COWORKER JUSTICE AND ITS INTERACTION EFFECTS WITH SUPERVISOR JUSTICE

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Coworker Justice and Its Interaction Effects with Supervisor Justice

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CERTIFICATE OF ORIGINALITY

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Abstract

Studies on justice effects in organizational settings abound, and yet almost all of them focused on justice from an authority figure – typically the organization or the supervisor. The multifoci justice approach recently draws researchers' attention to possible sources of justice other than the organization and the supervisor, but how these understudied sources influence employees' experience of justice together with the traditional sources is not yet clear. To advance this body of literature, in this thesis I examined the effects of one understudied but important source of justice, coworkers. Particularly, I focused on how coworker justice interacts with supervisor justice to affect three important employee psychological outcomes. The outcomes were chosen based on three major theories on justice effects: organization-based self-esteem (OBSE) based on group engagement model, supervisor trustworthiness based on fairness heuristic theory, and personal uncertainty based on uncertainty management theory. It was hypothesized that when coworker justice is high, supervisor justice has stronger effects on employees' OBSE and perceived supervisor trustworthiness and a weaker effect on employees' personal uncertainty. I further examined how the three employee psychological outcomes mediate the interaction effects of supervisor justice and coworker justice on two employee performance criteria: task performance and organizational citizenship behavior (OCB). Altogether a contingent indirect effect model was proposed about the interaction effects of supervisor justice and coworker justice. Two multi-rater, multilevel, and time-lagged field studies were carried out to test the research model.

Results showed that when coworker justice was high, the effects of supervisor justice on OBSE and supervisor trustworthiness were stronger; whereas when coworker justice was low, supervisor justice had a stronger positive effect on personal uncertainty. Moreover, OBSE and several facets of supervisor trustworthiness mediated the interaction effects of supervisor justice and coworker justice on employee performance. The research carries implications for the adopted justice theories and advances the justice literature by highlighting the important role of coworker justice in shaping employees' justice experience in the workplace.

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Table of Contents

List of Tables

List of Figures

Chapter 1 Introduction

More than half a century of research in workplace justice has substantially broadened our view of justice in many aspects (Colquitt, Greenberg, & Zapata-Phelan, 2005). The domain of justice has been broadened: from the primary focus on justice issues in reward allocations (i.e., distributive justice, Adams, 1963, 1965), to the recognition of justice issues in decision-making process (i.e., procedural justice, Thibaut & Walker, 1975, 1978; Leventhal, 1980), and more recently, to the identification of justice issues in everyday interpersonal treatment (i.e., interactional justice, Bies, 1987; Bies & Moag, 1986). Our understanding of why people care about justice has also been broadened: People's concern for justice can be out of the motivation of instrumental interests (Adams, 1965; Thibaut & Walker, 1975), relational concerns (Lind & Tyler, 1988), uncertainty management (Lind & van den Bos, 2002; van den Bos & Lind, 2002), and morality (Cropanzano, Goldman, & Folger, 2003; Folger, Cropanzano, & Goldman, 2005). Moreover, the scope of outcomes in justice research has been broadened as well, from traditional job attitudes and performance criteria (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Colquitt et al., 2013) to employee well-being (Vermunt & Steensma, 2005) and health (Greenberg, 2010). Taken together, the growth of justice literature has demonstrated that "justice is a complex, multifaceted phenomena, as individuals are concerned about fairness for several reasons, judge the fairness of several aspects of decision events, and use fairness perceptions to guide a wide range of key attitudes and behaviors" (Colquitt, Greenberg, & Zapata-Phelan, 2005, p. 45).

Despite the broadness of the current literature on workplace justice, one aspect remains narrowly focused. That is, the literature is exclusively concerned with fair treatment in hierarchical relationships. Specifically, the authority figures within the hierarchy – typically the organization or the supervisor – often assume the role of the actor of fair treatment, whereas those inferior within the hierarchy – typically the employees or the subordinates – assume the role of the recipient of fair treatment. Though such hierarchical relationships do play crucial roles in the workplace, lateral relationships in organizations, particularly the coworker relationship, also exert nontrivial influences on a wide range of employee psychological and behavioral outcomes, even above and beyond the effects of the leader-member relationship (Chiaburu & Harrison, 2008). Given so, to better understand employees' justice experience in the workplace, it is of importance to examine justice issues in the coworker relationship, or coworker justice. Yet one concern holding back scholars' inquiry into coworker justice may be whether it is appropriate to apply justice constructs to nonhierarchical relationships – "by misapplying justice constructs or by casting our conceptual net too broadly, their essential nature may become so diffuse as to be meaningless" (Colquitt, Greenberg, & Scott, 2005, p. 596). Justice constructs should be applied prudently. That being said, analyses of the conceptualization and of justice and the relevant theories suggest that the introduction of coworker justice is unlikely to hamper the construct validity of justice. Rather, coworker justice should be an integral part of the justice constructs in organizational settings.

First, most of the justice rules are applicable to coworker relationship. Justice rules are the criteria for fairness assessment. When these rules are followed, people will feel they are fairly treated; when these rules are violated, people will feel they have received unfair treatment (Cropanzano, Fortin, & Kirk, 2015). The three types of justice – distributive justice, procedural justice, and interactional justice – involve different rules. Equity rule is the major criteria for assessing distributive justice (Adams, 1965). When applying the equity rule to hierarchical relationships, employees often focus on the rewards offered by the organization (e.g., Colquitt, 2001). As to coworker relationships, though coworkers may not affect the reward employees receive from the organization, employees can apply the equity rule to other aspects of their relationship with the coworkers. Specifically, they can evaluate their investment in their coworkers and the benefit they obtained in return (Adams, 1965; Walster, Berscheid, & Walster, 1973). Thus, the equity rule can also be applied to assess coworker distributive justice. For assessing procedural justice, there are six major rules: consistency, bias-suppression, accuracy, correctability, representativeness, and ethicality (Leventhal, 1980). These rules are applicable to coworker relationships when the workgroup makes decisions, formally or informally, that affect its members, like assigning tasks or deciding workloads (Lavelle, Brockner et al., 2009). It should be noted, however, that the relative importance of these rules in coworker relationships tends to differ from that in hierarchical relationships (Barrett-Howard & Tyler, 1986). For instance, the rule of representativeness outweighs the rule of consistency across time in hierarchical

relationships, whereas the latter outweighs the former lateral relationships like

coworker relationships. Despite the differences in relative importance, the six rules

are well applicable to coworker procedural justice (Barrett-Howard & Tyler, 1986).

In terms of assessing interactional justice, there are four major rules: truthfulness,

justification, respect, and propriety (Bies & Moag, 1986). The truthfulness rule

dictates that people should not be treated with deception but honesty; the

justification rule dictates that people should be provided with adequate explanations

for the treatment they receive; the respect rule dictates that people should be treated

with politeness and dignity; and finally, the propriety rule dictates that people should

not be subject to inappropriate comments (Bies & Moag, 1986). Concerned about

interpersonal treatment in everyday encounters, these rules are centered on people's

entitlement to truth and dignity, which are obviously not bounded by hierarchical

relationships (Bies, 2001, 2005). Rather, these rules can be equivalently applied to

assess interactional justice in coworker relationships (Bies, 2015). Taken together,

rules of all three types of justice can be applied to the coworker relationships.

Second, major justice theories, including equity theory, the group-value model,

fairness theory, fairness heuristic theory, and uncertainty management theory, all

recognize the presence of justice issues in nonhierarchical relationships like

coworker relationships. Actually, most of the theories are explicit about their

applicability to coworker relationships. Equity theory, though focusing on the

employer-employee relationship as the most typical context, explicates that the

theory is relevant to "any social situation in which an exchange takes place,

explicitly or implicitly, whether between teammates, teacher and student, lovers,

child and parent, patient and therapist, or opponents or even enemies, for between all

there are expectations of what is fair exchange" (Adams, 1965, p. 276). The

group-value model discusses intensively on the generality of procedural justice

(Lind & Tyler, 1988, Chapter 6), concluding that "procedural justice is an important

concern in nearly all social contexts" (Lind & Tyler, 1988, p. 214). Fairness theory

also takes the same standing – "concerns about fairness in exchange need not entail a

group context, a hierarchy of decision making, or a formal authority" (Folger &

Cropanzano, 1998, p. 71). For fairness heuristic theory, though the actor of justice is

often referred to as the "authority" in the writings on the theory (e.g., Lind, 2001a,

van den Bos, 2001), the theory itself is "intended to address both hierarchical and

nonhierarchical social and organizational relationships" (Lind, 2001b, p. 222). As a

successor of fairness heuristic theory, uncertainty management theory (Lind & van

den Bos, 2002; van den Bos & Lind, 2002) seems to take the same view. Particularly,

uncertainty management theory is argued to be applicable to both social and

nonsocial domains (van den Bos & Lind, 2002), and therefore does not seem to

leave the coworker relationships outside its scope. Taken together, major justice

theories seem to agree that justice is an important concern in the coworker

relationships, and the tenets of these theories are as applicable to the coworker

relationships as they are to hierarchical relationships.

Third, though workplace justice research has paid limited attention to coworker

relationships, two recently developed theoretical frameworks indicate that coworker

justice is an integral part of employees' experience of justice in organizations. One is

the taxonomy of justice constructs proposed by Cropanzano, Li, and James (2007).

Cropanzano et al. proposed that by differentiating the form (i.e., a single person or a

group of people) of both the actor and the recipient of justice, justice constructs can

be organized by a 2×2 matrix. Traditional justice constructs are characterized by an

individual actor (e.g., supervisor) and an individual recipient (e.g., subordinate);

justice climate is characterized by an individual actor (e.g., supervisor) and a

collective recipient (e.g., group of subordinates). These two types of justice

constructs have been intensively studied in the literature. By considering collective

actors of justice, Cropanzano et al. proposed two new justice constructs: interunit

justice, referring to how one group treats another group; and intraunit justice,

referring to how group members treat one another. Thus, in intraunit justice,

coworkers as a whole is the source of justice. Concerned about the mutual fair

treatment among group members, intraunit justice is conceptualized as a unit-level

construct. In contrast, the second framework, the multifoci justice approach, directly

introduced coworker justice at the individual level (Lavelle, Rupp, & Brockner,

2007). The multifoci justice approach highlights that employees receive fair or

unfair treatment from a variety of sources in the workplace, and yet only

organizational justice and supervisor justice are intensively studied. It thus calls for

more research in understudied justice sources like the coworkers, in order to form "a

more complete picture of the employee justice experience" (Lavelle, Rupp,

Manegold, & Thornton, 2015, p. 178). Altogether, Cropanzano et al.'s taxonomy and

the multifoci justice approach both suggest that coworker justice should be an indispensable component of employees' experience of justice in organizational settings.

To summarize, justice rules are applicable to coworker relationships, major justice theories all support the application of justice constructs to lateral relationships, and two recently developed frameworks of workplace justice recognize coworkers as an important source of justice. In addition, though workplace justice researchers rarely pay attention to nonhierarchical relationships, researchers of social justice have long been studying justice issues in lateral relationships like friendship (e.g., Mendelson & Kay, 2003) and intimate relationships (Hatfield, Rapson, & Aumer-Ryan, 2008), which also indirectly supports the application of justice constructs to lateral relationships in organizations. Though empirical studies on coworker justice remain scarce, there is initial evidence supporting its construct validity (e.g. Cropanzano, Li, & Benson, 2011; Lavelle, McMahan, & Harris, 2009). Given such theoretical and empirical support, coworker justice should be seen as relevant in workplace justice research rather than a misapplication of justice constructs.

Current research on coworker justice has focused primarily on two issues. One is testing the validity of coworker justice. For example, Li, Cropanzano, and Bagger (2013) examined the incremental validity of coworker justice, finding that team-level coworker justice can explain cooperative teamwork process beyond justice climate. The other is testing the target similarity model. Based on social

exchange theory, the model argues that justice from one source is most strongly related to outcomes targeted at that source (Lavalle et al., 2007). In line with this model, empirical studies demonstrated that coworker justice is most strongly related to outcomes concerning coworkers (e.g., commitment to the workgroup, Lavalle, Brockner et al., 2009). Shared by these existing studies is that the effects of coworker justice are assumed to be independent of the effects of justice from other sources. Yet it is unlikely that justice from one source exerts no influence on how employees make sense and make use of justice from another source. For example, experimental evidence shows that in a two-stage decision-making process, participants' procedural justice judgments of the two stages interactively determined their overall fairness perception and behavioral intention. Specifically, their fairness perception was highest when procedures of both stages were fair; their fairness perceptions were low and not significantly different from each other when one or both stages violated procedural justice rules (Price, Lavelle, Henley, Cocchiara, & Buchanan, 2006). Evidence from real organizational settings also suggests that employees' reaction to customer justice is not independent of but moderated by supervisor justice (Skarlicki, van Jaasveld, Shao, Song, & Wang, 2016). Such initial findings suggest that the effects of justice from various sources on employee reactions are likely to be interdependent instead of independent. Thus, in addition to direct influences on employee outcomes, coworker justice may also interact with justice from authorities to exert effects on employees. Nevertheless, such possibilities have yet to be theoretically discussed and empirically examined.

To advance our understanding of how coworker justice affects employees conjointly with justice from other sources, this thesis examines the moderation effects of coworker justice on the effects of justice from one major authority in organizational settings, supervisor justice. As discussed earlier, justice rules for supervisor-subordinate relationships are essentially the same as those for coworker relationships. Nevertheless, the resources allocated and the decisions made by supervisor versus coworkers are often largely different. As a result, distributive justice from coworkers may not be directly comparable with that from the supervisor, and the same goes for procedural justice. In contrast, the interpersonal nature of the supervisor-subordinate relationships and that of the coworker relationships are relatively similar. Thus, coworker interactional justice is generally comparable with supervisor interactional justice. Moreover, interactional justice is also found to be the strongest predictor of overall supervisor justice perception (Holtz & Harold, 2009; Jones & Martens, 2009). Therefore, the current research operationalizes coworker justice and supervisor justice as interactional justice.

Justice exerts effects through multiple mechanisms (Colquitt & Zipay, 2015). These mechanisms often reflect different aspects of the psychological experience of justice, and thus are likely complementary to each other (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). Thus, to provide a comprehensive picture of the interaction between coworker justice and supervisor justice, it is necessary to consider how coworker justice interacts with supervisor justice to affect distal outcomes through different mediation processes. On the basis of three major theories on justice effects

– group engagement model (Tyler & Blader, 2000, 2003), fairness heuristic theory (Lind, 2001a; van den Bos, 2001), and uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002), the current research investigates how coworker justice and supervisor justice interact to influence employee work behavior through three key mechanisms – shaping employees' organization-based self-esteem (OBSE), indicating supervisor trustworthiness, and affecting employees' personal uncertainty.

The three theories adopted in the current research provide major explanations for justice effects on employee behavioral outcomes (Blader & Tyler, 2005; Colquitt & Zipay, 2015). Group engagement model suggests that justice perceptions convey information about other's evaluation about the focal employee (Tyler & Blader, 2000, 2003). Fairness heuristic theory, in contrast, points out that justice perceptions shape the focal employee's evaluation of the counterparty (Lind, 2001; van den Bos, 2001). These two theories emphasize how justice perceptions affect interpersonal cognitions. Instead of a focus on interpersonal domains, uncertainty management theory suggest that justice perceptions help people to manage their intrapsychic state, namely uncertainty feelings (Lind & van den Bos, 2002; van den Bos & Lind, 2002). Together, the three theories cover interpersonal and intrapsychic explanations on justice effects. Besides, the explanations provided by these theories lead to different predictions about the interaction effect of supervisor justice and coworker justice. In accordance to the theories and relevant research, OBSE and supervisor trustworthiness are hypothesized to have a linear indirect effect linking the

interaction effects of supervisor justice and coworker justice with task performance and organizational citizenship behavior (OCB). Personal uncertainty, on the other hand, is hypothesized to have nonlinear indirect effect linking the interaction effect of supervisor justice and coworker justice and task performance, and a linear indirect effect between the interaction effect and OCB. Furthermore, it is hypothesized that when coworker justice is high, supervisor justice has a stronger relationship with OBSE and supervisor trustworthiness; in contrast, when coworker justice is low, supervisor justice has a stronger relationship with personal uncertainty.

The current research advances relevant justice theories by combining the multifoci justice approach with these major theoretical perspectives. It also contributes to the justice literature highlighting the role coworker justice plays in the workplace. Existing research demonstrates that coworkers is a distinguishable source of justice in organizations, and coworker justice has incremental explanatory power to some outcomes beyond justice from authorities. Extending the current view on coworker justice, the current research explores the idea that coworker justice influences employee reactions through interaction with justice from other sources. Thus, it sheds light on the interdependence of multifoci justice effects, particularly how the effects of supervisor justice, which has drawn much attention, are moderated by coworker justice, which is largely neglected in the literature. The current research also advances the multifoci justice literature by going beyond the target similarity model (Lavalle et al., 2007). The current discussion on multifoci justice is largely built on social exchange theory, as the target-specific effects are

bounded by exchange relationships (Lavalle et al., 2007). The current research, in contrast, integrates the multifoci justice approach with justice theories other than social exchange theory, and thus extends the outcomes of multifoci justice to those that are not target-specific (e.g., OBSE, task performance).

Furthermore, the current research offers a novel approach to examine when justice matters more. Though it is observed that "identifying moderator variables has become something of a growth industry in the organizational justice literature" (Cropanzano, Byrne, Bobocel, & Rupp, 2001, p. 195), most of the identified moderators were examined "in only a single study and with little or no theoretical grounding" (Colquitt, Greenberg, & Scott, 2005, p. 613). As a result, our understanding of when justice matters more is still at a nascent stage (Colquitt & Greenberg, 2003; Colquitt, Greenberg, & Scott, 2005). In this line of inquiry, the idea "justice moderating justice" is one of the very few approaches that are guided by theory and stimulate continuous theorizing. For example, Brockner and his colleagues have done quite a few studies on how procedural justice moderates the effects of distributive justice (for recent reviews, see Brockner, 2010; Brockner & Wiesenfeld, 2005). Fairness heuristic theory (Lind, 2001a; van den Bos, 2001) and uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002) also make in-depth discussions on when and how the effect of one type of justice will be moderated by another type of justice. Moreover, there are studies examining the interaction of justice for oneself and justice for others (e.g., Colquitt, 2004; Grienberger, Rutte, & van Knippenberg, 1997; van den Bos & Lind, 2001).

All of these studies, however, focused on different facets of justice from one single source. How the effect of justice from one source is moderated by justice from a different source, in contrast, has been theoretically underdeveloped and rarely explored empirically (Lavelle et al., 2015). Advancing the theorizing on this novel version of "justice moderating justice" idea, the current research discusses the moderation of coworker justice on the effects of supervisor justice through three major theoretical perspectives on justice. On the basis of these theories, it is proposed that the interaction of coworker justice and supervisor justice exerts its influence on multiple mediators, and the pattern of the interaction effect varies across these mediators. Thus, the research adds to the insights on when justice matters more.

Chapter 2 Theoretical Background

In this section, I review different bodies of literature that collectively form the theoretical background of the current research: the discussion on coworker justice, the research on interactions of justice from different sources, and the three theories underlying the research model. The three theories covered here – group engagement model, fairness heuristic theory, and uncertainty management theory – all have evoked enormous amounts of studies. Thus, I chose to focus on the theoretical development of these theories rather than to make an exhaustive review of the relevant empirical findings. For coworker justice and interaction of justice from different sources, in contrast, I did both.

Coworkers as a Source of Justice

Although justice in the hierarchical relationship attracts most of the attention in the justice literature, the notion of coworkers as a source of justice is not totally new. In fact, researchers have learned since two decades ago that "employees' perceptions of fairness not only were directed at how supervisors treated employees but also included perceptions of how coworkers treated each other" (Donovan, Drasgow, & Munson, 1998, p.685). Research on the group-value model (Lind & Tyler, 1988; Tyler & Lind, 1992) also indicates that coworkers' respect – one rule of interactional justice (Bies & Moag, 1986) – plays a crucial role in enhancing group members' engagement with the group (e.g., Tyler, Degoey, & Smith, 1996). Nevertheless, coworker relationships played only a minor role in such discussions, whereas hierarchical relationships remained the primary focus. As a consequence, the idea of

coworker justice has attracted little attention. In fact, Donovan et al. (1998)

developed a four-item scale for perceived fair interpersonal treatment from

coworkers, and yet this measure has been rarely used, if at all, by justice researchers,

though it attracted some interests of interpersonal mistreatment scholars (e.g., Brown

& Sumner, 2006; Cortina & Magley, 2003). It was not until the recent development

of multilevel justice constructs (Cropanzano et al., 2007; see also Li & Cropanzano,

2009a) and multifoci justice (Lavelle et al., 2007) that the concept of coworker

justice was formally introduced and proposed as an integral part of justice research.

