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ILLUMINATING THE “FACE” OF JUSTICE: A META-ANALYTIC EXAMINATION  
OF LEADERSHIP AND ORGANIZATIONAL JUSTICE

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**ABSTRACT**

A significant body of research has described effective leader behaviors and connected these behaviors to positive employee outcomes. However, this research has yet to be systematically integrated with organizational justice research to describe how leader behaviors inform justice perceptions. Therefore, we conduct a meta-analysis ( $k = 166$ ,  $N = 46,034$ ) to investigate how three types of leader behaviors (task, relational, and change) inform four dimensions of organizational justice (procedural, distributive, interpersonal, and informational) referenced to the leader and to the organization. Further, we examine the joint impact of leader behaviors and justice perceptions on social exchange quality (i.e., LMX), task performance, and job satisfaction. Our results suggest that leader behaviors differentially inform leader- and organization-focused justice perceptions, and combined leader behaviors and justice perceptions offer more nuanced explanations for outcomes.

**Keywords:** Leader behaviors, organizational justice, meta-analysis, social exchange theory

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**INTRODUCTION**

Leadership is one of the most studied phenomenon in management (Cascio & Aguinis, 2008), and an extensive body of research has examined the behaviors that contribute to effective leadership (Dinh, Lord, Gardner, Meuser, Liden, & Hu, 2014). For example, studies that have examined task leader behaviors (i.e., transactional leadership, contingent reward, initiating structure) have articulated that effective leaders define roles, solve problems, and plan activities (Bass, 1985; Burns, 1978; Podsakoff, Bommer, Podsakoff, & Mackenzie, 2006; Yukl, 2012). Research into relational leader behaviors (e.g., consideration, servant leadership, participative leadership) describe how leaders demonstrate support and develop followers (Fleishman, 1953; Greenleaf, 1977; Spreitzer, 2007; Yukl, 2012). Change leadership research (e.g., transformational, charismatic) has focused on how effective leaders develop a vision and encourage innovation (Bass, 1985; Howell & Avolio, 1993; Yukl, 2012). The positive effects of leaders on employee attitudes and behaviors have been noted in numerous conceptual and meta-analytic reviews (e.g., DeRue, Nahrgang, Wellman, & Humphrey, 2011; Gardner, Lowe, Moss, Mahoney, & Coglisier, 2010; Judge, Piccolo, & Ilies, 2004). Indeed, this body of research contains detailed descriptions of what leaders do and how they affect individual, team, and organizational performance outcomes.

A significant stream of organizational justice research has also examined the role of the leader in employee assessments of (un)fair treatment (Colquitt et al., 2013; Rupp & Cropanzano, 2002; Rupp, Shao, Jones, & Liao, 2014). This research has found that justice perceptions of the leader (i.e., supervisor- or leader-focused justice), rather than perceptions of other organizational entities (e.g., the organization itself), are most strongly related to employee outcomes (Colquitt et al., 2013; Rupp et al., 2014). This is not surprising given that an employee’s relationship with his or her leader “may be the single most powerful connection an employee can build in an organization” (Hui, Lee, & Rousseau, 2004, p. 233). Therefore, justice research has identified the leader as an important source of justice (thereby answering the question, *who is responsible* for the (un)just treatment?), yet this research has not adequately answered the question of *what behaviors* the leader engages in to inform justice perceptions. This has prompted Rupp and

Aquino (2009) to suggest that justice research is “ripe for integrative application” with other theories so that more specific guidance can be given to leaders about how to promote fairness in the workplace (p. 208). Hence, one purpose of this study is to integrate research on leader behaviors with organizational justice research to explicate the specific behaviors that leaders utilize to inform justice perceptions. In doing so, we attempt to provide greater focus to the “face” (i.e., the leader) of justice.

An increased understanding of the relationships between leader behaviors and justice perceptions is important for two reasons. First, employee-leader relationships are often characterized as social exchange relationships and are distinguished from other forms of exchanges by having expectations of longer-term, interdependent interactions that generate trust, reciprocal behaviors, and high-quality relationships (Blau, 1964; Cropanzano & Mitchell, 2005; Mitchell, Cropanzano, & Quisenberry, 2012). This dynamic, interactive relationship suggests that employee justice perceptions may not be based exclusively on the leader’s justice decisions, but that these perceptions may also be informed by a range of the leader’s role-relevant behaviors. For this reason, examining only leader-focused justice perceptions, particularly in relation to an explicit “event” (e.g., a single episode such as a performance appraisal), fails to consider the broader task, relational, and change interactions between the leader and the employee and how these interactions may impact justice assessments.

Second, studies that examine leader-focused justice commonly focus on research questions related to either (a) investigating the unique effects of leader-focused justice dimensions (i.e., procedural, distributive, interpersonal, informational justice) on organizational outcomes (e.g., Colquitt et al., 2013; Frazier, Johnson, Gavin, Gooty, & Snow, 2010); or (b) exploring how (un)fair treatment attributed to a leader is similar to or different from (un)fair treatment attributed to others (e.g., the organization; Lavelle, McMahan, & Harris, 2009; Liao & Rupp, 2005). This has produced a robust body of research informing scholars about which dimension of justice is most strongly related to specific organizational outcomes, and how leader-focused justice more strongly predicts affective and behavioral employee outcomes than fair treatment attributed to organizational entities (Colquitt et al., 2013; Rupp et al., 2014). However, research has neglected to explore the specific behaviors of the leader that relate to these justice dimensions.

A second purpose of this study is to assess the joint effects of leadership and justice in explaining social exchange quality (i.e., leader-member exchange, LMX) and employee outcomes (i.e., task performance and job satisfaction). Accumulated meta-analytic research to date has found that leader behaviors and justice perceptions have similar relationships with employee outcomes. For example, the effect size estimate for the relationship between leader-focused justice perceptions and task performance reported in a leader behavior meta-analysis is .28 (Podsakoff et al., 2006), whereas organizational justice meta-analyses have reported this relationship to range from .16 to .27 (Colquitt et al., 2013; Rupp et al., 2014). Therefore, existing research has examined the independent relationships of leader behaviors and justice perceptions with employee outcomes, but not the joint effects nor the relative importance of these predictors when considered together. This is a striking omission given that this examination would provide a more comprehensive view of the effects of a leader's decisions and behaviors.

Thus, we integrate leadership research with organizational justice research to explore how leader behaviors inform justice perceptions. Then, we conduct a meta-analysis ( $k = 166$ ,  $N = 46,034$ ) to provide effect size estimates of the relationships between leader behaviors and justice dimensions as well as to examine the joint effects of leadership and justice on LMX, task performance, and job satisfaction. We find that task, relational, and change leader behaviors differentially inform procedural, distributive, interpersonal, and informational justice perceptions. Additionally, combined leader behaviors and justice perceptions offer a more nuanced explanation for the relationships with social exchange quality and performance outcomes as compared to considering only the independent effects of leadership behaviors or justice on outcomes.

Using meta-analysis for this study has several strengths including serving as a tool for theory development related to effective leader behaviors and organizational justice (Combs, Ketchen, Crook, & Roth, 2011; Hunter & Schmidt, 2004). Therefore, we develop new theory that describes how leader behaviors have direct implications for justice perceptions. We point to the omission of, and the need for, current leadership theories to clearly articulate the importance of fairness in leader behaviors, and we describe how taking a comprehensive view of the decisions and behaviors of the leader, by integrating leader behaviors and justice perceptions, is critical to accurately assessing the impact of a leader on employee outcomes.

## THEORETICAL BACKGROUND

One purpose of this meta-analysis is to investigate behaviors that inform leader-focused justice perceptions. We therefore examine leader behaviors that are related to four dimensions of organizational justice referenced to the leader (i.e., leader-focused distributive justice, leader-focused procedural justice, leader-focused interpersonal justice, leader-focused informational justice; Colquitt, 2001; Colquitt et al., 2013). Further, given that leaders are often viewed as representatives of the organization (Eisenberger et al., 2010; Levinson, 1965), we also consider how leader behaviors affect perceptions of organization-focused distributive justice and organization-focused procedural justice.<sup>1</sup>

The four dimensions of justice are based on distinct assessments of fairness in decision-making. Perceptions of distributive justice, the perceived fairness of outcomes, are based on an employee comparing the ratio of his or her inputs and outcomes to the inputs and outcomes of referent others (Adams, 1965; Ambrose & Arnaud, 2005). Procedural justice suggests that individuals evaluate fairness not just on outcomes, but also on fairness in the decision-making process and the ability to have voice in this process (Levanthal, 1980; Thibaut & Walker, 1975; 1978). Interpersonal justice reflects fairness perceptions of interpersonal treatment, and informational justice reflects fairness perceptions of the adequacy and truthfulness of explanations (Colquitt, 2001; Greenberg, 1993).

Justice research is grounded in social exchange theory (SET; Colquitt et al., 2013; Gouldner, 1960; Rupp & Cropanzano, 2002), and this theory provides an important basis for a contextual understanding of the leader-employee relationship. Social exchange relationships are characterized by a high frequency of interactions and task interdependence. Additionally, a characteristic of SET is the notion of time – including knowledge of past actions and an expectation of future obligations (Blau, 1964; Gouldner, 1960). Colquitt et al. (2013) suggested that justice attributed to a particular source has expansive time bracketing, lacking a discrete beginning and end. Therefore, in a social exchange relationship, employees are not evaluating a justice “event” but an “entity” with whom the employee has considerable interactions. Indeed, Cropanzano and colleagues (2001) argued that the “key issue regarding the relationship paradigm is that respondents are judging the fairness of [the leader]... over time and/or across situations” (p. 190). Consequently, perceptions of leader-focused justice are likely to take into

account numerous decisions and behaviors made by the leader given the number of interpersonal exchanges in the relationship (Colquitt, 2008).

Managerial role theory has identified decision-making as a key role requirement of leaders in organizations (Dierdorff, Rubin, & Morgeson, 2009; Mintzberg, 1973), and numerous scholars have maintained that decision-making is a core component of effective leader behaviors (e.g., Borman & Brush, 1993; Tett, Guterman, Bleier, & Murphy, 2000; Yukl, 2012). Examples of decision-making responsibilities include planning how to organize and prioritize work; determining how to allocate resources; and assigning responsibilities. Some of these decisions may have fairness implications for employees. Employee justice perceptions, therefore, are likely to be based on observation and assessment of numerous leader decisions. To be precise, each leader decision provides employees with information to potentially (re-)assess the fairness of the leader as well as information to (re-)evaluate the effectiveness and competence of the leader (Masterson & Lensges, 2015). Employees, therefore, can both assess the behavior and appraise the fairness of their leader in their interactions. As a result, we suggest that there is a reciprocal relationship between leader behaviors and justice perceptions and that both of these assessments can inform perceptions of the leader.

However, decision-making is only one of several key role requirements for organizational leaders. In fact, Yukl (2012) identified three meta-categories of effective leader behaviors based on an analysis of 50 years of research.<sup>ii</sup> The first meta-category, task leader behaviors, includes previous research on transactional leadership, initiating structure, and contingent reward behaviors (Bass, 1985; Burns, 1978; Fleishman, 1953). Task leader behaviors are focused on efficient use of resources, and they include planning, solving problems, and monitoring progress toward goals (DeRue et al., 2011; Yukl, Gordon, & Taber, 2002). Task leader behaviors clearly convey information about expectations and standards to clarify employee responsibilities. Therefore, effective task leaders also emphasize and make allocation decisions related to discretionary and formal rewards for job performance (Howell & Avolio, 1993).

