Ranking Low, Feeling High:

How Hierarchical Position and Experienced Power Promote Prosocial Behavior in Response to Procedural Justice

ABSTRACT

Research shows that power can lead to prosocial behavior by facilitating the behavioral expression of *dispositional* prosocial motivation. However, it is not clear how power may facilitate responses to *contextual* factors that promote prosocial motivation. Integrating Fairness Heuristic Theory and the Situated Focus Theory of Power, we argue that in particular, organization members in lower (vs. higher) hierarchical positions who simultaneously experience a high (vs. low) sense of power respond with prosocial behavior to one important antecedent of prosocial motivation, that is, the enactment of procedural justice. The results from a multisource survey among employees and their leaders from various organizations (Study 1) and an experiment using a public goods dilemma (Study 2) support this prediction. Three subsequent experiments (Studies 3-5) show that this effect is mediated by perceptions of authority trustworthiness. Taken together, this research (a) helps resolve the debate regarding whether power promotes or undermines prosocial behavior, (b) demonstrates that hierarchical position and the sense of power can have very different effects on processes that are vital to the functioning of an organization, and (c) helps solve ambiguity regarding the roles of hierarchical position and power in Fairness Heuristic Theory.

Keywords: procedural justice; power; hierarchy; sense of power; prosocial behavior.

Many classical philosophers and writers who still heavily influence today's thinking, like Plato, Shakespeare, Machiavelli, and Nietzsche, argued that the power that we possess influences whether we treat others in prosocial ways or not (see e.g. Ng, 1980). It is not surprising then that the relationship between power and our treatment of others has been the focus of much social scientific research (see Galinsky, Rucker, & Magee, 2015; Sturm & Antonakis, 2015; Williams, 2014, for reviews). However, this research has so far not resulted in a clear and coherent picture. For instance, consistent with the traditional proposition that "power corrupts", some studies suggest that a high power position undermines prosocial behavior (e.g., Kipnis, 1972) and yet, other studies suggest that high power may promote such behavior (e.g., Schmid Mast, Jonas, & Hall, 2009). One way by which scholars reconcile these seemingly contradictory findings is by showing that power facilitates acting upon one's goals and motivations (Guinote, 2007a; 2008). Studies in this tradition show that power, rather than directly promoting or undermining prosocial behavior, serves as a catalyst by facilitating the expression of chronic, personality-based prosocial motivations in observable behavior (Chen, Lee-Chai, & Bargh, 2001; DeCelles, DeRue, Margolis, & Ceranic, 2012).

A point that has received much less attention is that the organizational context in which individuals operate is as relevant an antecedent of prosocial behavior as is personality (Penner, Midili, & Kegelmeyer, 1997). However, it is unclear how one's power may shape prosocial responses to contextual influences. In the present paper, we set out to address this issue. We focus on the fairness of organizational decision-making procedures (i.e., procedural justice) as a contextual factor relevant to the display of prosocial behavior. Procedural justice is one of the most established contextual antecedents of prosocial behavior in organizations, most notably organizational citizenship behavior (OCB) (Blader & Tyler, 2009).

To address how power (i.e., asymmetric control over valued resources; Magee & Galinsky, 2008) facilitates prosocial responses to procedural justice, we distinguish the

hierarchical position of organization members from their sense of power. The sense of power refers to the perception of one's ability to influence another person or other people (Anderson, John, & Keltner, 2012; Keltner, Gruenfeld, & Anderson, 2003). Scholars who study hierarchical position along with the sense of power usually consider the sense of power as a mediator of effects of hierarchical position (Galinsky et al., 2015). However, hierarchies are associated with other variables besides power, such as status and responsibility, which have very different psychological and behavioral effects than power (Blader & Chen, 2012; Blader, Shirako, & Chen, 2016; Overbeck & Park, 2001; Tost, 2015). Moreover, the sense of power reflects various factors in addition to formal position that shape one's actual power, such as position in a social network, subunit membership, and influence skills. As a result, although individuals in high formal ranks often feel powerful, sometimes they may not (e.g., a senior manager who has announced her retirement). Conversely, although individuals in low positions may often have a relatively low sense of power, this may not always be the case (e.g., security guards and reimbursement clerks; Anderson et al., 2012). Indeed, correlations between formal position and the sense of power are usually moderate at best (e.g., $r = .31$ in Anderson & John, 2015; $r = .42$ in Anderson & Berdahl, 2002).

Rather than viewing the sense of power as a mediator of effects of hierarchical position, we argue that hierarchical position and sense of power can play distinct roles in the process that leads from high (vs. low) procedural justice to prosocial behavior. Our argument results from an integration of Fairness Heuristic Theory (FHT; Lind, 2001) and the Situated Focus Theory of power (SFT; Guinote, 2007a). Based on FHT, we will argue that in particular organization members in lower (vs. higher) positions are *motivated* to pay attention to procedural justice because doing so informs whether they can trust those in authority (cf. Begley, Lee, & Hui, 2006; Lind, 2001). However, we build on SFT to argue that in particular organization members with a high (vs. low) sense of power are *able* to focus on procedural justice information

because they are less distracted. In combination, these arguments lead us to predict that high (vs. low) procedural justice promotes prosocial behavior particularly among organization members who are in a *low* (vs. high) hierarchical position and simultaneously have a *high* (vs. low) sense of power. Moreover, we predict that the Procedural Justice × Position × Sense of Power interaction on prosocial behavior is mediated by organization members' perceptions of authority trustworthiness. Figure 1 presents our proposed model.

THEORETICAL BACKGROUND

Procedural justice and prosocial behavior

Procedural justice refers to the perceived fairness of procedures used to allocate resources to organization members (Tyler, 1988). Fairness perceptions are shaped by various characteristics of decision-making procedures. For instance, procedures are perceived as fairer when they are applied consistently over time and across people (van den Bos, Vermunt, & Wilke, 1996), applied in an accurate manner (De Cremer, 2004), and when they allow voicing one's opinions in decisions (Leventhal, 1980; Thibaut & Walker, 1975).

Prosocial behavior in organizations is "(a) performed by a member of an organization, (b) directed toward an individual, group, or organization with whom he or she interacts while carrying out his or her organizational role, and (c) performed with the intention of promoting the welfare of the individual, group, or organization toward which it is directed" (Brief & Motowidlo, 1986, p. 711). A wealth of research shows that high (vs. low) procedural justice predicts increased prosocial behavior such as OCB (see e.g., Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Colquitt et al., 2013, for meta-analyses). OCB describes extra-role behaviors that contribute to effective organizational functioning but are not explicitly required (Organ, 1988). It includes behaviors as varied as voluntarily helping one's supervisors or coworkers and speaking up to improve the way in which work is organized. Although organization members can feel pressured by the organization or their supervisor to

enact OCB (Spector & Fox, 2010), overall, OCB is voluntarily behavior as variables like prosocial personality, organizational commitment, and procedural justice all predict higher OCB (Grant & Mayer, 2009; LePine, Erez, & Johnson, 2002; Organ & Ryan, 1995).

Most research on the relationship between procedural justice and OCB is cross-sectional, therefore not allowing for causal conclusions. However, experimental research has provided causal evidence that high (e.g., having voice in decision making), as compared to low procedural justice (e.g., being denied such voice) promotes prosocial behaviors that resemble OCB, such as voluntarily helping the enacting authority (Van Dijke, Wildschut, Leunissen, & Sedikides, 2015) and one's coworkers (De Cremer, van Dijke, & Mayer, 2010).

Power, procedural justice, and prosocial behavior

FHT proposes that individuals face a "fundamental social dilemma" in their interaction with social collectives (Lind, 2001). Contributing to an organization by displaying prosocial behavior offers a sense of identity and belongingness and opportunities to improve outcomes, but it also creates conditions for possible exploitation by authorities. FHT argues that to determine whether or not to contribute to a collective (i.e., the fundamental social dilemma), people use justice information as a simple (and imperfect) as a simple signal of the authority's trustworthiness. They do so because analyzing all factors relevant to making a prosocial decision would overwhelm their cognitive capacities. For instance, although receiving (vs. being denied) voice in an authority's decision is a somewhat ambiguous source of information about authority's trustworthiness, it nevertheless is used as a cue signaling that the authority is not exploitative. This information is subsequently used to decide whether or not to contribute to the collective by displaying prosocial behavior.

Important from the perspective of FHT, a fundamental function of hierarchy is to regulate the information flow within organizations (Anderson & Brown 2010; Shaw, 1964). Ideally, information needed to make decisions moves up the hierarchy and is integrated at the top where

it is used for decision making; the decision taken is then communicated downward (Scott 1998). Although not all information flows through the hierarchy (Burns & Stalker 1961), lower-ranking organization members (e.g., employees not in a management role) have few direct interactions with senior management (Tichy, Tushman, Fombrun 1979), giving them little opportunity to directly evaluate the trustworthiness of management. As noted, according to FHT, one way to obtain trustworthiness information is via procedural justice (Lind, 2001). Thus, because in particular employees in lower (vs. higher) positions lack information about the trustworthiness of top management, they would be particularly motivated to use procedural justice as an indicator of the trustworthiness of top-ranked authorities (Begley et al., 2006).

FHT is thus relevant to explain the relationship between hierarchical position and procedural justice. However, it does not address the workings of the sense of power, a variable that is arguably critical to understand exactly *how* power affects psychological processes and subsequent behavior (Keltner et al., 2003; Tost, 2015). We argue that to understand how hierarchical position and the sense of power shape prosocial responses to procedural justice, it may be useful to integrate tenets of FHT with those of SFT (Guinote, 2007a)[1]. SFT proposes that a high (vs. low) sense of power enhances the ability of individuals to focus on goal-relevant information. This ability makes individuals with a high sense of power more effective at achieving goals in line with situational demands and opportunities. Conversely, individuals with a low sense of power attend to many different types of information, irrespective of their goal relevance, which makes them less effective in pursuing their goals.

