial support by Lin et al. (2018), who found that a lower level of benevolent leadership was associated with a stronger reduction in employee willingness to generate new ideas when employee PDO was high (rather than low). Overall, these arguments lead to our third hypothesis regarding PDO as a contingency.

Hypothesis 3. *The positive effect of supervisor reward power framing (versus punishment power framing) on employee exploration, through perceived benevolence, is moderated by employee power distance orientation, such that the second-stage effect of perceived benevolence on exploration is stronger for individuals with higher power distance orientation.*

Next, we present two studies to test our conceptual model. The first study is an experiment wherein power framing was manipulated and participants completed a behavioral task with the opportunity for exploratory decision making. The experimental method provides strong evidence of causality and allowed us to test our proposed mechanism of perceived benevolence. The second study replicated the findings from Study 1 and tested the hypothesized moderating effect of power distance orientation with a field data set of organizational decision makers. The results from Study 2 compliment those of Study 1 by providing evidence of ecological validity and a full test of the hypothesized model.

Study 1 Sample

We recruited a sample of adults to complete our preregistered experiment³ using Prolific, an online platform for connecting researchers with target participants who earn rewards for completing studies. A general population sample is consistent with our focus on the exploration activities of frontline employees. Importantly, samples

collected through Prolific are largely representative of the general population, with a slight increase in diversity and naivety to experimental tasks compared with samples recruited through the commonly used crowdsourcing platform Amazon Mechanical Turk (Peer et al. 2017, Palan and Schitter 2018). As a result, organizational researchers have increasingly made use of this data source (Di Stefano and Micheli 2022, Shen et al. 2023).

Four hundred twenty-two participants responded to the study advertisement in exchange for compensation of US\$3.50. The final sample consists of 401 participants who passed the attention check questions embedded in the survey.⁴ Participants' average age was 32.8 years (standard deviation (SD) = 9.5), and 40.1% of participants were female (57.9% male; 2.0% other). Among those who provided information on race ($n = 388$), racial makeup was 41.8% White, 21.9% Hispanic, 21.1% Black, and 12.4% Asian. Participants worked in various fields, including science/engineering (11.5%), education/training (11.2%), information technology (8.7%), communications and audio/video technology (8.2%), and health science (8.0%). The median annual income was between \$25,000 and \$40,000.

Task Description

To test our hypotheses, we needed to identify an experimental task that allowed us to manipulate reward versus punishment power and to have participants make decisions of varying exploratory nature. Moreover, we wanted the experimental task to resemble organizational decision-making features found in field settings and to be engaging for participants, such that they would be motivated to perform well (Wilson et al. 2010, Crano et al. 2014). All these requirements led us to adapt the task previously used by Ederer and Manso (2013). In this task, participants make decisions on how to operate a small business—specifically, a lemonade stand. These decisions include the location (business district, school, or sports stadium), the lemonade color (pink or green), the sugar content (rounded to the nearest 0.1), the lemon content (rounded to the nearest 0.1), and the price (in dollars). Operation of the lemonade stand lasted 10 rounds, during which participants made decisions on the parameters listed previously.

The lemonade stand paradigm represents important features of appropriate exploration tasks for experimental research: limited resources, valid feedback, minimal information, and a rugged landscape (Reypens and Levine 2018). Each location differed in the profit that would be earned with optimal choices, and optimal performance for each location required a unique combination of color, sugar and lemon content, and price. At the end of each round, participants received feedback on profits obtained during that period along with customer comments. The program provided customer feedback on only one of the three continuous variables (sugar

content, lemon content, price) and indicated whether the choice in the previous round was above or below the optimal level (e.g., “Some of your customers told you that the lemonade is not sweet enough”). Thus, participants received valid feedback that provided minimal information, with the opportunity to discover novel outcomes by exploring the landscape.

In line with the task instructions developed by Ederer and Manso (2013), participants were told that their job was to make decisions regarding the location of the stand, the sugar and lemon content, and the lemonade color and price. Participants were also given a letter from the employee who previously ran the lemonade stand. The letter suggested the strategy for locating the stand in the business district and provided specific recommendations for lemonade color, sugar and lemon content, and price. The letter stated that the previous employee had tried several combinations of variables in the business district location but had not experimented with combinations at the other locations. Thus, participants could fine-tune the product choice decisions based on an initial recommendation and specific feedback or explore different locations and make large changes in product choices to find a more profitable strategy. The characteristics of this task provided an ideal context for isolating exploration behavior within a realistic business scenario by providing unexplored possibilities and presenting the opportunity to take risks with large changes and experiment with different choices.

Procedures

All participants were recruited with the same advertisement and told that the study would involve decision-making task(s) that would be completed online and require approximately 15–30 minutes to complete.⁵ After reading the consent form and agreeing to participate, participants were randomly assigned to one of two experimental conditions in this one-factorial between-subjects design: (1) reward power or (2) punishment power framing. Because power is conceptualized as the control over valued resources in social relations (Cook et al. 2006, Fiske and Berdahl 2007, Magee and Galinsky 2008), we introduced an employee-boss relationship and gave participants in both conditions the role of an employee working for the experimenter, who assumed the role of the boss. Specifically, the boss was tasked to evaluate employee performance and had the capacity to either reward or punish the employee. We followed the recommended use of videos in experimental research to increase realism and immersion (Lucas 2003, Aguinis and Bradley 2014) by introducing this relationship through a short video introduction that participants watched. To increase believability, this introduction also explained that the study did not involve any deception or random outcomes. The transcript for the video is included in Online Appendix A. In both conditions, the

boss controlled the same valuable resource—time required to complete the experiment. Variation in participant time commitment, which adhered to the promised range of 15–30 minutes, was the difference between completing one 15-minute task or two 15-minute tasks (while holding remuneration constant). Thus, the nature of the power possessed by the boss could be manipulated by framing it as the capacity to remove a second task (reward power) or the capacity to add a second task (punishment power), and the behavior of the boss in both conditions remained within the bounds of the time-to-money commitment outlined in the study advertisement. This power framing manipulation resembles the manipulation of reward and punishment power in prior experimental research (Molm 1988), and manipulating features of the participant-experimenter relation is a useful approach to the experimental study of social relationships that can be traced back to seminal research in social psychology (Thibaut 1950, Milgram 1965).

To frame the boss's power as the capacity to reward, participants in the reward power condition were instructed that their assignment was to complete two 15-minute tasks: running the online lemonade stand and engaging in a text analysis task. Following this explanation, the details of the lemonade stand task and the role of the boss were explained. Participants were told that they would make decisions about how to run the business and that their performance would be evaluated by the boss, who had the power to reward behavior by eliminating the second task. This reward would reduce the time and effort required to receive payment. In the punishment power condition, participants were informed that their assignment was to complete one 15-minute task: running the online lemonade stand. The instructions included the details of the lemonade stand task and a description of the employee and boss roles. Consistent with instructions provided in the reward power conditions, the role of the boss was to evaluate employee performance. However, in the punishment power condition, the power the boss had over the employee was framed as the capacity to provide a negative outcome in the form of adding a second task (a 15-minute text analysis task). This would increase the time and effort required to receive payment and thus represented a potential punishment. The structure of the study and ultimate behavior of the experimenter was the same in both conditions: performance on the first task determined if a second task would be assigned. The experimental manipulation was whether this second task was framed, through rhetoric, as a reward or a punishment. Thus, the difference between conditions was whether the power held by the boss was framed as the ability to reward (eliminate text analysis task) or to punish (add text analysis task),⁶ and the procedures did not involve any deception. The study advertisement and task instructions for both conditions are included in Online Appendix A.

Before starting the lemonade stand task, participants in both conditions completed measurements of manipulation checks and mediating variables. Following completion of the study, participants were debriefed on the purpose of the study (McNallie 2017).

Measures

Manipulation Checks. We constructed new scales to measure reward and punishment power because appropriate scales were not readily available in the literature. The scales consisted of three items to measure reward power framing and three items to measure punishment power framing, both anchored on a five-point answer scale (1 = very inaccurate to 5 = very accurate). Measurement items are provided in Online Appendix B. We evaluated the reliability, factor structure, and discriminant validity of these newly developed scales in a pretest among 184 employees recruited through the alumni network of a large university in the southwestern United States.⁷ The alpha reliability was 0.83 for the reward power scale and 0.87 for the punishment power scale. The correlation between the scales was 0.29. We ran a confirmatory factor analysis in which items loaded onto respective reward and punishment power factors. The proposed model provided a good fit with the data ($\chi^2(8, n = 184) = 14.18$, comparative fit index (CFI) = 0.99, standardized root mean squared residual (SRMR) = 0.034) and provided a better fit than a one-factor model ($\Delta\chi^2(1) = 328.88, p < 0.001$). We tested for discriminant validity using the Fornell-Larcker (Fornell and Larcker 1981) test, which showed that the two constructs' average variances extracted (0.67 and 0.72, respectively) were greater than the squared correlation between them (0.08), indicating satisfactory discriminant validity. In sum, we found support for the reliability, factor structure, and distinctiveness of our two newly developed scales.

Responses to these scales obtained from participants of our main study revealed that our power framing manipulation was successful. Ratings of reward power were higher in the reward power condition (mean (M) = 4.30, SD = 0.80) than in the punishment power condition (M = 3.31, SD = 1.35; $t(399) = 8.83, p < 0.001, d = 0.88$). Conversely, ratings of punishment power were higher in the punishment power condition (M = 4.55, SD = 0.61) than in the reward power condition (M = 3.08, SD = 1.47; $t(399) = 13.19, p < 0.001, d = 1.32$). To rule out the possibility that we introduced differences in the degree of power, we also asked participants to rate how powerful the boss was in the task on an answer scale from 1 = extremely powerless to 7 = extremely powerful (Schilke et al. 2015). Responses in the reward power condition (M = 5.79, SD = 1.06) did not differ from those in the punishment power condition (M = 5.92, SD = 1.09; $t(399) = 1.20, p = 0.233, d = 0.12$). To determine the degree of believability in the experimental set-up, we asked participants to rate the extent to which the task resembled a real

experience running a lemonade stand ($M = 4.99$, $SD = 1.43$), the extent to which the experimenter was in a position to evaluate performance on the task ($M = 5.56$, $SD = 1.30$), and the extent to which they believed that the experimenter would assign a second task to some participants ($M = 4.99$, $SD = 1.70$). Responses were measured on a scale from 1 = not at all to 7 = very much so. There were no differences in responses to these three items between conditions ($t_s \leq 1.20$, $p_s \geq 0.231$, $d_s \leq 0.12$).

