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Followers' Reactions to Leader Differentiation

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ABSTRACT

Leaders generally differentiate their relationships with followers, for example, by providing some with more respect, trust, support, or information than others (Liden & Graen, 1980). However, the effects of such leader differentiation on followers remain inconclusive such that research suggests that leader differentiation may have negative, positive, or null effects on favorable employee work-related outcomes (for a recent review, see Martin et al., 2018). To better understand the effects of leader differentiation, utilizing leader-member exchange (LMX) theory, I considered three inherently connected properties in the leader differentiation process – LMX differentiation, LMX quality and LMX social comparison (Martin et al., 2018). I theorized that the three properties interact to influence followers' supervisory interactional justice perceptions and subsequently their discretionary behaviors toward their leaders. Results from three studies with different research designs and conducted in different cultures, largely supported my hypothesized conditional moderated mediation model. When LMX quality and LMX social comparison were both high, the negative impact of LMX differentiation on followers' supervisory interactional justice perceptions was the weakest. In addition, when LMX quality and LMX social comparison were both high, LMX differentiation's positive indirect effect on followers' supervisor-directed deviance and its negative indirect effect on followers' supervisor-directed organizational citizenship behaviors via followers' supervisory interactional justice perceptions were the weakest.

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CHAPTER 1: INTRODUCTION

Leader-member exchange theory (LMX theory; Dansereau et al., 1975; Liden & Graen, 1980) is one of the most common and useful frameworks for understanding leadership processes and their effects on both followers and leaders (Bauer & Erdogan, 2015). A central tenet of LMX theory is that leaders treat their followers differently resulting in relationships of different qualities between leaders and followers (Dansereau et al., 1975; Graen & Cashman, 1975). Although leader differentiation is a central tenet of LMX theory, the notion that leaders treat their followers differently is either explicitly or implicitly part of several other leadership theories such as individualized considerations in transformational leadership theory (Bass, 1985) and the theory on idiosyncratic deals between leaders and followers (Rousseau et al., 2009). Despite the theoretical importance of leader differentiation, it has received limited research attention and its impact on followers is not well understood. Indeed, after reviewing the extant literature on LMX differentiation (LMXD), researchers concluded that findings "have been mixed at best" (Anand et al., 2015, p. 288) and that "conclusive findings are hard to come by" (Bauer & Erdogan, 2015, p. 418).

When leaders treat their followers differently, there are three primary properties associated with such differentiation: variation, central tendency, and relative position (Martin et al., 2018). Variation is captured by LMXD which refers to the degree to which leaders treat their followers differently (Henderson et al., 2009). Low LMXD indicates leaders treat their followers almost uniformly whereas high LMXD indicates leaders treat their followers quite differently. Central tendency describes the average relationship quality between the leader and each follower. The quality of a leader-follower relationship is referred to LMX quality (Graen & Uhl-Bien, 1995). Through the exchange of four primary currencies, namely loyalty, professional respect, contribution, and affect (Liden & Maslyn, 1998), leaders and followers develop different relationships. High LMX quality indicates that followers have good

relationships with their leaders while low LMX quality indicates poor relationships. Relative position is the standing of a follower's LMX quality compared to other followers in the team. This aspect is captured by LMX social comparison (LMXSC) which refers to a follower's perception of one's relative standing in a workgroup with regard to one's LMX quality (Vidyarthi et al., 2010). Followers with high LMXSC perceive they have better relationships with their leaders than most other followers, whereas those with low LMXSC perceive they have worse relationships with their leaders than most other followers. Although these properties are three inherently connected properties in the leader differentiation process, Martin et al.'s review (2018) revealed that research has not yet investigated how the three properties combine to influence followers. Thus, Martin et al. (2018) called for research that simultaneously considers these three properties in the leader differentiation process to more fully understand this leadership process.

To more comprehensively theorize about, and empirically examine how, leader differentiation influences followers in the workplace, I developed and tested a theoretical model in which LMXD, LMX quality, and LMXSC interact to influence followers' interactional justice perceptions and their subsequent discretionary behaviors toward their leaders – supervisor-directed deviance and supervisor-directed organizational citizenship behaviors (OCBs). I focused on justice perceptions not only because leaders' differential treatment "will make justice concerns salient" (Erdogan & Bauer, 2010, p. 1106) but also because justice issues are not well understood in the LMX literature (Masterson & Lensges, 2015; Scandura, 1999). Further, as leader differentiation often is about leaders' interpersonal treatment toward followers, I specifically focused on supervisory interactional justice not only because it is likely the most relevant type of justice that is influenced by leaders' differential interpersonal treatment among followers (Bies & Moag, 1986) but also because leaders have more discretion influencing followers' interactional justice perceptions than

other types of justice perceptions (Scott et al., 2009). Next, I examined how the interactive effects of these three LMXD properties indirectly influence followers' deviant behaviors and OCBs toward their leaders through their supervisory interactional justice perceptions. I focused on followers' deviant behaviors and OCBs not only because justice perceptions have the potential to influence these behaviors given employees tend to punish a transgressor who commits an injustice (Carlsmith et al., 2002; Okimoto & Wenzel, 2009) via discretionary behaviors (e.g., Ambrose et al., 2013; Aquino et al., 2004), but also because these discretionary behaviors meaningfully influence employees and organizations. For example, deviance increases the tension among employees and brings profit losses to organizations (for a review, see Robinson & Bennett, 1995). Similarly, OCBs increase group cohesion and enhance organizational performance (e.g., Lin & Peng, 2010; Podsakoff et al., 2000).