Research has provided robust evidence for predictions derived from SFT. For instance,

[1] The best established theory addressing psychological and behavioral effects of possessing high vs. low power is the approach-inhibition theory of power (Keltner et al., 2003). This theory proposes that experiencing high power promotes an approach state whereas experiencing low power promotes an inhibition state. We do not build on this theory because effective pursuit of many goals, including the goals that we focus on in the present research (i.e., contributing to the collective but at the same time not being taken advantage of), involves approach and inhibition components (Berkman, Lieberman, & Gable, 2009).

experiencing high (vs. low) power facilitates goal setting, initiation of goal-directed action, persistence and flexibility in goal pursuit, and responses to good opportunities for goal pursuit (Guinote, 2007b), it facilitates flexible adjustment to situational goals (Overbeck & Park, 2006), it reduces awareness of constraints to goal pursuit (Whitson, Liljenquist, Galinsky, Magee, Gruenfeld, & Cadena, 2013), and it facilitates acting upon opportunities (Guinote, 2008). Importantly, in support of the process that is proposed in SFT to drive the effects of power on goal pursuit, experiencing high power has been shown to facilitate attentional focus on goal-relevant information (Guinote, 2007c; Smith, Jostmann, Galinsky, & van Dijk, 2008).

SFT thus explains how a high (vs. low) sense of power facilitates a focus on goal relevant information, and by that, promotes goal directed action. As noted, the fairness of the enacted procedure is considered in FHT information relevant to the goal of assessing authority trustworthiness, which itself serves the higher order goal of determining whether contributing to the collective will pay of or not. Procedural justice is important to assess authority trustworthiness particularly for organization members in lower positions (who have no other trustworthiness information available). Combining the arguments from FHT and SFT about the impact of hierarchical rank and sense of power respectively, we develop our first hypothesis:

High (vs. low) procedural justice leads to elevated prosocial behavior. However, this effect is most pronounced among individuals in a lower (rather than higher) hierarchical rank who simultaneously have a high (rather than low) sense of power (H1).

Our argument for the three-way interaction effect of procedural justice, hierarchical position, and the sense of power on prosocial behavior builds on the idea that, fundamentally, individuals aim to assess whether contributing to the collective (by means of displaying prosocial behavior) may result in being exploited by an authority low in trustworthiness. According to FHT, particularly individuals in lower (vs. higher) ranks will be *motivated* to focus on procedural justice as a proxy of trustworthiness information because these individuals

lack other sources of information about authority trustworthiness. Furthermore, SFT argues that a high (vs. low) sense of power facilitates goal directed action by means of a very specific process, that is, by enhancing the *ability* to focus on goal-relevant information (such as procedural justice information for lowly ranked organization members). Combining the arguments from FHT about the motivation to focus on procedural justice information (among lowly, rather than highly ranked organization members) and SFT about the ability to focus on goal relevant information (among organization members with a high, rather than low sense of power), we argue that a low (vs. high) hierarchical position combined with a high (vs. low) sense of power facilitates prosocial responses to high (vs. low) procedural justice because it shapes member's assessment of the authority's trustworthiness:

The effect of high (vs. low) procedural justice on prosocial behavior among individuals in a lower (rather than higher) hierarchical rank who have simultaneously a high (rather than low) sense of power is mediated by perceptions of top management trustworthiness (H2).

OVERVIEW OF STUDIES

We tested our hypotheses in five studies. Study 1 is a multisource survey conducted among employee-supervisor pairs from various organizations, designed to test H1. We operationalized prosocial behavior as employee OCB.

Study 2 is an experiment designed to test H1. We operationalized prosocial behavior as contributions in a hierarchically structured public goods dilemma (Komorita & Parks, 1994). We built on research that shows that an authority who monitors the group members' decisions in a procedurally fair (vs. unfair) way promotes prosocial behavior in such dilemmas (De Cremer & Van Knippenberg, 2003).

In Studies 3-5 we tested H2 using the same public goods dilemma as in Study 2. In Studies 3-4 we employed a causal chain approach because this is the recommended strategy to test for mediation when a mediator can easily be measured as well as manipulated (Spencer,

Zanna, & Fong, 2005; Stone-Romero & Rosopa, 2011). In Study 3, we tested if high (vs. low) procedural justice heightens perceptions of authority trustworthiness, in particular among members who are in a low (vs. high) hierarchical position but have a high (vs. low) sense of power. In Study 4, we unambiguously manipulated the trustworthiness of the authority and tested if high (vs. low) authority trustworthiness promotes prosocial behavior. Finally, in Study 5 we measured trustworthiness perceptions as well as contributions and directly tested the indirect effect of the Procedural Justice × Position × Sense of Power interaction on contributions, via trustworthiness perceptions.

STUDY 1

Method

Participants and procedure. We collected our data via Flycatcher, a Dutch research panel with approximately 16,000 Dutch members, and that has the ISO-26362 certification for access panels (i.e., it meets the qualitative ISO requirements for social scientific research, market research, and opinion polls). Members voluntarily become involved as research participants in return for points, which they can collect and convert into a preferred voucher (e.g., tickets for the movies).

We asked respondents to complete an online questionnaire and to provide us with the name and email address of their respective supervisors so we could contact him/her. Employees worked in a variety of organizations. We provided information to their supervisor, including a link to the survey. Each respondent received a unique identification number to ensure anonymity and proper matching of focal employee and supervisor data.

We took various steps to ensure that the correct sources completed the surveys. When introducing the study, we emphasized the importance of integrity in the scientific process. We told respondents that it was necessary for the employee and the supervisor to fill out the correct surveys. Furthermore, when respondents submitted their online surveys, time stamps and IP

addresses were recorded to ensure that the surveys were submitted at different times and with different IP addresses. We found no irregularities in the responses.

A total of 201 employee-supervisor pairs participated. At the end of the survey, we asked the participants if they wanted to comment on the survey. Eighteen supervisors and 18 focal employees did. Most responses were positive (e.g., "Glad I could be of help", "Interesting survey"). However, 10 employees indicated that they found the items ambiguous, difficult to respond to, not relevant to their organization, or unclear as to which management layer was being referred. Furthermore, three employees indicated that they functioned in more than one hierarchical position (e.g., as employee and also as chair of the work council). Finally, one supervisor found it difficult to respond to the items because the employee in question had only worked with him for a short time. We excluded from our analyses the pairs to which these supervisors or employees belonged, leaving a total number of 187 employee-supervisor pairs.

The employing organizations employed on average 3035.46 persons (*SD* = 9293.92). The mean age of the focal employees was 41.94 years (*SD* = 11.24, 72 females). Their mean organization tenure was 12.14 years (*SD* = 10.23). Their mean job tenure was 7.80 year (*SD* = 7.27). One percent of the focal employees had primary education as their highest completed education, 13% had secondary education, 29% had completed subsequent vocational training, 32% had completed a Bachelor's degree, and 25% had completed a Master's degree. Fifty percent of the focal employees worked in nonmanagement positions, 13% in line management, 32% in middle management, and 5% as senior/executive manager.

The mean age of the supervisors was 45.41 years (*SD* = 9.16, 63 females). Fourteen percent of the supervisors had secondary education as highest completed education, 15% had completed subsequent vocational training, 44% had completed a Bachelor's degree, and 26% had completed a Master's degree.

Measures. We measured hierarchical position (indexed by the employee) with Begley et

al.'s (2006) measure, which asks whether the focal employee functions in (1) *nonmanagement*, (2) *line management*, (3) *middle management*, or (4) *senior/executive management*.

We measured all other items on 7-point scales (1 = *strongly disagree*, 7 = *strongly agree*)**.** We measured sense of power with Anderson et al.'s (2012) 8-item scale (indexed by the employee). An example of an item is, "I can get people to listen to what I say in this organization."

We measured procedural justice (indexed by the employee) using Colquitt's (2001) 7-item procedural justice scale. The scale was introduced as follows: "The following items are about procedures used to make decisions that have implications for you." An example of an item is, "Are those procedures based on accurate information?"

We measured OCB with Podsakoff, MacKenzie, Moorman and Fetter's (1990) 24-item scale (indexed by the supervisor). An item example is "This employee… attends meetings that are not mandatory but are considered important" (1 = *strongly disagree*, 5 = *strongly agree*).

Results

Table 1 presents correlations, means, standard deviations, and Cronbach's α coefficients.

We tested H1 using ordinary least squares regression. We included in step 1 of the regression organizational size as a control variable because the meaning of one's hierarchical position (and the actual distance with top management) may vary as a function of the size of the organization.[2, 3] In step 2, we entered the main effects of procedural justice, sense of power,

[2] Tests of H1 without organizational size as predictor revealed results that were essentially the same as those presented in the text. Most relevantly, the Procedural Justice × Hierarchical Position × Sense of Power interaction predicted OCB (p = .052), and this relationship was of the same shape as the one depicted in Figure 1. In additional analyses, we included organizational tenure, job tenure, and gender as predictors. Tests of H1 with these predictors included also revealed results that were essentially the same as those presented in the text, with the Procedural Justice × Hierarchical Position × Sense of Power interaction predicting OCB similar to the interaction depicted in Figure 1 (p = .067). The slightly lowered p value likely resulted from adding predictors that do not correlate significantly with the criterion.

[3] In additional analyses we included gender as a main effect and a moderator of all main and interactive effects of procedural justice, hierarchical position and sense of power. In Study 1,

and hierarchical position. In step 3, we entered the two-way interactions between procedural justice, sense of power, and position. In step 4, we entered the three-way interaction. Interaction terms were based on mean centered versions of the predictors. Table 2 presents the results.

As shown in Table 2, higher (vs. lower) procedural justice predicted heightened OCB. Furthermore, a lower (vs. higher) hierarchical position and a higher (vs. lower) sense of power predicted elevated OCB. And the Procedural Justice × Sense of Power interaction predicted elevated OCB (p = .08). However, these relationships were qualified by a Procedural Justice × Hierarchical Position × Sense of Power interaction (p = .052; see Figure 3).

We probed the three-way interaction with simple slopes tests (Dawson & Richter, 2006). Procedural justice predicted OCB among lowly ranked employees (1 *SD* below the mean on hierarchical position) with a high sense of power (1 *SD* above the mean on sense of power), β = .48, t = 2.49, p = .01. Procedural justice did not predict OCB among lowly ranked employees with a low sense of power, β = -.04, t = -.32, p = .75, or highly ranked employees with a low sense of power, β = .18, t = 1.02, p = .31, but it predicted OCB among highly ranked employees with a high sense of power, β = .23, t = 1.85, p = .07.

Furthermore, procedural justice predicted OCB more positively among lowly ranked employees with a high sense of power than among (1) lowly ranked employees with a low sense of power (t = 2.57, p = .01), (2) highly ranked employees with a high sense of power (t = 1.90, p = .03), and (3) highly ranked employees with a low sense of power (t = 1.49, p = .07).