Benevolence and Integrity. We measured the perceived benevolence and integrity of the boss with established scales developed by Mayer and Davis (1999). Participants rated the degree to which they agreed with each statement on a five-point answer scale (1 = strongly disagree to 5 = strongly agree). Five items assessed benevolence; an example item was, “The experimenter is concerned about my welfare.” The alpha reliability for this scale was 0.80. Another six items assessed integrity; an example item was, “I do not worry about whether the experimenter will stick to his/her word” ($\alpha = 0.77$).

Exploration. Key exploration activities include search, risk taking, and experimentation (Levinthal and March 1993). Consistent with other studies’ approaches to measuring exploration behavior (Laureiro-Martínez et al. 2015), in the lemonade stand task, participants had the option of pursuing new knowledge by exploring alternative locations and lemonade colors. Information from the previous employee provided a detailed strategy for the business district, but no information or feedback was provided about the other locations. Moreover, no feedback regarding lemonade color was provided, so the decision to make changes in the lemonade color can be interpreted as exploration. Additional options to explore included taking the risk to experiment with large changes in sugar content, lemon content, and price. Consistent with the utilization of this task to measure exploration (Ederer and Manso 2013), we considered changes in lemon content, sugar content, or price by more than 0.5 units as exploratory choices.⁸ Thus, each round provided the opportunity for a total of five potential exploration choices. Accordingly, we measured exploration activity in

the experimental task by creating a composite measure consisting of the total exploration changes made in each round: changes in location or lemonade color and large changes (>0.5 units) in lemon content, sugar content, or price. The behavioral exploration index ranged in value from 0 to 40 in our data and was approximately normally distributed (see Online Appendix A).

Results

Means, standard deviations, and correlations are presented in Table 1. Hypothesis 1 predicted that supervisor reward power (versus punishment power) has a positive effect on employee exploration, and in line with this hypothesis, an independent-samples t test revealed that participants pursued considerably more exploration in the reward power condition ($M = 13.74$, $SD = 6.92$) than in the punishment power condition ($M = 12.05$, $SD = 6.04$; $t(399) = 2.61$, $p = 0.009$, $d = 0.26$).

To test the mediation effects proposed in Hypothesis 2, we used the PROCESS script (Hayes 2017, model 4) to conduct Monte Carlo analyses using 5,000 bootstrap resamples to construct 95% confidence intervals (CIs) for indirect effects. We entered power framing as the independent variable (coded as 1 = reward power, 0 = punishment power), benevolence and integrity as mediators operating in parallel, and exploration as the dependent variable. Table 2 presents the results of this analysis. In line with our expectations, framing power as the capacity to reward (versus the capacity to punish) had a positive effect on both benevolence ($a_1 = 0.37$, standard error (SE) _{a_1} = 0.08, $p < 0.001$) and integrity ($a_2 = 0.33$, $SE_{a_2} = 0.06$, $p < 0.001$). In addition, the supervisor’s benevolence had a positive effect on participant exploration ($b_1 = 1.21$, $SE_{b_1} = 0.52$, $p = 0.022$), whereas the effect of integrity was not significant ($b_2 = 0.25$, $SE_{b_2} = 0.61$, $p = 0.689$). We also found that benevolence mediated the positive effect of reward power on exploration; the indirect effect of power framing on exploration was evident through benevolence ($a_1b_1 = 0.44$, $SE_{a_1b_1} = 0.22$, 95% CI = 0.06, 0.92) but not through integrity ($a_2b_2 = 0.08$, $SE_{a_2b_2} = 0.18$, 95% CI = 0.44, 0.29). These mediation results provide support for Hypothesis 2. Figure 1 displays the estimates for direct and indirect effects.

Table 1. Correlations, Means, and SDs for Study 1 Variables

Variable	1	2	3	4
1. Power framing				
2. Benevolence	0.24***			
3. Integrity	0.25***	0.61***		
4. Exploration	0.13**	0.15**	0.09	
Mean (SD)	0.48 (0.50)	3.14 (0.78)	3.56 (0.67)	12.87 (6.53)
Reward power condition		3.33 (0.73)	3.73 (0.63)	13.74 (6.92)
Punishment power condition		2.96 (0.78)	3.40 (0.67)	12.05 (6.04)

Notes. $N = 401$. Power framing was coded as 1 = reward power, 0 = punishment power. SDs are in parentheses.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 2. Study 1 Mediation Analysis: Effects of Power Framing on Exploration

	Mediators				Outcome	
	Benevolence		Integrity		Exploration	
	<i>B</i>	<i>SE_B</i>	<i>B</i>	<i>SE_B</i>	<i>B</i>	<i>SE_B</i>
Intercept	2.96***	0.05	3.41***	0.05	9.31***	1.78
Power framing	0.37***	0.08	0.33***	0.06	1.33*	0.67
Benevolence					1.21*	0.52
Integrity					0.25	0.61
Direct and indirect effects					Coefficient	95% CI
Direct effect of power framing					1.33 (0.67)	[0.01, 2.64]
Indirect effect through benevolence					0.44 (0.23)	[0.06, 0.95]
Indirect effect through integrity					0.08 (0.18)	[-0.43, 0.29]

Notes. *N* = 401. Power framing was coded as 1 = reward power, 0 = punishment power. CI, confidence interval. Coefficients presented are unstandardized estimates. Standard errors (*SEs*) are in parentheses.

p* < 0.05; *p* < 0.01; ****p* < 0.001.

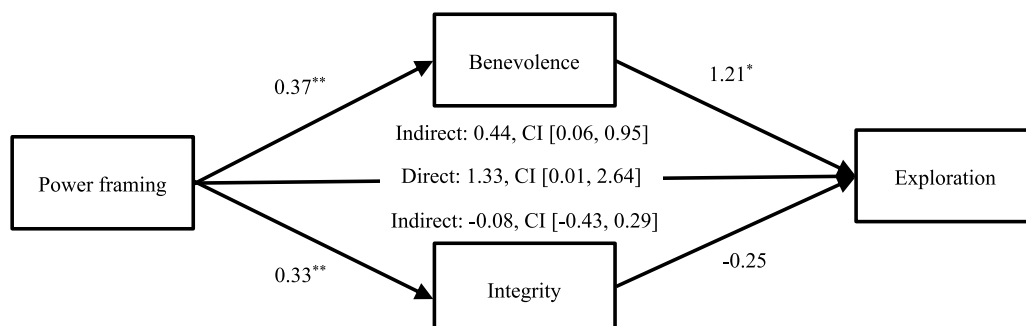
Discussion

Consistent with our conceptual arguments regarding the effect of supervisor power framing on trustworthiness perceptions and exploration behavior, we found that when power is framed as the ability to reward (versus to punish), perceptions of benevolence and integrity are higher. We also found that perceived benevolence was positively related to subsequent employee exploration. These findings provide support for our first two hypotheses. A strength of the first study is its internal validity because participants were randomly assigned to one of two experimental conditions and exploration was measured as a behavioral outcome. However, one important limitation is an ad hoc relationship with an unknown supervisor. This approach allowed us to cleanly isolate and compare conditions that only differed in how power was framed, but additional evidence was needed to evaluate the influence of power framing within longer-term organizational relationships. Another important limitation is the simplification of power framing into a bipolar variable, which allowed us to directly compare the effects of reward versus power framing. However, it is reasonable to expect that managers may independently vary emphasizing reward and punishment power. Thus, we needed to evaluate the effects of a bivariate

operationalization by including separate reward and punishment power framing variables in the analysis. To address these limitations while also extending our investigation into testing Hypothesis 3, we conducted a second study that used a field survey among a sample of organizational decision makers.

Study 2 Sample and Procedures

Data for this preregistered study⁹ were collected from a panel of organizational decision makers maintained by Qualtrics Online Panels. This service has been lauded for its rich and flexible sample targeting capabilities, its commitment to data quality assurance, and thus its ability to facilitate research high in external validity (Brandon et al. 2013). Preliminary vetting restricted the panel to participants who each had a full-time job and an assigned supervisor. Our study consisted of two separate surveys. The first survey included measures of supervisor power framing, participant power distance orientation, control variables, and demographic information; 819 participants responded to the invitation distributed by Qualtrics and completed the first survey. The second survey was administered one week later to provide temporal separation

Figure 1. Model of the Effects of Power Framing (1 = Reward Power, 0 = Punishment Power) on Exploration (Study 1)

between responses to the independent and dependent variables and reduce common method bias (Podsakoff et al. 2003). Four hundred twenty-six participants responded to the second survey, which included measures of supervisor trustworthiness and exploratory behavior.¹⁰

The final sample consists of 325 participants who completed both surveys and passed all attention check questions. The average age of participants was 50.6 years ($SD = 13.3$), and 31.1% were female (68.9% male). The racial makeup of the sample was 85.8% White, 4.9% Asian, 4.3% African American/Black, and 4.3% Hispanic. Most (84.9%) had completed at least a four-year college degree, and 41.5% had earned either a master's, doctoral, or professional degree. Participants worked in operations (40.9%), research and development (13.5%), and sales (11.4%), with 42.2% working in organizations with more than 1,000 employees. Typical decision-making responsibilities included financial decisions, selection and purchasing services, operations/production management, marketing decisions, business development, and supply chain management.