In developing the theoretical model (see Figure 1), I theorized that LMXD negatively influences followers' supervisory interactional justice perceptions because leader differentiation influences the two primary determinants of followers' supervisory interactional justice perceptions – leaders' honesty and respect toward followers (Bies & Moag, 1986). For leaders' honesty, given that followers are aware of and sensitive to the leaders' differential treatment (Duchon et al., 1986; Tse et al., 2013), when leaders differentiate, leaders provide different amounts of information and other resources to followers (Liden & Graen, 1980) and therefore are more likely to be perceived to act inconsistently and unequally toward all followers (Hooper & Martin, 2008; van Breukelen et al., 2002). This may make followers question their leaders' honesty. For leaders' respect toward followers, when leaders differentiate, leaders develop high-quality relationships with only a few followers (i.e., the in-group members; Dansereau et al., 1975; Liden & Graen, 1980). As respect is a key determinant of these relationships (Liden & Maslyn, 1998), when leaders differentiate, the majority of followers (i.e., the out-group members) likely perceive

that their leaders give them less respect via social comparisons with their peers. Therefore, I theorized that LMXD lowers followers' supervisory interactional justice perceptions.

I further theorized that this negative relation between LMXD and followers' supervisory interactional justice perceptions is influenced by two other properties in the leader differentiation process – LMX quality and LMXSC. I theorized that LMX quality and LMXSC combine to buffer the negative effect of LMXD on followers' supervisory interactional justice perceptions. Specifically, I theorized that when LMX quality and LMXSC are both high, the effect of LMXD on followers' supervisory interactional justice perceptions is the weakest because people deem favorable treatment as being more just (Skitka et al., 2003). Moreover, according to the retributive justice theory (Carlsmith et al., 2002; Okimoto & Wenzel, 2009), which posits that a transgressor who commits an injustice deserves to be punished, injustice perceptions likely increase followers' deviant reactions and decrease their OCBs toward their leaders. As LMX quality and LMXSC jointly buffer the negative effect of LMXD on followers' supervisory interactional justice perceptions, which influence followers' deviant behaviors and OCBs toward their leaders, I theorized that LMX quality and LMXSC also jointly buffer the positive indirect effect of LMXD on followers' supervisor-directed deviance as well as its negative indirect effect on followers' supervisor-directed OCBs via followers' supervisory interactional justice perceptions.

To test this theoretical model, I conducted three studies. In an experimental study (Study 1), I manipulated LMXD, LMX quality, and LMXSC and observed that LMX quality and LMXSC jointly buffered the negative relation between LMXD and followers' supervisory interactional justice perceptions such that when LMX quality and LMXSC were both high, the negative effect of LMXD on followers' supervisory interactional justice perceptions was the weakest (zero). Additionally, I observed that LMX quality and LMXSC jointly buffered the indirect effects of LMXD on followers' intentions to engage in deviance

and OCBs toward their leaders. That is, when LMX quality and LMXSC were both high, the indirect effects were the weakest. In Study 2, I extended Study 1 by adopting a time-lagged field design. Additionally, rather than measuring intentions to engage in supervisor-directed deviance and supervisor-directed OCBs, I measured employees' actual deviant behaviors and OCBs toward their leaders. Study 2 replicated the findings of Study 1 – the three LMXD properties interactively influenced followers' supervisory interactional justice perceptions and subsequently their actual discretionary behaviors toward their leaders. Study 3 extended the previous two studies by adopting a multilevel, multi-wave, and multisource research design. Moreover, unlike Study 1 and Study 2 which depended on self-rated measurements, in Study 3, I surveyed both followers and their leaders. LMXD properties and interactional justice perceptions were rated by followers. Their supervisor-directed deviance and OCBs were rated by both followers and their leaders. Furthermore, in addition to the subjective LMXD measure (i.e., followers' perceptions of LMXD), I tested my model with objective LMXD measures (i.e., the group standard deviation and variance of LMX quality score within a team). Lastly, in Study 3, I tested the generalizability of my model with an Indian working sample, which is different from the USA samples used in Study 1 and Study 2. The results of Study 3 largely replicated the findings of Study 1 and Study 2, supporting my hypothesized model.

This research makes several contributions to the extant LMX, justice, and discretionary behavior literature. First, I more comprehensively examined the effects of the leader differentiation process on followers by incorporating its three necessary properties. Thus, my research advances LMX theory and other leadership theories that involve leader differentiation. Second, even though much justice research focuses on the consequences of justice, researchers have set about a paradigm shift in recent years. Increasingly, the field of justice has turned to understanding how individual justice perceptions are formed (referred to

the fifth wave of justice research; see Brockner et al., 2015). In this research, I theorized and examined how the three LMXD properties interactively affect followers' supervisory interactional justice perceptions. Therefore, I contribute to the justice literature by exploring some potentially important antecedents of justice. Third, my research contributes to the workplace discretionary behavior literature by observing that not only does a leader's direct treatment but also the relative treatment and the degree of leader differentiation of treatment across followers influence followers' supervisor-directed deviance and OCBs toward the leader.

CHAPTER 2: THEORETICAL BACKGROUND AND HYPOTHESES

Three Properties in the LMXD Process

According to LMX theory, leaders optimize their use of resources (e.g., time, energy) by differentiating followers such that with some followers they develop higher-quality relationships (in-group members) than with others (out-group members; Dansereau et al., 1975; Graen & Uhl-Bien, 1995). Since its inception, LMX theory explicitly highlights two properties in this differentiation process – LMXD and LMX quality. Given that these leader-follower dyadic relationships are nested in workgroups (Graen & Scandura, 1987; Scandura, 1999), followers are aware of other workgroup members' relationships with the leader and likely compare their own LMX relationships with those of their peers (Duchon et al., 1986; Liden et al., 1997; Tse et al., 2013). Thus, the differentiation process includes three primary properties – LMXD, LMX quality, and LMXSC (Martin et al., 2018).