The second meta-category, relational leader behaviors, is focused on supporting, recognizing, developing, and empowering individuals (Yukl, 2012). These leader behaviors demonstrate consideration, concern, respect, empathy, and socioemotional support for subordinates (Fleishman, 1953; Greenleaf, 1977). Effective relational behaviors negotiate conflict, encourage participation, and focus subordinate attention on group welfare in their own

actions and decision making (Bass, 2008). Relational leaders also are participative in that they seek input from employees, and they treat all group members as equals (Brower, Schoorman, & Tan, 2000).

Finally, the third meta-category, change leader behaviors, is focused on facilitating and driving change and innovation within an organization (Yukl, 2012). Change leader behaviors include developing and communicating a vision for change; encouraging subordinates to be creative and to take risks; and seeking alternate perspectives on challenges facing the group (Bass, 1985; Howell & Avolio, 1993). Several dimensions of transformational leadership theory are included in effective change leader behaviors including charisma, inspirational motivation (i.e., inspiring employees to perform at high levels), intellectual stimulation, and idealized influence (Bass, 1985). Further, change leader behaviors include upholding high ethical standards (Bass, 1985).

The three categories of effective behaviors – task, relational, and change – involve distinct behaviors and decisions of a leader. Thus, these leader behaviors are expected to have different implications for justice perceptions. Therefore, we now turn to examining how task, relational, and change leader behaviors uniquely inform procedural, distributive, interpersonal, and informational justice perceptions.

## HYPOTHESES

### Leader Behaviors and Leader-Focused Procedural Justice

The most prevalent area of leadership and justice research examines leader behaviors and procedural justice. Procedural justice refers to perceptions of fairness in decision making processes (Colquitt, 2001), and two dominant theories attempt to describe why employees are concerned with fair processes. The control theory perspective, also referred to as the self-interest or instrumental model, argues that employees value voice in the decision-making process because of the potential connection to the resulting outcome (Thibaut & Walker, 1975; 1978). Levanthal (1980) further developed control theory by articulating six rules for fair procedures. These include the *consistency rule* whereby consistent decisions are made across time and persons. The *bias suppression rule* which suggests that the decision maker should remove personal biases/interests in the decision-making process. The *accuracy rule* relates to procedures being followed that are based on valid information. The *correctability rule* provides a mechanism to reverse a decision. The *representativeness rule* ensures that procedures reflect the



concerns of those impacted by the decision, and the *ethicality rule* ensures that decisions conform to moral and ethical standards.

The second theoretical perspective, the relational model, proposes that there are psychological aspects of procedural justice that are not covered by control theory, and it argues that individuals care about procedural justice because of the relational messages communicated through fair processes (Blader & Tyler, 2015; Lind & Tyler, 1988). Therefore, fairness in the decision-making process matters not solely because of control or voice, but because it reaffirms group values and relational status in the decision-making process (Tyler & Blader, 2000). Tyler and Lind (1992) further suggest that people seek identity-relevant information through interactions with leaders and that when leaders demonstrate concern in the decision-making process, they convey socioemotional support as well as standing through these interactions. Numerous empirical studies have found support for the combined effects of the control theory perspective and the relational model of procedural justice (e.g., Lind, Kanfer, & Earley, 1990; Tyler, 1989).

Based on employee concerns for both control and the relational messages conveyed in fair processes, two leader behavior categories are most likely to inform perceptions of leader-focused procedural justice. First, effective task leader behaviors involve structuring tasks, standardizing procedures, and ensuring rules are followed in a systematic format. These behaviors are likely to satisfy an individual's control needs for consistency, bias suppression, accuracy, and correctability (Holtz & Harold, 2013). Second, effective relational leader behaviors involve consulting employees about matters that affect them which conveys standing to employees as well as fulfilling needs for representativeness in the decision-making process (Yukl, 2012). Relational leaders also demonstrate consideration and support which affirms relational status (Holtz & Harold, 2013). Finally, relational leaders also regularly offer praise and recognition which signal group values and make employees feel that decisions are consistent (Ng, 2017). Conversely, change leader behaviors are focused on communicating and inspiring. Therefore, even though the ethical elements of change leader behaviors may be related to the ethicality rule, the majority of needs articulated in the control theory perspective are related to task leader behaviors rather than change. Therefore, we propose:

*Hypothesis 1:* Task (a) and relational (b) leader behaviors will exhibit a stronger positive relationship with leader-focused procedural justice perceptions than change leader behaviors.

**Leader Behaviors and Organization-Focused Procedural Justice.** Levinson (1965) suggested that there is a transference process whereby employees develop a relationship with a leader and ascribe that relationship to the organization. Therefore, employees view leaders not only as “individuals in their own right” but also as agents, or representatives of the organization (Eisenberger et al., 2010, p. 1086). This process suggests that perceptions of (un)fair treatment by the leader are likely to be viewed, at least partially, as (un)fair treatment by the organization. As such, employees may view fairness and treatment in decision making processes through the lens of the leader acting as an embodiment of the organization because they generalize the decision and treatment from their leader to the organization (Cropanzano et al., 2001; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Stinglhamber, Marique, Caesens, Hanin, & Zanet, 2015). Given this, we suggest that effective task and relational leader behaviors will also inform organization-focused procedural justice perceptions and more so than the change leader behaviors following the rationale described above.

*Hypothesis 2:* Task (a) and relational (b) leader behaviors will exhibit a stronger positive relationship with organization-focused procedural justice perceptions than change leader behaviors.

### **Leader Behaviors and Leader-Focused Distributive Justice**

Distributive justice research is based in equity (Adams, 1965) and social exchange theories (Blau, 1964). These theories position distributive justice as the perceived fairness of outcomes based on employees comparing “the ratio of their inputs and outcomes to the inputs and outcomes of referent others. Distributions are [deemed to be] fair to the extent that rewards are proportionally matched to contributions” (Ambrose & Arnaud, 2005, p. 61). Distributive justice perceptions are then based on equity norms of allocation (Adams, 1965; Colquitt, 2001). Subsequent work by Levanthal (1980) described alternate reasons individuals care about distributive justice by calling attention to several issues with equity theory. First, he argued that equity theory took a unidimensional rather than multidimensional conception of fairness. That is, by focusing exclusively on the contribution (i.e., equity) rule, equity theory ignored other standards that could influence distributive justice perceptions including an employee’s

psychological needs. Second, equity theory only considered the final outcome and not the organizational systems, policies, and practices that can lead to allocations (Levanthal, 1980). Numerous others echoed these criticisms. For example, Greenberg (1993) argued that the original theorizing on distributive justice was too narrowly focused on structural matters at the expense of the social determinants of distributive fairness. Greenberg (1993) asserted that the “interpersonal aspects of justice – which thus far have been appreciated only from a procedural justice perspective – are also involved in the distributive side of justice” (p. 82).

We acknowledge both the structural and more contemporary theorizing based on the personal and social determinants of distributive justice and assert that two leader behavior categories are most likely to inform perceptions of leader-focused distributive justice: task and change leader behaviors. Effective task leader behaviors involve allocating resources among different employees and activities (Yukl, 2012). Therefore, perceptions of distributive justice are likely to be enhanced based on the perceived fairness of these decisions. Further, task leader behaviors focus on contingent rewards whereby a leader promises specific rewards in exchange for performance (Bass, 1985). Therefore, a clear link between employee efforts and rewards is established. Finally, task leader behaviors aimed at initiating structure with standardized work environments and uniform performance guidelines should enhance employee perceptions that reward allocations are made equitably. In a similar vein, effective change leaders uphold high ethical standards and make resource allocations decisions in a way that satisfies personal psychological needs related to equity (Cropanzano et al., 2001; Ng, 2017). That is, change leaders’ “moral values take into account the cost and benefits to all stakeholders, the application of distributive justice, and universal moral principles” when confronting issues related to fairness (Bass, 1985, p. 218). This suggests that change leaders are not only aware of fairness issues, but they are adept at navigating these issues equitably. In contrast, the emphasis of relational leader behaviors is on supporting and recognizing employees which is not the focus of either the structural and more contemporary theorizing on distributive justice. Therefore, we propose:

*Hypothesis 3:* Task (a) and change (b) leader behaviors will exhibit a stronger positive relationship with leader-focused distributive justice perceptions than relational leader behaviors.

**Leader Behaviors and Organization-Focused Distributive Justice.** As argued above, employees may view leaders as representatives of the organization; and therefore, leader

behaviors may impact perceptions of organization-focused distributive justice. Eisenberger et al. (2010) have specifically argued that both task (e.g., directive, evaluative, coaching) and change (e.g., developing and/or communicating a vision) leader behaviors are commonly viewed by employees as activities carried out on behalf of the organization. As a result, when a leader is conducting a performance evaluation, the employee may attribute some portion of the reward allocation decision to the policies, processes, or other structural aspects of the organization rather than exclusively to the leader. Similarly, by communicating a vision to encourage greater inputs, the employee may view potential rewards as coming from the organization rather than exclusively the leader. Therefore, we suggest that effective task and change leader behaviors will inform organization-focused distributive justice perceptions as well, whereas relational behaviors are less likely to do so.

*Hypothesis 4:* Task (a) and change (b) leader behaviors will exhibit a stronger positive relationship with organization-focused distributive justice perceptions than relational leader behaviors.

### **Leader Behaviors and Interpersonal Justice**

Interpersonal justice focuses on perceptions of interpersonal interactions and the extent to which people are treated with respect when decisions are made and outcomes are determined (Colquitt et al., 2001). Holtz and Harold (2009) have described interpersonal justice as encounter-based in that the social exchange transactions between leaders and subordinates occur frequently. Therefore, they argue that interpersonal justice is more salient than other forms of justice. This is consistent with fairness heuristic theory, part of the relational model of justice, which suggests that subordinates make quick assessments of the fairness of their leaders based on initial justice encounters (Lind, 2001). Relational leaders are especially skilled at sensing the needs of subordinates and showing concern. They listen, provide support, and treat employees with dignity and respect (Bass, 1985; Yukl, 2012). As interpersonal treatment is promoted through respect, status, and showing concern for others, relational leader behaviors are most likely to inform perceptions of leader-focused interpersonal justice. Alternatively, whereas effective task (i.e., structuring tasks, directing activities, coaching) and change (i.e., communicating a vision, encouraging innovation, upholding high ethical standards) leader behaviors may be communicated in a manner that demonstrates respectful treatment, the treatment is not the primary focus of these behaviors. Therefore, we propose:

*Hypothesis 5:* Relational leader behaviors will exhibit a stronger positive relationship with interpersonal justice perceptions than will either task (a) or change (b) leader behaviors.