Measures

Reward Power Framing. Because it is possible for managers to emphasize one, both, or neither aspect of power, we captured power framing as two independent concepts and focused our analysis on the effect of reward power framing while controlling for punishment power framing.¹¹ We used the reward and punishment power scales developed for Study 1 and instructed participants in the first survey to consider the relationship to their closest boss (i.e., the primary person overseeing their work). The alpha reliability was 0.85 for the reward power scale and 0.90 for the punishment power scale, and the correlation between the scales was 0.50.

Benevolence and Integrity. Consistent with Study 1, we used scales developed by Mayer and Davis (1999) to measure the perceived benevolence and integrity of the boss in the second survey. Participants rated the degree to which they agreed with each statement on a five-point answer scale (1 = strongly disagree to 5 = strongly agree). The alpha reliability for the benevolence scale was 0.92, and the alpha reliability for the integrity scale was 0.84.

Power Distance Orientation. We captured PDO in the first survey with the five-item measure developed by Yoo et al. (2011). Participants rated the degree to which they agreed on a five-point answer scale (1 = strongly disagree to 5 = strongly agree). An example item was, "People in lower positions should not disagree with decisions by people in higher positions," and the alpha reliability was 0.88.

Exploration. We used a seven-item scale developed by Mom et al. (2007) to measure exploration in the second

survey (Mom et al. 2015, Reyt and Wiesenfeld 2015). This scale measures the extent to which individuals evaluate diverse options, search for new possibilities, and engage in work activities that require adaptation or learning new skills on a seven-point scale (1 = to a very small extent to 7 = to a very large extent). An example item was, "Searching for new possibilities with respect to products/services, processes, or markets." The alpha reliability was 0.89.

Control Measures. We included variables to control for the frequency of interactions with the boss in a typical week (1 = none at all to 5 = a great deal), tenure of assignment with the boss (in years), and participants' job level (1 = intern to 11 = owner). We also controlled for environmental dynamism to account for the effects of the particular job on the propensity to explore with a four-item measure developed by Jansen et al. (2006). An example item was, "Environmental changes in our local market are intense," and the alpha reliability was 0.80. All control variables were captured in the first survey.

Results

Prior to hypothesis testing, we evaluated the factor structure of the measures in our theoretical model with a series of confirmatory factor analyses (CFAs), which are shown in Table 3. Results of the CFA—in which items loaded on separate reward power framing, punishment power framing, benevolence, integrity, power distance orientation, and exploration factors—fit the data well ($\chi^2(309) = 544.41$, CFI = 0.96, SRMR = 0.06) and provided the best fit for the data compared with all permutations of five-factor solutions.

Means, standard deviations, and correlations are presented in Table 4. To test Hypothesis 1, which predicted that supervisor reward power framing has a positive relationship with employee exploration, we performed an OLS regression of exploration on reward power framing while controlling for punishment power framing, boss interactions, tenure of assignment with the boss, job level, and environmental dynamism. Consistent with Hypothesis 1, reward power framing had a positive effect on employee exploration behavior (coefficient = 0.20, $SE = 0.08$, $p = 0.009$). In contrast, supervisor punishment power framing was negatively related to employee exploration behavior (coefficient = 0.13, $SE = 0.07$, $p = 0.055$).

To test the moderated mediation model, we used the PROCESS script (Hayes 2017, model 14) to conduct Monte Carlo analyses using 5,000 bootstrap resamples to construct 95% CIs. We entered supervisor reward power framing as the independent variable, benevolence and integrity as mediators operating in parallel, employee power distance orientation as a second-stage moderator, and employee exploration as the dependent variable. Punishment power framing, the quantity of interactions

Table 3. Fit Statistics for Nested Models for Study 2

Model	χ^2	$\Delta\chi^2$	CFI	SRMR
Six factor	χ^2 (309) = 544.41***		0.96	0.06
Five factor	χ^2 (314) = 906.03***	$\Delta\chi^2$ (5) = 361.62***	0.90	0.08
Four factor	χ^2 (318) = 959.94***	$\Delta\chi^2$ (9) = 415.53***	0.89	0.08
Three factor	χ^2 (321) = 1,798.92***	$\Delta\chi^2$ (12) = 1,254.50***	0.75	0.13
Two factor	χ^2 (323) = 2,652.36***	$\Delta\chi^2$ (14) = 2,107.90***	0.61	0.18
One factor	χ^2 (324) = 3,201.27***	$\Delta\chi^2$ (15) = 2,656.80***	0.51	0.17

Notes. $N = 325$. Six factor = all items loaded onto separate reward power framing, punishment power framing, benevolence, integrity, power distance orientation, and exploration factors. Five factor = reward and punishment power framing combined into one power framing factor. Four factor = benevolence and integrity combined into one trustworthiness factor. Three factor = power framing and trustworthiness dimensions combined into one factor. Two factor = power framing and trustworthiness dimensions combined into one factor, power distance orientation and exploration combined into second factor. CFI, comparative fit index; SRMR, standardized root mean squared residual.

*** $p < 0.001$.

with the boss, tenure of assignment with the boss, job level, and environmental dynamism were entered as control variables. Table 5 presents the results of this analysis, and Figure 2 shows the estimates for the individual direct effects. Consistent with the predictions of Hypothesis 2, supervisor reward power framing had a positive effect on benevolence ($a_1 = 0.15$, $SE_{a1} = 0.06$, $p = 0.017$) and integrity ($a_2 = 0.14$, $SE_{a2} = 0.06$, $p = 0.020$). To test the prediction that benevolence mediates the positive effect of reward power framing on employee exploration, we examined the (unconditional) indirect effect of reward power framing on exploration through benevolence and found it to be significant (coefficient = 0.08, $SE = 0.04$, 95% CI = 0.01, 0.17), whereas the (unconditional) indirect effect through integrity was not significant (coefficient = 0.01, $SE = 0.02$, 95% CI = 0.03, 0.04). We therefore find support for Hypothesis 2.

Hypothesis 3 proposes moderated mediation, such that the conditional indirect effect of reward power framing on exploration through benevolence becomes stronger with increasing levels of employee PDO. The interaction between benevolence and PDO predicted employee exploration ($b_{31} = 0.24$, $SE_{b31} = 0.11$, $p = 0.024$), whereas the interaction between integrity and PDO was

not a significant predictor of exploration ($b_{32} = 0.03$, $SE_{b32} = 0.13$, $p = 0.798$). Inspecting this interaction further, we found that the effect of benevolence was positive and strong when PDO was high (i.e., 1 SD above the mean; coefficient = 0.77, $SE = 0.16$, 95% CI = 0.46, 1.09), whereas it was weaker when PDO was low (i.e., 1 SD below the mean; coefficient = 0.26, $SE = 0.17$, 95% CI = 0.08, 0.60). Figure 3 shows a graph of this interaction. We then examined conditional indirect effects. The indirect effect of supervisor reward power framing on employee exploration, through benevolence, was significant when PDO was high (coefficient = 0.12, $SE = 0.06$, 95% CI = 0.02, 0.25) but not when PDO was low (coefficient = 0.04, $SE = 0.03$, 95% CI = 0.02, 0.12). The index of moderated mediation was significant (coefficient = 0.04, $SE = 0.03$, 95% CI = 0.00, 0.10), indicating differences between these indirect effects. In sum, we found empirical support for Hypothesis 3.

General Discussion

The aim of this paper was to examine the dyadic relationship between managers and employees and investigate how the way power is framed in this relationship affects employee exploration. The proposed benefit of

Table 4. Means, SDs, and Correlations for Study 2 Variables

Variable	Mean	Standard deviation	1	2	3	4	5	6	7	8	9
1. Reward power framing ($T = 1$)	3.92	0.91									
2. Punishment power framing ($T = 1$)	3.76	1.06	0.50**								
3. Benevolence ($T = 2$)	3.80	0.93	0.14*	0.02							
4. Integrity ($T = 2$)	3.75	0.83	0.13*	0.01	0.85**						
5. Power distance ($T = 1$)	2.44	1.07	0.12*	0.14*	0.16**	0.02					
6. Exploration ($T = 2$)	4.71	1.25	0.20**	0.07	0.48**	0.38**	0.25**				
7. Boss interactions ($T = 1$)	3.45	1.09	0.07	0.04	0.25**	0.14*	0.23**	0.24**			
8. Boss tenure ($T = 1$)	7.19	6.62	0.08	0.09	0.10	0.07	0.10	0.14**	0.09		
9. Job level ($T = 1$)	5.67	2.05	0.06	0.04	0.21**	0.12*	0.19**	0.24**	0.16**	0.05	
10. Dynamism ($T = 1$)	3.59	0.79	0.22**	0.23**	0.22**	0.15**	0.42**	0.43**	0.29**	0.03	0.21**

Notes. $N = 325$. $T = 1$ indicates measures included in the first survey. $T = 2$ indicates measures included in the second survey.

* $p < 0.05$; ** $p < 0.01$.

Table 5. Study 2 Moderated Mediation Analysis: Effects of Power Framing on Exploration

	Mediators				Outcome	
	Benevolence		Integrity		Exploration	
	<i>B</i>	<i>SE_B</i>	<i>B</i>	<i>SE_B</i>	<i>B</i>	<i>SE_B</i>
Intercept	2.11***	0.31	2.68***	0.29	2.79**	0.77
<i>Boss interactions</i>	0.15**	0.05	0.07	0.04	0.02	0.05
<i>Boss tenure</i>	0.01	0.01	0.01	0.01	0.02	0.01
<i>Job level</i>	0.07**	0.02	0.03	0.02	0.05	0.03
<i>Dynamism</i>	0.16*	0.07	0.10	0.06	0.46***	0.08
<i>Punishment power framing</i>	0.12*	0.05	0.08	0.05	0.07	0.06
<i>Reward power framing</i>	0.15*	0.06	0.14*	0.06	0.13 [†]	0.07
<i>Benevolence</i>					0.07	0.29
<i>Integrity</i>					0.04	0.33
<i>Power distance orientation</i>					1.06***	0.30
<i>Benevolence × power distance orientation</i>					0.24*	0.11
<i>Integrity × power distance orientation</i>					0.03	0.13
Direct and indirect effects					Coefficient	95% CI
Direct effect of reward power framing					0.13 (0.07)	[0.00, 0.27]
Conditional direct effects of benevolence						
High power distance orientation					0.77 (0.16)	[0.46, 1.09]
Low power distance orientation					0.26 (0.17)	[0.08, 0.60]
Unconditional indirect effect through benevolence					0.07 (0.04)	[0.01, 0.15]
Unconditional indirect effect through integrity					0.01 (0.02)	[0.03, 0.04]
Conditional indirect effects through benevolence						
High power distance orientation					0.12 (0.06)	[0.02, 0.25]
Low power distance orientation					0.04 (0.03)	[0.02, 0.12]
Index of moderated mediation					0.04 (0.03)	[0.00, 0.10]

Notes. *N* = 325. CI, confidence interval. Coefficients presented are unstandardized estimates. SEs are in parentheses.