The theorizing and empirical findings regarding the effects of LMXD have been mixed. On one hand, researchers argued that followers inevitably differ in their contributions to their workgroups, and therefore, they expect leaders to develop different types of exchange relationships based on their different contributions (Liden et al., 2006). As LMXD meets their expectations for different exchange relationships, they may perceive such leader differentiation positively. On the other hand, other researchers have argued that followers may react negatively to LMXD because leaders provide different levels of support and resources to followers. Such differentiation may challenge followers' expectations of their leaders' future fairness and undermine their trust in their leaders (Liden et al., 2006; Scandura, 1999). As such, LMXD may influence followers negatively. The empirical findings of LMXD's effects on work-related criteria reflect these differences in LMXD theorizing. For instance, Hooper and Martin (2008) found that in a workgroup in which LMX relations were highly differentiated, members reported lower levels of job satisfaction

because higher LMXD raised followers' concerns of the leader's integrity and their fears of being potential "victims" of the leader in the future. In contrast, Naidoo et al. (2011) found that LMXD positively related to followers' job performance because leaders strategically assigned different tasks to different followers, which fitted followers' capability and thereby maximized their performance. As another example, Erdogan and Bauer (2010) found that that there was no effect of LMXD on employee job satisfaction. Thus, as noted above regarding the effects of LMXD on employee work-related criteria, "conclusive findings are hard to come by" (Bauer & Erdogan, 2015, p. 418). One potential reason for these inconsistent findings could be that LMX quality and LMXSC were not simultaneously considered and might influence the manner in which LMXD predicts employee work-related criteria.

Unlike the findings of LMXD, results regarding LMX quality and LMXSC generally are consistent. Theoretically, leader-follower relationships which develop from exchanges between the two parties are motivated by the mutual benefits derived from these exchanges. Higher LMX-quality relationships provide followers benefits from the leader, such as resources, respect, trust, and loyalty (Liden & Maslyn, 1998) and vice versa (Greguras & Ford, 2006). Higher LMXSC also provides followers with advantages through social comparisons such as more positive feelings and enhanced self-images (Hu & Liden, 2013). As such, higher LMX quality and higher LMXSC generally are beneficial for followers. For example, both higher-quality LMX relationships and higher LMXSC increase followers' job satisfaction, organizational commitment, OCBs, and job performance (e.g., Dulebohn et al., 2012; Henderson et al., 2008; Hu & Liden, 2013; Tse et al., 2012; Vidyarthi et al., 2010; Zhao, 2014).

In addition to those studies which investigated how a single LMXD property influences work-related criteria, very limited research has examined how 2 of the 3 LMXD properties may interact to impact employee-related criteria. Of this very limited research, the

results often are inconsistent. For example, Ma and Qu (2010) observed that the positive effect of LMX quality on individual job performance was strengthened in workgroups with high LMXD. In contrast, Gooty and Yammarino (2016) found that the positive effect of LMX quality on individual job performance disappeared in workgroups with high LMXD. As another example, Harris et al. (2014) found that LMXD moderated the positive effect of LMX quality on workgroup members' engagement, such that high LMXD attenuated the positive effect of LMX quality. In contrast, other researchers found that LMXD strengthened the positive effect of LMX quality on individual role engagement (Li & Liao, 2014). Again, I theoretically argue that these inconsistent findings may be a result of only considering a subset of the three properties in the LMXD process. Given this, investigating the three LMXD properties simultaneously in the leader differentiation process is necessary to more appropriately and comprehensively examine the influence of the differentiation tenet of LMX theory (Martin et al., 2018). To my knowledge, no study has investigated the three LMXD properties simultaneously to fully understand the leader differentiation phenomenon.

The Effect of LMXD on Followers' Supervisory Interactional Justice Perceptions

I begin developing my hypothesized model by theorizing that LMXD negatively influences followers' supervisory interactional justice perceptions. Research indicates that employees' supervisory justice perceptions do not develop in a vacuum. The formation of supervisory justice perceptions relies on social information in the workplace. For example, Jones and Skarlicki (2005) and Hollensbe et al. (2008) both indicated that employees use social information from peers (e.g., their peers' opinions of their leaders) in assessing the justice of their leaders. Thus, followers' supervisory interactional justice perceptions are potentially influenced by the social information generated by leaders' differential treatment among their followers.

As Bies and Moag (1986) noted, the two main determinants of supervisory interactional justice are whether followers perceive that their leaders are honest and respect them. First, regarding the leader's honesty, I theorize that followers will be more likely to question their leaders' honesty when their leaders does not act in an equal and consistent manner across followers. Second, regarding the leader's respect, LMX theory explicitly posits that one way in which leaders differentiate followers is to respect out-group members less than in-group members (e.g., Liden & Maslyn, 1998). Given most followers are out-group members (Dansereau et al., 1975), when a leader differentiates followers, the majority of followers may feel that the leader respects them less, resulting in lower supervisory interactional justice perceptions. In addition, even for the in-group members, their supervisory interactional justice perceptions are likely lower when a leader differentiates than when the leader does not for at least two reasons. First, research has shown that leader differentiation increases in-group members' fears of being potential victims of unfairness or such negative differentiation in the future (Hooper & Martin, 2008). Second, as individuals' justice perceptions are influenced by social information from peers (Hollensbe et al., 2008; Jones & Skarlicki, 2005), peers' injustice perceptions can negatively influence the justice perceptions of those in-group members (e.g., Colquitt, 2004). Based on these theoretical arguments, I hypothesize:

Hypothesis 1: LMXD negatively relates with followers' supervisory interactional justice perceptions.

The Interactive Effect of the Three LMX Properties on Followers' Supervisory Interactional Justice Perceptions

Below I theorize that the abovementioned negative relation of LMXD with supervisory interactional justice is qualified by the combination of LMX quality and LMXSC. As noted above, I theorize it is the interaction of these three properties that influences followers' supervisory interactional justice perceptions.