### **Leader Behaviors and Informational Justice**

Informational justice reflects fairness perceptions related to the comprehensiveness and truthfulness of explanations (Colquitt, 2001, Greenberg 1993). It is also encounter-based in that the frequency of interactions between leaders and subordinates in social exchange relationships provide employees with numerous opportunities to assess the fairness of information provided. Effective change leader behaviors involve communicating why changes are necessary for employees (Bass, 1985), and the emphasis on open and comprehensive communication in change leader behaviors allows employees to more fully understand decisions. Further, change leader behaviors encourage employees to seek alternate perspectives, and they promote intellectual stimulation which allows for greater comprehension of an explanation (Zhang, LePine, Buckman, & Wei, 2014). Finally, change leaders generally uphold high ethical standards which should enhance perceptions of the truthfulness of the explanation (Bass, 1985). Conversely, task leader behaviors are focused on directing, coaching, clarifying responsibilities, and monitoring progress. Therefore, these behaviors have less of an emphasis on comprehensiveness of information conveyed and more of a transactional focus. Similarly, relational leader behaviors focus on recognizing and showing socioemotional support for employees which is more reflective of empathic communications rather than comprehensive and truthful explanations. Therefore, we hypothesize:

*Hypothesis 6:* Change leader behaviors will exhibit a stronger positive relationship with informational justice perceptions than will either task (a) or relational (b) leader behaviors.

### **SOCIAL EXCHANGE QUALITY AND EMPLOYEE OUTCOMES**

The preceding section suggested how leader behaviors inform justice perceptions. We turn now to the second purpose of this study: discussing the joint impact of justice perceptions and leader behaviors in explaining social exchange quality and employee outcomes. Here, we also present a model that describes the nonrecursive nature (i.e., reciprocally interdependent; Bentler & Raykov, 2000) of perceptions of the leader (including both leader behaviors and justice perceptions) as they impact social exchange quality and performance outcomes.

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### **Social Exchange Quality**

The quality of the social exchange relationship between a leader and subordinate is commonly assessed by examining LMX (Graen & Scandura, 1987; Liden & Maslyn, 1998). Studies have argued and found support for assertions that both justice perceptions and leader behaviors enhance the quality of social exchange directly or indirectly (e.g., Wayne, Shore, Bommer, & Tetrick, 2002). However, what is lacking from current research is a better understanding of which leader behaviors or justice dimensions have greater influence on LMX when considered jointly. The target similarity model in the organizational justice literature predicts that there will be stronger relationships between target similar justice perceptions and outcomes (e.g., **leader**-focused justice → perceived **leader** support → **leader**-directed citizenship behavior) than target dissimilar justice perceptions and outcomes (e.g., **leader**-focused justice → perceived organizational support → organization-directed citizenship behavior; Lavelle, Rupp, & Brockner, 2007). Accordingly, leader-focused justice perceptions should have a stronger relationship with LMX than organization-focused just perceptions. Yet neither the target similarity model nor any theories of leadership specifically address how justice, combined with assessments of the leader's behaviors, will influence social exchange quality. Therefore, given that these perceptions are based on numerous interactions with the focal leader, existing research has an incomplete understanding of the joint effects and relative importance of justice and leader behaviors in explaining LMX. Therefore, we pose the following research question:

*Research question 1:* When considered simultaneously, what unique contributions do leader behaviors and justice dimensions make to explaining variance in LMX, and what is the relative important of these contributions?

### **Task Performance and Job Satisfaction**

Extant research has demonstrated strong, positive relationships between both leader behaviors and justice perceptions and employee task performance and job satisfaction (Colquitt et al., 2013; DeRue et al., 2011; Podsakoff et al., 2006; Rupp et al., 2014). Indeed, the dominant focus of both leader behavior and justice research has been the prediction of these outcomes. However, there are conflicting theoretical arguments as to whether leader behaviors or justice

dimensions have greater influence on subordinate outcomes when considered jointly. For example, Kirkman, Chen, Farh, Chen, and Lowe (2009) suggest that justice will be a stronger predictor of outcomes, and they assert that leader behaviors are a “more distal and ambient stimuli” than justice perceptions because leader behaviors are directed broadly to all individuals in a group (p. 748). Conversely, they argue that justice perceptions vary between individuals, and therefore are more proximal to (and will have a greater effect on) subordinate behavior. An alternate argument proposed by De Cremer, van Dijke, and Bos (2007) suggests that leader behaviors exert a stronger influence on outcomes because justice practices simply create the essential conditions for leadership to emerge. That is, fair practices “create a psychological platform” on which appraisals of leadership are built which motivate follower performance more directly (De Cremer et al., 2007, p. 1798). In other studies (e.g., Wayne et al., 2002), authors do not make predictions about whether leader behaviors or justice dimensions will have a greater impact on outcomes. Instead, they consider both as unique antecedents and do not address which is expected to have a greater effect on outcomes.

Given this accumulation of research, and the divergence in theorizing related to the effect of leader behaviors and justice perceptions on subordinate outcomes, the joint effect and relative importance of these predictors when considered simultaneously remains unclear. Therefore, we pose the following second research question:

*Research question 2: When considered simultaneously, what unique contributions do leader behaviors and justice dimensions make to explaining variance in (a) task performance and (b) job satisfaction, and what is the relative importance of these contributions?*

## **DATA AND METHODOLOGY**

### **Literature Search and Inclusion Criteria**

To identify empirical studies related to leader behaviors and organizational justice, we relied on several sources. First, we performed a literature search in four databases (PsycINFO, ISI Web of Science, Business Source Complete, and ProQuest Dissertations & Theses) for published studies, dissertations, and theses from 1900 - December 2017. The search was conducted using the term *leader\** as well as the justice-related keywords from Colquitt et al. (2001): *procedural fairness, procedural justice, distributive fairness, distributive justice, interactional justice, interpersonal treatment, interpersonal justice, informational justice*, and

*equity*. Second, we searched for additional studies by sending emails through three Academy of Management (AOM) division listserves (Human Resources Division List, Network for Leadership Scholars, and Organizational Behavior Division List) requesting published and unpublished studies that examined the relationship between leadership and organizational justice. Third, we searched the previous six years (i.e., 2012-2017) of conference programs from the AOM and the Society for Industrial and Organizational Psychology (SIOP) to identify presented papers examining leader behaviors and organizational justice. Emails were then sent to the first authors of these conference papers requesting the unpublished manuscripts. These searches yielded an initial population of 760 studies to review for possible inclusion.

Next, we examined these studies in detail to determine if they met the following inclusion rules established for this study. First, the study had to include *both* a leadership variable and an organizational justice variable. Second, the study had to report an effect size in a correlation matrix or other relevant information that could be used to calculate a zero-order correlation. Third, the study had to include a unique sample. If a sample was used in multiple studies, only one study was included; however, articles that included multiple studies with independent samples were coded separately. Fourth, we included only individual-level effect sizes and excluded group- or organizational-level data.

Of the 760 studies in our initial population, 145 met all of these criteria, comprising 126 published studies, 19 unpublished manuscripts, and 166 independent samples ( $N = 46,034$ ).

Table I lists the primary studies coded for the meta-analyses.

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### **Data Coding**

As suggested by meta-analytic reporting standards (Kepes, McDaniel, Brannick, & Banks, 2013), the data coding process was guided by a set of protocols. First, we generated a list of leader behaviors and organizational justice constructs guided by prior meta-analytic studies (Colquitt et al., 2001, 2013; DeRue et al., 2011; Rupp et al., 2014). If the study met the inclusion criteria above (i.e., contained both a leadership variable and a justice variable), we proceeded to code the correlations for the study variables. We articulated definitions for each of the coded constructs along with a list of common variable names to ensure consistency in coding among



authors. An excel worksheet with macros was designated as the standard coding sheet to capture relevant information defined by the protocols. This information included the measures, correlations, means, standard deviations, and reliabilities for all study variables. In addition, we captured the country where the data was collected, the context for the study (e.g., field, lab), and we noted whether the study was published or unpublished.<sup>iii</sup>

**Leader behaviors.** Consistent with the definitions provided in Yukl (2012) and DeRue et al. (2011), correlations that included leader behaviors were coded as either *task*, *relational*, or *change*. Task leader behaviors are job-focused behaviors aimed at defining task roles and role relationships. They included initiating structure, contingent reward, and management by exception-active (DeRue et al., 2011). Relational leader behaviors focus on providing socioemotional support and demonstrating concern and respect. They include consideration (Bass, 1990), empowering leadership (Conger, 1989), and participative leadership (Kahai, Sosik, & Avolio, 1997). Change leader behaviors are focused on developing and communicating a vision of change, encouraging innovation, and facilitating collective learning. They include the transformational leadership dimensions of charisma, inspirational motivation, intellectual stimulation, and idealized influence, and visionary leadership (Bass, 1985).

**Organizational justice.** Following the protocols in existing meta-analyses (Colquitt et al., 2001, 2013; Rupp et al., 2014), we coded correlations that included justice variables by dimension (i.e., *procedural*, *distributive*, *interpersonal*, or *informational*) and by source, the party referenced as the “deliverer” of the (un)just treatment (*leader-focused* or *organization-focused*). We determined the type and source by examining the specific scale item(s) and item instructions in the method section. Consistent with the coding details provided by Rupp et al. (2014), we found that justice type was most often labeled explicitly whereas justice source was not. Therefore, again following the coding protocol of Rupp et al. (2014), when information about the source of justice in the method section was ambiguous, we would review the theoretical arguments and hypotheses to make a coding determination about the justice source. In the case of conflicting information about the source between the method and theory sections, we used the source defined by the scale items or instructions. Our final dataset consists of correlations with six justice variables: leader-focused procedural justice, leader-focused distributive justice, (leader-focused) interpersonal justice, (leader-focused) informational justice, organization-focused procedural justice, and organization-focused distributive justice.

**Social exchange quality and subordinate outcomes.**<sup>iv</sup> To capture the social exchange quality between the leader and subordinate, we coded bivariate correlations with *LMX* as a leader-referent social exchange variable (Graen & Scandura, 1987; Liden & Maslyn, 1998). We also coded correlations that included two subordinate outcome variables – one behavioral outcome (i.e., task performance) and one affective outcome (i.e., job satisfaction). *Task performance* reflects activities that contribute to the production of goods or provisions of services and that are commonly reflected in formal job requirements (Rotundo & Sackett, 2002); and *job satisfaction* captures the positive cognitive or affective emotional response to one’s job (Hulin & Judge, 2003). Consistent with prior research, we conceptualized task performance as a leader-directed outcome variable and job satisfaction as a global, organization-directed outcome variable for purposes of comparing findings with the target similarity model (Cropanzano, Prehar, & Chen, 2002; Rupp & Cropanzano, 2002; Rupp et al., 2014).

## ANALYSIS AND RESULTS

### Analytical Procedures

We used the procedures recommended by Hunter and Schmidt (2004) in conducting the meta-analysis. We corrected for sampling error and for measurement unreliability in the reported correlations using the Cronbach’s alpha statistics reported in the study. In the small number of cases where reliability information for a variable was not reported, we employed the average reliability of all other studies that did report reliability data for that variable (Hunter & Schmidt, 2004). In addition, several studies reported multiple estimates of the same bivariate relationship (e.g., procedural justice and LMX). For these cases, we created a composite correlation for the relationship of interest (Colquitt et al., 2013; Hunter & Schmidt, 2004). We report the results of the meta-analysis for the relationships between leader behaviors and referent-specific justice dimensions in Table II. For each bivariate relationship, we report the number of studies ( $k$ ); the sample size ( $N$ ); the uncorrected ( $\rho_u$ ) population correlation and the 95% confidence interval (CI) around this value; the corrected ( $\rho_c$ ) population correlation and the 80% credibility interval (CV) around this value; the standard deviation of the corrected population correlation ( $SD-\rho_c$ ); the percentage of variance in each population correlation explained by study artifacts ( $\%V_{art}$ ); and the homogeneity test score ( $Q$ ). Further, as biases may exist in our effect estimates due to selective publication of studies, we conducted Duval and Tweedie’s (2000) nonparametric “trim and fill” analyses of publication bias employing the metatrim command in Stata (Steichen,

2000). We report the additional imputed studies ( $\Delta k$ ) and the adjusted population correlation ( $\text{adj-}\rho_c$ ) resulting from this analysis in Table II.