[†]*p* < 0.10; **p* < 0.05; ***p* < 0.01; ****p* < 0.001.

considering the effects of framing the control of valuable resources as the ability to reward or the ability to punish is the potential to identify a relatively easily altered relationship characteristic that can increase employee exploration. Using a multimethod approach that allows for strong causal inference and ecological validity, we found support for the potential of power framing to influence exploration and provided deeper theoretical insight by investigating the underlying mechanism of perceived benevolence and the moderating effect of employee power distance orientation.

Specifically, we found that when managers frame their power as the ability to provide rewards (versus punishments), employees are more likely to engage in targeted

exploration. In our experiment, exploration included both experimenting with options in the task environment and testing large changes on task parameters. When participants in the experiment were told that the evaluator of their work had the power to reward them by eliminating an extra task, they were more likely to pursue exploratory behaviors in the experimental task compared with when they were told that the evaluator could punish them by adding an extra task. In our field survey, exploration included searching for new possibilities, evaluating diverse options, and engaging in activities that required adaptation and the acquisition of new skills. Employees with managers who emphasize their resource control as the ability to provide valuable rewards were

Figure 2. Model of the Effects of Reward Power Framing on Exploration (Study 2)

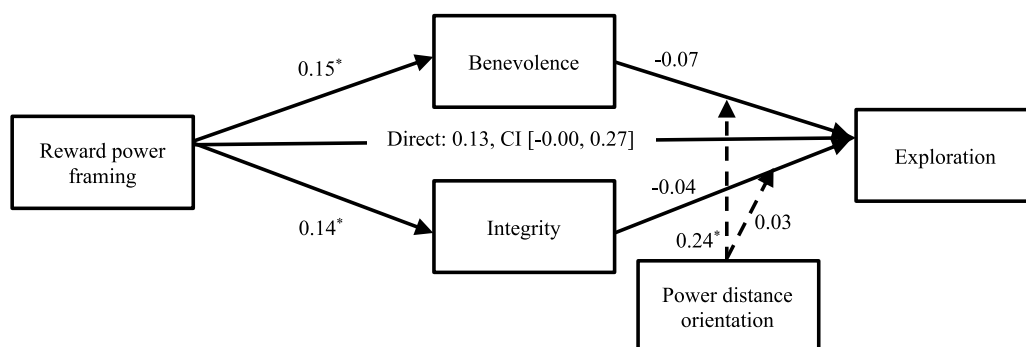
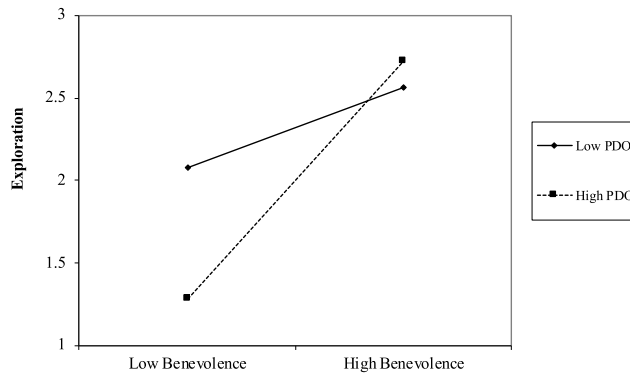


Figure 3. Interaction Between Supervisor Benevolence and Employee Power Distance Orientation on Employee Exploration



Note. High and low levels of benevolence and power distance orientation are ± 1 SD.

more likely to engage in exploration at work. These findings have clear and useful implications for managers. Foregrounding the ability to reward positive performance rather than the ability to punish negative performance can help encourage employees to explore possibilities and evaluate diverse options with respect to products or processes. By altering how power is framed, managers can shape the likelihood of individual-level exploration within the organization.

This study also presents evidence for the mechanism that explains the effect of power framing on exploration. In both studies, reward power framing had a positive effect on the trustworthiness dimensions of perceived benevolence and integrity. In Study 1, only the perceived benevolence of the manager had, in turn, a positive effect on exploration. In Study 2, the relationship between perceived benevolence and exploration was positive for those high in PDO, whereas neither integrity nor the interaction between integrity and PDO significantly predicted exploration. Identifying this mechanism is important as it allows us to both clarify how power framing influences employee exploration and provide important managerial implications. Because the effect of power framing operates through perceived benevolence, managers seeking to influence employee exploration may consider additional actions relevant to this mechanism. Employees respond to a pattern of stimuli rather than a single leader trait or behavior (Lord et al. 2001). If the influence of power framing on exploration operates through benevolence, then managers should carefully consider additional cues that may enhance or potentially undermine their perceived benevolence. For example, combining reward power framing with high levels of procedural and interpersonal justice, which enhances benevolence perceptions (Colquitt and Rodell 2011), may further strengthen the effects we found. On the other hand, combining reward power framing with

actions that undermine benevolence perceptions may prevent managers from generating increased exploration.

The findings presented in this paper also have implications for understanding the conditions under which manager power framing is likely to successfully influence employee exploration. Our conceptual model holds that manager behavior influences employee perceptions of the manager, which in turn affect employee behavior. The central argument is that employees are sensitive to and react to the perceptions they hold about their manager. Consistent with this position, Study 2 revealed that the indirect effects of power framing on exploration, through perceived benevolence, were stronger with increasing levels of employees' power distance orientation. This finding points to an important boundary condition and suggests that not all employees are equally likely to be influenced by differences in how managers frame their power. For employees who are less sensitive to hierarchical differences within the organization, managers seeking to increase individual-level exploration may not achieve this outcome through reward power framing. Future research should consider the effect of not only characteristics of the employee but also additional characteristics of the dyadic relationship that may strengthen or weaken the effects of power framing. For example, if employee sensitivity to perceptions about the manager qualifies the effects of power framing, then variations in task interdependence between manager and employee may be another important moderator to investigate.

This study makes contributions to several different topics of literature. Perhaps most importantly, we advance the burgeoning literature on the microfoundations of exploration (Mom et al. 2015, Keum and See 2017, Laureiro-Martínez and Brusoni 2018, Lee 2019, Raveendran et al. 2021). First, we introduce a relational perspective to predicting exploration behavior. The relational approach advocated here makes an important contribution to the microfoundations movement by embedding individual actors' exploration within these actors' immediate organizational context. This approach highlights that individual-level exploration does not occur in a vacuum but is fundamentally influenced by the relationships with other organizational members—a perspective that we believe can fruitfully bridge the business strategy (Greve 2007) and the judgment and decision-making literature (Mehlhorn et al. 2015) on exploration. Further expanding and elaborating the lens of dyadic relationships is therefore an important future direction for the microfoundational research agenda. The results of this study demonstrate that the way power is framed and perceived is an important piece of the puzzle for understanding when employees explore, and future research adopting a relational approach should endeavor to broaden our findings to other types of interpersonal relationships (beyond the employee-supervisor dyad)

and other types of relational constructs (beyond power framing). Second, we add much-needed process evidence to the microfoundational inquiry of exploration. Two central theoretical objectives of research on microfoundations are the identification of mechanisms and boundary conditions (Felin et al. 2012). We address both by identifying the key social psychological mechanism of perceived benevolence and the boundary condition of power distance orientation. Overall, the theoretical model and empirical evidence presented in this paper helps advance research on the microfoundations of exploration by encouraging additional research on the effect of relational mechanisms, which requires careful consideration of both the context of the relationship and individual differences of those included in relationship (Bandura 1986).

We also add a new perspective on how incentives influence innovation and exploration (Jansen et al. 2006, Ederer and Manso 2013, Baumann and Stieglitz 2014, Marino et al. 2015). Thus far, investigations of the suggestion of March (1991) that incentives might play a key role in motivating exploration have focused primarily on the structure and design of incentive systems (Ederer and Manso 2013, Lee and Meyer-Doyle 2017). Our study suggests that incentive systems are more than just a mechanical tool to influence behavior; they also significantly alter the quality of the relationship between employee and manager. Thus, we propose that future research on incentives can benefit from adopting the relational perspective advanced here.

Beyond the literature on exploration, we also contribute to the literature on interpersonal power. Recent research has drawn attention to the relational ramifications of power, including its effect on trust (Schilke et al. 2015) and on exploration (Yudkin et al. 2019). However, this research has focused on analyzing the *degree* of power (low versus high) while bracketing qualitative differences in terms of how power is being framed. Earlier sociological research (Molm 1988, 1989, 1990) acknowledged the importance of power framing but stopped short of investigating its effects on central organizational concepts such as perceived trustworthiness of supervisors and employee exploration. In this paper, we introduce the notion of power framing to organizational inquiry and demonstrate that it can substantially shape key organizational outcomes. We see much potential for future research in organizational settings to study a wide variety of other relevant consequences of power framing.

Limitations

We note several limitations of this work. First, our experiment examined a temporary ad hoc relationship, with no expectation of future interactions. The benefit of this design is that the only difference between experimental conditions was how power was framed, which allowed

us to isolate the effects of power framing from other characteristics of the relationship. However, because decisions, outcomes, and relationship characteristics were confined to a single event, we cannot ascertain the long-term effects of power framing with this design. We recommend that researchers consider longitudinal designs to investigate the dynamic effects of power framing over time.