Multilevel justice constructs and intraunit justice. In their discussion about

multilevel justice constructs, Cropanzano et al. (2007) proposed the new construct

"intraunit justice". The authors pointed out that, traditional justice research focuses

on individual actors and recipients of justice. To bring justice concepts to the higher

level, researchers proposed the construct of justice climate, and it has been the

predominant construct for unit-level justice studies. Justice climate captures how

fairly the workgroup is treated as a whole (e.g., Naumann & Bennett, 2000). Thus,

the actor of justice is a single person, whereas the recipient of justice is a collective

whole. Justice climate, as suggested by Cropanzano et al., is not the only way we

can bring justice constructs to the higher level. Particularly, one construct can be

developed to capture how a group is treated by another group, which is termed

"interunit justice" by the authors; another one can also be developed to capture how

fairly the members within a group treat each other, which is termed "intraunit

justice". Thus, for intraunit justice, the source of justice is members inside the group

as a collective whole, whereas the recipient of justice is individual group members. Subsequent studies demonstrated that, akin to justice from an authority figure, intraunit justice also manifests itself in the three (or four) facets: distributive, procedural, interactional (or interpersonal and informational), and these facets are loaded on one latent overall intraunit justice variable (Li et al., 2013; Molina, Moliner, Martínez-Tur, Cropanzano, & Peiró, 2015). In addition, intraunit justice was found to enhance team satisfaction, team performance and citizenship behavior through improving team cooperation (Cropanzano et al., 2011; Li et al., 2013, Molina et al., 2015), and have incremental explanatory power on team cooperation beyond justice climate (Li et al., 2013; Molina et al., 2015).

Research on intraunit justice draws researchers' attention to coworkers as a source of justice. Yet intraunit justice is conceptualized as a unit-level construct, though it is based on the aggregation of individual perceptions (Cropanzano et al., 2007). Does coworkers as a whole constitute an important source of justice at the individual level? The multifoci justice approach speaks to this issue directly.

The multifoci justice and coworker justice. The multifoci justice approach was largely inspired by the introduction of interactional justice (Bies & Moag, 1986). In the introduction of interactional justice as a new type of organizational justice, Bies and Moag (1986) suggested that whereas procedural justice is often attributed to the organization, interactional justice tend to be attributed to the person implementing the procedures. Following this rationale, it was proposed that employees are involved in two relevant but different exchange relationships in the

workplace: one with the organization and one with their supervisor. Moreover, procedural justice should be more relevant to the exchange relationship with the organization, whereas interactional justice should be more relevant to the exchange relationship with the supervisor (e.g., Masterson, Lewis, Goldman, & Taylor, 2000). This seminal idea, later referred to as "the agent-system model" (Colquitt et al., 2001), however, received only mixed empirical support. Consistent with the model, meta-analytic evidence demonstrated that compared with procedural justice, interactional justice is a stronger predictor for individual-referenced OCB and agent-referenced evaluations of authority and a weaker predictor for job satisfaction and organizational commitment (Colquitt et al., 2001). Yet the meta-analysis also found interactional justice to be a predictor as strong as procedural justice for organization-referenced OCB, withdrawal, and negative reactions (i.e., theft, retaliatory behavior, etc.). As the consequence, researchers questioned whether interactional justice is solely a function of the agent and procedural justice a sole function of the system (Colquitt et al., 2001). In response to this issue, the multifoci approach suggests that the agent-system model confounds the sources of justice with the facets of justice (Cropanzano, Byrne et al., 2001; Cropanzano, Rupp, Mohler, & Schminke, 2001). Instead of associating interactional justice with the supervisor and procedural justice with the organization, the multifoci approach proposes a fully-crossed model, arguing that each facet of justice can be enacted by either the supervisor or the organization. Empirical studies (e.g., Liao & Rupp, 2005; Rupp & Cropanzano, 2002) supported the fully-crossed model. Recent meta-analytic

evidence (Rupp, Shao, Jones, & Liao, 2014) also supported the idea of target

similarity model that justice from one source is most strongly related to the

outcomes directed toward that source (Lavelle et al., 2007), though another

meta-analysis cast doubt on it by showing that supervisor justice always yielded

stronger correlations with almost all the outcomes regardless of their target (Colquitt

et al., 2013). Despite that the doubt on the target-similarity effect remains to be

settled, researchers seem to agree that the supervisor and the organization are

distinguishable sources of justice (Colquitt & Zipay, 2015).

In addition to revising the agent-system model, the multifoci justice approach

also reminds justice researchers that there are other sources of justice in the

workplace in addition to the supervisor and the organization, including customers

(e.g., Rupp & Spencer, 2006), clients (e.g., Herda & Lavelle, 2013), union (e.g.,

Cloutier, Denis, & Bilodeau, 2013), and coworkers. Lavelle, Brockner et al. (2009)

was among the first to empirically examine coworkers as a source of justice. It was

found that whereas organizational procedural justice was positively related to OCBO

through employee commitment to the organization, coworker procedural justice was

positively related to OCBI through employee commitment to the workgroup. Ohana

(2016) replicated Lavelle, Brockner et al.'s finding that coworker procedural justice

is positively related to team citizenship behavior through commitment toward the

team, and demonstrated that this mechanism is stronger for team members who are

more emotionally stable and who are less intrinsically motivated. Another study, on

the other hand, examined coworkers as a source of interactional justice, and found

that coworker interactional justice has incremental explanatory power to perceived workgroup support beyond supervisor justice and the organizational justice (Lavelle, McMahan et al., 2009). Au and Leung (2016) took a more nuanced view by differentiating coworker informational justice and coworker interpersonal justice, and showed that both types of justice are positively related to acceptance of the coworker's view and satisfaction with the coworker through perceived ability-based trustworthiness and benevolence-based trustworthiness of the coworker. They also found that coworker informational justice is more strongly related to acceptance of the coworker's view through ability-based trustworthiness, whereas coworker interpersonal justice is more strongly related to satisfaction with the coworker through benevolence-based trustworthiness.

Summary and discussion. Research on intraunit justice and multifoci justice has established that coworkers as a whole is a distinguishable source of justice, and that coworker justice often has unique effects on the outcomes of interest. Yet because the concept of justice is originally bounded by hierarchical relationships, scholars are concerned whether the traditional justice rules are equally applicable to nonhierarchical relationships (Colquitt, Greenberg, & Scott, 2005; Colquitt, 2008). In fact, the measure for intraunit distributive justice does seem to deviate from the original rules: Instead of evaluating whether the outcome is proportional to the input, the questions are asking whether the coworkers have contributed equally to the outcome given the outcome is equally distributed (Li & Cropanzano, 2009a; Li et al., 2013). Nevertheless, as discussed in the previous section and suggested by the

findings reviewed, the differences between justice in hierarchical relationships and justice in lateral relationships lie in the specific operationalization of the justice rules rather than these rules themselves. Of course, there seems no doubt that some justice rules are not applicable to coworkers under certain conditions. For example, procedural justice rules may not be applicable when the workgroup does not make any decisions (Lavelle, McMahan et al., 2009). Nevertheless, interactional justice rules – respect, propriety, truthfulness, and justification (Bies & Moag, 1986) – seem to be equally applicable to hierarchical and lateral relationships, and these rules go beyond the context of decision making and can be readily applied to everyday encounters (Bies, 2001, 2005; Blader & Tyler, 2003; Mikula, Petri, & Tanzer, 1990), for instance, a disagreement about work between teammates (Au & Leung, 2016). Thus, coworker interactional justice seems to largely comparable to supervisor interactional justice.

The Interaction Effects of Justice from Different Sources

As reviewed above, in the current literature, when effects of justice from different sources are considered together in a study, researchers seem to assume that the effects are independent of each other. This may be due to that researchers' attention is mainly focused on demonstrating the incremental validity of coworker justice and testing the target similarity model. In addition to these two issues, however, another key implication of the multifoci justice approach is that it points to the possibility that justice from different sources may have interaction effects on employee outcomes.

The idea of interaction effects of justice perceptions itself is not new. For example, many studies have examined the interaction between procedural justice and distributive justice (for recent reviews, see Brockner, 2010; Brockner & Wiesenfeld, 2005). Fairness heuristic theory (Lind, 2001a; van den Bos, 2001) and uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002) also stimulated studies on the interactions among all types of justice (e.g., Takeuchi, Chen, & Cheung, 2012). Moreover, another line of research also examined the interaction of justice for oneself and justice for others (e.g., Colquitt, 2004; Grienberger et al., 1997; van den Bos & Lind, 2001). Though researchers have been interested in the interaction effects of different facets of justice and those of justice directed to different targets for a long time, the interaction effects of justice from different sources have been paid little attention (Lavelle et al., 2015). An exception is Price et al. (2006), where the authors aimed to answer how treatment from multiple authorities affect people's fairness perceptions in a joint manner. To investigate this issue, student participants were asked to read a scenario of (Study 1) or participate in (Study 2) a two-stage decision-making task where they serve as a student representative to help with resolving the difficulty with parking in the campus. The two decision-making stages happened in sequence, and the participants needed to interact with a different authority figure in each stage. The procedural justice of the two stages was manipulated by allowing or denying voice of the participants. The authors were interested in the participants' rating of the overall fairness of the decision making and their behavioral intention in serving as a student

representative in such events in the future. Results showed that participants' overall fairness perception and their behavioral intention were highest when voice was allowed in both stages. When voice was denied in either or both stages, their overall fairness and behavioral intention were significantly lower, and the ratings did not significantly differ from each other under these three conditions.

A recent study (Skarlicki et al., 2016) also demonstrated the interaction effect of justice from different sources when examining in what situations customer injustice toward an employee will lead to costumer-directed sabotage by the employee. With two samples of call center employees, one from North America and the other South Korea, it was found that customer justice and supervisor justice interact to affect the frequency of costumer-directed sabotage by the employees, but only for those with a weak moral identity. Specifically, the employees with a weak moral identity will react to customer injustice with increased customer-directed sabotage only when supervisor justice is also low. Employees with a strong moral identity, in contrast, will refrain to engage in retaliatory sabotage regardless of supervisor justice.

Price et al.'s (2006) and Skarlicki et al.'s (2016) studies demonstrated the importance to understand the interaction effects of justice from multiple sources on employee perceptual, attitudinal, and behavioral reactions. As for coworker justice, nevertheless, how it interacts with justice from other sources remains to be answered.

The multifoci justice research is largely based on social exchange theory, due to

its emphasis on the target similarity model (e.g., Lavelle et al., 2007; Liao & Rupp, 2005; Rupp & Cropanzano, 2002). It is necessary, however, to make use of other theoretical lenses to understand the interaction effects of multifoci justice, because as shown by the studies mentioned above, such effects may not be bounded by exchange relationships. In the current research, three major theories on justice effects – group engagement model (Tyler & Blader, 2000, 2003), fairness heuristic theory (Lind, 2001a; van den Bos, 2001), and uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002) – are drawn on to shed light on how coworker justice and supervisor justice will interact to decide employee reactions.

Group Engagement Model

Group engagement model (Tyler & Blader, 2000, 2003) is the latest major development of the relational perspective of justice. The development of the relational perspective of justice started with the introduction of the group-value model (Lind & Tyler, 1988) as a response to the early instrumental perspective of procedural justice. Early theorizing efforts of procedural justice effects, for example, the control model proposed by Thibaut and Walker (1975) and the procedural justice rules proposed by Leventhal (1980), share the opinion that people care about procedural justice for instrumental reasons like obtaining favorable outcomes. The group-value model, in contrast, argued that instrumental concern is not the only reason, and moreover, is even not the primary reason why people care about procedural justice (Lind & Tyler, 1988). Drawing on social identity theory (Tajfel &

Turner, 1979, 1986), Lind and Tyler (1988) pointed out that group membership is important for people's self-esteem and well-being. Though social identity theory was originally concerned about intergroup behavior (Tajfel & Turner, 1979, 1986), Lind and Tyler turned their attention to intragroup processes and argued that people are concerned with their relationship with the group due to the importance of group membership. Specifically, people want to maintain a positive relationship with their group, or put differently, they want to be treated by the group as a valuable member. Because the procedures adopted by a group reflect how the group treats its members, people will pay great attention to the procedures as group membership is the major concern. In addition, the relational aspects of the procedures should be of importance when people form procedural justice evaluations. Particularly, Lind and Tyler emphasized that group participation and status affirmation are the fundamental and universal concerns about procedures. Thus, the group-value model answered why people care about procedural justice (because they care about group membership), how they evaluate procedural justice (by assessing whether their participation is granted and status recognized), and why procedural justice can influence people's reaction to the group (because procedural justice reflects their relationship with the group).

Building on the group-value model, the relational model of authority (Tyler & Lind, 1992) was proposed. In the relational model of authority, Tyler and Lind (1992) applied their insights on procedural justice to understand how authorities can obtain legitimacy, or in other words, how they can elicit voluntary compliance. Given the

primacy of people's relational concerns in their group life and the central role of

procedural justice in addressing the relational concerns, it was proposed that people

assess legitimacy mainly according to their relationship with their group, and

authorities earn legitimacy mainly from ensuring procedural justice. In addition,

revising the previous view of the group-value model, the relational model of

authority explicated three major relational concerns: neutrality, trust, and standing.

Neutrality refers to the extent to which the authority is unbiased, honest, and bases

decisions on appropriate facts. Trust refers to the extent to which the authority cares

for the needs and the views of the person. Standing refers to the extent to which the

person is treated with dignity and respect. Procedural justice was suggested to be

evaluated by how well the authority addresses these three relational concerns. The

relational model of authority also proposed people's perceived value to the group as

the mechanism linking procedural justice and legitimacy. Thus, people will feel

being treated fairly if the authorities can satisfactorily address their relational

concerns, and the perceived fair treatment will in turn make them feel valued by the

group. When having a strong sense of being valued, people will then recognize the

legitimacy of the authorities and obey their decisions willingly. Taken together, the

relational model of authority advanced the theoretical arguments put forward by

group-value model through explicating the three antecedents to procedural justice

evaluation, introducing legitimacy and compliance as important consequences of

procedural justice, and proposing perceived value to group as the primary

mechanism linking legitimacy with procedural justice.

Group engagement model, as the latest major development of the research

program, applies the relational perspective to the question why people cooperate

with or invest their time and effort in a group (Tyler & Blader, 2000, 2003). Tyler

and Blader (2000, 2003) extended the relational perspective in several directions.

First, by focusing on cooperative behaviors in groups, group engagement model

redirected the research on the relational perspective to a more general understanding

about the relational function of justice. As pointed out by group engagement model,

justice does not only elicit compliance, or mandatory cooperation with the group, but

also promotes discretionary cooperation with the group.

Second, group engagement model takes a more sophisticated view on why

justice elicits cooperation. Building on the idea that perceived value to the group

serves as the key mechanism of justice effect, the model takes a step further by

proposing the development of social identity as the key process linking justice with

cooperation. Tyler and Blader (2003) further distinguished two major aspects of

social identity: identification and status judgments. Identification refers to the extent

to which people merge their sense of self with the group. In response to the previous

critique on the ambiguity around the meaning of status (Cropanzano, Rupp, et al.,

2001; Lind, 2001b), Tyler and Blader divided status judgments into two parts: pride

and respect. Pride refers to people's perceived status of the group as a whole,

whereas respect refers to people's perceived status of themselves within the group.

Thus, people's status is determined by two things: whether the group with which

they affiliate is valued, and whether they are valued by the others in the group. These

two status judgments, according to group engagement model, are causally linked to identification. That is, people are willing to merge their sense of self with a group only when they can obtain high status because of their group membership. Thus, it is clear that people's striving for self-worth underlies their development of social identity. It is also the striving for self-worth that motivates people to cooperate with the group they identified with, as cooperation is helpful to keep their group membership and thereby their positive self-evaluation.

The third extension by group engagement model is that it advances a four-component conceptualization of procedural justice which explicates the domains and the sources of procedural justice. The procedural justice rules identified in the relational model of authority (Tyler & Lind, 1992) – neutrality, trust, and standing – are reorganized into two domains. Neutrality reflects the concerns for procedural justice in the decision-making context, whereas trust and standing reflect the concerns for procedural justice in everyday interactions. On the other hand, group engagement model distinguishes two sources of procedural justice: the system or the institutional aspect of the group, which is referred to as the formal influences on procedural justice; and the interpersonal aspect of the group, which is referred to as the informal influences on procedural justice. Thus, four components of procedural justice can be derived from cross-matching the sources with the domains of procedural justice. The four-component model clearly indicates that group engagement model adopts a broad conceptualization of procedural justice which subsumes interactional justice (Blader & Tyler, 2003).

Lastly, group engagement model discusses the role of instrumental concerns in facilitating cooperation. Tyler and Blader (2003) acknowledge that instrumental concerns, particularly distributive justice and outcome favorability, also influence cooperation. Yet they argue that it is because distributive justice and outcome favorability can also influence social identity. That is, people may feel valued as a group member to the extent they are provided with fair or desirable outcomes. The key implication is that, outcomes can influence cooperation because they carry relational connotations. Thus, relational concerns are the only reason relevant to cooperation, according to group engagement model. Thus, because distributive justice and outcome favorability are not associated with relational concerns as closely as procedural justice, their influences on cooperation are also inferior to those of procedural justice. By incorporating distributive justice, group engagement model extends the relational perspective into a general theory on justice instead of one specific to procedural justice.

Is group engagement model applicable to coworker justice? Though the discussion of the relational perspective often focused on the key role of the authorities, the basic idea of the relational perspective is that people pay attention to procedural justice because they care about their relationship with the group, or their social identity, not their relationship with the authority *per se*. In other words, the rationales underlying group engagement model do not assume a hierarchical structure of the group, or the authority as the only source of relational information. In fact, the relational perspective of justice has evoked research on the effects of peer

treatment (e.g., Huo, Binning, Molina, 2010; Simon & Stürmer, 2003; Sleebos,

Ellemers, & de Gilder, 2006), though this body of literature is centered on the issue

of respect instead of justice. Thus, coworkers as an integral part of a group is

influential to people's relationship with the group. Actually, as mentioned above,

group engagement model explicated that respect from the group members is an

important component to people's status judgments (Tyler & Blader, 2003; see also,

Tyler et al., 1996). Thus, to the extent that fair treatment from coworkers can deliver

messages about people's status in the group, group engagement model can be

applied to coworker justice.