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 INSERT TABLE II ABOUT HERE  
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To analyze the hypotheses, we first created a meta-analytically derived correlation matrix for all variables in the study using our coded data. Then, we compared the meta-analytic corrected population correlations from this study to published meta-analytic estimates. Where published meta-analytic data was available, we replaced the value in our original data with the published corrected correlation in subsequent analyses *unless* our data had a higher  $k$  and  $N$  than the published data. In these cases, we retained our original data.<sup>v</sup> The meta-analytic source of the substitutions and the meta-analytic values are presented in Tables III and IV respectively.

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 INSERT TABLES III AND IV ABOUT HERE  
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Employing the resultant meta-analysis correlation matrix, we conducted a dominance analysis (DA) for each hypothesis to investigate the relative importance of leader behaviors in predicting justice perceptions (Budescu, 1993). Dominance analysis is a qualitative comparison of the relative importance of predictors in multiple linear regression (MLR), and it is robust to issues of multicollinearity because the approach is based on a predictor's added predictive ability in the presence of other predictors. Further, it is more "sensitive to the various importance patterns that can emerge" relative to other analytic techniques (Azen & Budescu, 2003, p. 124). Thus, DA is a superior statistical approach to assessing the relative importance of variables, particularly with a set of correlated predictors (Azen & Budescu, 2003). By using dominance analysis, we are able to infer which variables are dominant predictors of outcomes when considered in combination with other predictors.

Dominance analysis calculates and employs the squared multiple correlations of all possible MLR models involving the predictors ( $2^p - 1$  models;  $p$  = number of predictors) to rank order predictors by their relative contribution to total variance explained. (A variety of software packages – e.g., the 'yhat' package in R: <https://cran.r-project.org/web/packages/yhat/index.html> – are available to conduct a DA; see Nimon & Oswald, 2013.) The degree to which a focal

predictor dominates other predictors is determined by examining the incremental variance explained across the models (Azen & Budescu, 2003). DA “indicates whether one IV contributes more unique variance than another IV, either (a) across all possible MLR submodels (i.e., complete dominance) or (b) on average across models of all-possible-subset sizes (i.e., conditional dominance); averaging conditional dominance weights yields general dominance weights” (Nimon & Oswald, 2013, p. 652).

*Complete* dominance occurs when the incremental variance explained by a focal predictor is greater in all possible MLR models than that of the comparison predictor(s). *Conditional* dominance occurs when the average incremental variance explained by a focal predictor within each model size (i.e., averaged across the subset of models with the same number of predictors) is greater than that of the comparison predictor(s). *General* dominance occurs when the average of all conditional dominance measures (i.e., average of the average for each model size) for a focal predictor is greater than that of the comparison predictor(s). Notably, the relative weight measure epsilon (Johnson, 2000) reported in many meta-analyses (e.g., DeRue et al., 2011) is an approximation of the general dominance measure. Dominance types are nested based on the strictness of the type’s definition: general under conditional and conditional under complete. Because each hypothesis has three leader behavior predictor variables, there are seven subset models and three subset model sizes for each justice criterion.

The research questions presented in this study attempt to determine the relative importance of leader behaviors and justice variables in explaining LMX, task performance, and job satisfaction. Here again, we employed DA to examine the rank order of predictor variables (Azen & Budescu, 2003; Budescu, 1993). Each research question had three leader behavior and six justice predictor variables resulting in 511 subset models and nine subset model sizes for each outcome criterion.

## Results

Hypotheses 1-6 were concerned with the relationships between leader behaviors and dimensions of organizational justice (see Tables V thru VIII). Specifically, hypothesis 1a predicted that task leader behaviors would have a stronger positive relationship with leader-focused procedural justice than change leader behaviors. In support of this, we find that task leader behaviors completely dominate change leader behaviors (i.e., incremental variance explained is greatest for task leader behaviors in all comparison models; see Table V, average

$\Delta R^2 = .19 > .15$ ). Therefore, hypothesis 1a was supported. Hypothesis 1b predicted that relational leader behaviors would have a stronger positive relationship with leader-focused procedural justice than change leader behaviors. Contrary to this hypothesis, change leader behaviors exhibit general dominance over relational leader behaviors (see Table V, average  $\Delta R^2 = .15 > .14$ ). Therefore, hypothesis 1b was not supported.

Hypothesis 2a predicted that task leader behaviors would have a stronger, positive relationship with organization-focused procedural justice than change leader behaviors. Contrary to this hypothesis, change leader behaviors exhibited general dominance over task leader behaviors (see Table 5, average  $\Delta R^2 = .20 > .09$ ). Therefore, hypothesis 2a was not supported. Hypothesis 2b predicted that relational leader behaviors would have a stronger, positive relationship with organization-focused procedural justice than change leader behaviors. In support of this, we find that relational leader behaviors exhibit complete dominance (i.e., incremental variance explained is greatest for relational leader behaviors in all comparison models; see Table V, average  $\Delta R^2 = .37 > .20$ ). Therefore, hypothesis 2b was supported. Notably, the model  $R^2$  for leader-focused procedural justice (.48) was less than for organization-focused procedural justice (.65). We return to this in the discussion section.

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 INSERT TABLE V ABOUT HERE  
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Hypothesis 3a predicted that task leader behaviors would have a stronger, positive relationship with leader-focused distributive justice than relational leader behaviors. In support of this, we find that task leader behaviors completely dominate relational leader behaviors (i.e., incremental variance explained is greatest for task leader behaviors in all comparison models; see Table VI average  $\Delta R^2 = .13 > .07$ ). Therefore, hypothesis 3a is supported. Hypothesis 3b predicted that change leader behaviors would have a stronger positive relationship with leader-focused distributive justice than relational leader behaviors. Contrary to this hypothesis, relational leader behaviors exhibit general dominance over change leader behaviors (see Table VI, average  $\Delta R^2 = .07 > .06$ ). Therefore, hypothesis 3b was not supported.

Hypothesis 4a predicted that task leader behaviors would have a stronger positive relationship with organization-focused distributive justice than relational leader behaviors. Contrary to this hypothesis, relational leader behaviors exhibit complete dominance over task

leader behaviors (see Table VI, average  $\Delta R^2 = .18 > .05$ ). Therefore, hypothesis 4a was not supported. Hypothesis 4b predicted that change leader behaviors would have a stronger, positive relationship with organization-focused distributive justice than relational leader behaviors. In support of this, we find that change leader behaviors completely dominate relational leader behaviors (i.e., incremental variance explained is greatest for change leader behaviors in all comparison models, see Table VI, average  $\Delta R^2 = .19 > .18$ ). Therefore, hypothesis 4b was supported. Again, worthy of note was that the model  $R^2$  for leader-focused distributive justice (.26) was less than for organization-focused distributive justice (.43).

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 INSERT TABLE VI ABOUT HERE  
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Hypothesis 5 suggested that relational leader behaviors would have a stronger, positive relationship with interpersonal justice than either task (a) or change (b) leader behaviors. Consistent with this prediction, relational leader behaviors had a stronger positive relationship with interpersonal justice than task leadership behaviors (see Table VII, average  $\Delta R^2 = .15 > .11$ ). Therefore, hypothesis 5a was supported. However, contrary to this prediction, change leader behaviors generally dominate relational leader behaviors (see Table VII, average  $\Delta R^2 = .16 > .15$ ). Therefore, hypothesis 5b was not supported.

Finally, hypothesis 6 predicted that change leader behaviors would have a stronger positive relationship with informational justice than either task (a) or relational (b) leader behaviors. Incremental variance explained is greatest for change leader behaviors in all comparison models indicating that change leader behaviors completely dominate task and relational leader behaviors (see Table VII, average  $\Delta R^2 = .29 > .16$  and  $.29 > .17$  respectively). Therefore, hypothesis 6a and 6b were supported.

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 INSERT TABLE VII ABOUT HERE  
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The research questions were concerned with the relative importance of leader behaviors and justice dimensions in predicting LMX, task performance, and job satisfaction. With regard to research question 1, which assessed the relative importance of leader behaviors and leader-focused justice predictors for LMX, we find that leader behaviors (minimum average  $\Delta R^2 = .10$ )

demonstrate general dominance over the justice predictors (maximum average  $\Delta R^2 = .09$ ). Further, relational leader behaviors exhibit conditional dominance (Rank = 1 for all subset model sizes) over all other predictors and change leader behaviors exhibit conditional dominance (Rank = 2 for all subset model sizes) over all but relational leader behaviors (model  $R^2 = .72$ , see Table VIII). Research question 2 investigates the relative importance of leader behaviors and leader- and organization-focused justice predictors on (a) task performance and (b) job satisfaction. For task performance, we find that the general dominance rank order of predictors is task then change leader behaviors followed by informational justice, leader-focused distributive justice, and relational leader behaviors (model  $R^2 = .11$ , see Table IX). For job satisfaction, we find that the general dominance rank order of predictors is leader-focused distributive justice first, followed by relational, change, and task leader behaviors, followed by organization-focused procedural justice (model  $R^2 = .58$ , see Table X). Table XI presents a summary of results for all of the hypotheses and research questions.

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 INSERT TABLES VIII, IX, X, and XI ABOUT HERE  
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## DISCUSSION

Research into the impact of effective leader behaviors and organizational justice has demonstrated significant, positive effects on employee affective and behavioral outcomes. However, to date, these studies have not systematically investigated how effective leader behaviors inform justice perceptions, nor has research assessed the joint effects of leadership and justice on social exchange quality and employee outcomes. Therefore, the purpose of this research was twofold. First, we meta-analytically examined the relationships between three types of leader behaviors and four dimensions of justice referenced to the leader and the organization. Second, we investigated the joint effects of leader behaviors and justice perceptions to gain a greater understanding of how these assessments of a leader impact LMX, task performance, and job satisfaction.

With respect to organizational justice research, our results demonstrate that leader behaviors differentially inform justice perceptions. Specifically, we found that task leader behaviors were the most important predictor of leader-focused procedural and leader-focused distributive justice perceptions. These results provide support for the control theory perspective

of procedural justice (Thibaut & Walker, 1975, 1978) and the equity theory perspective of distributive justice (Adams, 1965). Conversely, relational leader behaviors were the most important predictor of organization-focused procedural justice, and change leader behaviors were the most important predictor of organization-focused distributive justice. These results are most consistent with the relational models of procedural justice (Lind & Tyler, 1988) and personal determinants perspective of distributive justice, which emphasizes the importance of the social and interpersonal aspects of reward allocation decisions (Greenberg, 1993, Levanthal, 1980).

Our hypotheses related to interpersonal and informational justice demonstrate support for the role of change leader behaviors in informing these justice dimensions. That is, change leader behaviors that include an emphasis on learning (intellectual stimulation), communication, and encouraging employees most inform perceptions of interpersonal and informational justice (Yukl, 2012). However, with regard to interpersonal justice, the overall average variance explained between change and relational behaviors was minimal (.16 vs. .15, respectively), suggesting that both forms of leader behaviors are important to informing interpersonal justice perceptions.