I theorize LMX quality buffers the negative effect of LMXD on followers' supervisory interactional justice perceptions. As researchers have noted, leaders develop low-quality transactional relationships with out-group members, whereas they develop high-quality socio-emotional relationships with their in-group members (Liden et al., 1997). I argue that such favorable treatment positively affects the two determinants of interactional justice perceptions – i.e., favorable treatment from the leader likely increases followers' perceptions of leaders' honesty and respectfulness. This notion has been supported by extant empirical research. For instance, both Bhal (2006) and Elicker et al. (2006) found that LMX quality positively influenced followers' justice perceptions. Thus, higher LMX quality may weaken the negative relation between LMXD and supervisory interactional justice. Although higher LMX quality may weaken the negative relation between LMXD and supervisory interactional justice, this relation is further affected by LMXSC. Specifically, followers not only care if their leaders treat them well but also care that they are treated better than others (Festinger, 1954). Individuals tend to judge favorable treatment as being fairer, often discussed as favoritism bias (Skitka et al., 2003). Through social comparisons, followers with higher LMXSC perceive that they receive more favorable treatment from their leaders than most others. Thus, theoretically, higher LMXSC further strengthens the buffering effect of higher LMX quality on the negative relation of LMXD and supervisory interactional justice perceptions. Accordingly, I hypothesize:

Hypothesis 2: LMXD, LMX quality, and LMXSC interact to influence followers' supervisory interactional justice perceptions, such that the negative relation of LMXD and followers' supervisory interactional justice perceptions is the weakest when LMX quality and LMXSC are both high.

Supervisory Interactional Justice as the Mediator of LMXD Properties and Followers' Discretionary Behaviors

Given followers' justice perceptions influence their subsequent behaviors (for a review, see Colquitt et al., 2001), below I theorize that followers' supervisory interactional justice perceptions transmit the effects of the three LMXD properties to followers' two primary sets of discretionary behaviors toward their leaders – supervisor-directed deviance and OCBs. Supervisor-directed deviance is a specific form of interpersonal deviance, referring to followers' deviance toward their leaders (Mitchell & Ambrose, 2007). Perceived injustice is a core determinant of such behavior (Bennett & Robinson, 2000; Fox et al., 2001) in part because of retributive justice – individuals strike back at the perpetrator in response to injustice to restore their subjective balance of justice (Carlsmith et al., 2002; Okimoto & Wenzel, 2009). Consistent with this theorizing, Jones (2009) found that followers' perceptions of their leaders' injustice increased followers' desire to avenge leaders and subsequently their supervisor-directed deviant behaviors. Thus, I theorize that followers' supervisory injustice perceptions trigger their deviant behaviors toward their leaders. As hypothesized above, the three LMXD properties interact to influence followers' supervisory interactional justice perceptions, I expect that the three LMXD properties also combine to indirectly influence followers' supervisor-directed deviance via their supervisory interactional justice perceptions (i.e., a conditional moderated mediation), such that the

positive indirect effect of LMXD on followers' supervisor-directed deviance via their supervisory interactional justice perceptions will be the weakest when the LMX quality and LMXSC are both high. Accordingly, I hypothesize:

> *Hypothesis 3: LMXD, LMX quality, and LMXSC interact to indirectly influence followers' supervisor-directed deviance via their supervisory interactional justice perceptions, such that the positive indirect effect of LMXD on followers' supervisor-directed deviance via their supervisory interactional justice perceptions is the weakest when LMX quality and LMXSC are both high.*

OCBs refer to individual behaviors that are discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promote the effective functioning of the organization (Organ, 1988a). Supervisor-directed OCB is a specific form of OCBs that is directed toward the leader. At the inception of the conceptualization of OCB, Organ (1988b) theorized that justice perceptions are important antecedents of OCBs due to the reciprocity norm in social exchanges (Gouldner, 1960). Thus, if leaders treat their followers fairly, followers will engage in more OCBs in return. Many researchers (e.g., Konovsky & Pugh, 1994) have found that justice perceptions create sense of obligation to reciprocate among followers (Moorman et al., 1998; Pillai et al., 1999), which increases individual OCBs (Niehoff & Moorman, 1993; Wayne et al., 2002). Because followers' supervisory interactional justice perceptions can be influenced by the interplay of the three LMXD properties, I expect that the three LMXD properties also combine to indirectly influence followers' supervisor-directed OCBs through their supervisory interactional justice perceptions, such that the negative indirect effect of LMXD on followers' supervisor-directed

OCBs via their supervisory interactional justice perceptions will be the weakest when the LMX quality and LMXSC are both high. Thus, I hypothesize that:

> *Hypothesis 4: LMXD, LMX quality, and LMXSC interact to indirectly influence followers' supervisor-directed OCBs via their supervisory interactional justice perceptions, such that the negative indirect effect of LMXD on followers' supervisor-directed OCBs via their supervisory interactional justice perceptions is the weakest when LMX quality and LMXSC are both high.*

CHAPTER 3: STUDY 1

Procedure and Participants

I recruited participants from Amazon's Mechanical Turk (MTurk) whose data quality parallels that collected in person (Buhrmester et al., 2011) and provides "the ideal blend of experimental control and a naturalistic setting" (Landers & Behrend, 2015, p. 18). I recruited participants who were residing in the USA and had a past MTurk work approval rating of at least 95%, an indicator of good data quality (Peer et al., 2014). Participants received $0.50 USD for study completion. A total of 245 participants were recruited for this study. Of the 245 participants, 64.08% were female. Their average age was 40.07 (SD_{age} = 13.48). The average length of working experience was 17.11 years ($SD_{years\ of\ work\ experience}$ = 10.23). Approximately three quarters of participants were currently employed (73.47%). In terms of ethnicity, 71.43% were Caucasian, 10.61% African American, 7.76% Asian, 5.71% Hispanic or Latino, 1.63% Indian or native American, and 2.86% others. Approximately half of them (50.20%) held bachelor's degree or above.