Fairness Heuristic Theory

Fairness heuristic theory (Lind, 2001a; van den Bos, 2001) is actually

originated from the relational perspective on justice (Blader & Tyler, 2000, 2003;

Lind & Tyler, 1988; Tyler & Lind, 1992). In their writing of the relational model of

authority, in fact, Tyler and Lind (1992) already briefly brought up the idea that

"procedural fairness serves as a social heuristic that allows people to determine

whether an action (e.g., obeying the decision of an authority) is correct without

really weighing all the benefits and costs associated with the action" (p. 134). Yet

this idea was not formally introduced as an independent theory until a separate line

of theorizing and empirical investigations were carried out (Lind, 2001a; van den

Bos, 2001), and the resultant theory deviates from the relational perspective in some

significant aspects. First and foremost, fairness heuristic theory focuses on a

different aspect of people's relational concerns. Contrary to the relational

perspective, fairness heuristic theory does not limit its focus to the group context, so it puts little emphasis on people's concerns about their relationship with the group and does not regard the authority as the embodiment of the group. Rather, it focuses on the general cooperative interactions between two parties, and emphasizes people's concerns about their relationship with their counterparty, whether the counterparty is an individual, a group, an organization, or an even larger institution. This shift in context leads to a consequent shift in the understanding about the function of justice. The social identity explanation put forward by the relational perspective makes great sense only when the focus is on the group context, and yet its explanatory power is weakened when justice effect is understood in more general situations. Consequently, fairness heuristic theory proposes a somewhat different explanation of justice effect. Whereas the relational perspective emphasizes that justice reflects how people are viewed by others, fairness heuristic theory highlights the role of justice in shaping how others are viewed by the people. Specifically, the theory regards justice as a heuristic indicator of whether a counterparty can be trusted. According to fairness heuristic theory, trust is necessary for cooperation because cooperating with others is inherently risky: People can be ill-treated in the cooperation, like being exploited or excluded. In such cases, not only their tangible interests are not guaranteed; their social self can also be threatened. Yet on the other hand, cooperation, if successful, can bring people both tangible and intangible benefits more than they can ever get when working alone. Thus, people are motivated to obtain the benefits through cooperation but in the meanwhile want to

avoid the potential pitfalls. The tension between the two concerns poses "the fundamental social dilemma" (Lind, 2001a, p. 61). In ideal conditions, people can resolve this fundamental social dilemma by deliberately evaluating the benefits and risks of every single cooperation opportunity. But oftentimes there is not enough information for doing so. Even if enough information is available, such deliberation is too cognitively demanding, and thus is deficient and impractical. Hence, it is highly likely that people will make use of some shortcuts or heuristics to resolve the fundamental social dilemma. Justice perception, according to fairness heuristic theory, is one of the most widely used heuristics. By using justice perception as a heuristic, people change the complicated question "Can I trust my counterparty?" into a much simpler one "Am I fairly treated by my counterparty?". If people are treated fairly by their counterparty, then they will cooperate and strive for collective outcomes. If, to the contrary, people are unfairly treated by their counterparty, then they will withdraw from the cooperation and strive to protect their personal interests. Justice perception can function as such a heuristic because it is relevant to both outcome and identity issues: Fairness reflects how their counterparty deals with interests and relationships (Lind, 2002). If their counterparty deals with these issues in a fair way, then people can have some confidence that their counterparty will not exploit or exclude them. Thus, justice perception informs people of their counterparty's trustworthiness, which is the most relevant information in making decisions about cooperation.

The second deviation of fairness heuristic theory from the relational perspective

is that the theory de-emphasizes the superiority of procedural justice to distributive

justice in eliciting cooperation; actually, it is against such an understanding. Lind

(2001a) and van den Bos (2001) posit that, if justice is to function as a heuristic

device, then justice perception about a counterparty should be formed quickly. Thus,

it is likely that people will use whatever available information about justice to form

justice perception, whether it is about outcomes, procedures, or interpersonal

treatment. According to such argument, that procedural justice is often found to be

more effective is not because of anything inherent of it, but rather because

information about procedural justice often precedes that about distributive justice in

real interactions. Another related reason is that information on procedural justice is

often clearer than that of distributive justice. These features in timing and clarity,

however, are not inherent in procedural justice. Instead, the importance of timing

and clarity reflects the cognitive process through which people form justice

perception. Fairness heuristic theory thus proposes two effects of justice information

on the forming of justice perception: the primacy effect and the substitutability effect.

The primacy effect refers to the greater effect the early justice information has on the

justice perception. Thus, early information on procedural justice outweighs not only

later information on distributive justice but also later information on procedural

justice itself. On the other hand, early information on distributive justice can

outweigh later information on procedural justice as well. Substitutability effect refers

to the assimilation effect of certain and available information about one facet of

justice on ambiguous or missing information on another facet of justice. Thus, clear

information on procedural justice can shape people's judgment about distributive justice when there is no clear information about the outcomes. Also, clear information on distributive justice can shape people's judgment about procedural justice when there is no clear information about the procedures. Taken together, when encountering a new situation, people tend to first use whatever available information about justice to form a general perception of justice, and then use this justice perception to guide the reaction to their counterparty and their interpretation of the sequent information on justice. The first stage is referred to as the "judgmental phase", and the second the "use phase" by Lind (2001a). Moreover, it is proposed that the justice perception formed during the judgmental phase is unlikely to be revised unless there are radical changes in the context, or the fair treatment substantially deviates from what should be expected based on the overall justice perception.

Thus, though sharing the interest with the relational perspective in the role of justice in people's striving for positive social relationships, fairness heuristic theory provides different answers on why people care about justice (because they want to know whether they should trust their counterparty) and how they form justice judgments (by referring to whatever available information that is relevant). These fundamental differences make fairness heuristic theory distinct from the relational perspective and stimulate an independent line of empirical research (for a review, see Proudfoot & Lind, 2015).

Is fairness heuristic theory applicable to coworker justice? Though the

discussion of fairness heuristic theory often focuses on the hierarchical relationships (Lind, 2001a; van den Bos, 2001), the existence of a hierarchy is not a premise of the theory. In fact, Lind (2001b) has explicated that "fairness heuristic theory itself was intended to address both hierarchical and nonhierarchical social and organizational relationships" (p. 222). The fundamental social dilemma exists in lateral relationships as well, that is, the risk of exploitation and exclusion can be as strong in lateral relationships as in hierarchical relationships. Thus, the function of the fairness heuristic is not likely to be affected by the absence of hierarchy, and fairness heuristic theory should be applicable to coworker justice.

Uncertainty Management Theory

Uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002) was introduced as an extension of fairness heuristic theory (Lind, 2001a; van den Bos, 2001). As will be discussed below, however, it reorients the understanding of justice to a largely new direction. Thus, uncertainty management theory and fairness heuristic theory are commonly seen as relevant but separate theories, as different predictions can be derived from them (Colquitt et al., 2012). Compared with fairness heuristic theory, uncertainty management theory advances an understanding of people's justice concern on a more general and abstract level: People care about justice not only when they want to make sure how trustworthy their counterparty is; they care about justice whenever they experience uncertainty about any issue. The theory posits that managing uncertainty is a fundamental human need and fairness is helpful for satisfying this need: Fairness can reduce

uncertainty, increase people's tolerance to uncertainty, or both. Fairness is closely linked with uncertainty management because it helps people make sense of the situation where they find themselves, and provides guides for people's reactions. In addition, fairness is an effective social organizing principle and people can form fairness judgment efficiently. Because fairness is related to uncertainty management in such a general sense, the theory argues that fairness can be used to manage a wide variety of uncertainties, and even suggests that "the uncertainty in question need not be logically related to the context in which fair or unfair treatment is experienced" (Lind & van den Bos, 2002, p. 216).

Uncertainty management theory adopts a broad conceptualization of uncertainty. The theory defines uncertainty as the perception one has "either when a person confronts an inability to predict the future or when a person confronts an incompatibility between different cognitions, between cognitions and experiences, or between cognitions and behavior" (van den Bos & Lind, 2002, p. 4). Uncertainty can be cognitive or affective, changeable or stable, situational or dispositional. Notably, the theory distinguishes two types of uncertainty: the one that threatens the self ("hot uncertainty") and the one unrelated to self ("cold uncertainty"). The terms of the two types were later refined into personal uncertainty and informational uncertainty (van den Bos, 2009). Personal uncertainty refers to the subjective sense of doubt or instability that is broadly related to the self, the environment, or the interrelationship of the two; whereas informational uncertainty refers to the lack of information needed. Informational uncertainty is epistemic in nature, and it is not necessarily

negative to people. On certain occasions, informational uncertainty may be actively

sought by people (e.g., gambling). In contrast, personal uncertainty is more affective,

and is always accompanied by aversive feelings. Thus, people constantly seek to

eliminate personal uncertainty. Therefore, managing personal uncertainty is a more

powerful and fundamental motivational force than managing informational

uncertainty. Though uncertainty management theory proposes that fairness is helpful

for managing both types of uncertainty, the mechanism is likely to differ, and it is

personal uncertainty that is more closely related to fairness (van den Bos, 2009).

As for the forming of fairness judgment, like fairness heuristic theory,

uncertainty management theory also emphasizes the primacy effect and

substitutability effect on how people make fairness judgment. Yet uncertainty

management theory proposes a different explanation as to why people use these two

cognitive shortcuts to form fairness judgment. Fairness heuristic theory argues that

because people need the fairness heuristic to guide their subsequent behavior, they

need cognitive shortcuts to quickly form their fairness judgment, and that is the

reason for the primacy effect and the substitutability effect. Uncertainty management

theory, in contrast, suggests that the more fundamental reason people use these

shortcuts is that they need a certain judgment rather than a quick judgment. In order

to deal with uncertainty, people need a certain fairness judgment in the first place.

Thus, the primacy effect and the substitutability effect reflect people's appeal for

certainty and aversion to changing their fairness judgment once it is formed.

Taken together, uncertainty management theory provides different reasons why

people care about justice (because they need to manage uncertainty) and why people

form fairness judgment in a heuristic manner (because they need to eliminate

uncertainty about fairness). Compared with the relational perspective and fairness

heuristic theory, uncertainty management theory points to a different fundamental

need that drives people's concern for justice: the need to manage uncertainty. Thus,

though sharing the same origin, this theory made a radical departure from group

engagement model and fairness heuristic theory, in that it posits that an intrapsychic

motive, rather than an interpersonal one, is the underlying drive for justice concerns.

Obviously, the issues on managing uncertainty can overlap with issues on social

relationships, for example, when it comes to the uncertainty about one's

belongingness (De Cremer, Brebels, & Sedikides, 2008), but they are largely

different from each other. Given the prominence of people's social life, questions

have been raised about whether the need to manage uncertainty is subsumed into the

need for positive social relationships, or vice versa. Different views have been

presented by scholars. Stillman and Baumeister (2009) speculated that "uncertainty

is really about belongingness" (p. 249), whereas Hogg (2006) suggested that

uncertainty management (or "uncertainty reduction", in Hogg's term) is the most

basic motivation within the group context. On the other hand, Heine, Proulx, and

Vohs (2006) suggested that "motives for uncertainty reduction and belongingness are

capable of being substituted for each other" (p. 99). Within justice literature, a

general consensus does not seem to have emerged either. Tyler (2012) made the

comment that uncertainty management theory "is consistent with the more general

suggestion that people use justice as a framework for evaluating their relationship with others" (p. 467), whereas van den Bos (2005) argued that "the uncertainty explanation … may provide the broadest and most accurate explanation of the fairness process effect" (p. 293). On the other hand, Sedikides, Hart, and De Cremer (2008) regarded the need to manage uncertainty and the need to belong as parallel. Competition between theoretical explanations based on intrapsychic versus interpersonal motive is common in many fields, and to advance our understanding, the evaluation of the explanatory power of each explanation in general and in specific conditions is necessary (Leary, Raimi, Jongman-Sereno, & Diebels, 2015). For justice research, further theoretical and empirical explorations are certainly needed before we can clearly address this issue.

Is uncertainty management theory applicable to coworker justice? Uncertainty management theory, in contrast to group engagement model (Tyler & Blader, 2000, 2003) and fairness heuristic theory (Lind, 2001a, van den Bos, 2001), emphasizes the need to manage uncertainty rather than the relational concerns as the fundamental motivation for justice concerns. Obviously, the need to manage uncertainty is not bounded by hierarchical relationships. In fact, this need is not bounded by social contexts at all. Actually, uncertainty management theory is suggested to be even applicable to nonsocial fairness, that is, fairness due to impersonal forces (e.g., bad weather may be seen as unfair to people on vacation, van den Bos & Lind, 2002). Thus, according to the broad applicability of uncertainty management theory, coworker justice is within the scope of it.

Chapter 3 Hypothesis Development

As reviewed in the previous section, the three theories underlying the research

model offer different accounts of the justice effects. To develop the research model,

three mediators between supervisor justice and employee behavior are chosen on the

basis of each theory – Organization-based self-esteem (OBSE) is chosen on the basis

of group engagement model; supervisor trustworthiness is chosen on the basis of

fairness heuristic theory; personal uncertainty is chosen on the basis of uncertainty

management theory. For each mediator, I first discuss how it can be affected jointly

by supervisor justice and coworker justice, and then how the joint effect can be

transmitted to distal outcomes (i.e., task performance and OCB). Altogether I

develop a research model concerning the interaction effects of coworker justice and

supervisor justice on employee outcomes through three parallel mechanisms (see

Figure 1).

Figure 1.   The research model.

Justice as the OBSE Enhancer

One key tenet of group engagement model is that justice conveys relational information that shapes people's sense of social self (Tyler & Blader, 2000, 2003). Specifically, people are able to develop and maintain a positive identity to the extent that they are fairly treated. Group engagement model takes a view in line with the research on reflected appraisal (Wallace & Tice, 2012): People's self-evaluation is at least partly determined by their perception of how they are evaluated by others. Justice reflects others' evaluation, as suggested by group engagement model, because it implies people's status both inside and outside the group (Tyler & Blader, 2000, 2003). This status judgment will affect how people evaluate themselves (e.g. Tyler et al., 1996). Therefore, individuals' self-evaluation will hinge on their justice perception as the indicator of their value in the eyes of others. Particularly, within the group context, according to group engagement model, the information conveyed through justice is most directly related to people's collective self, that is, their self based on their group membership (Tyler & Blader, 2000, 2003).

Thus, in the workplace, supervisor justice may well be related to employees' self-evaluation as an employee, or their OBSE (Pierce, Gardner, Cummings, & Dunham, 1989). OBSE reflects employees' perceived self-worth in the workplace. As a type of domain-specific self-evaluation, OBSE is affected by the employees' general self-esteem, but is less stable and subject to contextual influences (Pierce et al., 1989). Supervisor justice is relevant to employees' OBSE because it reflects their

status in the eyes of their supervisor. When the employees perceive high supervisor justice, they are likely to feel respected by their supervisor, and perceive that they are of high value in the eyes of the authority in the workplace. Thus, they are likely to positively evaluate themselves as an employee, and thereby have high OBSE. In contrast, when supervisor justice is perceived to be low, the employees are likely to feel disrespected by their supervisor, and perceive that their value as an employee is denied by the authority. Thus, they are likely to evaluate themselves in a less positive manner, and thereby have low OBSE. Existing studies have documented the positive relationship between organizational fairness and OBSE (Heck, Bedeian, & Day, 2005; McAllister & Bigley, 2002), and that between overall supervisor justice and OBSE (Colquitt, Long, Rodell, & Halvorsen-Ganepola, 2015). Meta-analytic evidence also showed that positive treatment from the supervisor like leader consideration and supervisor social support is positively related to OBSE (Bowling, Eschleman, Wang, Kirkendall, & Alarcon, 2010). Negative relationships of unfavorable treatment like abusive supervision (Farh & Chen, 2014) and authoritative leadership (Chan, Huang, Snape, & Lam, 2013) with OBSE are also documented in the literature. Such evidence indirectly supports the positive relationship between supervisor justice and OBSE.

As discussed above, employees attend to justice for the construction and maintenance of a positive social identity. In other words, employees' interactions with the workgroup are driven by their self-esteem motive, or the motive to maintain a positive self-evaluation (Leary & Baumeister, 2000; Sedikides & Gregg, 2008).

This motive can be manifested by two specific motivations: the self-protection

motivation, which drives people to escape from or minimize negative self-relevant

information to avoid the decrease in self-evaluation, and the self-enhancement

motivation, which drives people to approach or exaggerate positive self-relevant

information to boost self-evaluation (Alicke & Sedikides, 2009). In the context of

group engagement model, these two motivations are also referred to as identity

security and identity enhancement (Blader & Tyler, 2015; Tyler, 2010). Thus, ideally,

employees want to receive positive information about their identity from the group

and at the same time be free from negative identity information. In everyday

situations, however, employees can receive mixed information from their workgroup

with both positive and negative connotations about their self. When this is the case,

employees' reactions are likely to be dominantly influenced by the motivation of

self-protection. This is because the self-esteem motive is essentially

avoidance-oriented (Tice & Masicampo, 2008; see also Leary & Baumeister, 2000).

Put differently, avoiding disapproval is a stronger motivation than seeking

appreciation. This feature of the self-esteem motive is clearly demonstrated by two

series of studies. Tesser and Cornell (1991) examined this issue by providing

participants whose self is threatened with two opportunities to boost their self in

sequence. They reasoned that if people are mainly concerned about self-protection,

then they will be less motivated to take advantage of the second opportunity, as their

self-evaluation will be largely restored by taking the first opportunity; if

self-enhancement is the dominant concern, in contrast, then people should be

motivated to take advantage of both opportunities. Three laboratory studies offered

converging evidence for the primacy of self-protection. For example, in one of

Tesser and Cornell's studies (Study 1), participants were found to undermine their

friend's performance in a game to restore their self-evaluation after knowing their

previous game performance was lower than their friend's. However, the

undermining behavior did not happen for participants who had the opportunity to

engage in self-affirmation before the opportunity to undermine their friend. The

results thus showed that self-protection is more powerful than self-enhancement, as

otherwise the participants should undermine their friend even if they have engaged

in self-affirmation. Leary, Haupt, Strausser, and Chokel's (1998) findings support

this conclusion from a different angle. In their investigation on how self-evaluation

is affected by interpersonal appraisal, Leary et al. found that participants displayed a

negativity bias in their reactions toward interpersonal appraisals. That is, they regard

neutral appraisals of them as carrying negative connotations to their self. Such a

negativity bias indicates that in social interactions, people are more attentive to

potential harms than benefits to self-evaluation. Taken together, self-protection (or

identity security) motivation outweighs self-enhancement (or identity enhancement)

motivation, and as a result, people are more vigilant about negative self-relevant

information, and are likely to pursue higher self-evaluation only when they are safe

from disapproval.

According to the rationale above, the effect of supervisor justice on OBSE is

likely to be affected by coworker justice. According to group engagement model

(Tyler & Blader, 2000, 2003), coworker justice reflects the coworkers' evaluation of the focal employee. Thus, like supervisor justice, high coworker justice provides the employees with positive self-relevant information, whereas low coworker justice provides the employees with negative self-relevant information. Because people's self-protection motivation is more powerful than self-enhancement motivation, they will only be motivated to develop a more positive identity when they feel safe from disapproval. Because low justice signals denial of employee's value, employees will be willing to link their self with the workgroup and thus develop high OBSE only when both supervisor justice and coworker justice are high. Either low supervisor justice or low coworker justice signals threats to employees' self and thereby motivates them to disconnect their self from the group. Thus, when coworker justice is low, the level of supervisor justice matters less for employees' OBSE. As a result, the relationship between supervisor justice and OBSE is likely to be weak. In contrast, when coworker justice is high, supervisor justice will have a stronger effect on employees' OBSE.

Hypothesis 1: Coworker justice moderates the relationship between supervisor justice and OBSE, such that the positive relationship between supervisor justice and OBSE is stronger when coworker justice is higher.

OBSE, in turn, is likely related to employee performance. Meta-analytic evidence (Bowling et al., 2010) already corroborated that OBSE is positively related to task performance and organizational citizenship behavior (OCB). From the lens of group engagement model, this is because when employees are able to develop a

positive self-evaluation in a group, they tend to cooperate with this group in order to

maintain their positive self-evaluation (Tyler & Blader, 2000, 2003). In other words,

employees' striving for positive self-evaluation motivates them to cooperate with the

group that provides them positive feedback about themselves. Thus, when

employees hold high OBSE, they are more likely to cooperate with their workgroup.

Such cooperation is manifested not only in employees' efforts to meet the formal job

requirements, but also in their willingness to go the extra miles for the group (Tyler

& Blader, 2000, 2003). Thus, employees are likely to obtain higher task performance

and exhibit more OCB when they hold high OBSE. In contrast, when their OBSE is

low, they are less likely to cooperate with the group. Hence, they are likely to obtain

low task performance and exhibit less OCB.

Taken together, OBSE is likely to serve as the mechanism transmitting the joint

effect of supervisor justice and coworker justice to employee performance. In other

words, the indirect effect of supervisor justice on employee performance via OBSE

is contingent on coworker justice.

Hypothesis 2a: OBSE mediates the interaction effect of supervisor justice

and coworker justice on task performance, such that the indirect effect of

supervisor justice on task performance via OBSE is stronger when

coworker justice is higher.

Hypothesis 2b: OBSE mediates the interaction effect of supervisor justice

and coworker justice on OCB, such that the indirect effect of supervisor

justice on OCB via OBSE is stronger when coworker justice is higher.