2, and 4 none of these interactions approached significance (smallest p = .16 for the Gender × Sense of Power interaction in Study 4). In Study 3, the Gender × Procedural Justice × Position interaction influenced benevolence perceptions (p = .04): procedural justice was most impactful among lowly ranked females; among males procedural justice promoted benevolence perceptions regardless of their rank. The Gender × Procedural Justice × Sense of Power interaction influenced benevolence (p = .09) and integrity perceptions (p = .06): procedural justice was most impactful among males with a high sense of power; among females, sense of power tended not to strengthen the effect of procedural justice. In Study 5, the Gender × Position interaction influenced benevolence perceptions (p = .07): a higher hierarchical position led to higher benevolence perceptions, but particularly among males.

Procedural justice did not predict OCB more strongly among highly ranked employees with a high sense of power than among (1) highly ranked employees with a low sense of power (t = .29, p = .39) or (2) lowly ranked employees with a low sense of power (t = 1.01, p = .16). Finally, Procedural justice did not predict OCB more strongly among highly ranked employees with a high sense of power than among lowly ranked employees with a low sense of power (t = .53, p = .30).

Summary

Procedural justice predicts OCB particularly among individuals in a low (vs. high) hierarchical position with a high (vs. low) sense of power. These results support H1 in a Dutch sample of working adults and their supervisors. We operationalized prosocial behavior in a way that is directly relevant to organizations, that is, as OCB, and we used a broad operationalization of procedural justice. Thus, although these results do not allow drawing causal conclusions, they support our predictions in a setting that is high in ecological validity.

STUDY 2

Study 2 was an experiment in which we orthogonally manipulated procedural justice, hierarchical position, and subjectively sensed power. We operationalized prosocial behavior as contributions that participants make to a common pool in a contributions dilemma. In such a dilemma, participants believe they function in a multi-person group. They receive a sum of valued resources and they are free to contribute as many of these resources as they want to a common pool. If the total contributions in the pool equal or surpasses a set value, the experimenter doubles the pool; if the contributions are less than the set value, contributions are not doubled. The pool is subsequently redistributed equally to the group members. Such contributions are at least partly driven by motives to benefit the collective (De Cremer & van Vugt, 1999). We introduced a hierarchical structure to this dilemma and orthogonal to the participant's hierarchical position, manipulated the sense of power.

Method

Participants and design. We invited 300 US-based participants via Amazon Mechanical Turk (MTurk) and paid them $0.75. Because the study purportedly involved an interaction situation, we set a time limit of 45 minutes (after clicking the link) for the participants to submit their data. Of the invited participants, 287 responded in time, thus providing us with their data. Based on criteria explained below (see *measures and participant exclusion* section), we excluded 21 participants, leaving an *N* of 266. We randomly assigned participants to one of eight conditions that resulted from orthogonally manipulating procedural justice (high vs. low), hierarchical position (high vs. low), and sense of power (high vs. low). There were 132 male participants and 134 female. Their mean age was 37.97 (*SD* = 12.00).

Procedure. Upon opening the link to the study, the participants learned that the aim of the study was to better understand how individuals function in an organized group. We then explained to the participants that they would play two rounds of an exercise with four other MTurk workers in a group. In each round, they would start with 100 valuable points, which represented lottery tickets.[4] One participant out of approximately 100 would receive a $100 gift certificate from the lottery drawing. Hence the more points a participant earned, the higher the chance of earning the certificate. We explained that during each round, each group member was free to choose any number of points that they wanted to contribute to a common pool (between 0 and 100 points). If the pool totaled at least 250 points, the experimenter would double the points; if the pool totaled less than 250, the experimenter would not double the points. It was explained that in round 1 the pool would be divided equally among the group members. We

[4] Participants commonly play for lottery tickets in public goods dilemmas research. We do not know of research comparing playing for lottery tickets with being paid directly for points gained. However, research shows that uncertainty about the relationship between points obtained and monetary outcomes affects behavior only when uncertainty implies lower expected outcomes than certainty (McCarter, Rockmann, Northcraft, 2010). This is not the case when participants play for lottery tickets.

then provided the participants with various examples illustrating point distributions resulting from different contribution patterns.

Next we explained to the participants that their group would be hierarchically structured with one group member in the top rank, two members in the middle rank, and another two in the lowest rank. The top-ranked member would monitor the contributions of all the group members. We explained that the hierarchy made direct communication more likely between the top-ranked and the middle-ranked organization member than between the top-ranked and lowest-ranked member. After we ostensibly established a network connection with four other MTurk workers the participants learned that they had been assigned either to the lowest or the middle rank of the organization. The participants then played the first round.

Afterwards, we manipulated the sense of power. The participants learned that the top-ranked organization member was evaluating the decisions made by all the group members and that this would take some time. In the meantime, the study leaders wanted to learn a bit more about the participants. We then presented the commonly used Galinsky, Gruenfeld, and Magee (2003) recall manipulation, which either asks participants to describe a situation in which they had power over another person or a situation in which another person had power over them.

We then introduced the procedural justice manipulation taken from De Cremer and van Knippenberg (2003). The participants learned that the top-ranked member had finished evaluating the contributions from all the group members and that based upon these evaluations, (s)he would decide how to redistribute the total contributions to the pool in round two. Participants either received an opportunity to explain their contribution decision in the first round, or were denied such an opportunity.

The participants then played the second round. We afterwards checked whether the participants correctly recalled their hierarchical position, checked the procedural justice manipulation and assessed demographic variables. Finally, we debriefed the participants.

Measures and participant inclusion. In line with best practices for conducting online research, we included an attention check early on in the study (Oppenheimer, Meyvis, & Davidenko, 2009). Participants learned that they should *not* respond to the next item by indicating who their favorite classical composer was (out of seven well-known composers) but instead they should click on the left-most alternative. At the end of the study, we asked participants "What was your position in the hierarchy?" (1 = *top rank*; 2 = *middle rank*; 3 = *lowest rank*). To check the manipulation of the sense of power, following Galinsky et al. (2003), a coder, who was blind to the conditions and hypotheses, coded the recalled events according to how much power the participants reported they had in the described situation (1 = *completely powerless*; 7 = *has complete power*). We checked the procedural justice manipulation with one item: "The top-ranked organization member gave me voice in his/her decisions" (1 = *completely disagree*; 7 = *completely agree*).

We excluded from the analyses one participant who failed the attention check, 13 participants who failed to describe the requested high/low power situation (they noted, for instance, "I have never been in such a situation"), and 10 participants who incorrectly indicated their assigned hierarchical position.

We measured the increase in contributions to the pool by subtracting the amount in round 1 from that of round 2 (for a similar approach, see e.g., Irwin, Mulder, & Simpson, 2014). This controls for pre-existing differences in contributions and focuses more cleanly on the effects of our manipulations (De Cremer & Van Knippenberg, 2003). Such control is relevant because we manipulated hierarchical position before measuring round 1 contributions and we found a weak effect of position on round 1 contributions, $F(1, 263) = 2.57$, $p = .11$.

Results

Manipulation checks. A Hierarchical Position × Sense of Power ANOVA with power reported in the events as dependent variable revealed a main effect of sense of power only. The

participants in the low sense-of-power condition (i.e., those who reflected upon an episode in which others controlled their behavior) reported lower power (M = 1.33, SD = .89) than the participants in the high sense-of-power condition (i.e., those who reflected upon an episode in which they controlled others' behavior) (M = 6.15, SD = .73), $F(1, 262) = 2645.87$, $p < .001$, $\eta_p^2 = .91$. We did not include the procedural justice manipulation in this analysis because we administered it after the sense of power manipulation.

A Procedural Justice × Hierarchical Position × Sense of Power ANOVA with the voice manipulation check as dependent variable revealed a main effect of procedural justice only. Participants in the high procedural justice condition (i.e., those who received voice) reported receiving more voice (M = 3.72, SD = 1.93) than the participants in the low procedural justice condition (i.e., those who were denied voice) (M = 2.61, SD = 1.98), $F(1, 258) = 21.39$, $p < .001$, $\eta_p^2 = .08$.

Hypotheses testing. A Procedural Justice × Hierarchical Position × Sense of Power ANOVA on contribution increase revealed a marginally significant effect of procedural justice, $F(1, 255) = 3.03$, $p = .08$, $\eta_p^2 = .01$. In support of Hypothesis 1, however, this main effect was qualified by a significant Procedural Justice × Hierarchical Position × Sense of Power interaction, $F(1, 255) = 5.68$, $p = .02$, $\eta_p^2 = .02$ (see Figure 3). No other effects were significant or marginally significant.

Simple effects analyses showed that among participants in a low hierarchical position with a high sense of power, high procedural justice led to a higher increase in contributions (M = 10.90, SD = 21.70) than low procedural justice (M = -.40, SD = 15.69), $F(1, 255) = 7.18$, $p = .01$, $\eta_p^2 = .03$. Procedural justice did not influence contribution increases among participants in (1) a low hierarchical position with a low sense of power, $F(1, 255) = .85$, $p = .36$, $\eta_p^2 = .003$, (2) a high hierarchical position with a low sense of power, $F(1, 255) = 1.84$, $p = .18$, $\eta_p^2 = .01$, or (3) a high hierarchical position with a high sense of power, $F(1, 255) =$

.07, p = .79, η_p^2 = .00.

Furthermore, procedural justice affected contribution increases more strongly among lowly ranked participants with a high sense of power than among (1) lowly ranked participants with a low sense of power (t = 2.59, p = .01), (2) highly ranked participants with a high sense of power (t = 1.72, p = .04), but (3) not among highly ranked participants with a low sense of power (t = 1.02, p = .15). Procedural justice did not affect contribution increases more strongly among highly ranked participants with a high sense of power than among highly ranked participants with a low sense of power (t = -.71, p = .24) or lowly ranked participants with a low sense of power (t = .95, p = .17). However, procedural justice affected contribution increases more positively among highly ranked participants with a low sense of power than among lowly ranked participants with a low sense of power (t = 1.64, p = .05).

Summary

High (vs. low) procedural justice leads to an increase in contributions, particularly among participants who were in a low (vs. high) hierarchical position but had a high (vs. low) sense of power. These results present causal evidence for H1 on a behavioral index of prosocial behavior. Together, Study 1 and 2 thus provide converging evidence to support H1.