Second, the field study only included survey responses from a single source. To reduce the effects of common method bias, we used two strategies. The first involved including a one-week separation between the measures of power framing and power distance orientation and the measures of trustworthiness and exploration. This temporal separation between power framing and exploration reduces the potential for statistical inflation of estimated direct effects (Podsakoff et al. 2003). Second, because common method bias can inflate linear relationships but is less likely to inflate interactive effects (Siemsen et al. 2010), our investigations of interactive effects of benevolence and power distance orientation alleviate concerns regarding common method bias. However, future research is clearly needed to strengthen the empirical evidence. Research designs that include manager- and/or coworker-reported power framing and exploration activity can productively replicate and extend our findings.

Third, our study focused on exploration, given that exploration is a key activity for achieving and maintaining competitive advantage (McGrath 2001, Alexiev et al. 2010) and that targeted exploration at the microfoundational level has been highlighted as a central way to support this objective (Mom et al. 2015, Lee and Meyer-Doyle 2017). However, there is also a body of research that examines the ability of organizations to be ambidextrous and dynamically switch between exploration and exploitation (Gibson and Birkinshaw 2004, Tempelaar and Rosenkranz 2019). A notable strength of the current study is the theoretical contribution of adding a relational perspective to the microfoundations of exploration. Our findings suggest that not only network characteristics, but also characteristics of the relationship between employee and manager, drive employee decisions to explore. We recommend that future research take a relational perspective on the microfoundations of ambidexterity (Brusoni and Rosenkranz 2014). One fruitful approach for studying shifts between exploration and exploitation at the individual level would be to use an experience sample methodology (see Gabriel et al. (2019) for recommended best practices) to examine how and when employees might alternate between exploration and exploitation.

Conclusion

Research on the microfoundations of exploration has sought to understand why organizational members explore new options and search for new opportunities. A

deepened understanding of processes at the level of the individual employee can give practical guidance on how to generate targeted exploration. We have sought to provide a relational perspective to this line of work by developing and testing a model predicting the effects of manager power framing on employee exploration. Findings from our two studies suggest that managers can increase exploration activity within their organization by emphasizing the ways in which their power can provide rewards to employees. We hope this work encourages scholars both to further develop insights into the proposed relational perspective of exploration and to investigate additional effects of power framing within organizational relationships.

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Endnotes

¹ In describing the two roles in our focal relationship, we refer to the power-advantaged actor as manager, supervisor, or boss and to the power-disadvantaged actor as employee or subordinate.

² The model of trust developed by Mayer et al. (1995) identifies three dimensions: ability, benevolence, and integrity. This suggests that trustworthiness includes both the competence (ability) and character (benevolence and integrity) of the trustee. We focus specifically on benevolence and integrity because power framing directly relates to character implications, and we have no theoretical reason to expect that it would alter ability perceptions.

³ See the study archive at https://osf.io/cuvwg/?view_only=14c29448d09a497087fbb988048a92a3 for the preregistration, qsf file, data, and syntax. This experiment was approved by the ethics review board at the first author's institution (protocol H20-03070).

⁴ We included two attention check questions that instructed participants to respond to items in a specific manner (e.g., "Please select 'strongly disagree' for this item"). The exclusion criteria included in the preregistration specified the omission of data from participants who failed any of the attention check questions. Using the full sample of 422 participants does not substantially change the results reported in the paper.

⁵ Average study completion time was 22.3 minutes (SD = 10.4).

⁶ Assignment of the second task was determined by the total profit earned in the 10 rounds. Based on the average performance of participants in pretests, the cutoff was set at \$820. One hundred eighty-five participants (46.1%) were assigned the second task. The percentage of participants assigned the second task did not differ between conditions ($\chi^2(1) = 1.01, p = 0.316$).

⁷ This pretest was approved by the institutional review board at the second author's institution (protocol 16-15-MGMT).

⁸ Results are similar for slightly different values for what is considered a "large" change (i.e., 0.4 and 0.6 units).

⁹ See the study archive at https://osf.io/fuzrt/?view_only=7e208672e5a54d098bf3745d3756121a for the preregistration, qsf file, data, and syntax. See ethics approval protocol H22-00464.

¹⁰ A drop of 48% across two time-separated survey waves is comparable to that in other studies using similar designs (Dumas et al. 2013, Sun 2022). We compared participants who completed the second survey ($n = 426$) to those who did not complete the second survey ($n = 393$). These two groups did not differ in terms of gender composition ($\chi^2(3) = 3.03, p = 0.387$), industry ($\chi^2(9) = 9.85, p = 0.363$), or organization size ($t(817) = 1.24, p = 0.216$). However, those who responded to the second survey were somewhat older ($t(817) = 11.31, p < 0.001$), had slightly less education ($t(817) = 2.00, p = 0.046$), and differed in terms of race ($\chi^2(6) = 15.33, p = 0.018$), with a greater proportion of White participants among respondents who completed the second survey.

¹¹ We also conducted the analyses with a bipolar specification of power framing. Consistent with recommended practice for coding bipolar concepts (Colquitt et al. 2015), the three reward power framing items were combined with the three reverse-coded punishment power items, such that higher values indicated reward power framing and lower values denoted punishment power framing. The alpha reliability for this six-item scale was 0.87. Using this bipolar measure does not substantially change the results reported in this paper.

References

- Aguinis H, Bradley KJ (2014) Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organ. Res. Methods* 17(4):351–371.
- Ahmadi S, Khanagha S, Berchicci L, Jansen JJP (2017) Are managers motivated to explore in the face of a new technological change? The role of regulatory focus, fit, and complexity of decision-making. *J. Management Stud.* 54(2):209–237.
- Alexiev AS, Jansen JJP, Van den Bosch FAJ, Volberda HW (2010) Top management team advice seeking and exploratory innovation: The moderating role of TMT heterogeneity. *J. Management Stud.* 47(7):1343–1364.
- Amabile TM (1988) A model of creativity and innovation in organizations. Staw BM, Cummings LL, eds. *Research in Organizational Behavior*, vol. 10. (JAI Press, Greenwich, CT), 123–167.
- Amabile TM, Barsade SG, Mueller JS, Staw BM (2005) Affect and creativity at work. *Admin. Sci. Quart.* 50(3):367–403.
- Auh S, Menguc B (2005) Balancing exploration and exploitation: The moderating role of competitive intensity. *J. Bus. Res.* 58(12):1652–1661.
- Aycan Z (2006) Paternalism: Toward conceptual refinement and operationalization. Yang KS, Hwang KK, Kim U, eds. *Scientific Advances in Indigenous Psychologies: Empirical, Philosophical, and Cultural Contributions* (Sage, London), 445–466.
- Bachmann R (2001) Trust, power and control in trans-organizational relations. *Organ. Stud.* 22(2):337–365.
- Bandura A (1986) *Social Foundations of Thought and Action: A Social Cognitive Theory* (Prentice-Hall, New York).
- Baumann O, Stieglitz N (2014) Rewarding value-creating ideas in organizations: The power of low-powered incentives. *Strategic Management J.* 35(3):358–375.
- Blau PM (1964) *Exchange and Power in Social Life* (Wiley, New York).
- Boisot MH (1995) *Information Space: A Framework for Learning in Organizations, Institutions and Culture* (Routledge, London).
- Brandon DM, Long JH, Loraas TM, Mueller-Phillips J, Vansant B (2013) Online instrument delivery and participant recruitment services: Emerging opportunities for behavioral accounting research. *Behav. Res. Accounting* 26(1):1–23.
- Brusoni S, Rosenkranz NA (2014) Reading between the lines: Learning as a process between organizational context and individuals' proclivities. *Eur. Management J.* 32(1):147–154.
- Brusoni S, Laureiro-Martínez D, Canessa N, Zollo M (2020) Exploring exploration: The role of affective states as forces that hinder change. *Industrial Corporate Change* 29(1):207–223.