Justice as the Trustworthiness Indicator

In the workplace, employees do not only care about others' evaluation of them. They evaluate other people as well, as suggested by fairness heuristic theory (Lind, 2001a; van den Bos, 2001), because deciding how much effort to devote into cooperation in the workplace is a difficult decision for them. This difficulty arises due to "the fundamental social dilemma" (Lind, 2001a, p. 61), which derives from the tension between two motivations. On the one hand, employees are motivated to form cooperative relationships with their employer, supervisor, and coworkers. Cooperation enables them to achieve more than a single person could ever get, and thus brings tangible benefits. Moreover, cooperation facilitates social relationships, and thus addresses employees' relational concerns. Hence, they have the motivation to obtain these benefits through cooperation. Yet on the other hand, they are also motivated to avoid the potential risk when cooperating with others. Cooperation brings the risk of being exploited. Employees contribute to collective outcomes, but may end up with less than their deserved share. Their contribution may be ignored or even denied by their collaborators. Such situation means more than merely an instrumental loss, as it may reflect social rejection toward the employees, and thus threaten their identity. Thus, employees also have the motivation to avoid the potential loss in cooperation. The tension between these two motivations makes it difficult to decide whether to cooperate or not (Lind, 2001a; van den Bos, 2001). Particularly, supervisors are more powerful than employees. Employees are thus in a relatively disadvantaged position in the relationship with their supervisor. This may

increase the risk when they cooperate with their supervisor. Therefore, employees face a difficult decision on how cooperative they should be with the supervisor.

Trust plays a central role in facilitating cooperation under the fundamental social dilemma, according to fairness heuristic theory (Lind, 2001a; van den Bos, 2001). High trust reflects high willingness to "be vulnerable to the actions of another party" (Mayer, Davis, & Schoorman, 1995, p. 712). If employees trust their supervisor, they tend to be willing to cooperate, with the confidence that they are not going to be exploited or excluded. To decide whether to trust their supervisor, employees need to evaluate the supervisor's trustworthiness. Though fairness heuristic theory does not clearly differentiate trust from trustworthiness (e.g., van den Bos, Wilke, & Lind, 1998), trust researchers draw a clear line between the two and conceptualize trustworthiness as the trustee's characteristics which facilitate trust (Mayer et al., 1995). Thus, trustworthiness lies theoretically upstream of trust. Employees are more likely to trust supervisors high in trustworthiness, and thereby be more cooperative with them.

According to the fairness heuristic theory, employees draw on supervisor justice to evaluate supervisor trustworthiness (Lind, 2001a; van den Bos, 2001). If employees' supervisor treats them with high justice, the employees are likely to regard the supervisor as trustworthy. On the other hand, if the supervisors treat the employees with low justice, the employees are likely to regard the supervisors as untrustworthy. Thus, supervisor justice serves as an indicator of supervisor trustworthiness.

Trustworthiness is assessed around three facets: ability, benevolence, and

integrity (Mayer et al., 1995). Though fairness heuristic theory does not elaborate on

the specific relationship between justice and the three trustworthiness facets,

relevant research indicates that employees may draw on supervisor justice to

evaluate all these facets of supervisor trustworthiness. First, supervisor justice

should be positively related to employees' perception of supervisor trustworthiness

on ability. Ability refers to the extent to which an individual can successfully

perform in a certain domain (Mayer et al., 1995). If supervisors are perceived as

high in ability, they are believed to be effective leaders. Supervisor justice can

enhance perceived ability of supervisors, because justice has been recognized as one

of the universal components of people's implicit leadership theories (Den Hartog et

al., 1999). In other words, laypeople generally form an association between

supervisor justice and leadership effectiveness. In line with this finding, evidence

showed that when supervisors treat employees with high justice, they meet the

employees' expectation of an effective leader (Kohari & Lord, 2007). Therefore, fair

supervisors are more likely to be perceived as trustworthy in terms of ability. When

supervisors fail to treat employees with justice, they fall short of employees'

expectation. Thus, they are likely to be perceived as incompetent. Their perceived

trustworthiness in terms of ability may well be lowered.

Second, supervisor justice should be positively related to employees' perception

of supervisor trustworthiness on benevolence as well. Benevolence refers to the

extent to which an individual has good intentions towards the trustor (Mayer et al.,

1995). Employees are likely to see their supervisor as holding good intentions to the extent that favorable treatment is provided by their supervisor discretionally. Justice is favored by the employees, and supervisors do have considerable control over fair treatment, especially interactional justice (Scott, Garza, Conlon, & Kim, 2014). Thus, when supervisors treat employees with high justice, they are more likely to be perceived as benevolent, as they are believed by the employees to make an effort to treat the employees in a favorable manner. When supervisors treat employees with low justice, they are more likely to be perceived as untrustworthy in terms of benevolence, as they are seen by the employees to intentionally treat the employees poorly.

Third, supervisor justice should also be positively related to employees' perception of supervisor trustworthiness on integrity. Integrity refers to the extent to which an individual abides by well-accepted principles (Mayer et al., 1995). Because moral rules are the major part of well-accepted principles in a society, supervisors can demonstrate high integrity if they behave morally. Supervisor justice contributes to employees' perception of supervisors' integrity, because justice is a primary principle of morality. From a developmental perspective, justice has been recognized as the only moral principle because of its universality (Kohlberg, 1971). From an evolutionary perspective, justice is also regarded as the most important element of morality because it brings fitness (Baumard, André, & Sperber, 2013). Justice is also identified as one moral foundation that is innate in our moral mind (Graham et al., 2013). In addition, the deonance perspective on workplace justice demonstrates that

employees conceive justice as a key moral obligation (Cropanzano et al., 2003;

Folger et al., 2005). Taken together, converging evidence demonstrated that justice

occupies a central role of in the moral domain. Therefore, when supervisors treat

employees with high justice, they demonstrate that they adhere to moral principles.

Thus, they are likely to be perceived as high in integrity. On the contrary, when

supervisors fail to treat employees with justice, they demonstrate that they concern

little about morality. Thus, they are likely to be seen as untrustworthy on integrity.

Taken together, conceptually there is a close relationship between supervisor

justice and supervisor trustworthiness on all three facets. There is also initial

empirical evidence showing the positive relationship between supervisor justice and

supervisor trustworthiness, especially benevolence and integrity (Colquitt & Rodell,

2011; Frazier, Johnson, Gavin, Gooty, & Snow, 2010).

According to the multifoci justice perspective (Lavelle et al., 2007) and fairness

heuristic theory (Lind, 2001a; van den Bos, 2001), coworker justice should be

primarily related to employees' perceived coworker trustworthiness, with only a

possible spillover effect on the trustworthiness of other justice sources. In addition to

this spillover effect, however, coworker justice can also affect the judgment of

supervisor trustworthiness by serving as a reference point. For most of the cases, if

not all, social judgment is relative rather than absolute (Mussweiler, 2003). That

means, multiple standards or norms can be adopted in a judgment, and the

conclusion of the judgment depends on which one it adopts. Particularly, contextual

factors are found to affect the standard in a judgment to a large extent, and can

thereby influence the outcome of the judgment (Herr, 1986; Higgins & Lurie, 1983).

For example, in one of Herr's (1986) experiments (Experiment 1), participants were

asked to evaluate a fictional person's level of hostility according to a description of

the person. Results showed that participants who were exposed to names of highly

hostile people (e.g., Adolph Hitler) before the evaluation rated the person as

significantly less hostile compared with those exposed to names of highly peaceful

people (e.g., Santa Claus). The author reasoned that it was because the participants

used the hostility level of the names they were exposed to as the standard in

evaluating the target person. Similar results were reported by Higgins and Lurie

(1983) who asked participants to assess the harshness or leniency of a fictional judge

after reading the judge's sentencing decisions of three cases together with three other

judges' decisions on the same cases. Participants were found to regard the target

judge as lenient when the other judges gave higher sentences, but regard the judge as

harsh when the others gave lower sentences. Altogether, the two series of studies

showed that the relevant contextual information determines the standard of a

judgment.

Accordingly, trustworthiness judgment is also likely to be influenced by

contextual factors. In other words, the perceived trustworthiness of an individual can

vary according to the standard in use, which is largely shaped by the context.

Because employees interact frequently with their coworkers, their coworkers' level

of justice should be salient and accessible to them. Thus, to assess supervisor

trustworthiness, coworker justice is likely to be adopted as the standard, against

which supervisor justice is compared. Particularly, coworker justice is likely to be the minimum standard for supervisor trustworthiness. In terms of the elementary forms of social relations (Fiske, 1992), the leader-member relationship is primarily akin to the form of authority ranking. Such form of social relation is governed by the norm of *noblesse oblige*, which dictates that higher-ranking individuals should act more honorably and beneficently toward those of lower rank (Fiske, 1992). In line with this norm, adherence to justice rules is commonly regarded as an in-role requirement for leaders (Borman & Brush, 1993; Conway, 1999) but not for non-managerial employees. Therefore, employees are likely to expect their supervisor to be at least as fair as their coworkers. Yet demonstrating higher justice than the coworkers may not be seen as the great merit of supervisors, as they are supposed to do so. In contrast, being less fair than the coworkers may be seen as completely unacceptable for supervisors, as they fail to meet the minimum requirement.

Thus, the effect of supervisor justice on supervisor trustworthiness is likely to be moderated by coworker justice. When coworker justice is low, the minimum standard for supervisor trustworthiness is accordingly low. Low supervisor justice may, therefore, be considered as acceptable, and yet high supervisor justice may not be highly praised. In other words, the relationship between supervisor justice and supervisor trustworthiness is likely to be weak. In contrast, when coworker justice is high, the minimum standard for supervisor justice is accordingly high. High supervisor justice hence may not be highly evaluated, as it meets only the minimum

standard. Low supervisor justice, however, is likely to be seen as particularly

inappropriate. Thus, the relationship between supervisor justice and supervisor

trustworthiness is likely to be strong.

Hypothesis 3: Coworker justice moderates the relationship between

supervisor justice and supervisor trustworthiness (ability, benevolence, and

integrity), such that the positive relationship between supervisor justice and

supervisor trustworthiness is stronger when coworker justice is higher.

Supervisor trustworthiness, in turn, can enhance employees' willingness to

cooperate. When supervisors are seen as competent, benevolent, or moral,

employees may perceive a low risk of being exploited or excluded. As a

consequence, according to fairness heuristic theory (Lind, 2001a), they will focus

more on the potential benefits of the cooperation, and shift their focus to collective

and long-term gains. Thus, they are more willing to cooperate with their supervisors.

Such willingness can result in both their meeting the formal requirements and going

the extra miles. When supervisors are not trustworthy, however, employees may

perceive a high risk of being exploited or excluded. Thus, their willingness to

cooperate may well be lowered. They may not make extra efforts to help their

supervisors, and may even ignore the formal requirements. In line with the

arguments, meta-analytic evidence showed that trustworthiness is positively related

to task performance and OCB (Colquitt, Scott, & LePine, 2007). Particularly, though

trustworthiness is commonly believed to lead to outcomes by facilitating trust

(Mayer et al., 1995), meta-analysis found that trust is not the only mechanism of the

effect of trustworthiness; rather, mechanisms like affective commitment also mediate the effect of trustworthiness (Colquitt et al., 2007). In addition, examining the mechanisms between trustworthiness and employee performance is not the focus of the current research. Hence, trustworthiness is directly linked with performance outcomes in the research model. Taken together, supervisor trustworthiness mediates the joint effect of supervisor justice and coworker justice on task performance and OCB.

Hypothesis 4a: Supervisor trustworthiness (ability, benevolence, and integrity) mediates the interaction effect of supervisor justice and coworker justice on task performance, such that the indirect effect of supervisor justice on task performance via supervisor trustworthiness is stronger when coworker justice is higher.

Hypothesis 4b: Supervisor trustworthiness (ability, benevolence, and integrity) mediates the interaction effect of supervisor justice and coworker justice on OCB, such that the indirect effect of supervisor justice on OCB via supervisor trustworthiness is stronger when coworker justice is higher.

Justice as the Uncertainty Reducer

Supervisor justice exerts its effect by influencing not only individuals' relationship-related perceptions but also their intrapsychic feelings. Particularly, according to uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002), supervisor justice is likely to influence employees' personal uncertainty.

Uncertainty management theory proposes that individuals care about justice because they need justice to deal with uncertainty. The theory differentiates two types of uncertainty: informational and personal (van den Bos, 2009). Informational uncertainty arises when individuals have less information than they want; personal uncertainty arises when individuals feel a subjective sense of doubt or instability that is broadly related to the self, the environment, or the interrelationship of the two (van den Bos, 2009). Different from informational uncertainty, which can be enjoyable (e.g., gambling), personal uncertainty always evokes uncomfortable and aversive feelings, particularly anxiety (Lind & van den Bos, 2002; van den Bos & Lind, 2002; see also Hirsh, Mar, & Peterson, 2012; Lazarus, 1991), which motivates individuals to get rid of it (van den Bos, 2009; see also Hirsh et al., 2012; Hogg, 2007). Although justice can help deal with both types of uncertainty, personal uncertainty is more relevant in explaining justice effect (Proudfoot & Lind, 2015; van den Bos & Lind, 2009).

Personal uncertainty arises when people perceive obstacles to their personal needs or goals (McGregor, Nash, Mann, & Phills, 2010; van den Bos, McGregor, & Martin, 2015). For example, in two experimental studies (Study 3 and 4) of McGregor et al. (2010), participants' personal uncertainty was induced after they thought about troubles with their interpersonal relationships. Obstacles lower the perceived probability of goal accomplishment or need satisfaction, and yet increase the probability of unfavorable outcomes. Moreover, more severe the obstacles, the more difficult to choose an optimal strategy for accomplishing the goals and

satisfying the needs (Hirsh et al., 2012). Therefore, obstacles will lead to aversive feelings of uncertainty as people have no idea of what will happen and what they should do regarding their striving for important goals and needs. Justice signals favorable outcomes and it is a well-accepted social organizing principle that people can use to make sense of their situation (Lind & van den Bos, 2002; van den Bos & Lind, 2002). As a result, justice "gives people a feeling of general security with respect to their social milieu and indeed that this feeling of security may generalize beyond social contexts" (van den Bos & Lind, 2002, p. 38). Thus, justice helps to reduce personal uncertainty. In contrast, injustice itself poses obstacles to goal accomplishment and need satisfaction. Hence, injustice is likely to increase personal uncertainty. Accordingly, supervisor justice should be negatively related to employees' feelings of personal uncertainty.

People tend to be more vigilant about relevant information in the environment when facing obstacles to personal needs and goals, in an effort to seek possible solutions (Jonas et al., 2014). For example, socially excluded people are more attentive to social cues signaling inclusion (DeWall, Maner, & Rouby, 2009). As discussed above, injustice, or the absence of justice *per se*, poses obstacles to personal needs and goals and increases personal uncertainty. Thus, in reaction to injustice, people may be more attentive to justice-related cues in the environment in order to manage uncertainty. A series of laboratory studies offered support for this notion (Wijn & van den Bos, 2010). Wijn and van den Bos (2010) examined whether justice sensitivity, which is commonly regarded as a stable trait, can be temporarily

heightened by justice-related experience. In the first study, participants were asked to perform an estimation task in exchange for lottery tickets. In the experimental condition, participants received one lottery ticket while knowing that another participant with equal performance received three. Then they were asked to rate their justice sensitivity. In the control condition, the participants were unknown about the allocation of lottery tickets before they fill the justice sensitivity scale. Results showed that compared with those in the control condition, participants in the experimental condition rated themselves as more attentive and reactive to occasions where they are harmed by injustice, benefit from injustice, or observe injustice as a third-party. In the second study, similar procedure was carried out, except that the experimental condition was characterized by a fair allocation: the participants received two lottery tickets and learned that another participant with equal performance received two as well. Results showed that experiencing fairness also enhanced participants' self-reported justice sensitivity, but they were reported to be sensitive only to occasions where they are harmed by injustice. Participants did not report significantly higher sensitivity to occasions where they benefit from injustice or observe injustice as a third-party. In the last study, the effect of injustice and that of justice on justice sensitivity were directly compared. Another difference of the last study is that the justice/injustice manipulation was changed to the third-party perspective. That is, instead of experiencing justice or injustice directly, the participants read the scenario of a fair or unfair event related to other people. Results showed that participants in the unfair condition reported significantly higher

sensitivity to third-party injustice than those in the fair condition. Altogether, findings in Wijn and van den Bos's experiments indicate that injustice leads to heightened sensitivity to justice-related information to a larger extent than justice in terms of both scope and strength.

In the workplace, then, employees' justice experience is likely to affect their sensitivity to justice issues in a similar way. Particularly, justice from one source may affect their sensitivity to justice from another source. Accordingly, coworker justice may affect the effect of supervisor justice on personal uncertainty. Low coworker justice exposes employees to potential obstacles. Thus, they will be more sensitive to justice from their supervisor. Therefore, the relationship between supervisor justice and personal uncertainty can be stronger. In contrast, when coworker justice is high, employees are less likely to feel threatened. Then they are less sensitive to supervisor justice, and therefore there will be a weaker relationship between supervisor justice and uncertainty.

Hypothesis 5: Coworker justice moderates the relationship between supervisor justice and personal uncertainty, such that the negative relationship between supervisor justice and personal uncertainty is stronger when coworker justice is lower.

 Existing studies on the mediation effects of uncertainty between justice and outcomes did not pay attention to the distinction between informational uncertainty and personal uncertainty (e.g., Colquitt et al., 2012; Desai, Sondak, & Diekmann, 2011). Yet the concept of uncertainty in these studies is more closely related to

informational uncertainty judging from the items in their measures (e.g., "I cannot predict how things will go at work" [Colquitt et al., 2012] and "I do not know how much annual bonus I will receive this year" [Desai et al., 2011]). In the current research, I propose and examine the mediation effect of personal uncertainty on employee performance.

The relationship between personal uncertainty and performance is not explicitly discussed in uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002). Literature on uncertainty-related anxiety, on the other hand, documents the negative effects of uncertainty-related anxiety may have on task performance. In particular, personal uncertainty and the concomitant anxiety can deplete both cognitive and emotional resource. Uncertainty-related anxiety impairs people's attentional control, leaving them unable to concentrate on the task at hand (Cheng & McCarthy, 2018; Eysenck & Calvo, 1992; Eysenck, Derakshan, Santos, & Calvo, 2007). Anxiety also exacerbates employees' emotional exhaustion which harms task performance (Cheng & McCarthy, 2018; McCarthy, Trougakos, & Cheng, 2016). Nevertheless, as people are motivated to cope with personal uncertainty (Lind & van den Bos, 2002; van den Bos & Lind, 2002), they may invest more resources to the task at hand in order to compensated for the detrimental effects of uncertainty and the related anxiety (Prem, Kubicek, Diestel, & Korunka, 2016). For example, employees anxious about promotional examinations were found to engage in more self-regulation during the exam which facilitates task accomplishment (McCathy, Hrabluik, & Jelley, 2009). As long as the detrimental effects of uncertainty-related

anxiety are compensated for by increased investment of resources,

uncertainty-related anxiety is less likely to result in lower quality of performance

(Cheng & McCarthy, 2018; Eysenck & Calvo, 1992; Eysenck et al., 2007; McCarthy

et al., 2016). Whether people with personal uncertainty is willing to allocate more

resources to the task at hand, on the other hand, seems to depend on the perceived

utility of the task (Hirsh et al., 2012) and their confidence in accomplishing the task

(Kanfer & Ackerman, 1989). Task performance was related to the in-role

requirement of the job, and thus employees should clearly recognize the utility of

task performance. Thus, whether employees will allocate more resources depends

mainly on their confidence in accomplishing their tasks. As a result, personal

uncertainty is likely to have a nonlinear relationship with task performance. Low

uncertainty level depletes employees' cognitive and emotional resources to a lesser

extent. Thus, it is relatively easy to compensate for its detrimental effects when

personal uncertainty is at a lower level. Thus, employees with a lower uncertainty

level are likely to invest more resource in order to maintain their performance. As a

result, the performance is less likely to be affected when personal uncertainty is at

the lower level. As personal uncertainty increases, its detrimental effects become

stronger and less easy to be compensated for. Consequently, employees' confidence

in successfully coping with their uncertainty decreases. Thus, employees with higher

personal uncertainty are lies likely to invest additional resources to maintain their

performance. Hence, when at a higher level, personal uncertainty is likely to be

negatively related to task performance. Taken together, there is likely to be an

inverted J-shaped (or more accurately, a predominant negative, concave downward curvilinear) relationship between personal uncertainty and task performance, such that the effect of personal uncertainty on task performance becomes increasingly negative as personal uncertainty increases.