STUDY 3

We proceeded to test the mediating role of trustworthiness perceptions (i.e., H2), relying on the causal chain approach to mediation (Spencer et al., 2005; Stone-Romero & Rosopa, 2008). Specifically, we tested in Study 3 if high (vs. low) procedural justice shapes perceptions of the trustworthiness of the enacting authority particularly among organization members in a low (vs. high) rank and who had a high (vs. low) sense of power at the same time. Study 3 thus represents the first step in the causal chain. In this experiment, we used the same contributions dilemma as in Study 2. However, instead of measuring contributions in round 2, we assessed trustworthiness perceptions.

Method

Participants and design. We invited 300 US-based participants via MTurk and paid them $0.75. Of the 300 respondents who started, 280 finished the survey within the set time limit of 45 minutes. We excluded 11 participants, leaving an *N* of 269 (see *measures and participant exclusion* below). We randomly assigned participants to one of eight conditions that resulted from orthogonally manipulating procedural justice (high vs. low), hierarchical position (high vs. low), and sense of power (high vs. low). There were 112 male and 157 female participants. Their mean age was 38.13 (*SD* = 11.74).

Procedure. We used the same procedure as in Study 2, except for one difference. Immediately after having received (vs. being denied) voice in the decision of the top-ranked organization member, we informed the participants that we were interested in their view on the top-ranked organization member. At this point, we assessed trustworthiness perceptions. Afterwards, we informed the participants that the study was over and debriefed them.

Measures and participant inclusion. We employed the same attention check, position check, and coding of recalled power-related events as in Study 2. We excluded from the analyses two participants who failed the attention check and nine participants who failed to describe the requested high/low power situation. We checked whether voice successfully manipulated perceived procedural justice by asking whether the research assistant made the decision in a "fair" and "just" manner (1 = *not at all*; 5 = *very much so*. α = .88).

Theoretical and empirical work on trustworthiness (see Mayer, Davis, & Schoorman, 1995; Colquitt & Rodell, 2011) distinguishes between ability (i.e., competence, skills, and efficiency), benevolence (i.e., the trustee having the interests of the truster at heart), and integrity (adherence to a set of shared values or acceptable principles). Of these three facets, integrity and benevolence are relevant in the context of FHT (i.e., to assess fears of exploitation; Colquitt & Rodell, 2011). We therefore measured integrity and benevolence

perceptions with two scales from Mayer and Davis (1999). We slightly adapted the items to refer to "the top-ranked organization member" rather than, as in the original items, to "my supervisor" (1 = *strongly disagree*; 5 = *strongly agree*). Benevolence is measured with five items. An example item is, "The top-ranked organization member is very concerned about my welfare." Integrity is measured with six items. An example item is, "Sound principles seem to guide the top-ranked organization member's behaviors." Because our theory does not offer unique predictions for benevolence and integrity perceptions, we collapsed these items into one index of trustworthiness perceptions ($\alpha = .92$).

Results

Manipulation checks. A Hierarchical Position × Sense of Power ANOVA on power reported in the events revealed a main effect of sense of power only. The participants in the low sense-of-power condition experienced lower power ($M = 1.76$, $SD = 1.20$) than the participants in the high sense-of-power condition ($M = 6.14$, $SD = .97$), $F(1, 265) = 1089.69$, $p < .001$, $\eta_p^2 = .80$. We did not include the procedural justice manipulation in this analysis because we administered it only after the sense of power manipulation.

A Procedural Justice × Hierarchical Position × Sense of Power ANOVA on justice perceptions revealed a main effect of procedural justice only. Participants who received voice perceived higher procedural justice ($M = 3.40$, $SD = 1.18$) than participants who were denied voice ($M = 2.93$, $SD = 1.48$), $F(1, 261) = 8.45$, $p < .01$, $\eta_p^2 = .03$.

Hypotheses testing. A Procedural Justice × Hierarchical Position × Sense of Power ANOVA on trustworthiness perceptions revealed a significant main effect of procedural justice, $F(1, 261) = 11.96$, $p < .001$, $\eta_p^2 = .04$. This effect was qualified by a significant Procedural Justice × Hierarchical Position interaction, $F(1, 261) = 4.23$, $p = .04$, $\eta_p^2 = .02$. However, consistent with our predictions, these effects were qualified by a significant Procedural Justice × Hierarchical Position × Sense of Power interaction (see Figure 4), $F(1, 261) = 4.19$, $p = .04$,

η_p^2 = .02.[5] Simple effects analyses showed that among participants in a low hierarchical position with a high sense of power, high procedural justice (*M* = 2.98, *SD* = .83) led to higher trustworthiness perceptions compared to low procedural justice (*M* = 2.27, *SD* = .72), *F*(1, 261) = 14.77, *p* < .001, η_p^2 = .05. Procedural justice also influenced trustworthiness perceptions among participants in a low hierarchical position with a low sense of power, *F*(1, 261) = 2.75, *p* = .098, η_p^2 = .01, and participants in a high hierarchical position with a low sense of power, *F*(1, 261) = .3.17, *p* = .08, η_p^2 = .01, but not among participants in a high hierarchical position with a high sense of power, *F*(1, 261) = .10, *p* = .75, η_p^2 = .00.

Furthermore, procedural justice affected trustworthiness perceptions more strongly among lowly ranked participants with a high sense of power than among (1) lowly ranked participants with a low sense of power (*t* = 1.53, *p* = .06), (2) highly ranked participants with a high sense of power (*t* = 3.04, *p* < .01), and (3) highly ranked participants with a low sense of power (*t* = 1.54, *p* = .06). There were also some differences in the strength of the effect of procedural justice between the three relatively weak simple effects (i.e., those that did not combine a low rank with a high sense of power). Procedural justice affected trustworthiness perceptions more strongly among highly ranked participants with a low sense of power than among highly ranked participants with a high sense of power (*t* = 1.50, *p* = .06) but not than among lowly ranked participants with a low sense of power (*t* = .02, *p* = .45). Finally, procedural justice affected trustworthiness perceptions more strongly among lowly ranked participants with a low sense of power than among highly ranked participants with a high sense of power (*t* = 1.53, *p* = .07).

Summary

[5] The Procedural Justice × Hierarchical Position × Sense of Power interaction influenced benevolence perceptions, *F*(1, 261) = 4.31, *p* = .04, η_p^2 = .02, and integrity perceptions, *F*(1, 261) = 3.35, *p* = .07, η_p^2 = .01. The shape of these effects was similar to that of the effect on overall trustworthiness perceptions.

Study 3 revealed that high (vs. low) procedural justice increases perceptions of top-ranked organization member's trustworthiness, particularly among organization members who are in a lower (vs. higher) hierarchical position but have a high (vs. low) sense of power at the same time. These findings support our argument that somewhat ambiguous information about trustworthiness, as communicated by procedural justice (e.g., voice vs. no voice) and which is particularly relevant for organization members in low (vs. high) hierarchical positions, is particularly picked up by organization members who have a high sense of power.

STUDY 4

Study 4 represents the second step of the causal chain test. We tested if clear and unambiguous information about the trustworthiness of the top-ranked member influences prosocial behavior. For discriminant validity purposes, we also tested if this effect was moderated by hierarchical position and sense of power. These two variables should *not* play a moderating role because, according to our argument, hierarchical position and sense of power only moderate the effect of *ambiguous* indicators of trustworthiness (e.g., voice vs. no voice).

Method

Participants and design. We invited 300 US-based participants via MTurk and paid them $0.75. Of the respondents, 284 finished the study within the preset time limit (45 minutes). We excluded 22 participants, leaving an *N* of 262 (see *measures and participant exclusion* below). We assigned participants randomly to one of eight conditions that resulted from orthogonally manipulating authority trustworthiness (high vs. low), hierarchical position (high vs. low), and sense of power (high vs. low). There were 107 male and 155 female participants. The mean age was 39.31 (*SD* = 12.87).

Procedure. We used the same procedure as in Study 2, except for one difference. Instead of manipulating procedural justice, we provided unambiguous information that the top-ranked organization member was either of high or low trustworthiness. We used a procedure

adapted from Kim et al. (2004). Specifically, just before they would play round 2 of the contributions dilemma, the participants in the high- (/low-) trustworthiness condition read:

> *We feel we should inform you that it has come to our attention that the person in the top rank of this organization recently participated in a study that is somewhat similar to the present study. In this study, this person proved to be honest and truthful (/dishonest and untruthful). In fact, this person did not even lie (/lied) when the temptation to do so arose.*

Measures and participant inclusion. We used the same attention check and position and sense of power manipulation checks as in Studies 2-3. We checked the trustworthiness manipulation with two items from Kim, Ferrin, Cooper, and Dirks (2004): "Sound principles seem to guide the top-ranked organization member's behavior" and "The top-ranked organization member has a great deal of integrity." (1 = *completely disagree*; 7 = *completely agree*) (α = .93).

We excluded from the analyses three participants who failed the attention check, eleven participants who failed to describe the requested high/low power situation, and eight participants who incorrectly indicated their assigned hierarchical position.

As in Study 2, we measured the increase in contributions to the common pool from round 1 to round 2 by subtracting round 1 from round 2 contributions. Controlling for preexisting differences in contributions is useful because hierarchical position (which we manipulated prior to round 1) influenced round 1 contributions, $F(1, 259) = 3.82$, $p = .052$.

Results

Manipulation checks. A Hierarchical Position × Sense of Power ANOVA with power reported in the events as the dependent variable revealed a main effect of sense of power only. Participants in the low sense-of-power condition reported having lower power ($M = 2.00$, $SD = 1.00$) compared to participants in the high sense-of-power condition ($M = 5.76$, $SD = .82$), $F(1, 258) = 1092.90$, $p < .001$, $\eta_p^2 = .81$. We did not include the authority trustworthiness

manipulation in this analysis because we administered it after the sense-of-power manipulation.

An Authority Trustworthiness × Hierarchical Position × Sense of Power ANOVA with integrity perceptions as dependent variable revealed a main effect of authority trustworthiness only. Participants in the high authority-trustworthiness condition perceived the authority to be of higher trustworthiness (M = 5.20, SD = 1.13) compared to participants in the low authority-trustworthiness condition (M = 3.34, SD = 1.50), $F(1, 254) = 126.87$, $p < .001$, $\eta_p^2 = .33$.