This study was a scenario experiment. Participants were randomly assigned to 1 of 8 conditions created by a 2 (LMXD: low vs. high) x 2 (LMX quality: low vs. high) x 2 (LMXSC: low vs. high) between-subjects design. Before reading the scenario, participants were instructed to picture the people and actions described in the scenario and imagine the experience vividly as if it was actually happening to them. The scenario described the variability in how a leader named Chris treated his followers (low vs. high LMXD), the relationship quality that the participant had with Chris (low vs. high LMX quality), and the participant's LMX quality with Chris relative to other team members' LMX quality (low vs. high LMXSC). In the high LMXD condition, participants read that there is a lot of variability in Chris' treatment toward his followers. In the high LMX quality condition, participants read that Chris likes and is loyal to them, as well as is willing to make extra effort to help them. In

the high LMXSC condition, participants read that they have better relationships with Chris compared to most others in their teams. In the low conditions, participants read the opposite accounts. A sample scenario is presented in Appendix A. After reading the scenario, participants completed manipulation check items and demographic items as well as rated items measuring their perceived supervisory interactional justice of Chris and their intentions to engage in both deviant behaviors and OCBs toward Chris.

Measurements

Manipulation Checks

I checked the manipulation of LMXD, LMX quality, and LMXSC each by a single item. LMXD manipulation check was measured with the item, "In general, Chris treats members of his team…" (1 = *Very similarly* to 5 = *Very differently*). LMX quality manipulation check was measured with the question "In general, what type of relationship do you think you have with Chris?" (1 = *Very bad* to 5 = *Very good*). LMXSC manipulation check was measured with the question "In particular, compared to other team members, how does Chris treat you?" (1 = *Much worse than average* to 5 = *Much better than average*).

Supervisory Interactional Justice

I adapted the 4 items measuring the interpersonal justice dimension from Rupp and Cropanzano's (2002) supervisory interactional justice scale to measure participants' supervisory interactional justice perceptions of Chris who was the hypothetical leader in the scenario. I changed the reference in the original scale from "your supervisor" to "Chris". Participants were asked to indicate the extent to which they agreed or disagreed with four statements, for example, – "I feel Chris holds me in high regard" (1 = *Strongly disagree* to 5 = *Strongly agree*). The estimated Cronbach's alpha is $\alpha = .88$.

Supervisor-directed Deviance Intention

Consistent with prior research (e.g., Collins & Mossholder, 2017; Curry, 2005), I measured the intention to engage in deviant behaviors by asking participants: If you had a chance, how likely would you engage in the following behaviors (1 = *Not at all* to 5 = *Very*)? There were 10 deviant behaviors from the supervisor-directed deviance scale by Mitchell and Ambrose (2007). These behaviors included "Make fun of Chris at work" and "Act rudely toward Chris". The estimated Cronbach's alpha is $\alpha = .95$.

Supervisor-directed OCB Intention

Participant's supervisor-directed OCB intention was measure with 5 items from Rupp and Cropanzano (2002). Consistent with the question stem used in the supervisor-directed deviance intention measurement, I asked participants: If you had a chance, how likely would you engage in the following behaviors (1 = *Not at all* to 5 = *Very*)? These behaviors included "Accept added responsibility when Chris is absent" and "Help Chris when he has a heavy workload". The estimated Cronbach's alpha is $\alpha = .89$.

Results

Manipulation Checks

Consistent with the manipulations, in the high LMXD condition, participants perceived that Chris treated his subordinates more differently than in the low LMXD condition ($M_{low} = 1.97$, $M_{high} = 4.20$, $F(1, 243) = 419.45$, $p < .001$, $\eta^2 = .63$); in the high LMX quality condition, participants perceived that they had better quality relationships with Chris than those who were in the low condition ($M_{low} = 2.76$, $M_{high} = 3.97$, $F(1, 243) = 96.52$, $p < .001$, $\eta^2 = .28$); and in the high LMXSC condition, participants perceived that, compared to other team members, they were treated better by Chris than those in the low LMXSC condition ($M_{low} = 2.22$, $M_{high} = 4.13$, $F(1, 243) = 411.11$, $p < .001$, $\eta^2 = .63$). As such, results indicated that the three manipulations were successful.

Tests of Hypotheses

To test my hypotheses, I dummy coded the manipulations of LMXD, LMX quality, and LMXSC as 0 = *low condition* and 1 = *high condition*. Hypothesis 1 predicted a negative relation between LMXD and supervisory interactional justice. The correlation between LMXD and supervisory interactional justice was negative (r = -.29, p < .001; see Table 1). In addition, the regression results considering all interaction products indicated that LMXD negatively predicted supervisory interactional justice (b = -0.71, p < .001, see Model 3, Table 2). Thus, Hypothesis 1 was supported.

Hypothesis 2 predicted a three-way interaction among LMXD, LMX quality, and LMXSC on supervisory interactional justice. Specifically, it predicted that the negative relation between LMXD and supervisory interactional justice would be the weakest when LMX quality and LMXSC were both high. Consistent with my hypothesis, this three-way interaction significantly predicted supervisory interactional justice (b = 0.68, p = .037; $\triangle R^2$ = .01, p = .037; see Model 3, Table 2). In addition, I conducted simple slope tests to further test this three-way interaction. Results indicated that when LMX quality and LMXSC were both high, the relation between LMXD and supervisory interactional justice was the weakest, which was zero (*simple slop* = -0.22, p = .182). In other conditions, these relations were all significantly negative, ranging from *simple slop* = -0.70 (p < .001) to *simple slop* = -0.91 (p < .001). In addition, the relations in these other conditions did not differ from one another (all p values of differences > .050). To visualize the nature of the three-way interaction, I plotted it. Figure 2 indicated that when LMX quality and LMXSC were both high, the effect of LMXD on supervisory interactional justice was the weakest (zero) among all conditions. Thus, Hypothesis 2 was supported.

Hypothesis 3 predicted that LMX quality and LMXSC interacted to buffer the positive indirect effect of LMXD on supervisor-directed deviance via supervisory

interactional justice. To test Hypothesis 3, a conditional moderated mediation model was analyzed (Edwards & Lambert, 2007; Hayes, 2017). Results by parametric bootstrapping (also termed the Monte Carlo; draws = 5,000) (Efron & Tibshirani, 1986; Mackinnon et al., 2004; Zyphur et al., 2015; Zyphur et al., 2019) in Table 3 indicated that the positive indirect effect of LMXD on supervisor-directed deviance intention via supervisory international justice was the weakest (zero) when LMX quality and LMXSC were both high (*indirect effect* = 0.03; 95% *CI* [-0.01, 0.09], which included zero). Thus, Hypothesis 3 was supported.