Similarly, personal uncertainty can also be harmful to OCB because it depletes resources. Compared with in-role performance, OCB is not explicitly rewarded by the authorities and employees have more discretion as to whether to engage in OCB. In other words, the utility of OCB is not as clear as task performance. Thus, whether employees will allocate more resources for OCB depends on their perceived utility of such behavior. Uncertainty-related anxiety is found to shift employees' attention to their own needs for security and protection (Geller & Bamberger, 2009; Kouchaki & Desai, 2015). For example, in one of Kouchaki and Desai's (2015) laboratory studies (Study 5), participants were presented with a scenario of a person cheating in an interview and asked to judge how morally wrong the behavior is. When the participants themselves were the cheater in the scenario, anxious participants regarded cheating as more justified than those in the neutral condition. It is notable that when the cheater in the scenario was someone else, anxious participants regarded cheating as questionable as those in the neutral condition did. Such findings suggest that uncertainty-related anxiety puts people into an egocentric state. Thus, when employees feel high personal uncertainty, they are less likely to regard OCB as of high utility because they egocentrically concentrate on their own needs. When employees feel low personal uncertainty, in contrast, they tend to be more

attentive to others' needs and thus may be more willing to allocate resources for OCB. Thus, personal uncertainty should have a negative relationship with OCB. Taken together, personal uncertainty is likely to mediate the joint effect of supervisor justice and coworker justice on task performance and OCB, and yet in differing manners.

> *Hypothesis 6a:* Personal uncertainty mediates the interaction effect of supervisor justice and coworker justice on task performance, such that the curvilinear indirect effect of supervisor justice on task performance via personal uncertainty is more positive when coworker justice is lower.

> *Hypothesis 6b:* Personal uncertainty mediates the interaction effect of supervisor justice and coworker justice on OCB, such that the indirect effect of supervisor justice on OCB via personal uncertainty is stronger when coworker justice is lower.

The Present Studies

The following two chapters report two multi-rater, multilevel, time-lagged field studies that examine the proposed hypotheses. Study 1 tests the above hypotheses except those concerning OCB. That is, Study 1 tests Hypotheses 1, 2a, 3, 4a, 5, and 6a. Study 2 tests all the proposed hypotheses in the research model. Despite some variations in variable measures and the length of the time lag, the design of the two studies is basically the same. Another difference between the two studies lies in the context. Whereas participants of Study1 are employees in a manufacturing firm, those of Study 2 are nurses from hospitals.

Chapter 4 Study 1

Method

    Participants and procedure.   I collected the data from a private

manufacturing company located in Zhejiang Province, China. Participants are

employees working in groups/departments across manual and administrative job

domains. Data were collected in two time points with a two-week time lag. At Time

1, 256 employees from 47 groups/departments were invited to participate in the

survey. All participants were provided with a cover letter introducing to them the

purpose and procedure of the study and informing them that their participation is

voluntary and their answer will be kept confidential. Participants were asked to

answer questions about supervisor justice and coworker justice. I received 246

usable responses, and the response rate was 96.1%. At Time 2, the 256 employees

were invited again to answer questions about OBSE, supervisor trustworthiness, and

personal uncertainty. Two hundred and forty-two usable subordinate responses were

received, resulting in a response rate of 94.5%. In addition, the supervisors from the

47 groups/departments were invited to rate their subordinates' task performance, and

all of them returned the questionnaire. The resultant final sample consists of 235

employees nested in 47 groups/departments. Unit sizes ranged from 2 to 7, with a

mean of 5. Of the 235 participants, 111 were female (47.2%). The average age of the

participants was 32.1 years, and their average tenure as an employee in the

organization and that as a subordinate of their current supervisor were 5.4 and 4.0

years, respectively. Most of them held a high school degree or lower (59.6%). Of the

47 supervisors, 14 were female (29.8%). The average age of the supervisors was

39.8 years, and their average organizational tenure was 9.0 years. Most of them held

an undergraduate degree or higher (73.9%).

Measures.

All the items used in Study 1 are presented in Appendix A.

Supervisor justice (Time 1). Supervisor justice was measured by the 9-item

interactional justice scale developed by Colquitt (2001). Sample items are "*To what*

extent does your supervisor treat you in a polite manner?" and "*To what extent is*

your supervisor candid when communicating with you?". A 5-point scale was used

with anchors ranging from 1 (*To a very small extent*) to 5 (*To a very large extent*).

Coworker justice (Time 1). Coworker justice was measured by the 9-item

interactional justice scale developed by Colquitt (2001). Similar to previous studies

(e.g., Au & Leung, 2016), the subject in the items was changed to "your coworkers"

to specify the evaluated target. Sample items are "*To what extent do your coworkers*

treat you in a polite manner?" and "*To what extent are your coworkers candid when*

communicating with you?". A 5-point scale was used with anchors ranging from 1

(*To a very small extent*) to 5 (*To a very large extent*).

OBSE (Time 2). OBSE was measured by the 5 items developed by Pierce et

al. (1989). Sample items are "*I am important*" and "*I am valuable*". A 5-point scale

was used with anchors ranging from 1 (*Disagree strongly*) to 5 (*Agree strongly*).

Supervisor trustworthiness (Time 2). Supervisor trustworthiness was

measured using the 17-item trustworthiness scale adopted by Mayer and Davis

(1999). Six items were used to measure ability, five were used to measure

benevolence, and another six were used to measure integrity. Sample items are "*My*

supervisor is very capable of performing his/her job (Ability)", "*My supervisor is*

very concerned about my welfare (Benevolence)", and "*Sound principles seem to*

guide my supervisor's behavior (Integrity)". A 5-point scale was used with anchors

ranging from 1 (*Disagree strongly*) to 5 (*Agree strongly*).

   Personal uncertainty (Time 2). Personal uncertainty was measured by the 21

items adopted in McGregor, Zanna, Holmes, and Spencer (2001). Participants were

asked to rate how often they had uncertain feelings in the past two weeks. Sample

items are "*mixed*" and "*confused*". A 5-point scale was used with anchors ranging

from 1 (*Never*) to 5 (*All the time*).

   Task performance (Time 2). Task performance was measured by the 4-item

scale adopted by Chen, Tsui, and Farh (2002). Sample items are "*This employee*

always completes job assignments on time" and "*This employee's performance*

always meets the expectations of the supervisor". A 5-point scale was used with

anchors ranging from 1 (*Disagree strongly*) to 5 (*Agree strongly*).

   Analytic Strategy. Data analyses followed the two major steps below.

   First, I examine the measurement model using confirmative factor analysis

(CFA). I first specified the measurement model as hypothesized, examined the

global fit statistics (CFI, RMSEA, and SRMR) and whether each item had a

substantial loading on the hypothesized factor. Next, I compared the hypothesized

model with several alternative measurement models to see if the hypothesized model was significantly better.

Second, I tested the hypotheses. Because of the nested nature of my data (i.e., employees nested in groups), data were analyzed using multilevel modeling. To exclude confounding between-group variances, independent variables were group-mean centered (Enders & Tofighi, 2007; Hoffman & Gavin, 1998).

Two types of analysis were mainly performed for the research model: the test of interaction and the test of mediated interaction effect. For interaction test, I used the online tool developed by Preacher, Curran, & Bauer (2006) to conduct significance test for simple slopes. To test the mediated interaction effect, the key is to estimate the effect of the interaction term on the mediator (a) and the effect of the mediator on the dependent variable (b); the point estimate of the mediated interaction effect was obtained by computing the production of a and b (Morgan-Lopez & MacKinnon, 2006). Then the confidence interval for the mediated interaction effect was obtained through the *Monte Carlo* method suggested by MacKinnon, Lockwood, and Williams (2004) and Bauer, Preacher, and Gil (2006). The *Monte Carlo* method estimates the confidence interval for the indirect effect via parametric bootstrapping. The point estimates of the conditional indirect effect were calculated by multiplying the simple slope of the first path at the low and high levels of coworker justice with the coefficient of the second path of each mediator, and the confidence interval was obtained through the *Monte Carlo* method. The curvilinear indirect interaction effect (Hypothesis 6a) could be tested and demonstrated by the method provided by Hayes

and Preacher (2010). Basically, because the indirect effect is not constant for a curvilinear relationship, several instantaneous indirect effects could be estimated to quantify the indirect effect of the supervisor justice on task performance via the personal uncertainty at different levels of coworker justice and personal uncertainty. The confidence intervals for the instantaneous indirect effects could also be obtained using the *Monte Carlo* method.

Results

Measurement model testing. A series of confirmatory factor analyses were conducted to test the measurement model of the study. Parcels of items were created as indicators of the latent variables (Bagozzi & Edwards, 1998; Williams & O'Boyle, 2008). Specifically, two parcels were formed for OBSE, supervisor trustworthiness (integrity), supervisor trustworthiness (ability), supervisor trustworthiness (benevolence), and task performance; three parcels were formed for supervisor justice and coworker justice; six parcels were formed for personal uncertainty. The results are presented in Table 1. Confirmatory factor analysis of the hypothesized measurement model showed acceptable fit: $\chi^2 = 322.83$, $df = 181$; CFI = .97; RMSEA = .06, SRMR = .03. Chi-square difference tests demonstrated that our hypothesized eight-factor model produced significantly better fit than four alternative models.

Hypothesis testing. Means, standard deviations, reliabilities, and correlations of the variables in Study 1 are presented in Table 2. Tables 3 – 6 present the results of multilevel modeling.

Table 1

Results for Confirmatory Factor Analysis (Study 1)

Model	χ^2	df	$\Delta\chi^2(\Delta df)$	CFI	RMSEA	SRMR
Hypothesized 8-factor model	322.83**	181		.97	.06	.03
7-factor model (supervisor justice and coworker justice combined)	638.64**	188	315.81(7)	.89	.10	.06
6-factor model (ability, benevolence, and integrity combined)	433.56**	194	110.73(13)	.94	.07	.04
6-factor model (OBSE and personal uncertainty combined)	543.32**	188	220.49(7)	.92	.09	.10
1-factor model	2579.06**	209	2256.23(28)	.43	.22	.18

Note. n = 235. All alternative models were compared to a hypothesized 8-factor model. All $\Delta\chi^2$ are significant at *p* < .01.

OBSE = Organization-based self-esteem; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual.

** *p* < .01.

Table 2

Means, Standard Deviations, Reliabilities, and Correlations (Study 1)

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Supervisor justice	4.15	0.70	(.94)							
2. Coworker justice	4.19	0.63	.55**	(.93)						
3. OBSE	3.93	0.54	.33**	.42**	(.84)					
4. Integrity	3.99	0.67	.46**	.35**	.51**	(.93)				
5. Ability	4.12	0.67	.49**	.35**	.51**	.82**	(.90)			
6. Benevolence	3.92	0.71	.53**	.39**	.52**	.76**	.78**	(.91)		
7. Personal uncertainty	2.54	0.61	-.21**	-.24**	-.42**	-.22**	-.22**	-.23**	(.95)	
8. Task performance	4.09	0.72	.13*	.06	.09	.12	.15*	.14*	-.08	(.88)

Note. OBSE = Organization-based self-esteem.

$n = 235$. Reliabilities are presented in the parentheses at the diagonal.

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

Table 3

Results of Multilevel Models Predicting OBSE (Study 1)

Variable	Model 1	Model 2	Model 3
Intercept	3.94^{**}	3.94^{**}	3.91^{**}
Supervisor justice	0.20^{**}	0.08	0.08
Coworker justice		0.30^{**}	0.30^{**}
Supervisor justice × Coworker justice			0.19^{*}
R^2	.05	.11	.12
ΔR^2		.06	.01
Deviance	355.56	336.09	333.01

Note. $n = 235.$ $^{*} p < .05;$ $^{**} p < .01.$ OBSE = Organization-based self-esteem.
R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

As shown in Model 3 of Table 3, the interaction effect of supervisor justice and coworker justice on OBSE was significant ($\gamma = 0.19$, $p < .05$). The plot of the interaction is shown in Figure 2.

Simple slope test showed that when coworker justice was high, the simple slope of supervisor justice on OBSE was significant ($\gamma = 0.18$, $p < .05$); whereas when coworker justice was low, the simple slope of supervisor justice on OBSE was not significant ($\gamma = -0.02$, *ns*). Thus, Study 1 supported Hypothesis 1, that is, the relationship between supervisor justice and OBSE is stronger when coworker justice is higher.

Model 2 in Table 6 shows that OBSE was significantly related to task performance when the interaction effect of supervisor justice and coworker justice was controlled for ($\gamma = 0.15$, $p < .05$). A test of mediation revealed that the indirect interaction effect of supervisor justice and coworker justice on task performance through OBSE was significant (indirect effect = 0.03, CI = [0.00, 0.07]). As shown

in Table 7, the indirect effects of supervisor justice on task performance via OBSE varied according to coworker justice. When coworker justice was high, the indirect effect of supervisor justice on task performance via OBSE was significant, CI [0.00, 0.06]; when coworker justice was low, the indirect effect of supervisor justice on task performance via OBSE was not significant, CI [-0.03, 0.02]. Thus, Study 1 provided support for Hypothesis 2a, that is, OBSE mediates the interaction effect of supervisor justice and coworker justice on task performance.

Figure 2. The interaction effect of supervisor justice and coworker justice on OBSE (Study 1).

As shown in Model 3 and Model 9 of Table 4, the interaction effects of supervisor justice and coworker justice on integrity ($\gamma = 0.06$, *ns*) and benevolence ($\gamma = -0.10$, *ns*) were not significant. The interaction effects of supervisor justice and coworker justice on ability, in contrast, was significant ($\gamma = 0.26$, $p < .05$) according to Model 6 of Table 4. The plot of the interaction is shown in Figure 3.

Table 4

Results of Multilevel Models Predicting Supervisor Trustworthiness (Study 1)

Variable	Integrity			Ability			Benevolence		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Intercept	3.99**	3.99**	3.98**	4.12**	4.12**	4.09**	3.93**	3.93**	3.94**
Supervisor justice	0.37**	0.31**	0.31**	0.39**	0.31**	0.32**	0.49**	0.40**	0.40**
Coworker justice		0.17*	0.17*		0.19**	0.19**		0.21**	0.21**
Supervisor justice × Coworker justice			0.06			0.26*			-0.10
R^2	.10	.11	.11	.11	.12	.13	.15	.17	.17
ΔR^2		.01	.00	.11	.01	.01		.02	.00
Deviance	435.20	430.75	430.55	439.82	434.29	430.34	451.95	445.55	445.02

Note. $n = 235$. * $p < .05$; ** $p < .01$.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

Simple slope test showed that when coworker justice was high, the simple slope of supervisor justice on ability was significant ($\gamma = 0.45$, $p < .01$); whereas when coworker justice was low, the simple slope of supervisor justice on ability was not significant ($\gamma = 0.18$, ns). Thus, Study 1 partially supported Hypothesis 3, that is, the relationship between supervisor justice and supervisor trustworthiness is stronger when coworker justice is higher.

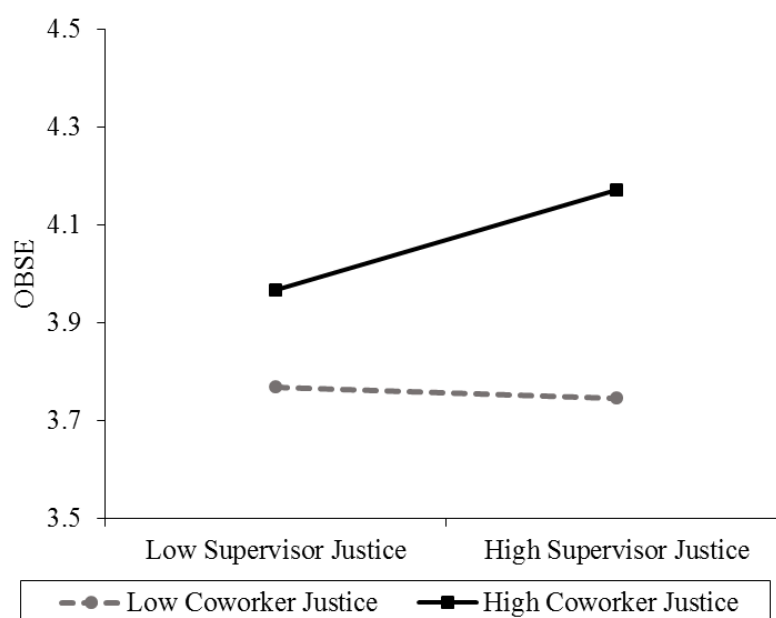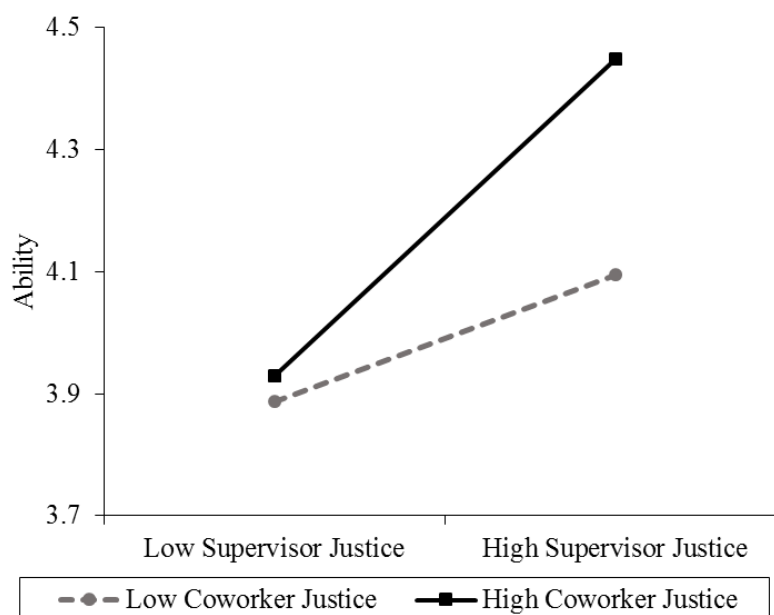*Figure 3.* The interaction effect of supervisor justice and coworker justice on ability (Study 1).

As shown in Models 3 – 5 of Table 6, the effects of integrity ($\gamma = 0.00$, ns), ability ($\gamma = 0.04$, ns), and benevolence ($\gamma = 0.01$, ns) on task performance were not significant. And as Model 6 has shown, these trustworthiness facets were not significantly related to task performance either when entered into the model simultaneously ($\gamma_{integrity} = -0.05$, ns; $\gamma_{ability} = 0.11$, ns; $\gamma_{benevolence} = -0.03$, ns). Thus,

Study 1 did not provide support for hypothesis 4a, that is, supervisor trustworthiness

mediates the interaction effect of supervisor justice and coworker justice.

Table 5

Results of Multilevel Models Predicting Personal Uncertainty (Study 1)

Variable	Model 1	Model 2	Model 3
Intercept	2.54**	2.54**	2.55**
Supervisor justice	-0.16**	-0.12	-0.12
Coworker justice		-0.10	-0.10
Supervisor justice × Coworker justice			-0.02
R^2	.02	.03	.03
ΔR^2		.01	.00
Deviance	423.02	421.53	421.51

Note. $n = 235$. $^*p < .05$; $^{**}p < .01$.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

As shown in Model 3 of Table 5, the interaction effect of supervisor justice and

coworker justice on personal uncertainty was not significant ($\gamma = -0.02$, *ns*). Thus,

Study 1 did not support Hypothesis 5, that is, the relationship between supervisor

justice and personal uncertainty is stronger when coworker justice is lower.

As Model 8 of Table 6 has shown, either the effect of personal uncertainty ($\gamma =$

-0.07, *ns*) or that of the quadratic term of personal uncertainty ($\gamma = 0.02$, *ns*) was

significantly related to task performance. Thus, Study 1 did not provide support for

Hypothesis 6a, that is, personal uncertainty mediates the curvilinear indirect

interaction effect of supervisor justice and coworker justice.