Another noteworthy finding of hypotheses 1-4 was that leader behaviors explain considerably more variance in perceptions of organization-focused procedural and distributive justice than leader-focused procedural and distributive justice. These results provide strong support for the role that leader's play as an embodiment of the organization (Cropanzano et al., 2001; Eisenberger et al., 2010; Levinson, 1965). Further, these results lend support to the actor-focused model of justice rule adherence proposed by Scott, Colquitt, and Paddock (2009). This model suggests that leaders have various levels of discretion in the enactment of justice with the least discretion afforded in distributive justice because of organizational factors (e.g., HR policies or practices) that limit a leader's decision-making ability. Therefore, whereas effective leader behaviors explained considerable variance in all dimensions of justice, they explained the least variance in leader-focused distributive justice, which subordinates may attribute to a lack of discretion in outcome allocation decisions.

The findings related to our research questions on the unique contributions of leader behaviors and justice dimensions to explaining variance in social exchange quality and employee outcomes are nuanced. With regard to social exchange quality, leader behaviors dominate the effects. Specifically, relational leader behaviors most inform perceptions of LMX followed by



change and task leader behaviors. This is consistent with the conceptual definition and empirical evidence for LMX (for a review, see Dulebohn et al., 2012). However, the results also provide some support for the target similarity framework in organizational justice research. That is, of the six target-specific justice dimensions examined in the analysis, three of the four leader-focused justice dimensions (interpersonal justice, informational justice, and leader-focused procedural justice), explain, on average, more variance in LMX than the two organization-focused justice dimensions.

The results of the research question related to task performance show that task and change leader behaviors were generally the strongest predictors. However, the average variance explained by all leader behaviors and justice dimensions ranged from .01-.02, suggesting that numerous other decisions and behaviors impact task performance. Here again, the results provide support for the target similarity framework given that all four of the leader-focused justice dimensions explained more average variance in task performance than the two organization-focused justice dimensions.

With regard to job satisfaction, leader-focused distributive justice demonstrated conditional dominance for all but the very largest models, and all three leader behavior categories (i.e., relational, change, and task) demonstrated general dominance over the remaining justice dimensions. This highlights the central role that leader allocation decisions and effective leader behaviors play in overall job satisfaction. Given that job satisfaction is generally considered an organization-directed outcome (Rupp et al., 2014), this finding (along with the pattern of average variance explained by the remaining organization- and leader-focused justice dimensions) is counter to target similarity model predictions. However, it reaffirms the powerful role that leaders play in an employee's experience in the organization (Hui et al., 2004), and it supports the recommendation by Colquitt and colleagues (2013) for scholars to reference all justice dimensions to the leader to better explain variance in outcomes.

### **Theoretical Implications**

Our results detail several important theoretical contributions. First, we provide evidence that task, relational, and change leader behaviors play a significant role in informing justice perceptions. In fact, the variance explained by leader behaviors in the models examining leader- and organization-focused justice dimensions ranged from .26 to .65, suggesting that employees take into account multiple behaviors of their leader when assessing organizational justice. This

shows that research that focuses only on justice decisions likely provides an incomplete assessment of justice perception formation, and future research should incorporate role-relevant leader behaviors into theoretical models of justice perceptions.

The differences in findings between the most important predictors of leader-focused procedural and distributive justice perceptions (task leader behaviors) and organization-focused procedural and distributive justice perceptions (relational and change leader behaviors, respectively) have implications for justice theories as well. Namely, leaders affect perceptions of their own procedural and distributive justice through how they carry out concrete and specific activities, likely because of the proximity and salience of these behaviors (Lind, Kray, & Thompson, 2001). Conversely, it is the more social behaviors (relational and change) that are informative for representing the organization with regard to justice. Change is inevitable in organizations (Van de Ven & Poole, 1995); we show that effective change leaders can positively influence employee perceptions of organization-focused distributive justice. Further, relational leader behaviors – how effective leaders are at showing consideration and respect to employees – influences whether employees perceive the organization as being procedurally fair.

The conceptual model presented in this study and the results of the research questions provide evidence of the need for greater integration of leadership and justice theories. These two literatures have evolved largely independently without articulating (a) the behaviors of a “just leader,” and (b) the impact of a “just leader” on employee outcomes. We demonstrate that “just leaders” impact outcomes differently than has been reported in prior meta-analyses that have not taken into account a more holistic view of the leader. For example, the organizational justice meta-analysis by Rupp et al. (2014) presented evidence that the variance explained in LMX by justice perceptions was .51. In our study, the variance explained in LMX by leader behaviors and justice perceptions is .72: the overall average variance explained by the three leader behaviors is .42, and the overall average variance explained by all justice dimensions is .32. This suggests that LMX quality is shaped more by the leader’s behaviors than justice perceptions. As a second example, the leader behavior meta-analysis by DeRue et al. (2011) presents data that the variance explained in job satisfaction by task, relational, and change leader behaviors is .51. In our study, when examining the results for job satisfaction, the variance explained by effective leader behaviors is .24 whereas the overall average variance explained by all justice dimensions is .34 (total Model  $R^2 = .58$ ), suggesting that job satisfaction is more influenced by justice perceptions

that effective leadership. Therefore, to more accurately assess the effects of leaders in social exchange relationships on employee outcomes, future research should concurrently consider leader behaviors and justice perceptions.

Finally, the high correlations between leader behaviors and justice dimensions (ranging from .32 to .75) indicate that employees perceive effective leader behaviors as containing elements of justice. Yet remarkably, there are very few explicit references to justice or fairness in either the theoretical work (e.g., Bass, 1985; Conger & Kanungo, 1987; Fleishman, 1953; Pawar & Eastman, 1997) or the most common measures of effective leader behaviors (e.g., Leader Behavior Description Questionnaire, Stodgill, 1963; Multifactor Leadership Questionnaire, Avolio & Bass, 2004). Therefore, future theoretical and empirical work on effective leader behaviors is needed to clearly articulate and measure the fairness elements of effective task, relational, and change leader behaviors. As a starting point, task leadership research should explicitly articulate the importance of fairness in transactional and contingent reward behaviors such as fairly solving problems and rewarding employee performance equitably. Similarly, relational leadership research should emphasize the fairness aspects of providing support and showing consideration, and change leadership research should emphasize the fair and just communication aspects of a transformational or charismatic leader.

### **Suggestions for Future Research**

Humphrey (2011) emphasized the importance of advancing the literature through reviews. Therefore, we would like to suggest several opportunities for future research. First, future research on leadership and justice should consider alternate study design and measurement options. Most of the studies in our meta-analysis used the same source of data for measuring leader behavior and justice variables and/or measured these variables at the same time. Therefore, there could be a “halo effect” affecting the ratings of leadership and justice, and it would be beneficial to disentangle leader behaviors from justice perceptions through measurement that clearly delineates the two. This could be done by examining the collective (i.e., bystander) effects of justice and the contextual factors that may influence these perceptions; by separating measurement in time; or by developing multilevel models to explore the effects of executive leadership and justice behaviors on lower level employees.

Next, future research should examine moral leader behaviors (e.g., ethical, authentic, moral leadership – see Dinh et al., 2014 for a review) and justice dimensions, and their joint

effects on performance outcomes. Given the connection between ethics-related judgments and organizational justice perceptions, these behaviors may have significant implications for justice perceptions.

Also, Rupp and Aguinó (2009) have suggested that leadership development programs should include justice as a leadership competency, and we are aware of no research to date to assess these types of programs. The results of our study suggest that leader behaviors and justice dimensions have diverse impacts on outcomes. Therefore, leadership development programs should take into account a broader range of behavioral competencies – including fairness – to have a greater impact on employee outcomes.

The primary studies in our sample were largely cross-sectional, so there is a need for future research to examine how perceptions of leadership and justice develop over time. Holtz and Harold (2009) have conducted preliminary research in this area and their results demonstrated that leader-focused justice perceptions do change over time. However, we know little about how leader behaviors inform justice perceptions as the social exchange relationship develops, stabilizes, and changes.

### **Limitations**

This study has a number of limitations. First, given that the meta-analyses relied on primary studies as the source of data for analysis, our conclusions are also limited by the limitations in the primary studies. As mentioned above, much of the data measuring leader behaviors and justice dimensions in our study was collected at the same time from the same source. Therefore, the estimated meta-analytic relationships could be inflated due to common method bias (Podsakoff, et al., 2006). In addition, the average number of studies ( $k$ ) for the correlations between leader behaviors and justice variables is 8.5 (range: 3-23) which is somewhat small relative to the number of independent samples in other leadership and justice meta-analyses.

Also, we utilized dominance analysis to test the hypotheses because it is a superior statistical method to other types of analyses when assessing the relative importance of correlated predictor variables. However, the interpretation of dominance analysis is a qualitative comparison of the relative importance of predictors across model sizes (Budescu, 1993). Therefore, when there are small differences in the average  $\Delta R^2$  between predictors, the conclusions for these hypotheses should be interpreted with caution (e.g., hypothesis 1b found an

average  $\Delta R^2$  of .15 vs. .14 for change and relational leader behaviors, respectively, in predicting leader-focused procedural justice).

Furthermore, we were only able to examine a limited number of criterion variables due to the availability of primary data, and consequently we were not able to examine the links between leader behaviors, justice perceptions, and other outcomes such as organizational citizenship behaviors and counterproductive work behaviors. Thus, there is a need and opportunity for scholars to expand research efforts to consider a broader set of employee outcomes.

### **Conclusion**

There has been considerable empirical research into leader behaviors and leader- and organization-focused justice perceptions (Colquitt et al., 2013; DeRue et al., 2011; Rupp et al., 2014). However, existing research has yet to assess how effective leader behaviors impact these perceptions of fairness. To address this gap, we meta-analyzed the relationships between three types of leader behaviors and four dimensions of justice referenced to the leader and the organization in an attempt to provide greater focus on the “face” of organizational justice. Our results demonstrate that task, relational, and change leader behaviors differentially impact perceptions of procedural, distributive, interpersonal, and informational justice. Further, we found that leader behaviors and justice dimensions have unique effects on employee outcomes when considered jointly. We hope that future research can utilize these findings as a platform for additional empirical and theoretical advancements in leadership and organizational justice research.

### **NOTES**

<sup>i</sup> Our data included one study where interpersonal justice and informational justice were referenced to the organization (i.e., all other studies referenced the leader for these dimensions). This was not surprising given that original theorizing on interpersonal and informational justice suggested these dimensions are social determinants of fairness attributable to a specific source (Greenberg, 1993). Therefore, we do not offer predictions regarding organization-focused interpersonal justice nor organization-focused informational justice.

<sup>ii</sup> Yukl (2012) actually presents four meta-categories: task, relational, change, and external leadership behaviors. External leadership behaviors include networking, external monitoring, and representing the organization to stakeholders outside of the organization. Given that these

behaviors are targeted to non-subordinate employees, they are outside the scope of this study and are not included in our discussion.

<sup>iii</sup> Supplementary materials with additional coding information, including construct coding definitions and a summary of data included in the meta-analysis (i.e., sample size, correlations, reliabilities, variables, and variable scales) can be found online at the *Journal of Management Studies* website.