- Burgelman RA (1991) Intraorganizational ecology of strategy making and organizational adaptation: Theory and field research. *Organ. Sci.* 2(3):239–262.
- Burgelman RA, Grove AS (2007) Let chaos reign, then rein in chaos—Repeatedly: Managing strategic dynamics for corporate longevity. *Strategic Management J.* 28(10):965–979.
- Burgoon JK (1993) Interpersonal expectations, expectancy violations, and emotional communication. *J. Language Soc. Psych.* 12(1–2): 30–48.
- Burgoon JK, Le Poire BA (1993) Effects of communication expectancies, actual communication, and expectancy disconfirmation on evaluations of communicators and their communication behavior. *Human Comm. Res.* 20(1):67–96.
- Burt RS (1992) *Structural Holes: The Social Structure of Competition* (Harvard University Press, Cambridge, MA).
- Clugston M, Howell JP, Dorfman PW (2000) Does cultural socialization predict multiple bases and foci of commitment? *J. Management* 26(1):5–30.
- Cole MS, Carter MZ, Zhang Z (2013) Leader–team congruence in power distance values and team effectiveness: The mediating role of procedural justice climate. *J. Appl. Psych.* 98(6):962–973.
- Coleman JS (1988) Social capital in the creation of human capital. *Amer. J. Sociol.* 94:S95–S120.
- Colquitt JA, Rodell JB (2011) Justice, trust, and trustworthiness: A longitudinal analysis integrating three theoretical perspectives. *Acad. Management J.* 54(6):1183–1206.
- Colquitt JA, Long DM, Rodell JB, Halvorsen-Ganepola MDK (2015) Adding the “in” to justice: A qualitative and quantitative investigation of the differential effects of justice rule adherence and violation. *J. Appl. Psych.* 100(2):278–297.
- Cook KS, Cheshire C, Gerbasi A (2006) Power, dependence, and social exchange. Burke PJ, ed. *Contemporary Social Psychological Theories* (Stanford University Press, Stanford, CA), 194–216.
- Crano WD, Brewer MB, Lac A (2014) *Principles and Methods of Social Research*, 3rd ed. (Routledge, New York).
- Currall SC, Judge TA (1995) Measuring trust between organizational boundary role persons. *Organ. Behav. Human Decision Processes* 64(2):151–170.
- Davis GF, Marquis C (2005) Prospects for organization theory in the early twenty-first century: Institutional fields and mechanisms. *Organ. Sci.* 16(4):332–343.
- Di Stefano G, Gutierrez C (2019) Under a magnifying glass: On the use of experiments in strategy research. *Strategic Organ.* 17(4): 497–507.
- Di Stefano G, Micheli MR (2022) To stem the tide: Organizational climate and the locus of knowledge transfer. *Organ. Sci.*, ePub ahead of print February 3, <https://doi.org/10.1287/orsc.2021.1551>.
- Dumas TL, Phillips KW, Rothbard NP (2013) Getting closer at the company party: Integration experiences, racial dissimilarity, and workplace relationships. *Organ. Sci.* 24(5):1377–1401.
- Ederer F, Manso G (2013) Is pay for performance detrimental to innovation? *Management Sci.* 59(7):1496–1513.
- Emerson RM (1962) Power-dependence relations. *Amer. Sociol. Rev.* 27(5):31–40.
- Felin T, Foss NJ, Heimeriks KH, Madsen TL (2012) Microfoundations of routines and capabilities: Individuals, processes, and structure. *J. Management Stud.* 49(8):1351–1374.
- Fiske ST, Berdahl J (2007) Social power. Kruglansk AW, Higgins ET, eds. *Social Psychology: Handbook of Basic Principles*, vol. 2 (Guilford, New York), 678–692.
- Fornell C, Larcker DF (1981) Structural equation models with unobservable variables and measurement error: Algebra and statistics. *J. Marketing Res.* 18(3):382–388.
- Foss NJ (2003) Selective intervention and internal hybrids: Interpreting and learning from the rise and decline of the Oticon spaghetti organization. *Organ. Sci.* 14(3):331–349.
- Fredrickson BL (2003) The value of positive emotions: The emerging science of positive psychology is coming to understand why it's good to feel good. *Amer. Sci.* 91(4):330–335.
- Freeman LC (2004) *The Development of Social Network Analysis: A Study in the Sociology of Science* (Empirical Press, Vancouver, BC, Canada).
- French JRP, Raven B (1959) *The Bases of Social Power* (University of Michigan Press, Ann Arbor, MI).
- Friedman RS, Förster J (2001) The effects of promotion and prevention cues on creativity. *J. Personality Soc. Psych.* 81(6):1001–1013.
- Gabriel AS, Podsakoff NP, Beal DJ, Scott BA, Sonnentag S, Trougakos JP, Butts MM (2019) Experience sampling methods: A discussion of critical trends and considerations for scholarly advancement. *Organ. Res. Methods* 22(4):969–1006.
- Galinsky AD, Gruenfeld DH, Magee JC (2003) From power to action. *J. Personality Soc. Psych.* 85(3):453–466.
- Gavetti G (2011) Toward a behavioral theory of strategy. *Organ. Sci.* 23(1):267–285.
- Gibson CB, Birkinshaw J (2004) The antecedents, consequences, and mediating role of organizational ambidexterity. *Acad. Management J.* 47(2):209–226.
- Gino F, Margolis JD (2011) Bringing ethics into focus: How regulatory focus and risk preferences influence (un)ethical behavior. *Organ. Behav. Human Decision Processes* 115(2):145–156.
- Greve HR (2003) *Organizational Learning from Performance Feedback: A Behavioral Perspective on Innovation and Change* (Cambridge University Press, Cambridge, UK).
- Greve HR (2007) Exploration and exploitation in product innovation. *Industrial Corporate Change* 16(5):945–975.
- Gupta AK, Smith KG, Shalley CE (2006) The interplay between exploration and exploitation. *Acad. Management J.* 49(4):693–706.
- Håkansson DD, Eskildsen JK, Argote L, Mønster D, Burton RM, Obel B (2016) Exploration vs. exploitation: Emotions and performance as antecedents and consequences of team decisions. *Strategic Management J.* 37(6):985–1001.
- Hamstra MRW, Bolderdijk JW, Veldstra JL (2011) Everyday risk taking as a function of regulatory focus. *J. Res. Personality* 45(1):134–137.
- Hayes AF (2017) *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (Guilford Press, New York).
- Higgins ET (1998) Promotion and prevention: Regulatory focus as a motivational principle. *Adv. Experiment. Soc. Psych.* 30:1–46.
- Higgins ET (2002) How self-regulation creates distinct values: The case of promotion and prevention decision making. *J. Consumer Psych.* 12(3):177–191.
- Hofstede G (2001) *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations* (Sage, Thousand Oaks, CA).
- Jansen JJP, Van Den Bosch FAJ, Volberda HW (2006) Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Sci.* 52(11):1661–1674.
- Judge TA, Piccolo RF (2004) Transformational and transactional leadership: A meta-analytic test of their relative validity. *J. Appl. Psych.* 89(5):755–768.
- Kahneman D, Tversky A (1984) Choices, values, and frames. *Amer. Psych.* 39(4):341–350.
- Kaplan S (2008) Framing contests: Strategy making under uncertainty. *Organ. Sci.* 19(5):729–752.
- Keltner D, Gruenfeld DH, Anderson C (2003) Power, approach, and inhibition. *Psych. Rev.* 110(2):265–284.
- Keum DD, See KE (2017) The influence of hierarchy on idea generation and selection in the innovation process. *Organ. Sci.* 28(4):653–669.
- Kilduff M, Brass DJ (2010) Organizational social network research: Core ideas and key debates. *Acad. Management Ann.* 4(1):317–357.
- Kilduff M, Tsai W (2003) *Social Networks and Organizations* (Sage, London).
- Kirkman BL, Chen G, Farh J-L, Chen ZX, Lowe KB (2009) Individual power distance orientation and follower reactions to transformational