Hypotheses testing. An Authority Trustworthiness × Hierarchical Position × Sense of Power ANOVA with increase in contributions as dependent variable revealed only a significant main effect of authority trustworthiness. Contributions increased more strongly when the top-ranked organization member was high (M = 5.99, SD = 18.23) rather than low in trustworthiness (M = -6.60, SD = 24.90), $F(1, 255) = 21.36$, $p < .001$, $\eta_p^2 = .08$. There was no suggestion that hierarchical position and sense of power moderated this effect, singly or in combination (p values of interactions > .2).

Summary and discussion

Study 4 completes our causal chain approach to test H2. Together, Study 3 and 4 show that high (vs. low) procedural justice promotes perceptions of authority trustworthiness in particular among individuals in lower (vs. higher) ranks with a high (vs. low) sense of power (Study 3), with downstream consequences for prosocial behavior (Study 4).

STUDY 5

As a final test of H2 we employed a different approach to mediation in Study 5 than we did in Studies 3-4. Specifically, in Study 5 we measured trustworthiness perceptions *and* contributions to directly assess the indirect effect of procedural justice on prosocial behavior among organization members in lower (vs. higher) ranks with a high (vs. low) sense of power, via trustworthiness perceptions.

Method

Participants and design. We invited 300 US-based participants via MTurk and paid them $1.00. Of the 300 respondents who started, 284 finished the survey within the set time limit, thus providing us with their data. We excluded 20 participants (see *measures and participant exclusion*), leaving an *N* of 264. We randomly assigned participants to one of eight conditions that resulted from orthogonally manipulating procedural justice (high vs. low), hierarchical position (high vs. low), and sense of power (high vs. low). There were 137 male and 127 female participants. Their mean age was 37.99 (*SD* = 12.06).

Procedure. We used the same procedure as in Study 2, apart from two differences. First, we did not include a first contribution round. Instead, participants learned that the top ranked organization member would monitor the contributions during the upcoming (only) round of contributions. Participants were either given or denied an opportunity to provide their opinion on whether and how the top ranked organization member should alter the equality redistribution rule. Second, after having received (vs. being denied) voice in the decision of the top-ranked organization member, we measured participants' perceptions of this person's trustworthiness. After that, participants decided how much to contribute to the pool.

Measures and participant inclusion. We employed the same attention check, position check, and coding of recalled power-related events as in Studies 2-4. As in Study 2, we checked the procedural justice manipulation with one item: "The top-ranked organization member gave me voice in his/her decisions". We measured trustworthiness perceptions with the same items as in Study 3 (1 = *strongly disagree*; 5 = *strongly agree;* $\alpha = .89$).

We excluded from the analyses three participants who failed the attention check, ten participants who failed to describe the requested high/low power situation, and seven participants who incorrectly indicated their assigned hierarchical position.

Results

Manipulation checks. A Hierarchical Position × Sense of Power ANOVA on power

reported in the events revealed a main effect of sense of power only. The participants in the low sense-of-power condition experienced lower power (M = 1.73, SD = .66) than the participants in the high sense-of-power condition (M = 5.83, SD = .62), $F(1, 260) = 2695.27$, $p < .001$, $\eta_p^2 = .91$. We did not include the procedural justice manipulation in this analysis because we administered it after the sense of power manipulation.

A Procedural Justice × Hierarchical Position × Sense of Power ANOVA on voice perceptions revealed an effect of procedural justice, $F(1, 256) = 42.96$, $p < .001$, $\eta_p^2 = .14$. Participants who received voice perceived more voice (M = 4.13, SD = 1.73) than participants who were denied voice (M = 2.64, SD = 1.89). Unexpectedly, the analysis also revealed a Position × Sense of Power interaction, $F(1, 256) = 3.91$, $p = .049$, $\eta_p^2 = .02$. Among participants in the middle (but not low) rank a high (vs. low) sense of power increased voice perceptions. This effect mirrors fit effects between structural position and subjectively experienced power that have been observed previously (Chen, Langner, & Mendoza-Denton, 2009; Stamkou, van Kleef, Fischer, & Kret, 2016). We are reluctant to interpret this effect because it did not materialize in the other studies. The fact that this effect was independent from the procedural justice manipulation suggests that we successfully and orthogonally manipulated procedural justice.

Hypotheses testing. We tested H1 and H2 using ordinary least squares regression and subsequent moderated mediation analyses. We included in step 1 of the regression the main effects of procedural justice, sense of power and hierarchical position, and the two-way interactions between these variables. In step 2, we entered the focal three-way interaction. For the analysis with contributions as dependent variable, we entered in step 3 trustworthiness perceptions as predictor. Interaction terms were based on effect coded versions of the independent variables. Table 3 presents the results.

The Procedural Justice × Hierarchical Position × Sense of Power interaction affected

trustworthiness perceptions (p = .03)[6]. Simple slopes analyses showed that among participants in a low hierarchical position with a high sense of power, high procedural justice (M = 2.87, SD = .49) led to higher trustworthiness perceptions compared to low procedural justice (M = 2.53, SD = .67), β = .28, t = 2.32, p = .02. Procedural justice did not influence trustworthiness perceptions among participants in (1) a low position with a low sense of power, β = .03, t = .25, p = .80, (2) a high position with a low sense of power, β = 15, t = 1.30, p = .20, or (3) a high position with a high sense of power, β = -.14, t = -1.13, p = .26.

Furthermore, procedural justice affected trustworthiness perceptions more strongly among lowly ranked employees with a high sense of power than among (1) lowly ranked employees with a low sense of power (t = 3.07, p = .001), (2) highly ranked employees with a high sense of power (t = 4.69, p = .001), (3) and highly ranked employees with a low sense of power (t = 1.75, p = .04). There were also some differences in the strength of the effect of procedural justice between the three relatively weak simple effects (i.e., those that did not combine a low rank with a high sense of power). Procedural justice affected trustworthiness perceptions more strongly among participants with a high rank and a low sense of power than among participants with a high rank and a high sense of power (t = 3.06, p = .001) and participants with a low rank and a low sense of power (t = 1.39, p = .09). Finally, procedural justice affected trustworthiness perceptions more strongly among participants with a low rank and a low sense of power than among participants with a high rank and a high sense of power (t = 1.65, p = .05).

The Procedural Justice × Hierarchical Position × Sense of Power interaction affected contributions (p = .07). Simple slopes analyses showed that among participants in a low

[6] The Procedural Justice × Hierarchical Position × Sense of Power interaction affected benevolence perceptions, β = -.11, t = -1.73, p = .09, and integrity perceptions, β = -.15, t = -2,47, p = .01. The shape of these effects was similar to that of the three-way effect on overall trustworthiness perceptions.

position with a high sense of power, high procedural justice (M = 70.63, SD = 29.89) led to higher contributions compared to low procedural justice (M = 60.51, SD = 35.98). However, this predicted simple slope was not significant, β = .15, t = 1.29, p = .20. Procedural justice also did not influence contributions among participants in a low hierarchical position with a low sense of power, β = -.01, t = -.07, p = .95, among participants in a high hierarchical position with a low sense of power, β = .09, t = .71, p = .47, or among participants in a high hierarchical position with a high sense of power, β = -.20, t = -1.55, p = .12.

Furthermore, the effect of procedural justice on contributions was not stronger among lowly ranked employees with a high sense of power than among lowly ranked employees with a low sense of power (t = .96, p = .17) or among highly ranked employees with a low sense of power (t = .43, p < .67). However, procedural justice affected contributions more strongly among lowly ranked employees with a high sense of power than among highly ranked employees with a low sense of power (t = 2.02, p = .02). Procedural justice affected contributions perceptions more strongly among participants with a high rank and a low sense of power than among participants with a high rank and a high sense of power (t = -1.62, p = .06) but not than among participants with a low rank and a low sense of power (t = .54, p = .29). Finally, procedural justice did not affect trustworthiness perceptions more strongly among participants with a low rank and a low sense of power than among participants with a high rank and a high sense of power (t = 1.07, p = .15).

Table 3 also shows that trustworthiness perceptions predict contributions (p = .06) and, when trustworthiness perceptions are added as a predictor, the effect of the Procedural Justice × Hierarchical Position × Sense of Power interaction on contributions weakens. To test if the effect of procedural justice on contributions among organization members in low (rather than high) positions who simultaneously had a high (vs. low) sense of power is mediated by perceptions of authority trustworthiness, we used we used Hayes' (2013) PROCESS macro to

test for moderated mediation (model 11, 5,000 bootstrap samples). This analysis showed that high (vs. low) procedural justice significantly increased contributions, via trustworthiness perceptions, among organization members in a low hierarchical position with a high sense of power (indirect effect = 1.27, SE = .80, 95% CI: [.13, 3.25]). The indirect effect of procedural justice on contributions, via trustworthiness perceptions was not significant or marginally significant in any of the other combinations of hierarchical position and sense of power.

QUANTITATIVE INTEGRATION OF STUDIES

Scholars increasingly recognize that a true effect is not likely to be statistically significant in every study that test it (e.g., Lakens & Etz, 2017; Tuk, Zhang, & Sweldens, 2015). Thus, even if the Procedural Justice × Hierarchical Position × Sense of Power interaction on prosocial behavior and trustworthiness perceptions is a true effect, is no surprise that it did not emerge as significant across all of our studies. Furthermore, we conducted 32 tests of whether simple slopes/effects are significantly different from 0 and 48 tests of whether simple slopes/effects are larger than other simple slopes/effects. Thus, random influences can not only result in failing to detect a true effect, but also finding significant but non-existent effects in this research. To address these issues, scholars recommend within-paper meta-analyses (e.g., Cumming, 2013). We did so using Meta-Essentials (van Rhee, Suurmond, & Hak, 2015) with random effects models and weighting the study effect sizes by the inverse variance (Lipsey &Wilson, 2001). To compare the studies, we converted all effect sizes into *r* coefficients (Cohen, 1988; Rosenthal, 1994).

These analyses revealed a robust Procedural Justice × Hierarchical Position × Sense of Power interaction on prosocial behavior (across Studies 1, 2, and 5), $r = .13$, 95% CI: [.12, .15] and on trustworthiness perceptions (across Study 3 and 5), $r = .13$, 95% CI: [.12, .14].

We proceeded with meta-analyses of the simple effects of procedural justice on prosocial behavior (across Studies 1, 2, and 5), contingent upon rank and sense of power.