Table 6

The Mediated Interaction Effect of Supervisor Justice and Coworker Justice on Task Performance (Study 1)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	4.07**	4.07**	4.07**	4.07**	4.07**	4.07**	4.07**	4.06**
Supervisor justice	0.06	0.05	0.06	0.05	0.06	0.06	0.05	0.05
Coworker justice	0.01	-0.04	0.01	0.00	0.01	0.01	0.00	0.00
Supervisor justice × Coworker justice	0.21*	0.17	0.21*	0.20	0.21*	0.18	0.20	0.20
OBSE		0.15*						
Integrity			0.00			-0.05		
Ability				0.04		0.11		
Benevolence					0.01	-0.03		
Personal uncertainty							-0.07	-0.07
Personal uncertainty²								0.02
R^2	.02	.03	.02	.02	.02	.02	.02	.02
ΔR^2		.01	.00	.00	.00	.00	.00	.00
Deviance	439.15	435.65	439.15	438.72	439.15	438.22	438.09	438.05

Note. $n = 235$. * $p < .05$; ** $p < .01$. OBSE = Organization-based self-esteem.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

Table 7

Contingent Indirect Effect of Supervisor Justice on Task Performance via OBSE (Study 1)

Moderator Coworker justice	Indirect effect	90% confidence interval
Low	-0.00	-0.03, 0.02
High	0.03	0.00, 0.06

Note. n = 235. OBSE = Organization-based self-esteem. Low = 1 SD below the mean; high = 1 SD above the mean.

Chapter 5 Study 2

Method

 Participants and procedure. I collected the data from three general hospitals located in Shanxi Province, China. Participants are nurses working in teams of the nursing departments. The procedure was similar to that of Study 1. Data were collected in two time points with a four-week time lag. At Time 1, 342 employees from 49 teams were invited to participate in the survey. All participants were provided with a cover letter introducing to them the purpose and procedure of the study and informing them that their participation is voluntary and their answer will be kept confidential. Participants were asked to answer questions about supervisor justice and coworker justice. I received 320 usable responses, and the response rate was 93.6%. At Time 2, the 342 employees were invited again to answer questions about OBSE, supervisor trustworthiness, and personal uncertainty. Three hundred and fifteen usable subordinate responses were received, resulting in a response rate of 92.1%. In addition, the supervisors from the 49 teams were invited to rate their subordinates' task performance and OCB, and 44 of them returned the questionnaire. The resultant final sample consists of 249 employees nested in 44 teams. Unit sizes ranged from 3 to 8, with a mean of 5.66. All the participants were female. The average age of the participants was 31.4 years, and their average tenure as a subordinate of their current supervisor were 4.2 years. Most of them held an undergraduate degree (90.2%). Of the 44 supervisors, all were female. The average age of the supervisors was 45.3 years, and their average tenure as the supervisor of

their current team was 8.4 years. All of them held an undergraduate degree.

Measures.

All the items used in Study 2 are presented in Appendix B.

Supervisor justice (Time 1).   Supervisor justice was measured by the 18-item "full-range" interactional justice scale developed by Colquitt et al. (2015). Colquitt et al. argued that the popular measure of justice (i.e., Colquitt's [2001] justice scale) is truncated in the sense that it measures only justice rule adherence but not rule violation. Building on Colquitt's (2001) measure, Colquitt et al. developed a "full-range" justice scale by adding a rule violation item corresponding to each rule adherence item. The newly developed measure was found to have stronger explanatory power on several outcomes of justice. Sample items are "*To what extent does your supervisor treat you in a polite manner?*" and "*To what extent does your supervisor treat you in a rude manner? (reverse-coded)*". A 5-point scale was used with anchors ranging from 1 (*To a very small extent*) to 5 (*To a very large extent*).

Coworker justice (Time 1).   Coworker justice was measured by the 18-item "full-range" interactional justice scale developed by Colquitt et al. (2015). Similar to Study 1 and previous studies (e.g., Au & Leung, 2016), the subject in the items was changed to "your coworkers" to specify the evaluative target. Sample items are "*To what extent do your coworkers treat you in a polite manner?*" and "*To what extent do your coworkers treat you in a rude manner? (reverse-coded)*". A 5-point scale was used with anchors ranging from 1 (*To a very small extent*) to 5 (*To a very large extent*).

OBSE (Time 2). OBSE was measured by the 10 items developed by Pierce et al. (1989). Sample items are "*I am important*" and "*I am valuable*". A 5-point scale was used with anchors ranging from 1 (*Disagree strongly*) to 5 (*Agree strongly*).

Supervisor trustworthiness (Time 2). Same as Study 1, supervisor trustworthiness was measured using the 17-item trustworthiness scale adopted by Mayer and Davis (1999). Sample items are "*My supervisor is very capable of performing his/her job (Ability)*", "*My supervisor is very concerned about my welfare (Benevolence)*", and "*Sound principles seem to guide my supervisor's behavior (Integrity)*". A 5-point scale was used with anchors ranging from 1 (*Disagree strongly*) to 5 (*Agree strongly*).

Personal uncertainty (Time 2). Same as Study 1, personal uncertainty was measured by the 21 items adopted in McGregor et al. (2001). Participants were asked to rate how often they had uncertain feelings in the past four weeks. Sample items are "*mixed*" and "*confused*". A 5-point scale was used with anchors ranging from 1 (*Never*) to 5 (*All the time*).

Task performance (Time 2). Task performance was measured by the 4-item scale adopted by The Survey Research Center (1977; as cited from Shaw, Duffy, Johnson, & Lockhart, 2005). Sample items are "*How good is the quality of this employee's performance?*" (1 = *Very poor*; 5 = *Very good*). and "*How efficiently does this employee do his or her work?*" (1 = *Very inefficiently*; 5 = *Very efficiently*). A 5-point scale was used with anchors ranging from 1 to 5, with a different anchor wording of each item corresponding to the wording of the question.

OCB (Time 2). OCB was measured by the 10-item version of Organizational Citizenship Behavior Checklist (Fox, Spector, Goh, Bruursema, and Kessler, 2012) adopted by Spector, Bauer, and Fox (2010). Sample items are "*Helped a co-worker who had too much to do*" and "*Gave up meal and other breaks to complete work*". A 5-point scale was used with anchors ranging from 1 (*Never*) to 5 (*Everyday*).

Analytic Strategy. The analytical strategy was identical to that of Study 1.

Results

Measurement model testing. A series of confirmatory factor analyses were conducted to test the measurement model of the study. Parcels of items were created as indicators of the latent variables (Bagozzi & Edwards, 1998; Williams & O'Boyle, 2008). Specifically, two parcels were formed for OBSE, supervisor trustworthiness (integrity), supervisor trustworthiness (ability), supervisor trustworthiness (benevolence), and task performance; three parcels were formed for supervisor justice, coworker justice, and OCB; six parcels were formed for personal uncertainty. The results are presented in Table 8. Confirmatory factor analysis of the hypothesized measurement model showed acceptable fit: $\chi^2 = 502.71$, $df = 263$; CFI = .96; RMSEA = .06, SRMR = .04. Chi-square difference tests demonstrated that our hypothesized nine-factor model produced significantly better fit than five alternative models.

Hypothesis testing. Means, standard deviations, reliabilities, and correlations of the variables in Study 2 are presented in Table 9. Tables 10 – 14 present the results of multilevel modeling.

Table 8

Results for Confirmatory Factor Analysis (Study 2)

Model	χ^2	df	$\Delta\chi^2(\Delta df)$	CFI	RMSEA	SRMR
Hypothesized 9-factor model	502.71**	263		.96	.06	.04
8-factor model (supervisor justice and coworker justice combined)	970.69**	271	467.98(8)	.89	.10	.05
8-factor model (take performance and OCB combined)	737.25**	271	234.54(8)	.92	.08	.05
7-factor model (ability, benevolence, and integrity combined)	733.33**	278	230.62(15)	.93	.08	.06
7-factor model (OBSE and personal uncertainty combined)	1044.34**	271	541.63(8)	.87	.11	.12
1-factor model	4801.48**	299	4298.77(36)	.26	.25	.23

Note. $n = 249$. All alternative models were compared to a hypothesized 9-factor model. All $\Delta\chi^2$ are significant at $p < .01$.

OBSE = Organization-based self-esteem; OCB = Organizational citizenship behavior; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual.

** $p < .01$.

Table 9

Means, Standard Deviations, Reliabilities, and Correlations (Study 2)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Supervisor justice	4.38	0.56	(.96)								
2. Coworker justice	4.20	0.60	.72**	(.95)							
3. OBSE	3.75	0.59	.20**	.25**	(.93)						
4. Integrity	4.17	0.66	.39**	.31**	.49**	(.86)					
5. Ability	4.31	0.65	.41**	.33**	.46**	.85**	(.94)				
6. Benevolence	3.92	0.79	.15*	.20**	.57**	.54**	.51**	(.90)			
7. Personal uncertainty	2.71	0.66	-.02	-.12	-.28**	-.16**	-.07	-.06	(.96)		
8. Task performance	4.10	0.82	.15*	.12	.32**	.19**	.17**	.18**	-.04	(.96)	
9. OCB	3.44	1.07	.12	.10	.19**	.12*	.13*	.14*	-.05	.64**	(.95)

Note. OBSE = Organization-based self-esteem; OCB = Organizational citizenship behavior.

$n = 249$. Reliabilities are presented in the parentheses at the diagonal.

$^* p < .05$; $^{**} p < .01$.

Table 10

Results of Multilevel Models Predicting OBSE (Study 2)

Variable	Model 1	Model 2	Model 3
Intercept	3.77^{**}	3.75^{**}	3.71^{**}
Supervisor justice	0.14^{*}	0.07	0.14
Coworker justice		0.10	0.08
Supervisor justice × Coworker justice			0.30^{*}
R^2	.01	.02	.04
ΔR^2		.00	.02
Deviance	421.63	420.45	415.89

Note. n = 249. $^{*}p < .05$; $^{**}p < .01$. OBSE = Organization-based self-esteem.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

As shown in Model 3 of Table 10, the interaction effect of supervisor justice and coworker justice on OBSE was significant ($\gamma = 0.30$, $p < .05$). The plot of the interaction is shown in Figure 4.

Simple slope test showed that when coworker justice was high, the simple slope of supervisor justice on OBSE was significant ($\gamma = 0.28$, $p < .05$); whereas when coworker justice was low, the simple slope of supervisor justice on OBSE was not significant ($\gamma = -0.00$, *ns*). Thus, Study 2 supported Hypothesis 1, that is, the relationship between supervisor justice and OBSE is stronger when coworker justice is higher.

Model 2 in Table 13 shows that OBSE was significantly related to task performance when the interaction effect of supervisor justice and coworker justice was controlled for ($\gamma = 0.22$, $p < .01$). A test of mediation revealed that the indirect interaction effect of supervisor justice and coworker justice on task performance

through OBSE was significant (indirect effect = 0.06, CI = [0.01, 0.14]). As shown

in Table 15, the indirect effects of supervisor justice on task performance via OBSE

varied according to coworker justice. When coworker justice was high, the indirect

effect of supervisor justice on task performance via OBSE was significant, CI [0.01,

0.14]; when coworker justice was low, the indirect effect of supervisor justice on

task performance via OBSE was not significant, CI [-0.03, 0.04]. Thus, Study 2

provided support for Hypothesis 2a, that is, OBSE mediates the interaction effect of

supervisor justice and coworker justice on task performance.

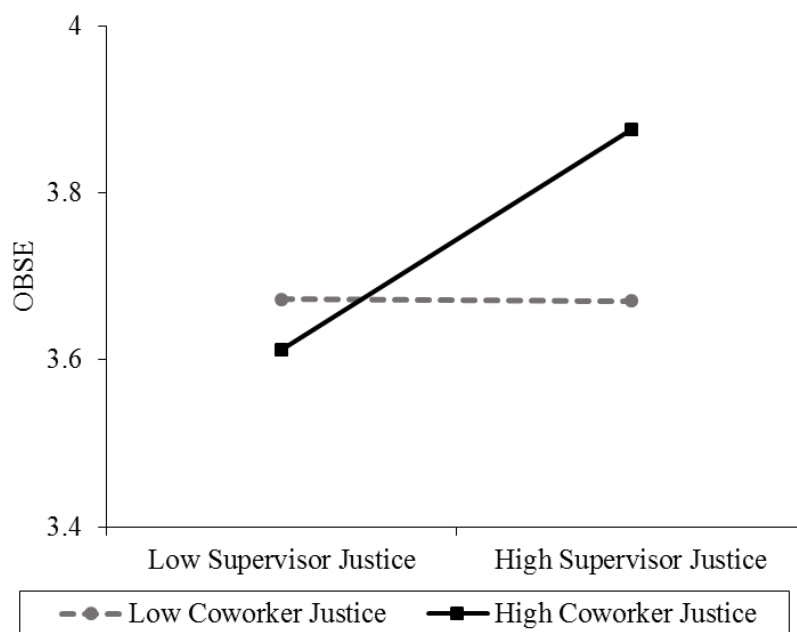*Figure 4.* The interaction effect of supervisor justice and coworker justice on OBSE (Study 2).

As shown in Model 2 of Table 14, OBSE was not significantly related to OCB

with the interaction of supervisor justice and coworker justice controlled for (γ =

0.12, *ns*). Thus, Study 2 did not support Hypothesis 2b, that is, OBSE mediates the

interaction effect of supervisor justice and coworker justice on OCB.

Table 11

Results of Multilevel Models Predicting Supervisor Trustworthiness (Study 2)

Variable	Integrity			Ability			Benevolence		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Intercept	4.17**	4.17**	4.14**	4.31**	4.31**	4.26**	3.91**	3.91**	3.85**
Supervisor justice	0.29**	0.30**	0.36**	0.30**	0.31**	0.39**	0.08	-0.06	0.03
Coworker justice		-0.01	-0.04		-0.02	-0.05		0.22*	0.18
Supervisor justice × Coworker justice			0.27*			0.35**			0.43**
R^2	.04	.04	.05	.04	.04	.05	.00	.01	.02
ΔR^2		.00	.01		.00	.01		.01	.01
Deviance	454.63	454.62	451.41	440.41	440.38	434.37	567.07	563.91	558.57

Note. n = 249. * $p < .05$; ** $p < .01$.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

Models 3, 6, and 9 showed the interaction effects of supervisor justice and coworker justice on the three facets of supervisor trustworthiness.

As shown in Model 3 of Table 11, the interaction effect of supervisor justice and coworker justice on integrity was significant ($\gamma = 0.27$, $p < .05$). The plot of the interaction is shown in Figure 5.

Simple slope test showed that when coworker justice was high, the simple slope of supervisor justice on integrity was significant ($\gamma = 0.49$, $p < .01$); when coworker justice was low, the simple slope of supervisor justice on integrity was still significant but the effect was weak ($\gamma = 0.24$, $p < .05$).
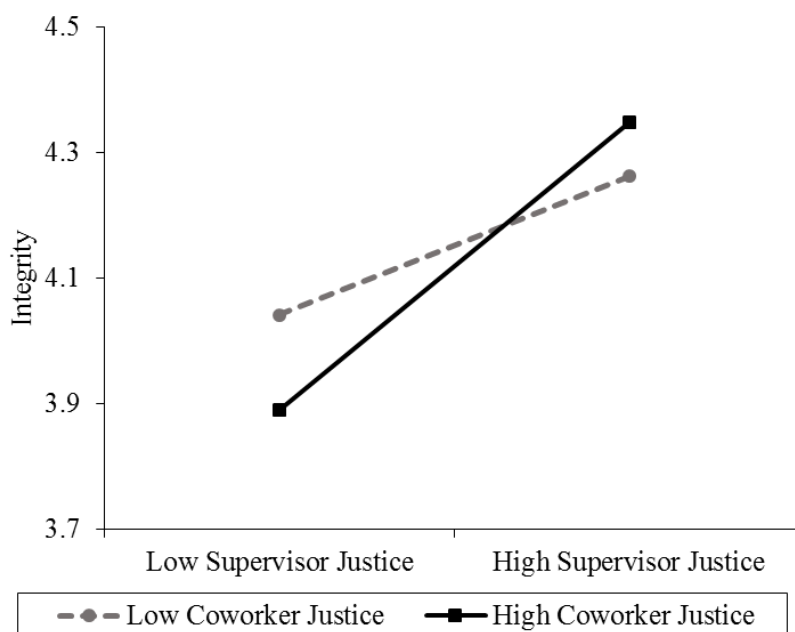
Figure 5. The interaction effect of supervisor justice and coworker justice on integrity (Study 2).

As shown in Model 6 of Table 11, the interaction effect of supervisor justice and coworker justice on ability was significant ($\gamma = 0.35$, $p < .01$). The plot of the

interaction is shown in Figure 6.

Simple slope test showed that when coworker justice was high, the simple slope of supervisor justice on ability was significant ($\gamma = 0.55$, $p < .01$); when coworker justice was low, the simple slope of supervisor justice on ability was still significant but the effect was weak ($\gamma = 0.22$, $p < .05$).
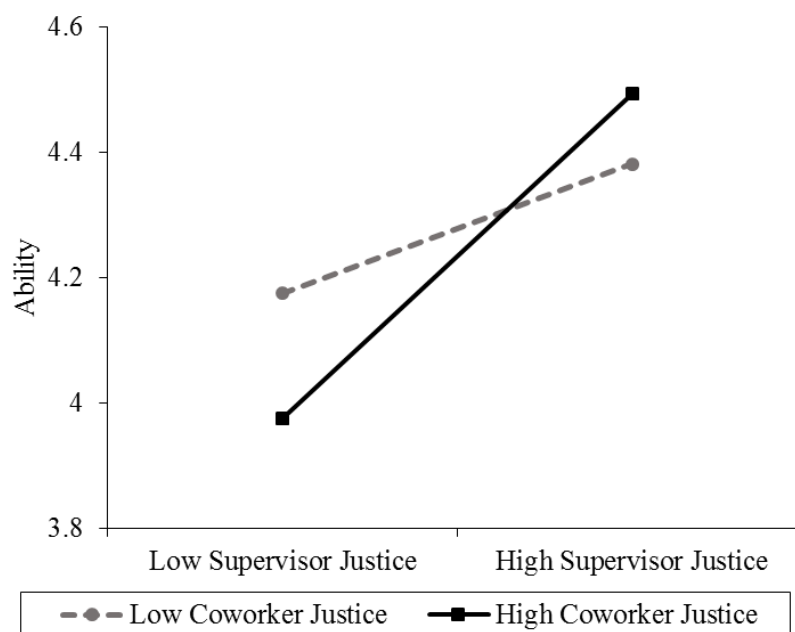
Figure 6. The interaction effect of supervisor justice and coworker justice on ability (Study 2).

As shown in Model 9 of Table 11, the interaction effect of supervisor justice and coworker justice on benevolence was significant ($\gamma = 0.43$, $p < .01$). The plot of the interaction is shown in Figure 7.

Simple slope test showed that the simple slope of supervisor justice on benevolence was not significant when coworker justice was either high ($\gamma = 0.23$, *ns*) or low ($\gamma = -0.17$, *ns*). But the pattern indicated that the effect of supervisor justice

on benevolence tended to be stronger when coworker justice was higher.

Taken together, Study 2 supported Hypothesis 3, that is, the relationship between supervisor justice and supervisor trustworthiness is stronger when coworker justice is higher.

Figure 7. The interaction effect of supervisor justice and coworker justice on benevolence (Study 2).

Models 3 and 4 of Table 13 show that among the facets of supervisor trustworthiness, the effects of integrity ($\gamma = 0.09$, *ns*) and ability ($\gamma = 0.08$, *ns*) on task performance were not significant. And as Model 6 has shown, integrity ($\gamma = 0.06$, *ns*) and ability ($\gamma = -0.02$, *ns*) were not significantly related to task performance either when three trustworthiness facets were entered into the model simultaneously. Thus, the indirect effects of the interaction between supervisor justice and coworker justice on task performance via integrity and ability were not supported.