Hypothesis 4 predicted that LMX quality and LMXSC interacted to weaken the negative indirect effect of LMXD on supervisor-directed OCB via supervisory interactional justice. Consistent with the tests of Hypothesis 3, a conditional moderated mediation was analyzed. Results by parametric bootstrapping (draws = 5,000) in Table 3 indicated that the indirect effect of LMXD on supervisor-directed OCB intention via supervisory interactional justice was the weakest (zero) when LMX and LMXSC were both high (*indirect effect* = -0.11; *95%* CI [-0.27, 0.04], which included zero). Thus, Hypothesis 4 was supported.

Discussion

In Study 1, I observed that LMXD, LMX quality, and LMXSC interacted to influence supervisory interactional justice perceptions such that when LMX quality and LMXSC were both high, the negative relation between LMXD and supervisory interactional justice was the weakest (zero). In addition, I observed that LMX quality and LMXSC interactively weakened the positive indirect effect of LMXD on supervisor-directed deviance intention through supervisory interactional justice as well as the negative indirect effect of LMXD on supervisor-directed OCB intention through supervisory interactional justice. As such, results from this experimental study supported my hypothesized model. As noted by others (e.g., Dawson & Richter, 2006), findings regarding interactions among different constructs should be examined in a variety of contexts using different designs to assess their robustness. Thus,

as discussed below, Study 2 was designed to assess the robustness of findings in Study 1 and to overcome some limitations inherent in the experimental design of Study 1.

In Study 1, I measured participants' intentions to engage in deviance and OCBs toward the leader rather than their actual behaviors. Moreover, although experiments allow us to isolate effects to make causal inferences, a robust test with field data is needed to assess the generalizability of experimental findings. Thus, in Study 2, I sought to replicate and test the robustness of the findings in Study 1 in two important ways. First, I measured participants' self-reported deviant behaviors and OCBs toward their leaders rather than their intentions as was done in Study 1. Second, I tested my hypothesized model with a field sample of full-time employees with a different research design (i.e., a time-lagged survey study).

CHAPTER 4: STUDY 2

Procedure and Participants

Study 2 was a three-wave field study. Participants were recruited through a Qualtrics Panel (for recent examples of research that utilized this data collection service, see Courtright et al., 2016; Li et al., 2016; Long et al., 2011). Qualtrics is a data collection service company that provides panel research services. It compensates panelists for being participants in studies. Panelists are a group of pre-screened respondents who have expressed a willingness to complete online surveys. To ensure high quality panelists, I included attention checks in each survey and eliminated participants who failed to pass all attention checks.

With the assistance of Qualtrics, participants were invited to complete three surveys. The time interval between each survey was approximately 4 weeks. I administered surveys to participants via Qualtrics survey platform. At Time 1, participants rated their perceptions of LMXD, LMX quality, and LMXSC and provided their demographic information. At Time 2, they rated their supervisory interactional justice perceptions. At Time 3, they reported their supervisor-directed deviance and supervisor-directed OCBs.

At Time 1, there were 2,297 participants who attempted this study. Before participants proceeded to the survey, I screened them with 5 questions: "*Are you a U.S. citizen?",* "*Do you have a direct supervisor or manager in your workplace?*", "*Are you a full-time employee in an organization?*", "*Have you worked under your current supervisor or manager for at least 6 months?*", and "*Will your direct supervisor or manager remain the same in the next 8 weeks?*". Only American full-time employees who had a direct supervisor, had been working under their supervisors for at least 6 months, and expected their supervisors would remain the same for at least the next 8 weeks (i.e., the survey period) were included in this study. There were 1,779 participants who passed my screening and proceeded to this survey. Of the 1,779 participants, there were 657 participants who finished the Time 1

survey and passed attention checks. At Time 2, there were 426 participants who finished the survey and passed attention checks. At Time 3, there were 273 participants who finished the survey and passed the attention checks. Thus, of the 1,779 participants who met the study inclusion criteria, 15.35% participants completed all three surveys, passed all attention checks, and had complete data. Study 2 thereby consists of 273 US citizens from various industries (11.72% education services, 11.72% health care and social assistance, 8.42% professional, scientific, and technical services, 7.69% retail, 7.33% finance and insurance, 6.59% public administration, 5.13% other services (except public administration), 4.40% manufacturing, and 37.00% other industries). One hundred and forty-six participants were female (53.48%). Their average age was 41.63 years old (SD_{age} = 11.21). Their average tenure in their organizations was 9.25 years (SD_{tenure} = 8.14). In terms of ethnicity, 78.75% participants were Caucasian; 7.69% were Asian; 5.49% were African American, 4.76% were Hispanic, and 3.31% were others. One hundred and seventy-six participants (64.47%) held bachelor's degree or above.

Measurements

LMXD

I used van Breukelen and colleagues' (2002) 4-item scale to measure subordinates' perceptions of LMXD in the workplace. A sample item was "My supervisor prefers some people in my work unit to others". Participants indicated how much they agreed or disagreed with each item on a 5-point Likert scale (1 = *Strongly disagree* to 5 = *Strongly agree*). The estimated Cronbach's alpha is α = .87.

LMX Quality

LMX quality was measured with the LMX7 scale (Graen & Uhl-Bien, 1995). Sample items included "How would you characterize your working relationship with your supervisor?" (1 = *Extremely ineffective* to 5 = *Extremely effective*) and "How well does your

leader understand your job problems and needs?" (1 = *Not a bit* to 5 = *A great deal*). The estimated Cronbach's alpha is α = .93.