High (vs. low) procedural justice predicted prosocial behavior among individuals in a lower rank with a high sense of power (r = .14, 95% CI: [.09, .19]) and among individuals in a higher rank with a low sense of power (r = .07, 95% CI: [.05, .09]). Note that the point estimate of this latter effect is lower than the lower bound of the point estimate of the former effect. High (vs. low) procedural justice did not predict prosocial behavior among individuals in a lower rank with a low sense of power (r = -.01, 95% CI: [-.02, .00]) or among individuals in a higher rank with a high sense of power (r = .02, 95% CI: [-.09, .13]). Thus, high (vs. low) procedural justice promotes prosocial behavior in particular among lower (rather than higher) ranked individuals with a high (rather than low) sense of power.

Finally, we meta-analyzed the simple effects of procedural justice on trustworthiness perceptions (Studies 2 and 5) contingent upon rank and sense of power. Procedural justice influenced trustworthiness perceptions among lower ranked individuals with a high sense of power (r = .19, 95% CI: [.12, .26]), among higher ranked individuals with a low sense of power (r = .10, 95% CI: [.08, .12]), but not among lower ranked individuals with a low sense of power (r = .06, 95% CI: [-.01, .13] or higher ranked individuals with a high sense of power (r = -.04, 95% CI: [-.09, .00]). In sum, the CI for the effects of procedural justice among lower ranked individuals with a high sense of power do not include the point estimates of the effects of procedural justice in any of the other combinations of position and sense of power. This indicates that high (vs. low) procedural justice affects trustworthiness perceptions in particular among lower (rather than higher) ranked individuals who simultaneously have a high (rather than low) sense of power.

GENERAL DISCUSSION

We demonstrated in a multisource survey among European employees and their supervisors that procedural justice predicts prosocial behavior (i.e., OCB) in particular among organization members who are in *lower* (vs. higher) hierarchical positions but simultaneously

have a *high* (vs. low) sense of power. We replicated this finding in an experiment with US participants in which we manipulated procedural justice, hierarchical position, and sense of power while operationalizing prosocial behavior as contribution increases in a contributions dilemma. Three subsequent studies indicate that the findings in Studies 1-2 result from procedural justice impacting perceptions of authority trustworthiness in particular among organization members in lower (rather than higher) hierarchical positions who at the same time have a high (rather than low) sense of power (Study 3, 5), with downstream consequences for prosocial behavior (Study 4, 5).

Theoretical implications

Our results carry, firstly, implications for the long-standing debate on whether hierarchies and power promote or undermine prosocial behavior. Studies have shown that power facilitates the expression of prosocial personality-based goals in observable behavior (Chen et al. 2001, DeCelles et al., 2012). Nevertheless, little work has addressed how power influences prosocial responses to contextual factors that promote prosocial behavior. We showed that a high (vs. low) sense of power promotes prosocial behavior in response to high (vs. low) procedural justice; however, it does so particularly among lower (vs. higher) ranked organization members. This finding suggests an important difference in how the sense of power stimulates prosocial behavior in response to dispositional vs. contextual factors. For organization members to pay attention to and thus be influenced by any specific contextual factor out of the myriad of influences in their surroundings, this factor must be relevant to them. It is only when a contextual factor is relevant (like procedural justice for low-ranking organization members) that a high sense of power can facilitate focusing on and acting upon it. Furthermore, we provide evidence for a specific process that explains the combined role of hierarchy and subjectively sensed power in promoting prosocial behavior. These variables stimulate prosocial behavior in response to contextual factors that promote such behavior (i.e., high procedural justice) by

affecting the assessment of whether the authority can be trusted to not be exploitative.

Our research also has more general implications for the power literature. For decades, organization scholars have focused on structurally based power indicators, such as hierarchical position (e.g., van Dijke & Poppe, 2003), location in a social network, or subunit membership (e.g., Emerson, 1962). This focus is theoretically driven given that many scholars believe that power is primarily reflected by socio-structural factors (e.g., Emerson, 1962; Fiske, 1993). A critical insight of more recent socio-psychological research on power is that individuals also form a subjective evaluation of their power in specific settings (i.e., their sense of power). However, work that included structural position and the sense of power usually treated the latter as a variable that mediates the effects of the former (Galinsky et al., 2015; Tost, 2015) or showed that power is most effective when a fit exists between structural power and subjectively sensed power (Chen et al., 2009; Stamkou et al., 2016). Thus, these works still implicitly view the sense of power as a mere derivative of structural position. Our findings revealing an opposite moderating role for sense of power and hierarchical position in the relationship between procedural justice, trustworthiness perceptions, and prosocial behavior show clearly, however, that the sense of power is distinct from hierarchical position in explaining processes that are vital to organizational functioning.

Third, our research helps resolve conflicting findings in prior work on the relationship between power and procedural justice. Some research found that low (vs. high) organization member power *strengthens* procedural justice effects (Johnson, Korsgaard, & Sapienza, 2002; Korsgaard, Schweiger, & Sapienza, 1995; Tyler, Rasinski, & Spodick, 1985). Yet, other research found that low (vs. high) member power *weakens* such effects (van Prooijen, van den Bos, & Wilke, 2007; see also Sawaoka, Hughes, & Ambady, 2015). Upon closer inspection, the procedures of studies that show that low (vs. high) power strengthens procedural justice effects allowed high power individuals to be involved more in communication with the authority than

low power individuals. This observation fits the FHT argument that justice information is used as a proxy of authority trustworthiness information. Such information would be more valuable when there are fewer other sources of information relevant to authority's trustworthiness available. In contrast, research showing that high (vs. low) organization member power strengthens procedural justice effects has operationalized power as outcome control, without any reference to differences in communication between authorities and subordinates (van Prooijen et al., 2007). This latter manipulation is often used as a strong manipulation of subjectively sensed power (see Galinsky et al., 2015). Thus, when power does not imply differences in information about the authority (but does clearly affect experienced power), high (vs. low) power makes organization members respond more strongly to procedural justice; a finding that is not expected from the perspective of FHT but fits with the proposition from SFT that a high sense of power facilitates goal directed action.

Finally, this research provides a relevant contribution by integrating FHT and SFT. FHT proposes that justice information is processed to assess authority trustworthiness, which itself serves the higher-order goal of deciding whether contributing to the collective by displaying prosocial behavior will pay of or not (i.e., the fundamental social dilemma). SFT proposes that individuals focus more effectively on goal relevant information when they have a high (vs. low) sense of power. Thus, a high (vs. low) sense of power does in itself not affect the fundamental social dilemma, but it facilitates using a psychological processes that help solving this dilemma. Furthermore, the sense of power reflects a host of influences on one's actual power (e.g., network position, subgroup membership) and it will therefore be more fluctuating than one's formal hierarchical position (Anderson et al., 2012). This means that SFT informs us about why some people in the same position are more likely to rely on justice information than others. It should be noted that we do not believe that our current research exhaust the integrative potential of FHT and SFT in our research. For instance, according to FHT, using

justice-relevant information to assess authority trustworthiness takes place particularly in early phases of a relationship. In later phases, when this assessment is established, it will be more resistant to change and the goal will shift to effectively contributing to the collective (Lind, 2001). Thus, while at earlier stages of the relationship, a high (vs. low) sense of power facilitates the use of justice information, at later stages, a high (vs. low) sense of power may be less relevant or even shield an established trustworthiness assessment from information that may change it.

Practical implications

A first practical implication of our findings is that senior management should ensure fair decision-making procedures in particular with regard to organization members in lower hierarchical positions. As senior managers usually have limited direct interactions with those organization members, the fairness of decision-making procedures becomes one of the few means available to lower-level organization members to evaluate the trustworthiness of senior management. Research has shown that supervisors use information about the needs of their subordinates in shaping the enactment of fair procedures, for instance by giving more voice to those with strong control and belongingness needs (Hoogervorst, De Cremer, & van Dijke, 2013). Given that senior managers will often lack information about the needs of lower-level organization members, the design and enactment of fairly perceived decision-making procedures will likely take time to get acquainted with the concerns present in the organization. However, given the large costs that can result from low procedural justice (Brockner, 2006), it is likely better to err on the "too much" than the "too little" justice side, such as by giving voice to all organization members, including those who don't strongly desire it, rather than withholding voice from organization members who desire it.

A second practical implication is that although it is important for organizations to promote a willingness among employees to display prosocial behavior (e.g., by ensuring high

procedural justice), more is needed to make such behavior possible. Organizations may try to stimulate the sense of power of lower-ranked organization members (as long as fair procedures can be ensured at the same time). One way to do this is suggested by research showing that individuals who focus more on the positive, rewarding aspects of themselves and their relationships have – regardless of their structural power – a higher sense of power than those who attend to more negative aspects of their relationships (Anderson et al., 2012). Hence, managers may focus on such individual differences in the recruitment and selection stages. Management may also focus on situational factors that shape organization members' sense of power. In this respect, it is noteworthy that the effects of the simple power recall task that we used in Studies 2-5 on feeling powerful are visible even days later (Galinsky & Kilduff, 2013).

Limitations and future directions

One limitation of our research is that we focused on one specific process that explains prosocial responses to procedural justice (contingent upon hierarchical position and power): the assessment of whether engaging in prosocial behavior may result in positive outcomes for oneself or not. This process is relevant to the display of OCB in organizations (Study 1): Although displaying OCB benefits the organization, employees may not be sure if it benefits their own outcomes. For instance, engaging in OCB can promote but also undermine career outcomes as a function of the specific type of OCB that is enacted (Bergeron, Ostroff, Schroeder, & Block, 2014) and of the specific type of performance evaluation that is used (Bergeron, Shipp, Rosen, & Furst, 2013). Assessing whether engaging in prosocial behavior may result in positive outcomes for oneself or not is also relevant to contributing to a pool in the public goods dilemma (Study 2, 4, and 5): Contributing benefits other group members (due to its increasing the chance that the pool would be doubled). However, it can benefit (by increasing the pool) or hurt one's outcomes (when others contribute less or when the leader proves abusive). Future work should test how hierarchical position and subjectively sensed

power facilitate prosocial responses to contextual conditions in situations in which it is less ambiguous how benefitting others affects one's own outcomes.