As shown in Model 5 of Table 13, benevolence was significantly related to task performance when the interaction effect of supervisor justice and coworker justice was controlled for ($\gamma = 0.12$, $p < .05$), though its effect diminished when entered in the model with the other two facets of supervisor trustworthiness simultaneously ($\gamma = 0.10$, ns). A test of mediation revealed that the indirect interaction effect of supervisor justice and coworker justice on task performance through benevolence was significant (indirect effect = 0.05, CI = [0.00, 0.12]). As shown in Table 16, when coworker justice was high, the indirect effect of supervisor justice on task performance via benevolence was not significant, CI [-0.01, 0.08]; when coworker justice was low, the indirect effect of supervisor justice on task performance via benevolence was not significant either, CI [-0.06, 0.01]. The pattern, however, suggested that the indirect effect of supervisor justice on task performance via benevolence tend to be stronger when coworker justice is higher. Taken together, Study 2 provided partia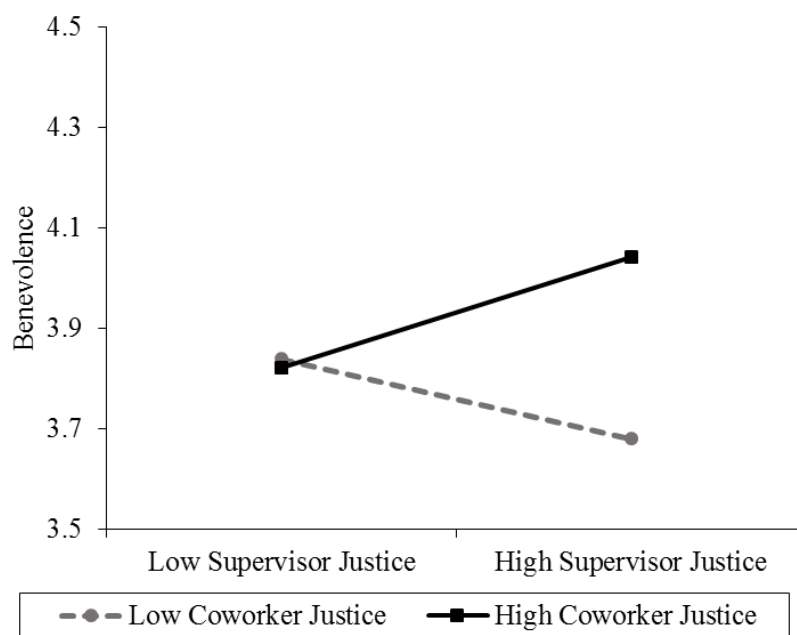l support for Hypothesis 4a, that is, supervisor trustworthiness mediates the interaction effect of supervisor justice and coworker justice on task performance.

Models 3 and 5 of Table 14 show that among the facets of supervisor trustworthiness, the effects of integrity ($\gamma = 0.04$, ns) and benevolence ($\gamma = 0.09$, ns) on OCB were not significant. And as Model 6 has shown, integrity ($\gamma = -0.19$, ns) and benevolence ($\gamma = 0.07$, ns) were not significantly related to OCB either when three trustworthiness facets were entered into the model simultaneously. Thus, the indirect effects of the interaction between supervisor justice and coworker justice on

OCB via integrity and benevolence were not supported.

As shown in Model 4 of Table 14, ability was significantly related to OCB when the interaction effect of supervisor justice and coworker justice was controlled for ($\gamma = 0.14$, $p < .05$), and when entered in the equation with the other two facets of supervisor trustworthiness simultaneously ($\gamma = 0.26$, $p < .05$). A test of mediation revealed that the indirect interaction effect of supervisor justice and coworker justice on task performance through benevolence was significant (indirect effect = 0.05, CI = [0.00, 0.11]). As shown in Table 17, when coworker justice was high, the indirect effect of supervisor justice on OCB via ability was significant, CI [0.01, 0.16]; when coworker justice was low, the indirect effect of supervisor justice on task performance via ability was also significant but the effect was weak CI [0.00, 0.07]. Taken together, Study 2 provided partial support for Hypothesis 4b, that is, supervisor trustworthiness mediates the interaction effect of supervisor justice and coworker justice on OCB.

Table 12
Results of Multilevel Models Predicting Personal Uncertainty (Study 2)

Variable	Model 1	Model 2	Model 3
Intercept	2.71**	2.71**	2.76**
Supervisor justice	0.01	0.21*	0.13
Coworker justice		-0.31**	-0.28**
Supervisor justice × Coworker justice			-0.37**
R^2	.00	.03	.05
ΔR^2		.03	.02
Deviance	492.56	485.36	480.06

Note. $n = 249$. * $p < .05$; ** $p < .01$.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

As shown in Model 3 of Table 12, the interaction effect of supervisor justice and coworker justice on personal uncertainty was significant ($\gamma = -0.37$, $p < .01$). The plot of the interaction is shown in Figure 8.
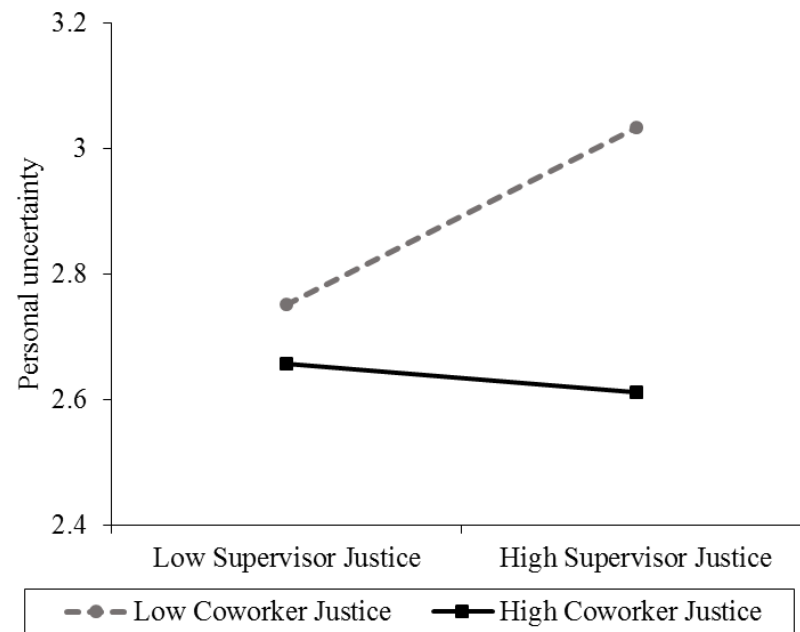
Figure 8. The interaction effect of supervisor justice and coworker justice on personal uncertainty (Study 2).

Simple slope test showed that when coworker justice was high, the simple slope of supervisor justice on personal uncertainty was not significant ($\gamma = -0.05$, *ns*); whereas when coworker justice was low, the simple slope of supervisor justice on personal uncertainty was significantly positive ($\gamma = 0.30$, $p < .05$). The interaction pattern was inconsistent with Hypothesis 5, that is, the negative relationship between supervisor justice and personal uncertainty is stronger when coworker justice is lower. Thus, Study 2 partially supported Hypothesis 5.

Table 13

The Mediated Interaction Effect of Supervisor Justice and Coworker Justice on Task Performance (Study 2)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	4.12**	4.13**	4.13**	4.13**	4.13**	4.13**	4.12**	4.08**
Supervisor justice	0.12	0.10	0.09	0.09	0.12	0.11	0.11	0.13
Coworker justice	-0.07	-0.09	-0.07	-0.07	-0.09	-0.09	-0.04	-0.05
Supervisor justice × Coworker justice	-0.06	-0.12	-0.09	-0.09	-0.12	-0.12	-0.04	-0.06
OBSE		0.22**						
Integrity			0.09			0.06		
Ability				0.08		-0.02		
Benevolence					0.12*	0.10		
Personal uncertainty							0.09	0.08
Personal uncertainty²								0.11
R^2	.00	.02	.00	.00	.01	.01	.01	.01
ΔR^2		.02	.00	.00	.01	.01	.01	.01
Deviance	551.02	544.29	549.76	550.19	548.06	547.84	549.31	548.94

Note. $n = 249$. * $p < .05$; ** $p < .01$. OBSE = Organization-based self-esteem.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

Table 14

The Mediated Interaction Effect of Supervisor Justice and Coworker Justice on OCB (Study 2)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	3.44**	3.45**	3.45**	3.45**	3.45**	3.46**	3.44**
Supervisor justice	0.02	0.00	0.00	-0.03	0.02	-0.01	0.01
Coworker justice	0.08	0.07	0.08	0.09	0.06	0.07	0.10
Supervisor justice × Coworker justice	-0.22	-0.25	-0.24	-0.27	-0.26	-0.30*	-0.20
OBSE		0.12					
Integrity			0.04			-0.19	
Ability				0.14*		0.26*	
Benevolence					0.09	0.07	
Personal uncertainty							0.07
R^2	.00	.00	.00	.01	.00	.01	.00
ΔR^2		.00	.00	.01	.00	.01	.00
Deviance	559.01	556.74	558.70	556.13	557.00	553.21	557.95

Note. $n = 249$. * $p < .05$; ** $p < .01$. OBSE = Organization-based self-esteem; OCB = Organizational citizenship behavior.

R^2 indicates the proportion of explained value of the DVs at within-person level. It is computed with the equation suggested by Snijders and Bosker (2012).

Table 15

*Contingent Indirect Effect of Supervisor Justice on Task Performance via OBSE
(Study 2)*

Moderator Coworker justice	Indirect effect	90% confidence interval
Low	-0.00	-0.04, 0.04
High	0.06	0.01, 0.14

Note. n = 249. OBSE = Organization-based self-esteem. Low = 1 SD below the mean; high = 1 SD above the mean.

Table 16

*Contingent Indirect Effect of Supervisor Justice on Task Performance via
Benevolence (Study 2)*

Moderator Coworker justice	Indirect effect	90% confidence interval
Low	-0.02	-0.06, 0.01
High	0.03	-0.01, 0.08

Note. n = 249. Low = 1 SD below the mean; high = 1 SD above the mean.

Table 17

Contingent Indirect Effect of Supervisor Justice on OCB via Ability (Study 2)

Moderator Coworker justice	Indirect effect	90% confidence interval
Low	0.03	0.00, 0.07
High	0.08	0.01, 0.16

Note. n = 249. OCB = Organizational citizenship behavior. Low = 1 SD below the mean; high = 1 SD above the mean.

As Model 8 of Table 13 has shown, either the effect of personal uncertainty (γ = 0.08, *ns*) or that of the quadratic term of personal uncertainty (γ = 0.11, *ns*) was significantly related to task performance. Thus, Study 2 did not provide support for Hypothesis 6a, that is, personal uncertainty mediates the curvilinear indirect interaction effect of supervisor justice and coworker justice.

As shown in Model 7 of Table 14, personal uncertainty was not significantly

related to OCB with the interaction of supervisor justice and coworker justice

controlled for ($\gamma = 0.07$, *ns*). Thus, Study 2 did not support Hypothesis 6b, that is,

personal uncertainty mediates the interaction effect of supervisor justice and

coworker justice on OCB.

Chapter 6 General Discussion

Overview of Findings

The current research investigated how supervisor justice and coworker justice interact to determine three theoretically important employee psychological outcomes – OBSE, supervisor trustworthiness (integrity, ability, and benevolence), and personal uncertainty, and how the interaction effects are transmitted to distal behavioral outcomes (i.e., task performance and OCB) through the respective psychological processes. Hypotheses were developed based on three major theories in the justice literature: group engagement model (Tyler & Blader, 2000, 2003), fairness heuristic theory (Lind, 2001a; van den Bos, 2001), and uncertainty management theory (Lind & van den Bos, 2002; van den Bos & Lind, 2002). Two field studies were carried out to test the hypotheses. Study 1 tested Hypotheses 1, 2a, 3, 4a, 5, and 6a, whereas Study 2 tested all the hypotheses.

Hypothesis 1, 2a and 2b were developed based on group engagement model. Converging results were obtained for Hypothesis 1 and 2a, suggesting that the positive effect of supervisor justice on OBSE was stronger when coworker justice was higher, and OBSE mediated the interaction effect of supervisor justice and coworker justice on task performance. No support was found for Hypothesis 2b, that is, the interaction of supervisor justice and coworker justice has an indirect effect on OCB via OBSE.

Hypothesis 3, 4a and 4b were developed based on fairness heuristic theory. Hypothesis 3 predicted that supervisor justice and coworker justice interact to

determine perceived supervisor trustworthiness, such that the effect of supervisor justice on supervisor trustworthiness is stronger when coworker justice is higher. For the three facets of trustworthiness, both Study 1 and Study 2 provided support for the hypothesized interaction effect on ability, whereas only Study 2 supported the hypothesized interaction effect on integrity and benevolence. Study 2 also found that benevolence mediated the interaction effect of supervisor justice and coworker justice on task performance, thus providing partial support for Hypothesis 4a, that is, supervisor justice and coworker justice have an indirect interaction effect on task performance via supervisor trustworthiness. Study 2 also partially supported Hypothesis 4b, that is, supervisor justice and coworker justice have an indirect interaction effect on OCB via supervisor trustworthiness, by showing that ability mediated the interaction effect of supervisor justice and coworker justice on OCB.

Hypothesis 5, 6a and 6b were developed based on uncertainty management theory. Study 2 found a significant interaction effect of supervisor justice and coworker justice on personal uncertainty, but the pattern of the interaction was not in line with Hypothesis 5. Furthermore, no support was found for Hypotheses 6a and 6b.

A summary of the hypothesis testing results is presented in Table 18. The theoretical and practical implications of the findings will be discussed in the following sections.

Table 18

Summary of Hypothesis Testing Results

Hypothesis	Study 1	Study 2
H1: Coworker justice moderates the relationship between supervisor justice and OBSE, such that the positive relationship between supervisor justice and OBSE is stronger when coworker justice is higher.	Supported	Supported
H2a: OBSE mediates the interaction effect of supervisor justice and coworker justice on task performance, such that the indirect effect of supervisor justice on task performance via OBSE is stronger when coworker justice is higher.	Supported	Supported
H2b: OBSE mediates the interaction effect of supervisor justice and coworker justice on OCB, such that the indirect effect of supervisor justice on OCB via OBSE is stronger when coworker justice is higher.	-	Not supported
H3: Coworker justice moderates the relationship between supervisor justice and supervisor trustworthiness (ability, benevolence, and integrity), such that the positive relationship between supervisor justice and supervisor trustworthiness is stronger when coworker justice is higher.	Partially supported	Partially supported
H4a: Supervisor trustworthiness (ability, benevolence, and integrity) mediates the interaction effect of supervisor justice and coworker justice on task performance, such that the indirect effect of supervisor justice on task performance via supervisor trustworthiness is stronger when coworker justice is higher.	Not supported	Partially supported
H4b: Supervisor trustworthiness (ability, benevolence, and integrity) mediates the interaction effect of supervisor justice and coworker justice on OCB, such that the indirect effect of supervisor justice on OCB via supervisor trustworthiness is stronger when coworker justice is higher.	-	Partially supported
H5: Coworker justice moderates the relationship between supervisor justice and personal uncertainty, such that the negative relationship between supervisor justice and personal uncertainty is stronger when coworker justice is lower.	Not supported	Partially supported
H6a: Personal uncertainty mediates the interaction effect of supervisor justice and coworker justice on task performance, such that the curvilinear indirect effect of supervisor justice on task performance via personal uncertainty is more positive when coworker justice is lower.	Not supported	Not supported
H6b: Personal uncertainty mediates the interaction effect of supervisor justice and coworker justice on OCB, such that the indirect effect of supervisor justice on OCB via personal uncertainty is stronger when coworker justice is lower.	-	Not supported

Theoretical Implications

I first consider the implications of the findings corresponding to each theory adopted by the current research.

First, this research carries some implications for group engagement model. Group engagement model highlights how fair treatment induces group members' cooperation by enhancing their perceived self-worth as a group member (Tyler & Blader, 2000, 2003). Particularly, group engagement model emphasizes the primary role of the authority of the group in communicating members' value to the group, whereas how peers can confirm or deny each other's self-worth by fairness or unfairness has been paid less attention (see Blader & Tyler, 2015). The relational perspective of justice advanced by group engagement model is relevant to peer relationship as well, because peers are an integral part of a group and just like treatment from authority, treatment from peers also conveys relational information reflecting one's value as a group member (e.g., Huo et al., 2010; Simon & Stürmer, 2003; Sleebos et al., 2006). Extending this idea, the current research demonstrated that fair treatment from the authority and that from peers can not only directly affect but also interact to determine group members' self-worth. Specifically, converging findings showed that supervisor justice was more strongly related to employees' OBSE when coworker justice was higher.

The results also speak to the recent development of group engagement model that distinguishes people's identity concerns into two types: identity security and identity enhancement (Blader & Tyler, 2015; Tyler, 2010). Concern for identity

security motivates people to distance themselves with groups that are likely to damage their self; whereas concern for identity enhancement motivates people to approach groups that are likely to boost their self (Blader & Tyler, 2015; Tyler, 2010). Though the two types of identity concerns are both for the maintenance of a positive social self, they can often point to conflicting action. This is because feedback people receive from a group is commonly mixed with positive and negative information about their self. For example, treatment from the supervisor and that from the coworkers can convey conflicting information to employees, which was considered in the current research. Under such circumstances, the concern about identity security will prompt employees to distance their self from such groups in order to avoid negative influences on self, whereas the concern about identity enhancement will drive employees to associate their self with such groups in order to augment the positive self-view. To understand how people will react in such circumstances, it is necessary to determine which concern will dominate people's reactions when the two identity concerns are in conflict. The current research provided evidence suggesting that identity security is likely to be the dominating one between the two concerns. Thus, when low coworker justice provides negative information about employees' self, the effect of supervisor justice on their self is weakened as a result of their distancing from the group. Such findings indicate that people's motive about their social self is similar to their motives about their private self (i.e., self-esteem motive) in the sense that they are both avoidance-oriented (Tice & Masicampo, 2008; see also Leary & Baumeister, 2000). The current findings

further showed that OBSE linked the interaction effect of supervisor justice and coworker justice to task performance, though the relationship between OBSE and OCB was not observed. Thus, in order to induce cooperation by boosting members' social self, groups should first make them feel safe from potential damages to their self. If justice information from different sources in the group contradicts each other, then members will lack a sense of identity security and cooperation is unlikely to be obtained.

Second, the current research also carries some implications for fairness heuristic theory. Fairness heuristic theory argues that people draw on justice perceptions to make judgments about trustworthiness (Lind, 2001a; van den Bos, 2001). Particularly, the theory reasons that because people need to make trust decisions in the earlier stage of interactions, they will make use of whatever justice-related information that is available to form perceptions of trustworthiness (Lind, 2001a). Consistent with such arguments, existing empirical studies showed that justice information obtained early (e.g., Lind, Kray, & Thompson, 2001) tend to weigh heavily when people making trust decisions. This body of literature, however, has been focused on how trust is derived from justice information about the trustee. In group settings, there are multiple sources of justice, and when making trust decisions concerning one source, justice information about other sources forms the context of the decision. If fairness heuristic theory is correct that people are likely to make use of any relevant information in the context to make trust decisions, then justice information about other sources may well affect trust decisions about one

source. Given the comparative nature of trustworthiness judgments, the current

research proposed that in a workgroup, coworker justice may serve as a minimum

standard of supervisor trustworthiness and the supervisor will be regarded as

untrustworthy if the minimum standard is not met. The current research provided

empirical support for this argument. Particularly, Study 1 found a significant

interaction effect of supervisor justice and coworker justice on ability, and Study 2

found significant interaction effects on all three facets of trustworthiness. For all the

interaction patterns it was found that supervisor justice was more strongly related to

supervisor trustworthiness when coworker justice was high, suggesting that

employees take information about coworker justice into consideration when

evaluating their supervisor's trustworthiness.