- leaders: A cross-level, cross-cultural examination. *Acad. Management J.* 52(4):744–764.
- Laureiro-Martínez D, Brusoni S (2018) Cognitive flexibility and adaptive decision-making: Evidence from a laboratory study of expert decision makers. *Strategic Management J.* 39(4):1031–1058.
- Laureiro-Martínez D, Brusoni S, Canessa N, Zollo M (2015) Understanding the exploration-exploitation dilemma: An fMRI study of attention control and decision-making performance. *Strategic Management J.* 36(3):319–338.
- Lavie D (2021) Alliances and networks. Duhaime I, Hitt MA, Lyles M, eds. *Strategic Management: State of the Field and Its Future* (Oxford University Press, Oxford, UK), 261–275.
- Lavie D, Stettner U, Tushman ML (2010) Exploration and exploitation within and across organizations. *Acad. Management Ann.* 4(1):109–155.
- Lawler EJ, Yoon J (1998) Network structure and emotion in exchange relations. *Amer. Sociol. Rev.* 63(6):871–894.
- Lazer D, Friedman A (2007) The network structure of exploration and exploitation. *Admin. Sci. Quart.* 52(4):667–694.
- Lee S (2019) Learning-by-moving: Can reconfiguring spatial proximity between organizational members promote individual-level exploration? *Organ. Sci.* 30(3):467–488.
- Lee S, Meyer-Doyle P (2017) How performance incentives shape individual exploration and exploitation: Evidence from micro-data. *Organ. Sci.* 28(1):19–38.
- Levine EE, Schweitzer ME (2015) Prosocial lies: When deception breeds trust. *Organ. Behav. Human Decision Processes* 126:88–106.
- Levinthal DA, March JG (1993) The myopia of learning. *Strategic Management J.* 14:95–112.
- Li X, Xing L (2021) When does benevolent leadership inhibit silence? The joint moderating roles of perceived employee agreement and cultural value orientations. *J. Management Psych.* 36(7):562–575.
- Lin W, Wang L, Chen S (2013) Abusive supervision and employee well-being: The moderating effect of power distance orientation. *Appl. Psych.* 62(2):308–329.
- Lin W, Ma J, Zhang Q, Li JC, Jiang F (2018) How is benevolent leadership linked to employee creativity? The mediating role of leader-member exchange and the moderating role of power distance orientation. *J. Bus. Ethics* 152(4):1099–1115.
- Lord RG, Brown DJ, Harvey JL, Hall RJ (2001) Contextual constraints on prototype generation and their multilevel consequences for leadership perceptions. *Leadership. Quart.* 12(3):311–338.
- Løvås B, Ghoshal S (2000) Strategy as guided evolution. *Strategic Management J.* 21(9):875–896.
- Lucas JW (2003) Status processes and the institutionalization of women as leaders. *Amer. Sociol. Rev.* 68(3):464–480.
- Luhmann N (1979) *Trust and Power* (Wiley, Chichester, UK).
- Magee JC, Galinsky AD (2008) Social hierarchy: The self-reinforcing nature of power and status. *Acad. Management Ann.* 2(1):351–398.
- Malhotra D, Murnighan JK (2002) The effects of contracts on interpersonal trust. *Admin. Sci. Quart.* 47(3):534–559.
- Mantere S, Vaara E (2008) On the problem of participation in strategy: A critical discursive perspective. *Organ. Sci.* 19(2):341–358.
- March JG (1966) The power of power. Easton D, ed. *Varieties of Political Theory* (Prentice-Hall, Englewood Cliffs, NJ), 39–70.
- March JG (1991) Exploration and exploitation in organizational learning. *Organ. Sci.* 2(1):71–87.
- March JG, Olsen JP (1975) The uncertainty of the past: Organizational learning under ambiguity. *Eur. J. Political Res.* 3(2):147–171.
- Marino A, Aversa P, Mesquita L, Anand J (2015) Driving performance via exploration in changing environments: Evidence from Formula One Racing. *Organ. Sci.* 26(4):1079–1100.
- Mayer RC, Davis JH (1999) The effect of the performance appraisal system on trust for management: A field quasi-experiment. *J. Appl. Psych.* 84(1):123–136.
- Mayer RC, Davis JH, Schoorman FD (1995) An integrative model of organizational trust. *Acad. Management Rev.* 20(3):709–734.
- McGrath RG (2001) Exploratory learning, innovative capacity, and managerial oversight. *Acad. Management J.* 44(1):118–131.
- McNallie J (2017) Debriefing of participants. Allen M, ed. *The Sage Encyclopedia of Communication Research Methods* (Sage, London), 356–359.
- Mehlhorn K, Newell BR, Todd PM, Lee MD, Morgan K, Braithwaite VA, Hausmann D, et al. (2015) Unpacking the exploration-exploitation tradeoff: A synthesis of human and animal literatures. *Decision (Washington DC)* 2(3):191–215.
- Milgram S (1965) Liberating effects of group pressure. *J. Personality Soc. Psych.* 1(2):127–134.
- Molm LD (1988) The structure and use of power: A comparison of reward and punishment power. *Soc. Psych. Quart.* 51(2):108–122.
- Molm LD (1989) Punishment power: A balancing process in power-dependence relations. *Amer. J. Sociol.* 94(6):1392–1418.
- Molm LD (1990) Structure, action, and outcomes: The dynamics of power in social exchange. *Amer. Sociol. Rev.* 55(3):427–447.
- Molm LD (1997) *Coercive Power in Social Exchange* (Cambridge University Press, Cambridge, UK).
- Molm LD, Quist TM, Wiseley PA (1994) Imbalanced structures, unfair strategies: Power and justice in social exchange. *Amer. Sociol. Rev.* 59(1):98–121.
- Mom TJM, Van Den Bosch FAJ, Volberda HW (2007) Investigating managers' exploration and exploitation activities: The influence of top-down, bottom-up, and horizontal knowledge inflows. *J. Management Stud.* 44(6):910–931.
- Mom TJM, Van Den Bosch FAJ, Volberda HW (2009) Understanding variation in managers' ambidexterity: Investigating direct and interaction effects of formal structural and personal coordination mechanisms. *Organ. Sci.* 20(4):812–828.
- Mom TJM, van Neerijnen P, Reinmoeller P, Verwaal E (2015) Relational capital and individual exploration: Unravelling the influence of goal alignment and knowledge acquisition. *Organ. Stud.* 36(6):809–829.
- Moran P (2005) Structural vs. relational embeddedness: Social capital and managerial performance. *Strategic Management J.* 26(12):1129–1151.
- Nonaka I, Takeuchi H (1995) *The Knowledge-Creating Company* (Oxford University Press, New York).
- Ocasio W, Laamanen T, Vaara E (2018) Communication and attention dynamics: An attention-based view of strategic change. *Strategic Management J.* 39(1):155–167.
- Palan S, Schitter C (2018) Prolific.ac—A subject pool for online experiments. *J. Behav. Experiment. Finance* 17:22–27.
- Peer E, Brandimarte L, Samat A, Acquisti A (2017) Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *J. Experiment. Soc. Psych.* 70:153–163.
- Pellegrini EK, Scandura TA (2008) Paternalistic leadership: A review and agenda for future research. *J. Management* 34(3):566–593.
- Pennington GL, Roese NJ (2003) Regulatory focus and temporal distance. *J. Experiment. Soc. Psych.* 39(6):563–576.
- Piezunka H, Schilke O (2023) The dual function of organizational structure: Aggregating and shaping individuals' votes. *Organ. Sci.*, ePub ahead of print February 16, <https://doi.org/10.1287/orsc.2023.1653>.
- Pirson M, Malhotra D (2011) Foundations of organizational trust: What matters to different stakeholders? *Organ. Sci.* 22(4):1087–1104.
- Podsakoff NP, Podsakoff PM, Kuskova VV (2010) Dispelling misconceptions and providing guidelines for leader reward and punishment behavior. *Bus. Horizons* 53(3):291–303.
- Podsakoff PM, Bommer WH, Podsakoff NP, MacKenzie SB (2006) Relationships between leader reward and punishment behavior and subordinate attitudes, perceptions, and behaviors: A meta-analytic review of existing and new research. *Organ. Behav. Human Decision Processes* 99(2):113–142.

- Podsakoff PM, MacKenzie SB, Lee JY, Podsakoff NP (2003) Common method bias in behavioral research: A critical review of the literature and recommended remedies. *J. Appl. Psych.* 88(5):879–903.
- Powell TC, Lovallo D, Fox CR (2011) Behavioral strategy. *Strategic Management J.* 32(13):1369–1386.
- Puranam P, Stieglitz N, Osman M, Pillutla MM (2015) Modelling bounded rationality in organizations: Progress and prospects. *Acad. Management Ann.* 9(1):337–392.
- Raveendran M, Puranam P, Warglien M (2016) Object salience in the division of labor: Experimental evidence. *Management Sci.* 62(7):2110–2128.
- Raveendran M, Srikanth K, Zhang G (2021) Aspiration levels and exploration-exploitation: An adaptive learning approach. Accessed September 2, 2021, <https://eller.arizona.edu/sites/default/files/ASPIRATION%20LEVELS%20AND%20EXPLORATION-EXPLOITATION-%20AN%20ADAPTIVE%20LEARNING%20APPROACH.pdf>.
- Reypens C, Levine SS (2018) Behavior in behavioral strategy: Capturing, measuring, analyzing. *Adv. Strategic Management* 39:221–246.
- Reyt J-N, Wiesenfeld BM (2015) Seeing the forest for the trees: Exploratory learning, mobile technology, and knowledge workers' role integration behaviors. *Acad. Management J.* 58(3):739–762.
- Rogan M, Mors ML (2014) A network perspective on individual-level ambidexterity in organizations. *Organ. Sci.* 25(6):1860–1877.
- Rogan M, Mors ML (2017) Managerial networks and exploration in a professional service firm. *Organ. Stud.* 38(2):225–249.
- Rotemberg JJ, Saloner G (2000) Visionaries, managers, and strategic direction. *RAND J. Econom.* 31(4):693–716.
- Rubin RS, Bommer WH, Bachrach DG (2010) Operant leadership and employee citizenship: A question of trust? *Leadership Quart.* 21(3):400–408.
- Schilke O (2018) A micro-institutional inquiry into resistance to environmental pressures. *Acad. Management J.* 61(4):1431–1466.
- Schilke O, Cook KS (2015) Sources of alliance partner trustworthiness: Integrating calculative and relational perspectives. *Strategic Management J.* 36(2):276–297.
- Schilke O, Reimann M, Cook KS (2015) Power decreases trust in social exchange. *Proc. National Acad. Sci. USA* 112(42):12950–12955.
- Schilke O, Levine SS, Kacperczyk O, Zucker LG (2019) Call for papers-special issue on experiments in organizational theory. *Organ. Sci.* 30(1):232–234.
- Shen X, Li H, Tolbert PS (2021) Converging tides lift all boats: Consensus in evaluation criteria boosts investments in firms in nascent technology sectors. *Organ. Sci.*, ePub ahead of print September 27, <https://doi.org/10.1287/orsc.2021.1493>.
- Siemsen E, Roth A, Oliveira P (2010) Common method bias in regression models with linear, quadratic, and interaction effects. *Organ. Res. Methods* 13(3):456–476.
- Simon HA (1951) A formal theory of the employment relationship. *Econometrica* 19(3):293–305.
- Sitkin SB, See KE, Miller CC, Lawless MW, Carton AM (2011) The paradox of stretch goals: Organizations in pursuit of the seemingly impossible. *Acad. Management Rev.* 36(3):544–566.
- Sun S (2022) Is political skill always beneficial? Why and when politically skilled employees become targets of coworker social undermining. *Organ. Sci.* 33(3):1142–1162.
- Svare H, Gausdal AH, Möllering G (2020) The function of ability, benevolence, and integrity-based trust in innovation networks. *Ind. Innov.* 27(6):585–604.
- Tempelaar MP, Rosenkranz NA (2019) Switching hats: The effect of role transition on individual ambidexterity. *J. Management* 45(4):1517–1539.
- Thibaut J (1950) An experimental study of the cohesiveness of underprivileged groups. *Human Relations* 3(3):251–278.
- Thibaut JW, Kelley HH (1959) *The Social Psychology of Groups* (Wiley, New York).
- Tichy NM, Tushman ML, Fombrun C (1979) Social network analysis for organizations. *Acad. Management Rev.* 4(4):507–519.
- Tuncdogan A, Van Den Bosch F, Volberda H (2015) Regulatory focus as a psychological micro-foundation of leaders' exploration and exploitation activities. *Leadership Quart.* 26(5):838–850.
- Tushman ML, O'Reilly CA (1996) Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Rev.* 38(4):8–29.
- Tyler TR (1989) The psychology of procedural justice: A test of the group-value model. *J. Personality Soc. Psych.* 57(5):830–838.
- Tyler TR (1994) Psychological models of the justice motive: Antecedents of distributive and procedural justice. *J. Personality Soc. Psych.* 67(5):850–863.
- Tyler TR, Lind EA, Huo YJ (2000) Cultural values and authority relations: The psychology of conflict resolution across cultures. *Psych. Public Policy Law* 6(4):1138–1163.
- Uzzi B (1997) Social structure and competition in interfirm networks: The paradox of embeddedness. *Admin. Sci. Quart.* 42(1):35–67.
- Wang AC, Cheng BS (2010) When does benevolent leadership lead to creativity? The moderating role of creative role identity and job autonomy. *J. Organ. Behav.* 31(1):106–121.
- Wang W, Mao J, Wu W, Liu J (2012) Abusive supervision and workplace deviance: The mediating role of interactional justice and the moderating role of power distance. *Asia Pacific J. Human Resources* 50(1):43–60.
- Weber M (1978) *Economy and Society: An Outline of Interpretive Sociology* (University of California Press, Berkeley, CA).
- Weber B, Bauman CW (2019) The cognitive and behavioral impact of promotion and prevention contracts on trust in repeated exchanges. *Acad. Management J.* 62(2):361–382.
- Weber L, Mayer KJ (2011) Designing effective contracts: Exploring the influence of framing and expectations. *Acad. Management Rev.* 36(1):53–75.
- Wilson TD, Aronson E, Carlsmith K (2010) The art of laboratory experimentation. Fiske ST, Gilbert DT, Lindzey G, eds. *Handbook of Social Psychology*, vol. 1 (McGraw-Hill, Boston), 51–81.
- Wooldridge B, Floyd SW (1990) The strategy process, middle management involvement, and organizational performance. *Strategic Management J.* 11(3):231–241.
- Yoo B, Donthu N, Lenartowicz T (2011) Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *J. Internat. Consumer Marketing* 23(3–4):193–210.
- Yudkin DA, Pick R, Hur EY, Liberman N, Trope Y (2019) Psychological distance promotes exploration in search of a global maximum. *Personality Soc. Psych. Bull.* 45(6):893–906.
- Zhou J, George JM (2003) Awakening employee creativity: The role of leader emotional intelligence. *Leadership Quart.* 14(4–5):545–568.
- Zucker LG, Schilke O (2020) Toward a theory of micro-institutional processes: Forgotten roots, links to social-psychological research, and new ideas. Haack P, Sieweke J, Wessel L, eds. *Microfoundations of Institutions. Research in the Sociology of Organizations* (Emerald, Bingley, UK), 371–390.