The meta-analysis showed that procedural justice is most likely to increase trustworthiness perceptions and prosocial behavior among individuals in a lower (vs. higher) rank who experienced a high (vs. low) sense of power. However, the meta-analysis also showed that procedural justice stimulates trustworthiness perceptions and prosocial behavior among individuals in a higher (vs. lower) rank who experienced a low (vs. high) sense of power. In support of our argument, this latter simple effect of procedural justice was significantly weaker than the former simple effect. We can only speculate about the nature of this latter effect. It may result because individuals in a relatively high rank who feel powerless perceive a misfit between their formal position and their sensed power, making them uncertain about the nature of their relationship with top management, and therefore motivated to attend to procedural justice information.

The framework of FHT applies to justice information in general, so future research may also consider other operationalizations of justice than procedural justice. For instance, prior work indicates that employees in mechanistic organizations consider procedural justice particularly relevant, whereas interactional justice is considered more relevant in organic organizations (Ambrose & Schminke, 2003; Long, Bendersky, & Morrill, 2011). Mechanistic organizations are traditional bureaucracies in which communication follows hierarchical channels. Organic organizations are decentralized structures in which communication flows more freely throughout the organization (Burns & Stalker, 1961). This prior work is consistent with our argument because in mechanistic organizations, the larger the distance in terms of hierarchical levels, the less likely it will be that top management behavior is visible, while in organic organizations, the visibility and clarity of top management behavior is less contingent upon hierarchical distance (Tichy et al., 1979). Thus, in organic organizations we expect a

stronger role for interactional justice in shaping prosocial behaviors, and a high (vs. low) sense of power may facilitate such prosocial responses. However, we expect position to play less of a role here. This is because in organic organizations, the clarity of top management's level of trustworthiness is less likely to be affected by differences in hierarchical rank.

Future work may also consider the relevance of distributive justice. In fact, procedural and distributive justice interact to shape outcome variables that represent support for the collective, such as organizational commitment and OCB (Brockner & Wiesenfeld, 1996). This interaction often takes the form that either high procedural justice *or* high distributive justice is sufficient to result in positive responses (i.e., a substituting interaction). However, some studies find that the Procedural Justice × Distributive Justice interaction takes the form that *both* procedural and distributive justice should be high to result in positive responses (i.e., an enhancing interaction). Interestingly, Blader and Chen (2011) and Chen, Brockner, and Greenberg (2003) showed that the Procedural Justice × Distributive Justice interaction takes the substituting form in relationships in which the other is ranked higher than oneself. This is explained (in line with our findings) by the concerns of the lower-ranked party about exploitation and trustworthiness. In contrast, in interactions with a lower-ranked other, the interaction takes the enhancing form, and this effect results from status-recognition concerns. Future research may use these insights to further study the emergence of prosocial behavior. We hope that our current findings and suggestions for future work will motivate researchers to elaborate the specific relationships between power, justice, and prosocial behavior.

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Table 1

Descriptive Statistics and Correlations (Study 1)

	Variables	*M*	SD	1	2	3	4	5	6	7	8	9	10
1	Gender												
2	Age	41.94	11.24	-.19*									
3	Organization tenure	12.14	10.23	.18***	.58***								
4	Job tenure	7.80	7.27	-.06	.43***	.50***							
5	Education level			-.12	-.02	-.11	-.22**						
6	Organization size	3183.58	8983.67	-.04	.13	.16*	-.10	.17*					
7	Hierarchical position	1.93	1.02	-.09	.13	.08	.16*	.08	-.10				
8	Sense of power	3.19	.67	-.02	.04	.10	.05	.10	-.05	.34***	(.85)		
9	Procedural justice	3.39	.60	-.03	.02	.04	.04	.12***	-.02	.19**	.44***	(.83)	
10	OCB	3.84	.45	-.12	.10	.09	.04	.15***	-.043	.00	.25**	.22**	(.94)

N = 187. The diagonal lists α coefficients for multi-item scales.

Demographic variables refer to the focal employee. Gender was coded as 1 = Female, 0 = Male.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2

Regression of OCB on Procedural Justice, Sense of Power, Hierarchical Position, and Organization Size (Study 1)

	Step 1 R^2 = .01	Step 2 R^2_{change} = .09**	Step 3 R^2_{change} = .03	Step 4 R^2_{change} = .02$^{\#}$
Organization size	-.00, .00, -.07 (-.97)	-.00, .00, -.07 (1.05)	.00, .00, -.07 (-.93)	.00, .00, -.06 (-.94)
Procedural justice (PJ)		.11, .08, .12 (1.51)	.14, .08, .15 (1.87)$^{\#}$	.20, .08, .21 (2.47)*
Hierarchical position (Pos)		-.10, .04, -.17 (-2.29)*	-.10, .05, -.18 (-2.24)*	-.08, .05, -.15 (-1.81)$^{\#}$
Sense of power (SOP)		.20, .07, .24 (2.91)**	.16, .07, .19 (2.24)*	.19, .07, .23 (2.57)*
PJ × Pos			-.03, .08, -.03 (-.32)	-.01, .08, -.01 (-.07)
PJ × SOP			.19, .12, .15 (1.61)	.20, .12, .16 (1.74)$^{\#}$
SOP × Pos			.05, .06, .07 (.84)	.11, .07, .15 (1.57)
PJ × SOP × Pos				-, 17, .09 -.20 (-1.96)$^{\#}$

Notes: Table presents *b* coefficients, standard errors, β coefficients, and *t* values (in brackets). ***: $p < .001$; **: $p < .01$; *: $p < .05$; $^{\#}$: $p < .10$.

Table 3

Regression of trustworthiness perceptions and contributions on Procedural Justice, Sense of Power, and Hierarchical Position (Study 5)

	Step 1 R^2 = .03 (.25); .01 (.74)	Step 2 R^2_{change} = .02 (*03*); .01 (07)	Step 3 R^2_{change} = .01 (.06)
Procedural justice (PJ)	.05, .09 (1.41); .45, .01 (.23)	.05, .08 (1.32); .31, .10 (.16)	.00, .00 (.00)
Hierarchical position (Pos)	.06, .10 (1.61); 3.08, .10 (1.56)	.06, .10 (1.58); 3.01, .10 (1.53)	2.65, .08 (1.35)
Sense of power (SOP)	-.01, -.01, (-.22); .59, .02 (.30)	-.01, -.02 (-.34); .42, .01 (.21)	.49, .02 (.25)
PJ × Pos	-.04, -.07 (-1.16); -2.00, -.06 (-1.01)	-.05, -.08 (-1.24); -2.10, -.07 (-1.07)	-1.82, -.06 (-.93)
PJ × SOP	-.01, -.01 (-.19); -.93, -.03 (-.49)	-.01, -.01 (-.18); -.93, -.03 (-.47)	-.88, -.03 (-.45)
SOP × Pos	.05, .09 (1.41); .13, .00 (.06)	.05, .09 (1.19); .23, .01 (.12)	-.11, -.00 (-.06)
PJ × SOP × Pos		-.08, -.14 (-2.24)*; -3.59, -.11 (-1.82)$^{\#}$	-3.07, -.09 (-1.55)
Trustworthiness			6.23, .12 (1.86)$^{\#}$

Notes: Table presents *b* coefficients, β coefficients, and *t* values (in brackets) for trustworthiness perceptions; contributions. *SE* = .04 for *b* of trustworthiness perceptions; *SE* = 1.97 for *b* of contributions, except *SE* = 3.35 for *b* of trustworthiness perceptions on contributions. ***: $p <$ .001; **: $p < .01$; *: $p < .05$; $^{\#}$: $p < .10$.

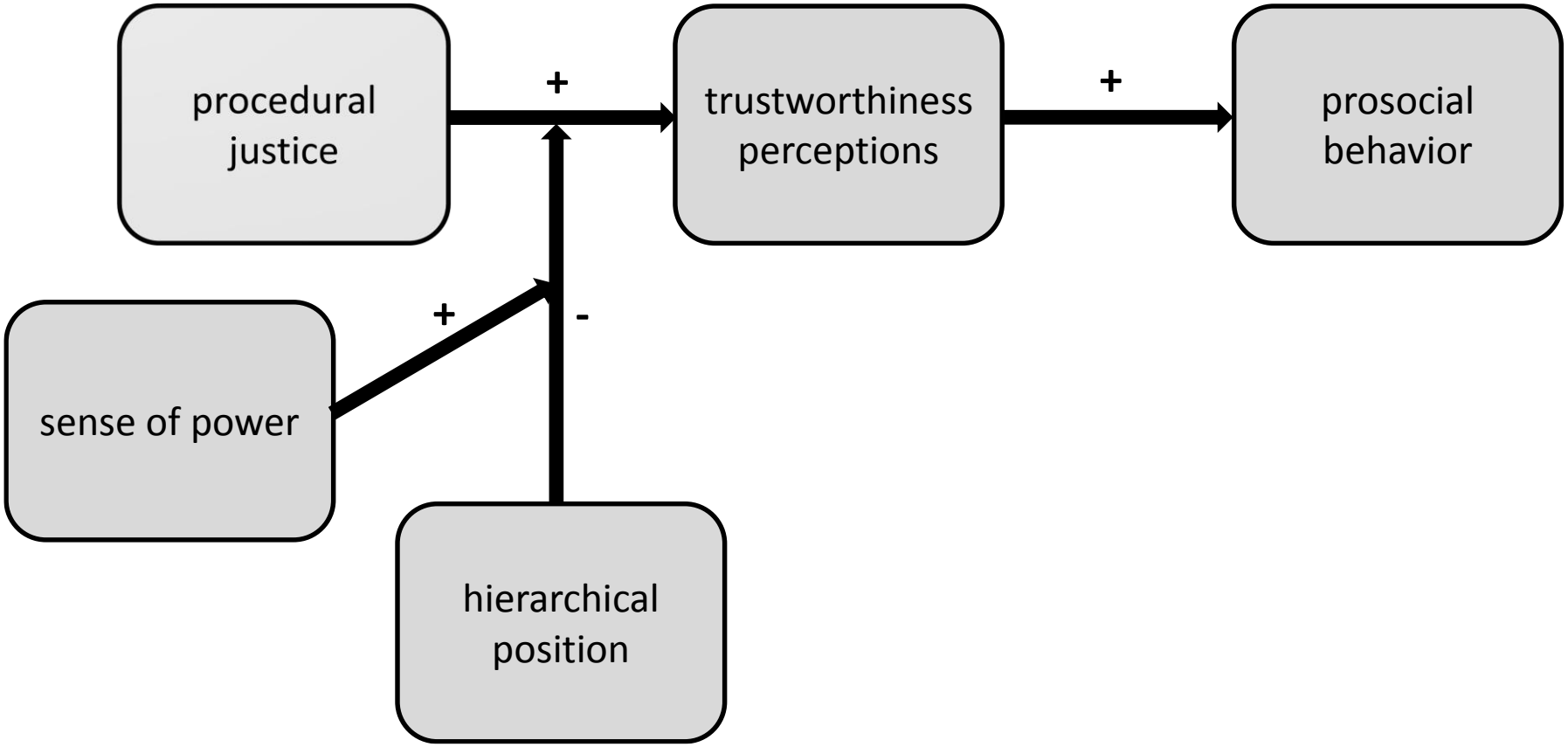

Figure 1. How hierarchical position and sense of power shape prosocial responses to procedural justice via the mediating mechanism of trustworthiness perceptions. Plus and minus signs denote the nature of the effects. For instance, high (vs. low) procedural justice is predicted to increase trustworthiness perceptions. And a high (vs. low) hierarchical position is predicted to weaken the effect of procedural justice on trustworthiness perceptions.