LMXSC

A 6-item scale (Vidyarthi et al., 2010) was used to measure participants' LMX social comparisons in the work group. All of the items were anchored by a 5-point Likert scale (1 = *Strongly disagree* to 5 = *Strongly agree*). Sample items included "I have a better relationship with my supervisor than most others in my work group" and "Relative to the others in my work group, I receive more support from my supervisor". The estimated Cronbach's alpha is α = .89.

Supervisory Interactional Justice

I used the 7-item supervisory interactional justice scale from Rupp and Cropanzano (2002) to measure participants' justice perceptions. Sample items included "My supervisor's decisions are made out in the open so that everyone always knows what's going on" and "My supervisor keeps me informed of why things happen the way they do" (1 = *Strongly disagree* to 5 = *Strongly agree*). The estimated Cronbach's alpha is α = .94.

Supervisor-directed Deviance

I used the 10-item supervisor-directed deviance scale (Mitchell & Ambrose, 2007) to measure participants' deviance toward their leaders. Participants were asked to indicate how often they had engaged in a list of deviant behaviors (1 = *Never* to 7 = *Always*). These behaviors included "Made fun of my supervisor at work" and "Acted rudely toward my supervisor". The estimated Cronbach's alpha is α = .91.

Supervisor-directed OCB

I used the 5-item supervisor-directed OCB scale from Rupp and Cropanzano (2002). Participants were asked to indicate how often they had engaged in a list of supervisor-directed OCBs (1 = *Never* to 5 = *Always*). These behaviors included "Accepted added

responsibility when my supervisor was absent" and "Helped my supervisor when he/she had a heavy workload". The estimated Cronbach's alpha is $\alpha = .86$.

Results

Confirmatory Factor Analyses (CFAs)

Prior to testing hypotheses, I conducted CFAs to examine the distinctiveness of study variables. In order to maintain an acceptable indicator-to-sample-size ratio, I randomly created parcels for each variable (Bagozzi & Heatherton, 1994). For LMX and supervisory interactional justice which had seven items each, I created one parcel with three items and two parcels with two items each. For LMXSC which had six items each, I randomly assigned two items to one of three parcels. For the four LMXD items, I randomly parceled them into two parcels, each with two items. For the 10 supervisor-directed deviance items, I created two parcels with three items and one parcel with four items. For the five supervisor-directed OCB items, I created one parcel with two items and one parcel with three items. I then conducted CFAs to compare the hypothesized 6-factor model to other more parsimonious models. The results indicate that the six-factor model had a better fit ($\chi^2(89) = 155.99$, $p < .001$, *RMSEA* = .05, *SRMR* = .04, *CFI* = .98, *TLI* = .97) than a) alternative five-factor models in which items for LMXD and LMX were loaded on the same factor ($\Delta\chi^2(5) = 315.94$, $p < .001$, *RMSEA* = .12, *SRMR* = .09, *CFI* = .90, *TLI* = .88), LMXD and LMXSC were loaded on the same factor ($\Delta\chi^2(5) = 682.44$, $p < .001$, *RMSEA* = .17, *SRMR* = .21, *CFI* = .81, *TLI* = .75), LMX and LMXSC were loaded on the same factor ($\Delta\chi^2(5) = 295.42$, $p < .001$, *RMSEA* = .12, *SRMR* = .08, *CFI* = .91, *TLI* = .88), LMX and supervisory interactional justice were loaded on the same factor ($\Delta\chi^2(5) = 372.14$, $p < .001$, *RMSEA* = .13, *SRMR* = .07, *CFI* = .89, *TLI* = .86), and supervisor-directed deviance and OCB were loaded on the same factor ($\Delta\chi^2(5) = 419.31$, $p < .001$, *RMSEA* = .14, *SRMR* = .16, *CFI* = .88, *TLI* = .84), b) a four-factor model in which items for LMXD, LMXSC, and LMX were loaded on the same

factor ($\Delta\chi^2(9) = 149.85$, $p < .001$, *RMSEA* = .09, *SRMR* = .37, *CFI* = .67, *TLI* = .59), and c) a one-factor model in which all items were loaded on one factor ($\Delta\chi^2(15) = 1855.89$, $p < .001$, *RMSEA* = .26, *SRMR* = .17, *CFI* = .51, *TLI* = .43) (see Table 4), supporting the discriminant validity of the study variables.

Descriptive Statistics and Correlations

Table 5 shows the descriptive statistics and correlations for the study variables. As expected, similar to past studies (e.g., Berry et al., 2007), the relation between justice and deviance was negative ($r = -.25$, $p < .001$); and the relation between justice and OCB was positive ($r = .43$, $p < .001$). Additionally, consistent with Study 1, LMXD was negatively ($r = -.45$, $p < .001$) associated with supervisory interactional justice, whereas LMX quality ($r = .72$, $p < .001$) and LMXSC ($r = .53$, $p < .001$) were both positively correlated with supervisory interactional justice.

Tests of Hypotheses

Hypothesis 1 predicted that LMXD would negatively predict supervisory interactional justice perceptions. As mentioned above, the correlation between LMXD and supervisory interactional justice perceptions was negative ($r = -.45$, $p < .001$; see Table 5). In addition, the regression results indicated that LMXD negatively predicted supervisory interactional justice perceptions ($b = -0.31$, $p < .001$; see Model 3, Table 6) after considering all interaction products. Thus, Hypothesis 1 was supported.

Hypothesis 2 predicted that LMXD, LMX quality, and LMXSC would interact to influence supervisory interactional justice perceptions. Before the analyses, I centered all the three LMXD properties and computed products by the centered variables. The regression results indicated that the product of LMXD, LMX quality, and LMXSC significantly predicted supervisory international justice perceptions ($b = 0.16$, $p = .002$; $\Delta R^2 = .02$, $p = .002$; see Model 3, Table 6). In addition, I conducted simple slop tests to further analyze the

relations between LMXD and supervisory interactional justice under different conditions qualified by LMX quality and LMXSC. Results indicated that this relation was weakest (zero) when LMX quality and LMXSC were both high (*simple slope* = -0.06, p = .383), whereas in other conditions, this relation was significantly negative, ranging from *simple slope* = -0.31 (p < .001) to *simple slope* = -0.49 (p = .005). In addition, the relations in these other conditions did not differ from one another (all p values of the differences > .050). To visualize its nature, I plotted out this 3-way interaction. Figure 3 indicated that when LMX quality and LMXSC were both high, the effect of LMXD on supervisory interactional justice perceptions was the weakest (zero) among all conditions. Thus, Hypothesis 2 was supported.