<sup>iv</sup> Consistent with prior meta-analytic research (Colquitt et al., 2013; Rupp et al., 2014), we coded the following social exchange quality variables noting the target of the exchange quality as well: affective commitment (leader-directed, organization-directed); LMX (leader-directed); perceived support (leader-directed, organization-directed); and trust (leader-directed, organization-directed). In addition, we coded the following affective and behavioral outcome variables noting the target: satisfaction (leader-directed); global job satisfaction (organization-directed); identification (leader-directed, organization-directed); counterproductive work behaviors (leader-directed, organization-directed); organizational citizenship behaviors (leader-directed, organization-directed); and task performance (leader-directed). Given the limited data available from primary studies, only LMX, task performance (leader-directed), and global job satisfaction (organization-directed) were used in the analyses.

<sup>v</sup> We are not aware of any published meta-analytic estimates for the correlations among referent-specific justice variables. Therefore, in response to a comment from the Associate Editor and an anonymous reviewer, we supplemented our original coding by searching the reference section of the most recent multifoci justice meta-analysis that presents data for the four dimensions of organizational justice (i.e., Colquitt et al., 2013) for studies included in their meta-analysis from the Financial Times 50 journal list. As a result of the search, 84 additional studies (95 independent samples) were coded and added to our dataset. Additional details for this coding are available from the first author.

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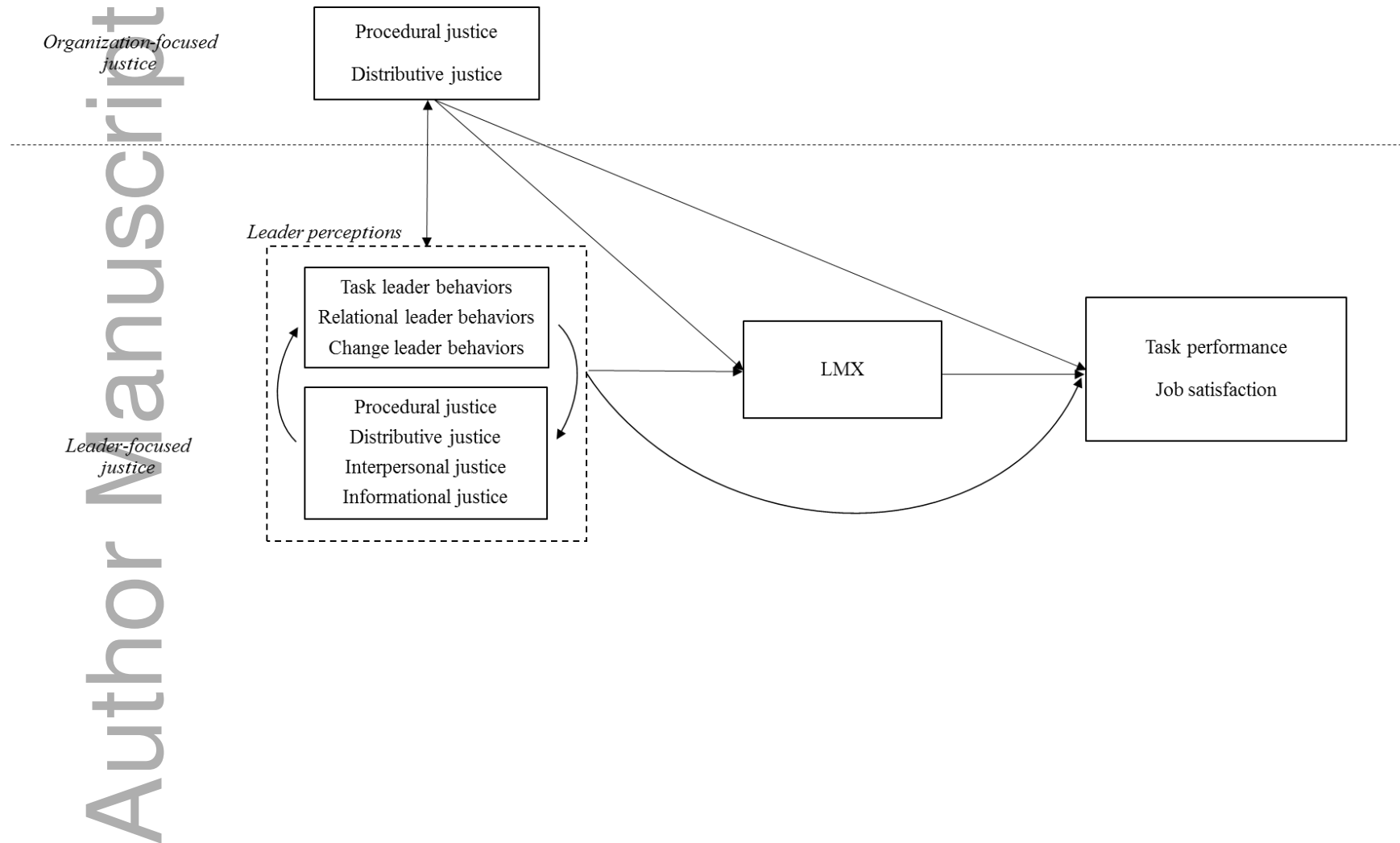
Figure 1. *Conceptual model of organizational justice, effective leader behaviors, social exchange quality, and subordinate outcomes*

Table I. *Studies included in the meta-analysis*

<i>Academy of Management Journal</i>	<i>Human Performance</i>
Erdogan et al. (2006)	Johnson et al. (2009)
Kirkman et al. (2009)	Spector & Che (2014)
Korsgaard et al. (1995)	<i>Human Relations</i>
Masterson et al. (2000)	Cobb & Lau (2015)
Tekleab et al. (2005)	El Akremi et al. (2010)
Tepper (2000)	Keller & Dansereau (1995)
Zhang et al. (2014)	Murphy et al. (2003)
<i>Academy of Management Learning &amp; Education</i>	<i>International Journal of Contemporary Hospitality Management</i>
Graen et al. (2006)	Dai et al. (2013)
<i>African Journal of Business Management</i>	<i>International Journal of Hospitality Management</i>
Katrinli et al. (2010)	Luo et al. (2014)
<i>Asian Journal of Social Psychology</i>	<i>International Journal of Human Resource Management</i>
Jiang & Cheng (2008)	Tuytens & Devos (2012)
<i>Australian Journal of Management</i>	Lee & Wei (2017)
Georgalis et al. (2015)	<i>International Journal of Nursing Studies</i>
<i>Brazilian Business Review</i>	Gillet et al. (2013)
Cavazotte et al. (2013)	<i>International Journal of Sports Science &amp; Coaching</i>
<i>Decision Support Systems</i>	Kim & Andrew (2015)
Tsay et al. (2014)	<i>International Journal of Stress Management</i>
<i>Educational and Psychological Measurement</i>	Riolli & Savicki (2006)
Kacmar et al. (1999)	<i>International Public Management Journal</i>
<i>Employee Relations</i>	Potipiroon & Faerman (2016)
Katou (2015)	<i>Journal of Applied Behavioral Science</i>
<i>European Journal of Social Psychology</i>	Wu et al. (2007)
De Cremer & den Ouden (2009)	<i>Journal of Applied Psychology</i>
<i>European Journal of Work and Organizational Psychology</i>	Choi (2008)
De Cremer (2006)	



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Gaudet et al. (2014)	Colquitt (2001)
Mayer et al. (2008)	Colquitt et al. (2012)
Piccolo et al. (2008)	De Cremer & Van Knippenberg (2002)
Sparr & Sonnentag (2008)	De Cremer et al. (2005)
<i>European Management Journal</i>	Dineen et al. (2006)
Grover & Coppins (2012)	Korsgaard et al. (2002)
<i>Gender, Work and Organization</i>	Rhoades et al. (2001)
Cole (2004)	Thau & Mitchell (2010)
<i>Group &amp; Organization Management</i>	Wayne et al. (2002)
Camerman et al. (2007)	<i>Journal of Applied Social Psychology</i>
Carter et al. (2014)	Cobb & Frey (1996)
Cropanzano et al. (2002)	De Cremer et al. (2007)
Frazier et al. (2010)	Heck et al. (2005)
	Lin et al., (2009)

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Table 1. *Studies included in the meta-analysis (cont.)*


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<i>Journal of Business Ethics</i>	<i>Journal of Personnel Psychology</i>
Chiaburu & Lim (2008)	Camps et al. (2012)
Hsiung (2012)	<i>Journal of Social Psychology</i>
Xu et al. (2016)	Chi & Lo (2003)
<i>Journal of Business and Psychology</i>	<i>Leadership</i>
Burton et al. (2008)	Kim & Kim (2015)
Tremblay et al. (2013)	<i>Leadership &amp; Organization Development</i>
Walsh et al. (in press)	<i>Journal</i>
<i>Journal of Business Research</i>	Ansari et al. (2007)
DeConinck (2010)	Bhal (2006)
Gumusluoglu et al. (2013)	Bhal & Ansari (2007)
<i>Journal of Experimental Social Psychology</i>	Chiaburu & Marinova (2006)
van Dijke & De Cremer (2010)	Fein et al. (2013)
<i>Journal of International Business Studies</i>	Fuchs (2011)

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Pillai et al. (1999)	<i>The Leadership Quarterly</i>
<i>Journal of Leadership &amp; Organizational Studies</i>	Cho & Dansereau (2010)
Song et al. (2012)	Haynie et al. (2014)
Strom et al. (2014)	Sun et al. (2013)
Tremblay et al. (in press)	Walumbwa et al. (2008)
<i>Journal of Management</i>	Yang et al. (2009)
Elicker et al. (2006)	<i>Management and Organization Review</i>
Karriker & Williams (2009)	Chen et al. (2009)
Pillai et al. (1999)	Li et al. (2014)
Roch & Shanock(2006)	Wu et al. (2012)
Rosen et al. (2011)	<i>Military Psychology</i>
<i>Journal of Marketing</i>	Tremblay (2010)
Netemeyer et al. (1997)	<i>New Educational Review</i>
<i>Journal of Organizational Behavior</i>	Ishaq et al. (2012)
Andrews & Kacmar (2001)	<i>Organizational Behavior and Human Decision Processes</i>
Aryee et al. (2002)	Johnson et al. (2006)
Epitropaki (2013)	Lian et al. (2012)
Erdogan & Liden (2006)	Martinko et al. (2007)
He et al. (2016)	van Dijke et al. (2012)
Holtz & Harold (2013)	Walumbwa et al. (2011)
Khazanchi & Masterson (2011)	<i>Organization Science</i>
Ogunfowora (2013)	Hui et al. (2004)
Walumbwa et al. (2009)	<i>Personnel Psychology</i>
Xu et al. (2012)	Ehrhart (2004)
<i>Journal of Organizational Change Management</i>	Mansour-Cole & Scott (1998)
Kool & van Dierendonck (2012)	

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Table 1. *Studies included in the meta-analysis (cont.)*