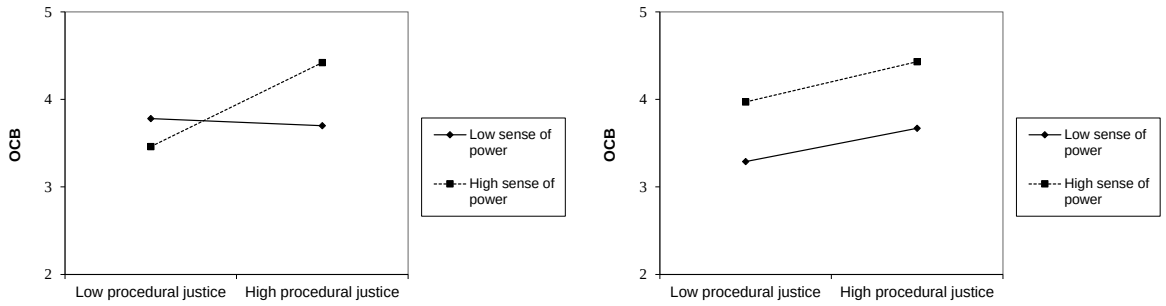

Figure 2. The relationship between procedural justice and OCB as moderated by sense of power in low (left panel) and high (right panel) hierarchical positions (Study 1)

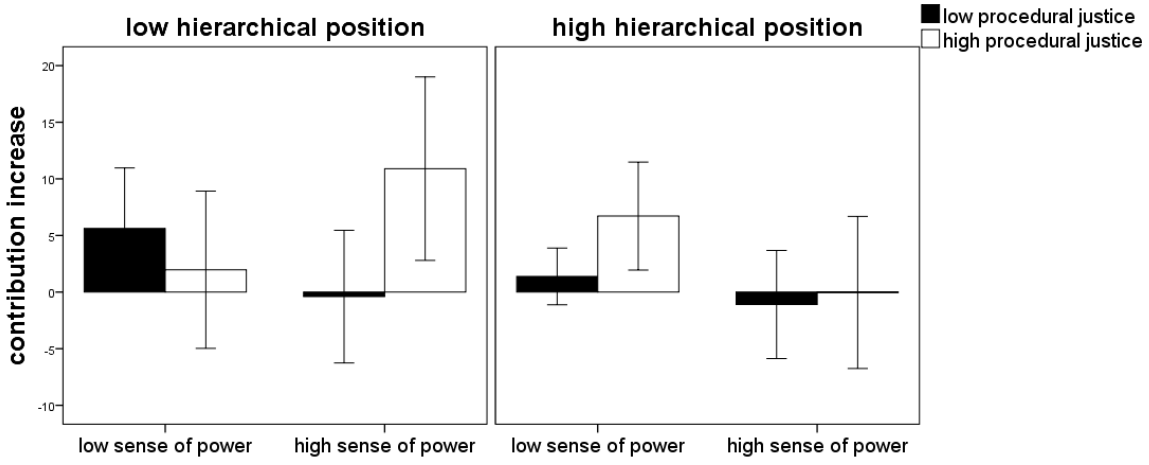

Figure 3. The effect of procedural justice on contribution increase as moderated by sense of power and hierarchical position (Study 2). Error bars denote 95% CIs.

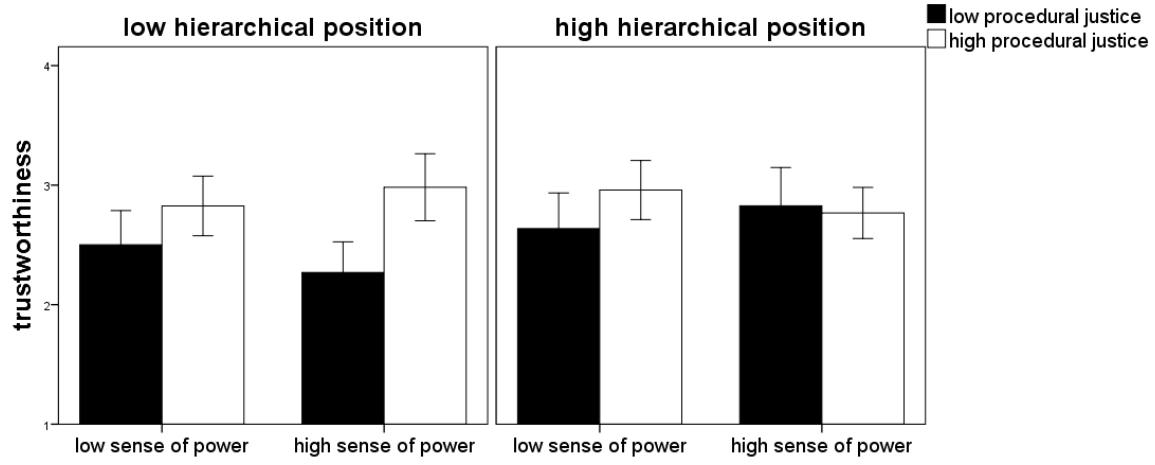

Figure 4. The effect of procedural justice on trustworthiness perceptions as moderated by sense of power and hierarchical position (Study 3). Error bars denote 95% CIs.

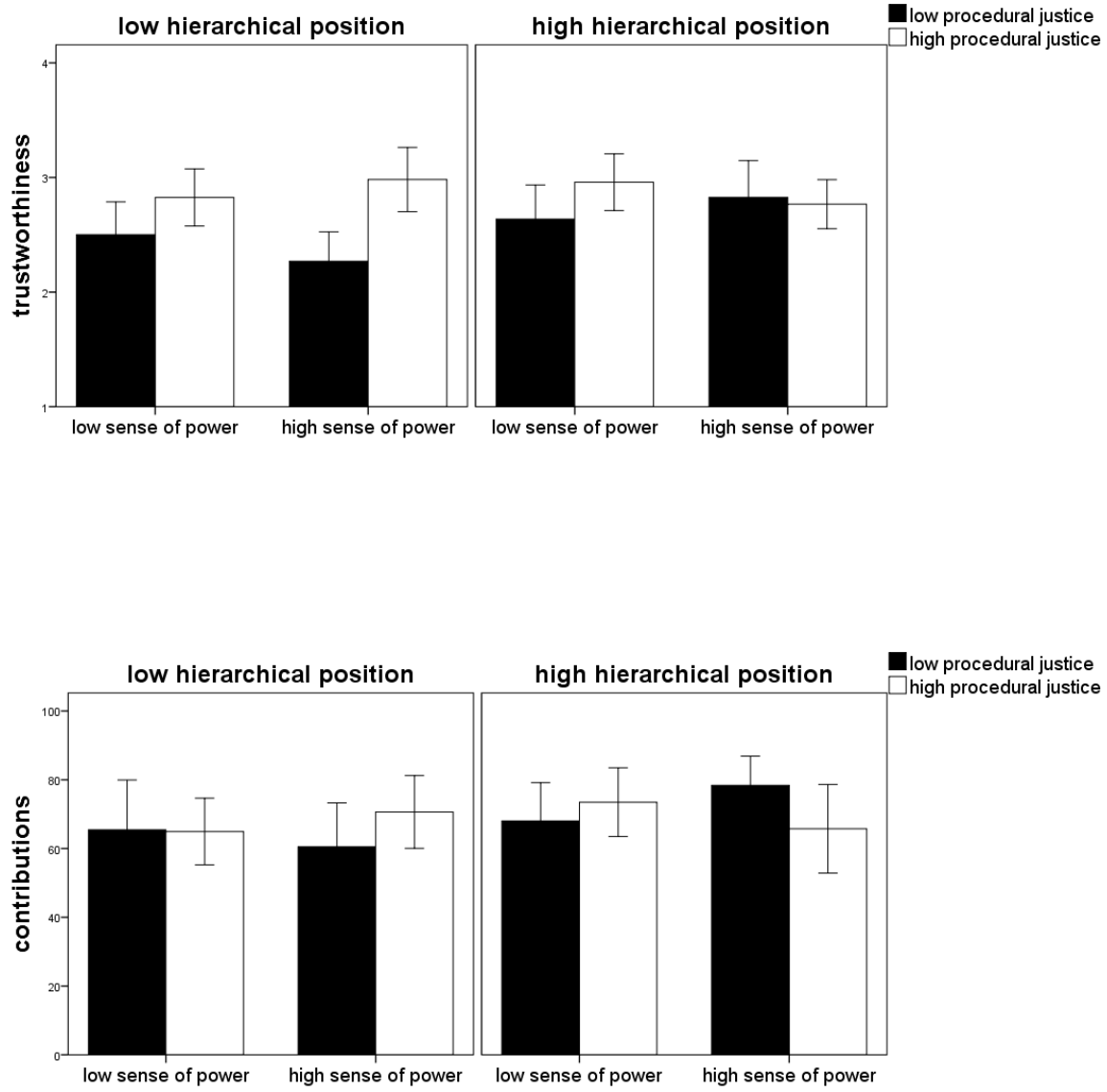

Figure 5. The effect of procedural justice on trustworthiness perceptions (upper panel) and contributions (lower panel) as moderated by sense of power and hierarchical position (Study 5). Error bars denote 95% CIs.