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Online Appendix A: Supplemental Information for Study 1 Procedures

Advertisement (both conditions):

This is a research study about managerial decision-making. We want to learn more about how managers make decisions and what influences those decisions. The study involves decision-making task(s) that will be completed online and require approximately 15-30 minutes to complete.

Video introduction transcript (both conditions):

Hello, and welcome to the study. I am the principal investigator for this project and want to begin the study by explaining a few key details.

As a part of this study, you will be tasked with making decisions necessary for running a lemonade stand. Your role is to manage the lemonade stand by making decisions. My own role is to be your boss, tasked with evaluating the decisions you make. Regarding this task and my role, there are several key points I want to emphasize before we begin.

First, I want to explicitly state that this study and your participation do not involve any deception. All instructions that I provide and potential outcomes that I describe are real. Our goal is to provide the most realistic experience. As such, there is no deception involved.

Second, the outcomes of the decisions you make, as you run the lemonade stand, are not random. The decisions you make are directly responsible for the outcomes of the task. Further, as you run the lemonade stand, you will receive customer feedback. This feedback is also not random. It is directly dependent on the decisions you make.

Lastly, regarding my role as your boss. I will perform an evaluation of your performance. Consistent with what I have already explained, there is no deception regarding my role as your boss. The evaluation I provide is not random. It is specific to you and the decisions you make.

In summary, I want you to know that your attention and willingness to follow the instructions are very important. Your participation does not involve any deception or random outcomes. The decisions you make matter.

Thank you.

Task instructions (reward power framing condition; language that differs between conditions is highlighted in bold):

Running a lemonade stand task

In this task you will take on the role of an employee of the principal investigator (the person you met in the video), who will be your boss. As the employee, you have been assigned to run a lemonade stand. You will make decisions on how to run the business, and your boss (the principal investigator) will evaluate your performance and determine any **rewards** you will receive.

So, your task today resembles real-life organizations, where those making business decisions are being evaluated and potentially **rewarded** by their boss.

Please proceed to the next page to learn about the details of your role.

Employee Role

As the employee, your job is to run a lemonade stand. There will be 10 periods in which you will have to make decisions on how to run the business. These decisions involve the location of the stand, the sugar and lemon content, and the lemonade color and price. At the end of each period, you will learn how much profit you made during that period. You will also hear some customer reactions that may help you with your choices in the following periods. You will be evaluated on your decisions and profits made during the 10 periods of the experiment.

Please proceed to the next page to learn about the details of the boss' role.

Boss Role

As the boss, the job of the principal investigator is to evaluate your performance. Their job is to decide whether your performance will be **rewarded**. If your boss chooses to **reward** you, then **the second task will be eliminated** (15-minute text analysis task). Your boss will make this **reward** decision based on their judgment of both the decisions you make as well as the outcomes of those decisions. Remember, the possibility of the second task **elimination** represents a possible **reward**. It is expected that approximately half of participants will receive the **reward**.

Task instructions (punishment power framing condition; language that differs between conditions is highlighted in bold):

Running a lemonade stand task

In this experiment you will take on the role of an employee of the principal investigator (the person you met in the video), who will be your boss. As the employee, you have been assigned to run a lemonade stand. You will make decisions on how to run the business, and your boss (the principal investigator) will evaluate your performance and determine any **punishments** you will receive.

So, your task today resembles real-life organizations, where those making business decisions are being evaluated and potentially **punished** by their boss.

Please proceed to the next page to learn about the details of your role.

Employee Role

As the employee, your job is to run a lemonade stand. There will be 10 periods in which you will have to make decisions on how to run the business. These decisions involve the location of the stand, the sugar and lemon content, and the lemonade color and price. At the end of each period, you will learn how much profit you made during that period. You will also hear some customer reactions that may help you with your choices in the following periods. You will be evaluated on your decisions and profits made during the 10 periods of the experiment.

Please proceed to the next page to learn about the details of the boss' role.

Boss Role

As the boss, the job of the principal investigator is to evaluate your performance. Their job is to decide whether your performance will be punished. If your boss chooses to punish you, then **you will be asked to complete a second task** (15-minute text analysis task). Your boss will make this **punishment** decision based on their judgment of both the decisions you make as well as the outcomes of those decisions. Remember, the possibility of the second **additional** task represents a possible **punishment**. It is expected that approximately half of participants will receive the **punishment**.

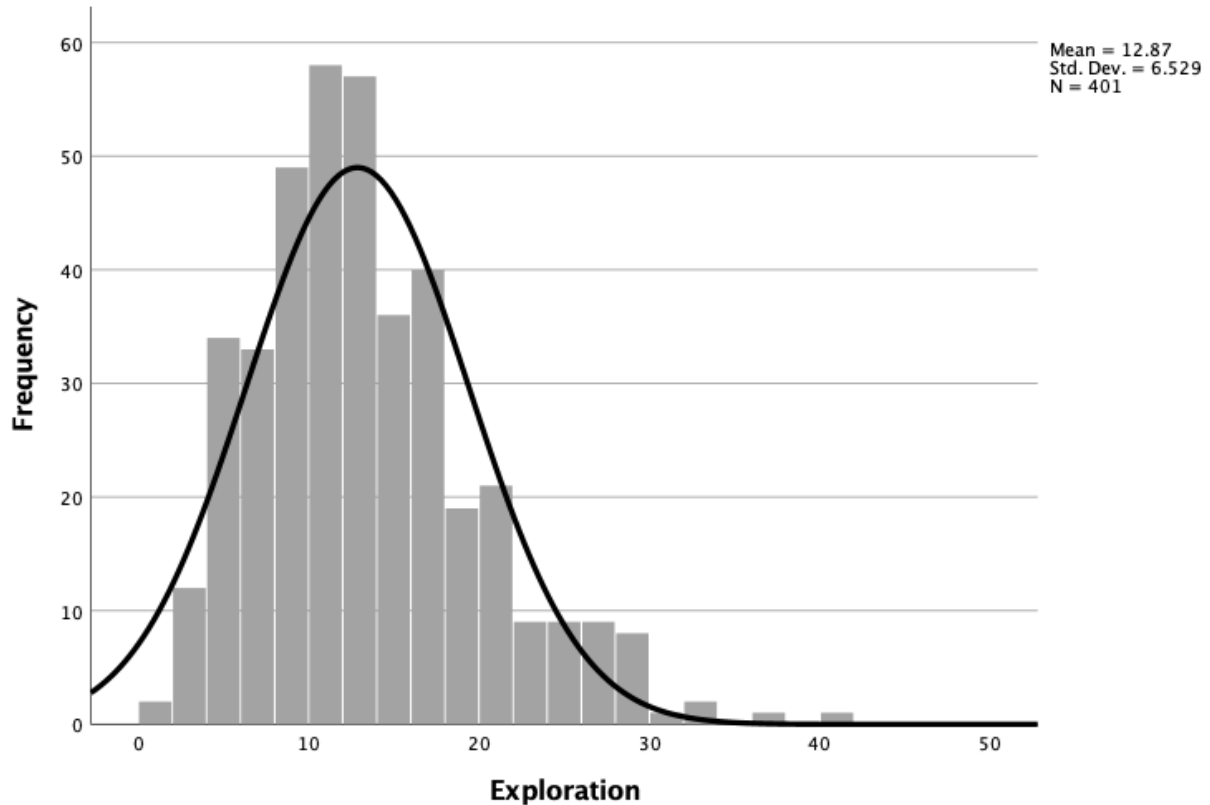


Figure A1: *Histogram of Exploration Measure Used in Study 1*

Online Appendix B: Supplemental Information for Power Framing Scale

Table A1: Means and SDs of Reward and Punishment Power Framing Scale Items

Item	Sample		
	Pretest	Study 1	Study 2
The manager has power to distribute rewards that I value.	3.96 (1.04)	3.87 (1.37)	4.04 (1.01)
The manager controls resources that I desire to obtain.	3.48 (1.18)	3.51 (1.42)	3.69 (1.07)
The manager is in a position to provide valuable rewards.	3.97 (1.01)	4.01 (1.37)	4.04 (1.03)
The manager has power to administer punishments.	3.70 (1.19)	3.95 (1.43)	3.89 (1.13)
The manager controls resources that can be used to punish.	3.28 (1.30)	3.58 (1.42)	3.58 (1.23)
The manager is in a position to assign punishments.	3.70 (1.18)	3.98 (1.44)	3.81 (1.13)

Note. $N = 184$ for Pretest; $N = 401$ for Study 1; $N = 325$ for Study 2. SDs are in parentheses.