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<i>Personnel Review</i>	<i>Dissertations</i>
Connell et al. (2003)	Anand (2012)
Tuytens & Devos (2012)	Burlacu (2013)
Wat & Shaffer (2005)	Hoobler (2002)
<i>Psychological Reports</i>	Kiersch (2012)
Tziner et al. (2008)	Lam (2010)
<i>Procedia-Social and Behavioral Sciences</i>	Li (2012)
Zeinabadi & Rastegarpour (2010)	Morrison (2015)
<i>Public Administration Review</i>	Mosley (2006)
Hassan et al. (2014)	Oginde (2013)
<i>Public Management Review</i>	Ren (2008)
Gould-Williams & Davies (2005)	Roberts (2004)
<i>Public Personnel Management</i>	Sanchez (2006)
Chen & Jin (2014)	Shalhoop (2004)
<i>Review of Public Personnel Administration</i>	Shull (1995)
Meng & Wu (2015)	Simon (1995)
<i>Revista De Psicología Del Trabajo Y De Las Organizaciones</i>	White (2008)
Chernyak-Hai & Tziner (2014)	Williams (2012)
<i>Service Industries Journal</i>	Wilson (2011)
Kang et al. (2012)	
<i>Social Behavior and Personality</i>	
Huang et al. (2015)	
<i>Strategic Change</i>	
Ferres et al. (2005)	
<i>Conference Papers</i>	
Rhodes et al. (2013)	

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Table II. Meta-analytic correlations among leader behaviors and referent-specific dimensions of organizational justice

Variable	<i>k</i>	<i>N</i>	$\rho_u$	95% CI	$\rho_c$	80% CV	SD- $\rho_c$	% <i>V</i> <sub>art</sub>	Q	$\Delta k$	adj- $\rho_c$
<i>Leader-focused procedural justice</i>											
Task leader behaviors	10	2,534	.54	[.48, .61]	.64	[.46, .82]	.14	11.66%	85.76	0	NC
Relational leader behaviors	15	3,469	.53	[.44, .61]	.60	[.38, .82]	.17	8.94%	167.75	0	NC
Change leader behaviors	23	5,580	.52	[.46, .58]	.60	[.37, .82]	.17	8.79%	261.75	0	NC
<i>Organization-focused procedural justice</i>											
Task leader behaviors	9	6,830	.27	[.11, .42]	.32	[-.02, .66]	.26	2.37%	379.21	3	.18
Relational leader behaviors	5	2,266	.63	[.54, .71]	.72	[.61, .84]	.09	11.67%	42.84	0	NC
Change leader behaviors	12	5,014	.56	[.49, .63]	.62	[.44, .80]	.14	6.71%	178.77	0	NC
<i>Leader-focused distributive justice</i>											
Task leader behaviors	8	1,653	.44	[.36, .52]	.49	[.36, .62]	.10	27.58%	29.01	0	NC
Relational leader behaviors	5	784	.36	[.25, .47]	.43	[.26, .60]	.13	27.35%	18.28	0	NC
Change leader behaviors	10	2,087	.36	[.26, .46]	.40	[.21, .59]	.15	17.75%	56.33	0	NC
<i>Organization-focused distributive justice</i>											
Task leader behaviors	8	6,532	.29	[.11, .48]	.35	[-.05, .75]	.31	1.49%	535.66	5	.15
Relational leader behaviors	5	2,227	.53	[.41, .65]	.58	[.39, .77]	.15	6.32%	79.09	0	NC
Change leader behaviors	6	3,032	.51	[.36, .67]	.59	[.29, .89]	.24	2.45%	244.81	0	NC
<i>Interpersonal justice</i>											
Task leader behaviors	9	1,559	.49	[.42, .56]	.54	[.43, .66]	.09	35.01%	25.71	0	NC
Relational leader behaviors	6	918	.51	[.40, .63]	.60	[.40, .80]	.15	17.00%	35.29	0	NC
Change leader behaviors	6	1,403	.55	[.50, .59]	.60	[.57, .63]	.03	77.40%	7.75	1	.59
<i>Informational justice</i>											
Task leader behaviors	8	1,485	.58	[.49, .66]	.64	[.49, .80]	.12	18.17%	44.04	3	.60
Relational leader behaviors	5	799	.56	[.43, .69]	.66	[.47, .85]	.15	15.66%	31.92	1	.63
Change leader behaviors	3	971	.68	[.63, .73]	.75	[.75, .75]	.00	100.00%	2.99	1	.74

Notes: *k* = number of studies; *N* = sample size;  $\rho_u$  = uncorrected population correlation; 95% CI = confidence interval around uncorrected population correlation;  $\rho_c$  = corrected population correlation; 80% CV = credibility interval around weighted corrected mean correlation; SD- $\rho_c$  = standard deviation of the corrected population correlation; %*V*<sub>art</sub> = percentage of variance in  $\rho_c$  explained

by study artifacts;  $\Delta k$  = number of filled studies in trim and fill analysis;  $\text{adj-}\rho_c$  = adjusted  $\rho_c$  after adding filled studies in trim and fill analysis; NC = no change in adjusted  $\rho_c$  from trim and fill analysis.

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Table III. *Source of correlations among study variables for dominance analyses*

	1	2	3	4	5	6	7	8	9	10	11
1. Task leader behaviors											
2. Relational leader behaviors	New										
3. Change leader behaviors	New	Detal11									
4. PJ-leader	New	New	New								
5. PJ-organization	New	New	New	New							
6. DJ-leader	New	New	New	New	New						
7. DJ-organization	New	New	New	New	New	New					
8. Interpersonal justice	New	New	New	New	New	New	New				
9. Informational justice	New	New	New	New	New	New	New	New			
10. LMX	G&A16	G&A16	Detal12	New	New	New	New	New	New		
11. Task performance	Petal06	W&L93	N17	Cetal13	Cetal13	Cetal13	Cetal13	Cetal13	Cetal13	Cetal13	Metal16
12. Job satisfaction	JPI04	JPI04	N17	New	New	New	New	New	New	Detal12	Jetal01

*Notes:* PJ-leader = leader-focused procedural justice; PJ-organization = organization-focused procedural justice; DJ-leader = leader-focused distributive justice; DJ-organization = organization-focused distributive justice. New = data original to this study; Detal11 = DeRue, Nahrgang, Wellman, & Humphrey (2011); G&A16 = Gottfredson & Aguinis (2016); Detal12 = Dulebohn, Bommer, Liden, Brouer, & Ferris (2012); Petal06 = Podsakoff, Bommer, Podsakoff, & MacKenzie (2006); W&L93 = Wofford & Liska (1993); N17 = Ng (2017); Cetal13 = Colquitt, Scott, Rodell, Long, Zapata, Conlon, & Wesson (2013); Metal16 = Martin, Guillaume, Thomas, Lee, & Epitropaki (2016); JPI04 = Judge, Piccolo, & Ilies (2004); Jetal01 = Judge, Thoresen, Bono, & Patton (2001).

Table IV. *Meta-analytic estimates of correlations among study variables*

	1	2	3	4	5	6	7	8	9	10	11
	$p_c$	$p_c$	$p_c$	$p_c$	$p_c$	$p_c$	$p_c$	$p_c$	$p_c$	$p_c$	$p_c$
	$k; N$	$k; N$	$k; N$	$k; N$	$k; N$	$k; N$	$k; N$	$k; N$	$k; N$	$k; N$	$k; N$
1. Task leader behaviors											
2. Relational leader behaviors	.72										
	11; 3,236										
3. Change leader behaviors	.63	.71									
	15; 6,744	8; 1,074									
4. PJ-leader	.64	.60	.60								
	10; 2,534	15; 3,469	23; 5,580								
5. PJ-organization	.32	.72	.62	.64							
	9; 6,830	5; 2,266	12; 5,014	6; 1,694							
6. DJ-leader	.49	.43	.40	.62	.51						
	8; 1,653	5; 784	10; 2,087	33; 5,506	4; 669						
7. DJ-organization	.35	.58	.59	.44	.69	.60					
	8; 6,532	5; 2,227	6; 3,032	19; 10,639	109; 58,529	2; 341					
8. Interpersonal justice	.54	.60	.60	.62	.65	.50	.41				
	9; 1,559	6; 918	6; 1,403	12; 2,281	29; 12,865	10; 1,750	25; 6,825				
9. Informational justice	.64	.66	.75	.75	.60	.60	.49	.77			
	8; 1,485	5; 799	3; 971	10; 1,958	16; 4,068	8; 1,377	15; 4,033	31; 7,142			
10. LMX	.66	.74	.73	.56	.49	.42	.62	.63			
	22; 5,973	23; 6,209	20; 5,451	29; 4,800	35; 8,699	25; 3,569	33; 8,819	16; 4,208	12; 2,943		
11. Task performance	.28	.25	.27	.24	.20	.23	.20	.16	.26	.30	
	17; 6,180	36; 2,651	59; 14,178	13; 2,686	42; 10,075	8; 1,866	30; 6,990	11; 3,542	7; 1,462	146; 32,670	
12. Job satisfaction	.22	.46	.48	.46	.47	.53	.41	.41	.46	.49	.30
	72; 10,317	76; 11,374	81; 32,355	18; 2,534	28; 2,820	15; 1,981	30; 4,609	7; 1,019	6; 1,042	88; 22,520	312; 54,471

Notes: PJ-leader = leader-focused procedural justice; PJ-organization = organization-focused procedural justice; DJ-leader = leader-focused distributive justice; DJ-organization = organization-focused distributive justice;  $p_c$  = corrected population correlation;  $k$  = number of studies;  $N$  = sample size.

Table V. *Dominance analysis for leader behaviors predicting leader- and organization-focused procedural justice*

	Subset models	Criterion: Leader-focused procedural justice				Criterion: Organization-focused procedural justice							
		<u>Task</u>	<u>Relational</u>	<u>Change</u>		<u>Task</u>	<u>Relational</u>	<u>Change</u>					
Model size		$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank
$k = 0$ average (null)	3	.41	1	.36	2	.36	2	.10	3	.52	1	.38	2
$k = 1$ average	3	.10	1	.05	3	.06	2	.04	3	.33	1	.16	2
$k = 2$ average	1	.06	1	.01	3	.03	2	.11	2	.26	1	.05	3
Overall average		.19	1	.14	3	.15	2	.09	3	.37	1	.20	2
Model $R^2$				.48						.65			

Notes:  $\Delta R^2$  = average incremental variance explained by adding focal leader behavior as a predictor to subset models of size  $k$ .  $k$  = number of other predictors in the subset model. Rank = rank order of predictor in terms of relative importance in predicting criterion (based on average incremental variance explained,  $\Delta R^2$ ). Overall average represents the averaged additional contribution to variance explained of each leader behavior across all subset model sizes (i.e., average of all conditional values).

Table VI. Dominance analysis for leader behaviors predicting leader- and organization-focused distributive justice

	Criterion: Leader-focused distributive justice				Criterion: Organization-focused distributive justice		
	<u>Task</u>	<u>Relational</u>	<u>Change</u>		<u>Task</u>	<u>Relational</u>	<u>Change</u>



Model size	Subset												
	models	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank
$k = 0$ average (null)	3	.24	1	.18	2	.16	3	.12	3	.34	2	.35	1
$k = 1$ average	3	.08	1	.03	2	.02	3	.01	3	.14	2	.15	1
$k = 2$ average	1	.05	1	.00	3	.01	2	.03	3	.08	2	.08	1
Overall average		.13	1	.07	2	.06	3	.05	3	.18	2	.19	1
Model $R^2$				.26						.43			

Notes:  $\Delta R^2$  = average incremental variance explained by adding focal leader behavior as a predictor to subset models of size  $k$ .  $k$  = number of other predictors in the subset model. Rank = rank order of predictor in terms of relative importance in predicting criterion (based on average incremental variance explained,  $\Delta R^2$ ). Overall average represents the averaged additional contribution to variance explained of each leader behavior across all subset model sizes (i.e., average of all conditional values).