The inconsistencies among the interaction patterns should be noted: For the

interaction patterns of integrity (Figure 5) and ability (Figure 6) in Study 2, the Low

supervisor justice-High coworker justice point seemed to be separated out,

suggesting that when supervisor justice is low but coworker justice is high,

supervisors are regarded as particularly untrustworthy compared with other

situations; in contrast, for the interaction patterns of ability (Figure 3) in Study 1 and

benevolence (Figure 7) in Study 2, the High supervisor justice-High coworker

justice point seemed to be separated out, suggesting that only when both supervisor

justice and coworker justice are high, supervisors are regarded as particularly

trustworthy. The latter pattern seems to suggest that as long as coworker justice is

low, the supervisor will not be regarded as competent or benevolent regardless of

supervisor justice. Such pattern can be interpreted according to the recent discussion

on state-like trust propensity (Baer, Matta, Kim, Welsh, & Garud, 2018). According

to Baer et al. (2018), treatment from one source can temporarily strengthen or

weaken people's trust propensity, and thereby influence their trustworthiness

judgments about another source. Thus, employees experiencing low coworker justice

can get into a suspicious state, and therefore tend not to regard their supervisor as

trustworthy. Such process may work in parallel with the comparison process

proposed in the current research to account for the interaction effect of supervisor

justice and coworker justice on supervisor trustworthiness. In any case, it is clear

according to the findings that justice information about sources other than the trustee

plays a role in forming trustworthiness judgments about the trustee; moreover, the

difference between supervisor justice perceptions will elicit larger difference

between trustworthiness judgments when coworker justice is high.

Among the three facets of trustworthiness, strongest support was found for the

interaction effect of supervisor justice and coworker justice on ability. This is

noteworthy in that in the current literature the relationship between justice and

ability was found to be weak and unstable (Colquitt & Rodell, 2011; Frazier et al.,

2010). Though leaders are expected to adhere to justice rules (Borman & Brush,

1993; Conway, 1999; Den Hartog et al., 1999; Kohari & Lord, 2007), supervisor

justice may not be an informative indicator of ability (Colquitt & Rodell, 2011). This

can be the reason why employees are particularly likely to take coworker justice into

consideration when evaluating supervisor's ability: given that supervisor justice

alone is not very informative about supervisor's ability, how fair the supervisor is compared with coworkers may carry greater informational value. On the other hand, supervisor justice is a reliable indicator of benevolence and integrity, and therefore the information provided by the comparison between supervisor justice and coworker justice may of less importance.

It is also important to note that supervisor trustworthiness transmitted the interaction effects of supervisor justice and coworker justice on task performance and OCB. Specifically, it was found that benevolence mediated the interaction effect on task performance, whereas ability mediated the interaction effect on OCB. The findings are in line with the meta-analytic evidence showing the effect of benevolence on task performance tends to be stronger and the effect of ability on OCB tends to be stronger, compared with the other facets of trustworthiness (Colquitt et al., 2007). Thus, justice may not be able to elicit cooperation by demonstrating trustworthiness if it is below the minimum standard set in the context.

Third, the research carries some implications for uncertainty management theory as well. Uncertainty management theory suggests that people draw on justice perceptions to manage uncertainty, especially personal uncertainty (Lind & van den Bos, 2002; van den Bos & Lind, 2002). On the basis of the theory, it was hypothesized that low coworker justice will threaten employees' goal pursuit and need satisfaction, increase their sensitivity to justice information about other sources, and therefore strengthen the effect of supervisor justice on personal uncertainty. This prediction was largely unsupported. Whereas Study 1 did not find a significant

interaction effect of supervisor justice and coworker justice on personal uncertainty,

Study 2 found a significant interaction with a pattern different from what was

hypothesized. Specifically, supervisor justice was found unrelated to personal

uncertainty when coworker justice was high and positively related to personal

uncertainty when coworker justice was low. This result is surprising in that

according to uncertainty management theory one would expect justice to reduce

rather than increase uncertainty.

One potential reason for the interaction effect is that low supervisor justice

induces withdrawal from goals rather than vigilance against obstacles. Though

research on uncertainty-related anxiety argues that obstacles to goals make people

approach their goals vigilantly (Jonas et al., 2014), obstacles can also make people

withdraw from goal pursuit (see Hirsh et al., 2012). Importantly, withdrawal from

goal pursuit manifests itself in increased depression and yet reduced uncertainty

(Hayes & Hubley, 2017; Hayes, Ward, & McGregor, 2016). Threats to goal pursuit

are of little importance if the goal is abandoned, and thus cannot evoke uncertainty

feelings. In light of such work on goal-regulation, the results of the current research

may suggest that low supervisor justice poses serious obstacles for employees to

pursue their goals or satisfy their needs in the workplace. In support of the argument,

supervisor injustice was found to threaten employees basic need satisfaction (Lian,

Ferris, & Brown, 2012) and lead to employee depression (Spell & Arnold, 2007).

Thus, low supervisor justice can make employees withdraw from goal pursuit in the

workplace and shift their attention to other goal domains. On the other hand, low

coworker justice is not as severe as low supervisor justice, and therefore does not

prompt employees to withdraw from goal pursuit. Rather, in line with uncertainty

management theory, low coworker justice makes employees feel uncertain and

remain vigilant about their goal pursuit. If this is the case, then low personal

uncertainty can result not only from the condition of high supervisor justice and high

coworker justice, but also from the conditions of low supervisor justice. Low

supervisor justice poses serious threats to employees' goal pursuit and need

satisfaction, and therefore results in employees' withdrawal from pursuing their

goals. As a result, employees' personal uncertainty will be low regardless of

coworker justice. When supervisor justice is high, employees will maintain their

goal pursuit, and low coworker justice will make them feel threatened and thus

uncertain, whereas high coworker justice will result in low employee personal

uncertainty. Although I do not have data to examine the validity of the above

reasoning, research on goal-regulation (Hayes & Hubley, 2017; Hayes et al., 2016)

did point out such possibilities that have not been considered in uncertainty

management theory. Such possibilities suggest that under certain circumstances low

justice can also reduce uncertainty by eliciting abandonment of goals.

Furthermore, support was not found for hypotheses that personal uncertainty

mediates the interaction effects of supervisor justice and coworker justice on task

performance and OCB. One potential reason is that personal uncertainty is broad

construct such that it is less capable in predicting specific work behaviors. Specific

measures of felt uncertainty in the workplace may be better predictors of employee

performance (e.g., Colquitt et al., 2012; Desai et al., 2011). This may be also due to the complicated effect of uncertainty on performance. Uncertainty can have debilitative and facilitative effects of performance, making its effects difficult to detect if specific mechanisms are not considered (see Cheng & McCarthy, 2018).

Another set of theoretical implications can be derived by considering the findings of the current research in the broad context of workplace justice literature.

First, the findings highlighted coworkers as an important source of justice in the workplace. Justice scholars have long been viewing the organization and the supervisor as two distinct sources of justice in the workplace, but they did not start to take other sources of justice into consideration until recently (e.g., Lavelle et al., 2007). Previous research demonstrated that coworker justice is a distinguishable source of justice, is able to predict outcomes related to coworkers (e.g., Au & Leung, 2016; Lavelle, Brockner et al., 2009), and has incremental predictive power on several work outcomes (e.g., Lavelle, McMahan et al., 2009; Li et al., 2013; Molina et al., 2015). In the current research, the importance of coworker justice was demonstrated from a different angle, that is, coworker justice can interact with supervisor justice to influence employee performance. To provide a comprehensive understanding of the interaction effect of coworker justice and supervisor justice, three major justice theories were adopted, which provided theoretical lenses complementary to the prevailing social exchange perspective on coworker justice. It was found that coworker justice could interact with supervisor justice to influence employees' OBSE, perceptions of supervisor trustworthiness, and personal

uncertainty, and yet only OBSE and supervisor trustworthiness transmitted the interaction effect on employee performance. The findings suggested that several motivational-cognitive processes were involved in employee reactions to the interaction of coworker justice and supervisor justice, but interpersonal cognitions like OBSE and trustworthiness are the main mechanisms through which justice can elicit cooperation. Intrapsychic states like personal uncertainty, in contrast, appear to be less important in the justice-performance relationship. That being said, the relationship between uncertainty and performance can be a complex one consisting of multiple mechanisms that can cancel out each other's effect (Cheng & McCarthy, 2018). Further research is needed to more closely investigate the specific mechanisms linking uncertainty and performance in order to clarify the role of uncertainty in the justice-performance relationship.

Second, the findings revealed that justice from one source may determine when justice from another source matters more. It has been long recognized that whether justice matters more or less can depend on other relevant justice information in the context. This line of research, however, has been focusing on how one type of justice moderates the effect of another type of justice (for recent reviews, see Brockner, 2010; Brockner & Wiesenfeld, 2005), and how justice aimed at one target moderates the effect of justice aimed at another target (Colquitt, 2004; Grienberger et al., 1997; van den Bos & Lind, 2001). How justice from one source moderates the effect of justice from another source, however, has been rarely investigated (for exceptions, see Price et al., 2006; Skarlicki et al., 2016). The current research demonstrated that

considering how sources of justice interact can provide novel insights into when

justice matters more. Specifically, relatively strong evidence was found showing that

the effects of supervisor justice on OBSE and supervisor trustworthiness were

weakened when coworker justice was low. The current research also suggested that

examining multiple mediators of the interaction effect of justice from multiple

sources can be necessary because the interaction may manifest in different patterns

on different mediators.

Practical Implications

Organizations and managers face the ongoing challenge of how to encourage

employee cooperation, and promoting fair treatment is one effective way to address

the challenge. While companies may already learn the benefits of training their

managers to be fair (Skarlicki & Latham, 2005), the current research suggests that to

elicit greater cooperation, it is also important to train employees to treat each other

fairly. Without an adequate level of coworker justice, the positive effect of

supervisor justice may not be observed. In general, the findings of the current

research suggest that organizations should not only care about justice issues in

hierarchical relationships, but also those in lateral relationships.

Limitations

Some limitations of the research should be noted. First, only one type of justice

– interactional justice – was considered in the current research. This decision was

made because compared with distributive justice and procedural justice, supervisor

interactional justice and coworker interactional justice are most comparable in terms

of the content. Interactional justice focuses on interpersonal encounters, and the

nature of daily encounters with supervisors and those with coworkers, despite power

differences, are essentially the same. The rules of interactional justice are thus

equivalently applicable to supervisor justice and coworker justice (Bies, 2015). In

contrast, resources allocated by supervisors and by coworkers can be largely

different, and the decision processes may also differ between supervisor-subordinate

relationships and coworker relationships, and therefore the nature of distributive

justice and procedural justice may differ to a larger degree when the source is

supervisor versus coworkers. Therefore, it remains to be determined whether the

findings can be generalized to the interaction of supervisor distributive justice and

coworker distributive justice, or the interaction of supervisor procedural justice and

coworker procedural justice.

Second, some of the findings are not consistent between Study 1 and Study 2.

The interaction effects of supervisor justice and coworker justice on integrity,

benevolence, and personal uncertainty were found in Study 2 but not in Study 1.

Given that participants in Study 1 were mainly manual workers with not much

education, whereas those in Study 2 were mainly well-educated nurses, the

inconsistent findings raise questions about generalizability. Though I am not aware

of any study on the relationship between justice concern and educational level,

research showed that lower educational level is associated with higher

authoritarianism (Duriez & Van Hiel, 2002), and people high in authoritarianism

tend to defer to the authorities and care less about justice issues (Altemeyer, 1998).

If so, then people with less education can pay less attention to justice issues and thus do not process justice information carefully, resulting in weakened justice effects. Future research is needed to clarify the effect of educational level on justice effects.

Another generalizability issue arises due to the societal context of the samples. The two studies reported were both conducted in China, the cultural and institutional conditions of which are different from where the justice theories originated. Thus, although the predictions were developed in a general rather than culture-specific manner, whether the findings can be generalized to other societal contexts is questionable. Indigenous research showed that justice rules adopted in contemporary China do not fundamentally differ from those adopted in western societies (Guo & Giacobbe-Miller, 2015). In addition, meta-analytic evidence demonstrated that justice effect tends to be weaker in East Asian countries compared to Western countries, likely due to high power distance and strong collectivism (Li & Cropanzano, 2009b; Shao, Rupp, Skarlicki, & Jones, 2013). Such findings seem to be in favor of the generalizability of current results. On the other hand, justice rules adopted in a specific situation and interpretations of justice-related behaviors can vary across cultures (Morrison & Leung, 2000). Thus, whether the interaction of supervisor justice and coworker justice is similarly interpreted and reacted in other societal contexts remains to be systematically investigated.

Third, despite time lags between the collection of independent variables and other variables, the correlational nature of the data precluded causality tests.

Conclusion

I advance justice literature by examining a contingent indirect effect model concerning the interaction effect of supervisor justice and coworker justice based on three major justice theories: group engagement model, fairness heuristic theory, and uncertainty management theory. I found that supervisor justice and coworker justice interacted to determine employee OBSE, supervisor trustworthiness, and personal uncertainty, such that when coworker justice was high, the effects of supervisor justice on OBSE and supervisor trustworthiness were stronger, and the effect of supervisor justice on personal uncertainty was weaker. I further found OBSE and supervisor trustworthiness mediated the interaction effects of supervisor justice and coworker justice on employee performance. The findings highlight the key role of coworker justice in employees' experience of justice in the workplace and carry implications for relevant theories.

Appendix A

Measures in Study 1

Supervisor Justice (Colquitt, 2001)

1-To a very small extent; 2-To a small extent; 3-To a moderate extent; 4-To a large

extent; 5-To a very large extent

To what extent…

Does your supervisor treat you in a polite manner?

Does your supervisor treat you with dignity?

Does your supervisor treat you with respect?

Does your supervisor refrain from improper remarks or comments?

Is your supervisor candid when communicating with you?

Does your supervisor explain decision-making procedures thoroughly?

Are your supervisor's explanations regarding procedures reasonable?

Does your supervisor communicate details in a timely manner?

Does your supervisor tailor communications to meet individuals' needs?

Coworker Justice (Colquitt, 2001)

1-To a very small extent; 2-To a small extent; 3-To a moderate extent; 4-To a large

extent; 5-To a very large extent

To what extent…

Do your coworkers treat you in a polite manner?

Do your coworkers treat you with dignity?

Do your coworkers treat you with respect?

Do your coworkers refrain from improper remarks or comments?

Are your coworkers candid when communicating with you?

Do your coworkers explain decision-making procedures thoroughly?

Are your coworkers' explanations regarding procedures reasonable?

Do your coworkers communicate details in a timely manner?

Do your coworkers tailor communications to meet individuals' needs?

Organization-Based Self-Esteem (Pierce et al., 1989)

1-Disagree strongly; 2-Disagree a little; 3-Neither agree nor disagree; 4-Agree a little; 5-Agree strongly

I am trusted.

There is faith in me.

I am cooperative.

I am helpful.

I am valuable.

Supervisor Trustworthiness (Mayer & Davis, 1999)

1-Disagree strongly; 2-Disagree a little; 3-Neither agree nor disagree; 4-Agree a little; 5-Agree strongly

Benevolence

My supervisor is very concerned about my welfare.

My needs and desires are very important to my supervisor.

My supervisor would not knowingly do anything to hurt me.

My supervisor really looks out for what is important to me.

My supervisor will go out of his/her way to help me.

Ability

My supervisor is very capable of performing his/her job.

My supervisor is known to be successful at the things he/she tries to do.

My supervisor has much knowledge about the work that needs done.

I feel very confident about my supervisor's skills.

My supervisor has specialized capabilities that can increase our performance.

My supervisor is well qualified.

Integrity

My supervisor has a strong sense of justice.

I never have to wonder whether my supervisor will stick to its word.

My supervisor tries hard to be fair in dealings with others.

I like my supervisor's values.

Sound principles seem to guide my supervisor's behavior.

My supervisor's actions and behaviors are not very consistent. (R)

Personal Uncertainty (McGregor et al., 2001)

1-Never; 2-Once in a while; 3-Some of the time; 4-Often; 5-All the time

Mixed

Uneasy

Torn

Bothered

Preoccupied

Confused

Unsure of self or goals

Contradictory

Distractible

Unclear

Of two minds

Muddled

Restless

Confused about identity

Jumbled

Uncomfortable

Conflicted

Indecisive

Chaotic

Task Performance (Chen et al., 2002)

1-Disagree strongly; 2-Disagree a little; 3-Neither agree nor disagree; 4-Agree a little; 5-Agree strongly

This employee makes significant contribution to the overall performance of our

work unit.

This employee always completes job assignments on time.

This employee is one of the best employees in our work unit.

This employee's performance always meets the expectations of the supervisor.

Appendix B

Measures in Study 2

Supervisor Justice (Colquitt et al., 2015)

1-To a very small extent; 2-To a small extent; 3-To a moderate extent; 4-To a large

extent; 5-To a very large extent

To what extent…

Does your supervisor treat you in a polite manner?

Does your supervisor treat you with dignity?

Does your supervisor treat you with respect?

Does your supervisor refrain from improper remarks or comments?

Is your supervisor candid when communicating with you?

Does your supervisor explain decision-making procedures thoroughly?

Are your supervisor's explanations regarding procedures reasonable?

Does your supervisor communicate details in a timely manner?

Does your supervisor tailor communications to meet individuals' needs?

Does your supervisor treat you in a rude manner? (R)

Does your supervisor treat you in a derogatory manner? (R)

Does your supervisor treat you with disregard? (R)

Does your supervisor use insulting remarks or comments? (R)

Is your supervisor dishonest when communicating with you? (R)

Is your supervisor secretive about decision-making procedures? (R)

Are your supervisor's explanations regarding procedures unacceptable? (R)

Does your supervisor communicate details too slowly? (R)

Are your supervisor's communications "generic" or "canned"? (R)

Coworker Justice (Colquitt et al., 2015)

1-To a very small extent; 2-To a small extent; 3-To a moderate extent; 4-To a large

extent; 5-To a very large extent

To what extent…

Do your coworkers treat you in a polite manner?

Do your coworkers treat you with dignity?

Do your coworkers treat you with respect?

Do your coworkers refrain from improper remarks or comments?

Are your coworkers candid when communicating with you?

Do your coworkers explain decision-making procedures thoroughly?

Are your coworkers' explanations regarding procedures reasonable?

Do your coworkers communicate details in a timely manner?

Do your coworkers tailor communications to meet individuals' needs?

Do your coworkers treat you in a rude manner? (R)

Do your coworkers treat you in a derogatory manner? (R)

Do your coworkers treat you with disregard? (R)

Do your coworkers use insulting remarks or comments? (R)

Are your coworkers dishonest when communicating with you? (R)

Are your coworkers secretive about decision-making procedures? (R)

Are your coworkers' explanations regarding procedures unacceptable? (R)

Do your coworkers communicate details too slowly? (R)

Are your coworkers' communications "generic" or "canned"? (R)

Organization-Based Self-Esteem (Pierce et al., 1989)

1-Disagree strongly; 2-Disagree a little; 3-Neither agree nor disagree; 4-Agree a little; 5-Agree strongly

I count around here.

I am taken seriously.

I am important.

I am trusted.

There is faith in me.

I can make a difference.

I am valuable.

I am helpful.

I am efficient.

I am cooperative.

Supervisor Trustworthiness (Mayer & Davis, 1999)

Same with Study 1

Personal Uncertainty (McGregor et al., 2001)

Same with Study 1

Task Performance (The Survey Research Center, 1977; as cited from Shaw, Duffy, Johnson, & Lockhart, 2005)

How good is the quality of this employee's performance? (*1-Very poor; 2-Moderately poor; 3-Neither poor nor good; 4-Moderately good; 5-Very good*)

How efficiently does this employee do his or her work? (*1-Very inefficiently; 2-A little inefficiently; 3-Neither inefficiently nor efficiently; 4-A little efficiently; 5-Very efficiently*)

When changes are made to procedures, schedules, and menus, how quickly does this employee adjust to them? (*1-Very slowly; 2-A little slowly; 3-Neither slowly nor quickly; 4-A little quickly; 5-Very quickly*)

How well does this employee cope with situations that demand flexibility? (*1-Very poorly; 2-A little poorly; 3-Neither poorly nor well; 4-a Little well; 5-Very well*)

OCB (Spector et al., 2010)

1-Never; 2-Once or twice; 3-Once or twice per month; 4-Once or twice per week; 5-Everyday

How often has this employee done each of the following things on the job?

Took time to advise, coach, or mentor a co-worker.

Helped co-worker learn new skills or shared job knowledge.

Helped new employees get oriented to the job.

Lent a compassionate ear when someone had a work problem.

Offered suggestions to improve how work is done.

Helped a co-worker who had too much to do.

Volunteered for extra work assignments.

Worked weekends or other days off to complete a project or task.

Volunteered to attend meetings or work on committees on own time.

Gave up meal and other breaks to complete work.

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