Table VII. Dominance analysis for leader behaviors predicting interpersonal and informational justice

Model size	Subset models	Criterion: Interpersonal justice						Criterion: Informational justice					
		Task		Relational		Change		Task		Relational		Change	
		$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank
$k = 0$ average (null)	3	.29	3	.36	1	.36	1	.41	3	.44	2	.56	1
$k = 1$ average	3	.03	3	.08	2	.09	1	.05	3	.06	2	.18	1
$k = 2$ average	1	.01	3	.03	2	.05	1	.02	2	.01	3	.12	1

Overall average	.11	3	.15	2	.16	1	.16	3	.17	2	.29	1
Model $R^2$	.43						.62					

Notes:  $\Delta R^2$  = average incremental variance explained by adding focal leader behavior as a predictor to subset models of size  $k$ .  $k$  = number of other predictors in the subset model. Rank = rank order of predictor in terms of relative importance in predicting criterion (based on average incremental variance explained,  $\Delta R^2$ ). Overall average represents the averaged additional contribution to variance explained of each leader behavior across all subset model sizes (i.e., average of all conditional values).

Table VIII. Dominance analysis for leader behaviors and leader- and organization-focused justice predicting LMX

Model size	Subset models	Criterion: LMX																	
		<u>Task</u>		<u>Relational</u>		<u>Change</u>		<u>PJ-Ldr</u>		<u>PJ-Org</u>		<u>DJ-Ldr</u>		<u>DJ-Org</u>		<u>IJ</u>		<u>InfoJ</u>	
		$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank
$k = 0$ average (null)	9	.44	3	.55	1	.53	2	.31	6	.24	7	.18	8	.18	8	.38	5	.40	4
$k = 1$ average	36	.17	3	.25	1	.23	2	.07	6	.04	7	.02	9	.02	8	.12	4	.11	5
$k = 2$ average	84	.10	3	.16	1	.15	2	.02	6	.02	7	.01	9	.01	8	.06	4	.04	5
$k = 3$ average	126	.06	3	.12	1	.11	2	.01	7	.01	6	.00	9	.01	8	.04	4	.02	5
$k = 4$ average	126	.04	3	.09	1	.09	2	.00	8	.01	5	.00	9	.01	7	.03	4	.01	6
$k = 5$ average	84	.02	4	.08	1	.07	2	.00	9	.01	5	.00	7	.00	6	.03	3	.00	8
$k = 6$ average	36	.01	5	.07	1	.07	2	.00	9	.02	4	.01	6	.00	7	.03	3	.00	8
$k = 7$ average	9	.01	7	.07	1	.07	2	.00	8	.02	4	.01	5	.00	9	.03	3	.01	6
$k = 8$ average	1	.01	7	.08	1	.08	2	.01	8	.04	4	.01	6	.00	9	.04	3	.02	5
Overall average		.10	3	.16	1	.16	2	.05	6	.05	7	.03	8	.03	9	.09	4	.07	5
Model $R^2$		.72																	

Notes: PJ-Ldr = leader-focused procedural justice; PJ-Org = organization-focused procedural justice; DJ-Ldr = leader-focused distributive justice; DJ-Org = organization-focused distributive justice; IJ = interpersonal justice; InfoJ = informational justice.  $\Delta R^2$  = average incremental variance explained by adding focal variable as a predictor to subset models of size  $k$ .  $k$  = number of other predictors in the subset model. Rank = rank order of predictor in terms of relative importance in predicting criterion (based on average incremental variance explained,  $\Delta R^2$ ). Overall average represents the averaged additional contribution to variance explained of each predictor across all subset model sizes (i.e., average of all conditional values).

Table IX. Dominance analysis for leader behaviors and leader- and organization-focused justice predicting task performance

Subset model (X)	Subset models	Criterion: Task performance																	
		<u>Task</u>		<u>Relational</u>		<u>Change</u>		<u>PJ-Ldr</u>		<u>PJ-Org</u>		<u>DJ-Ldr</u>		<u>DJ-Org</u>		<u>IJ</u>		<u>InfoJ</u>	
		$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank
$k = 0$ average (null)	9	.08	1	.06	4	.07	2	.06	5	.04	7	.05	6	.04	7	.03	9	.07	3
$k = 1$ average	36	.04	1	.02	4	.03	2	.02	6	.01	8	.02	5	.01	7	.00	9	.02	3
$k = 2$ average	84	.02	1	.01	5	.02	2	.01	6	.00	8	.01	4	.00	7	.00	9	.01	3
$k = 3$ average	126	.02	1	.01	5	.01	2	.00	7	.00	8	.01	3	.00	9	.00	6	.01	4
$k = 4$ average	126	.02	1	.00	6	.01	2	.00	8	.00	7	.01	3	.00	9	.01	4	.01	5
$k = 5$ average	84	.01	1	.00	7	.01	3	.00	8	.00	6	.01	4	.00	9	.01	2	.00	5
$k = 6$ average	36	.01	1	.00	7	.01	3	.00	8	.00	6	.00	4	.00	9	.01	2	.00	5
$k = 7$ average	9	.01	1	.00	7	.00	3	.00	8	.00	4	.00	5	.00	9	.01	2	.00	6
$k = 8$ average	1	.01	2	.00	8	.00	6	.00	7	.01	3	.00	5	.00	9	.01	1	.00	4
Overall average		.02	1	.01	5	.02	2	.01	6	.01	8	.01	4	.01	9	.01	7	.01	3
Model $R^2$																			.11

Notes: PJ-Ldr = leader-focused procedural justice; PJ-Org = organization-focused procedural justice; DJ-Ldr = leader-focused distributive justice; DJ-Org = organization-focused distributive justice; IJ = interpersonal justice; InfoJ = informational justice.  $\Delta R^2$  = average incremental variance explained by adding focal variable as a predictor to subset models of size  $k$ .  $k$  = number of other

predictors in the subset model. Rank = rank order of predictor in terms of relative importance in predicting criterion (based on average incremental variance explained,  $\Delta R^2$ ). Overall average represents the averaged additional contribution to variance explained of each predictor across all subset model sizes (i.e., average of all conditional values).

Table X. *Dominance analysis for leader behaviors and leader- and organization-focused justice predicting job satisfaction*

Subset model (X)	Subset models	Criterion: Job satisfaction																	
		<u>Task</u>		<u>Relational</u>		<u>Change</u>		<u>PJ-Ldr</u>		<u>PJ-Org</u>		<u>DJ-Ldr</u>		<u>DJ-Org</u>		<u>IJ</u>		<u>InfoJ</u>	
		$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank	$\Delta R^2$	Rank
<i>k</i> = 0 average (null)	9	.05	9	.21	4	.23	2	.21	4	.22	3	.28	1	.17	7	.17	7	.21	4
<i>k</i> = 1 average	36	.01	9	.07	4	.08	2	.07	5	.07	3	.14	1	.05	7	.04	8	.06	6
<i>k</i> = 2 average	84	.02	7	.04	3	.05	2	.04	4	.03	5	.10	1	.02	8	.02	9	.03	6
<i>k</i> = 3 average	126	.04	3	.03	4	.04	2	.02	5	.01	6	.10	1	.01	8	.01	9	.01	7
<i>k</i> = 4 average	126	.06	2	.04	4	.04	3	.02	5	.01	6	.10	1	.01	8	.00	9	.01	7
<i>k</i> = 5 average	84	.08	2	.05	3	.04	4	.02	5	.01	6	.11	1	.01	7	.00	9	.00	8
<i>k</i> = 6 average	36	.11	2	.07	3	.05	4	.02	5	.02	6	.12	1	.01	7	.00	8	.00	9
<i>k</i> = 7 average	9	.14	1	.09	3	.07	4	.03	6	.04	5	.14	2	.01	7	.01	8	.01	9
<i>k</i> = 8 average	1	.20	1	.13	3	.10	4	.04	6	.06	5	.17	2	.01	9	.02	8	.02	7
Overall average		.08	4	.08	2	.08	3	.05	6	.05	5	.14	1	.03	8	.03	9	.04	7
Model $R^2$																			.58

Notes: PJ-Ldr = leader-focused procedural justice; PJ-Org = organization-focused procedural justice; DJ-Ldr = leader-focused distributive justice; DJ-Org = organization-focused distributive justice; IJ = interpersonal justice; InfoJ = informational justice.  $\Delta R^2$  = average incremental variance explained by adding focal variable as a predictor to subset models of size *k*. *k* = number of other predictors in the subset model. Rank = rank order of predictor in terms of relative importance in predicting criterion (based on average incremental variance explained,  $\Delta R^2$ ). Overall average represents the averaged additional contribution to variance explained of each predictor across all subset model sizes (i.e., average of all conditional values).

Table XI. *Summary of results for hypotheses and research questions*

Hypothesis/Research Question	Result
H1(a): Task leader behaviors will exhibit a stronger positive relationship with leader-focused procedural justice perceptions than change leader behaviors.	Supported
H1(b): Relational leader behaviors will exhibit a stronger positive relationship with leader-focused procedural justice perceptions than change leader behaviors.	Not supported
H2(a): Task leader behaviors will exhibit a stronger positive relationship with organization-focused procedural justice perceptions than change leader behaviors.	Not supported
H2(b): Relational leader behaviors will exhibit a stronger positive relationship with organization-focused procedural justice perceptions than change leader behaviors.	Supported
H3(a): Task leader behaviors will exhibit a stronger positive relationship with leader-focused distributive justice perceptions than relational leader behaviors.	Supported
H3(b): Change leader behaviors will exhibit a stronger positive relationship with leader-focused distributive justice perceptions than relational leader behaviors.	Not supported
H4(a): Task leader behaviors will exhibit a stronger positive relationship with organization-focused distributive justice perceptions than relational leader behaviors.	Not supported
H4(b): Change leader behaviors will exhibit a stronger positive relationship with organization-focused distributive justice perceptions than relational leader behaviors.	Supported
H5(a): Relational leader behaviors will exhibit a stronger positive relationship with interpersonal justice perceptions than task leader behaviors.	Supported

H5(b): Relational leader behaviors will exhibit a stronger positive relationship with interpersonal justice perceptions than will change leader behaviors.	Not supported
H6(a): Change leader behaviors will exhibit a stronger positive relationship with informational justice perceptions than will either task leader behaviors.	Supported
H6(b): Change leader behaviors will exhibit a stronger positive relationship with informational justice perceptions than will relational leader behaviors.	Supported
RQ1: When considered simultaneously, what unique contributions do leader behaviors and justice dimensions make to explaining variance in LMX, and what is the relative important of these contributions?	Relational leader behaviors exhibit conditional dominance
RQ2(a): When considered simultaneously, what unique contributions do leader behaviors and justice dimensions make to explaining variance in task performance, and what is the relative importance of these contributions?	Task & change leader behaviors exhibit general dominance
RQ2(b): When considered simultaneously, what unique contributions do leader behaviors and justice dimensions make to explaining variance in job satisfaction, and what is the relative importance of these contributions?	Leader-focused distributive justice exhibits general dominance

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*Notes:* H = hypothesis; RQ = research question.

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