Hypothesis 3 predicted that LMX quality and LMXSC would interact to buffer the positive indirect effect of LMXD on supervisor-directed deviance via supervisory interactional justice perceptions. To test Hypothesis 3, I conducted a conditional moderated mediation analysis. Results by parametric bootstrapping (draws = 5,000) (Efron & Tibshirani, 1986; Mackinnon et al., 2004; Zyphur et al., 2015; Zyphur et al., 2019) in Table 7 indicated that the indirect effect of LMXD on supervisor-directed deviance via supervisory international justice perceptions was the weakest (zero) when LMX quality and LMXSC were both high (*indirect effect* = 0.00; 95% *CI* [-0.01, 0.02], which included zero). Thus, Hypothesis 3 was supported.

Hypothesis 4 predicted that LMX quality and LMXSC interacted to weaken the negative indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice perceptions. Results by parametric bootstrapping (draws = 5,000) in Table 7 indicated that the indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice was the weakest (zero) when LMX and LMXSC were both high (*indirect effect* = -0.03; *95%* CI [-0.09, 0.03], which included zero). Thus, Hypothesis 4 was supported.

Discussion

Study 2 replicated the findings of Study 1 that LMXD negatively predicted supervisory interactional justice perceptions. In addition, LMXD, LMX quality, and LMXSC interacted to influence supervisory interactional justice perceptions such that when LMX quality and LMXSC were both high, the negative relation between LMXD and supervisory interactional justice was the weakest (zero). Moreover, LMXD, LMX quality, and LMXSC interacted to influence supervisor-directed deviance and supervisor-directed OCBs via supervisory interactional justice such that when LMX quality and LMXSC were both high, the positive indirect effect of LMXD on supervisor-directed deviance via supervisory interactional justice perceptions as well as the negative indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice were the weakest (zero). These findings highlight the complexity of leader differentiation processes and the necessity to simultaneously consider these three LMXD properties together to better understand the impact of leader differentiation in the workplace.

As with any study, Study 2 has several limitations. First, all results were based on self-reported data. Second, although some researchers argue that supervisory interactional justice is the most relevant type of justice for discussing justice issues in leader-member exchanges (e.g., Scott et al., 2009), others have argued that when justice is hypothesized to be the mediator in a model, overall justice is better (e.g., Ambrose et al., 2015) because some researchers believe that although individuals can differentiate different types of justice, they experience justice in a more holistic manner (Ambrose & Schminke, 2009; Jones & Martens, 2009). Third, although researchers have shown that perceptions are more powerful than reality (Kristof-Brown et al., 2005), LMXD research has relied primarily on statistical measures to assess "objective" rather than "perceived" differentiation. For example, Nishii and Mayer (2009) used the standard deviation of LMX quality within a group to measure

LMXD and Liden et al. (2006) used the within-group variance in individual-level LMX quality scores to measure LMXD. Thus, it is worth testing the hypothesized model with objective measures of LMXD. Fourth, as with Study 1, all participants of Study 2 were residing in the USA. Whether these findings from Study 1 and Study 2 generalize to other cultures should be investigated. Therefore, I conducted Study 3 seeking to advance Study 1 and Study 2 in five important ways. First, Study 3 included multiple sources of data by collecting leaders' ratings of their followers' behaviors. Second, Study 3 adopted a multi-wave, multisource, and multilevel design, investigating how leader differentiation influenced followers in team contexts. Third, Study 3 employed a multilevel design. I thereby tested my hypotheses with traditional objective leader differentiation operationalizations (i.e., group standard deviation and group variance of LMX quality). Fourth, in addition to supervisory interactional justice, Study 3 included a measure for supervisory overall justice. Fifth, Study 3 included an Indian sample to further test the generalizability of the findings of Study 1 and Study 2.

CHAPTER 5: STUDY 3

Procedure and Participants

In Study 3, I employed a multi-wave, multisource, and multilevel survey design to test my hypothesized model with full-time employees residing in India. Following researchers who had conducted studies in India (e.g., Oc et al., 2019), I recruited participants in collaboration with Maction, a professional market research company that has access to Indian firms. Before the survey administration, Maction approached human resource directors of firms across different industries to identify participants who were interested in participating in this study in exchange for financial compensations. To reduce the burden on leaders, I limited the number of followers participating in this study to five employees for all teams. Maction randomly selected five followers for those teams that have more than five members. The paper-and-pencil surveys were administered in three waves with intervals being approximately 8 weeks between surveys. The surveys were in English which is one of the official languages of education and business in India. At Time 1, followers reported their perceptions of LMXD, LMX quality, and LMXSC and provided their demographic information. At Time 2, followers reported their perceptions of supervisory interactional justice and supervisory overall justice. At Time 3, followers reported their own supervisor-directed deviance and supervisor-directed OCBs. Their leaders also reported these followers' supervisor-directed deviance and supervisor-directed OCBs. For the survey administration, Maction's employees visited and administered the surveys to participants in their organizations. Participants completed the surveys in their own organizations during their breaks. After they completed the surveys, they returned the surveys to Maction's administrators. Leaders and followers were in different rooms while completing their surveys at Time 3. To facilitate the data merge, Maction assigned a unique individual ID and a team ID for each participant. In addition to unique IDs, in every follower survey, followers

provided their names as well as their leaders' names. Likewise, in the leader survey, leaders provided their five followers' names. For leaders with more than five followers, they were informed by Maction which of their five followers were randomly selected to participate in this research. After merging the data by the unique IDs provided by Maction, I also manually checked if the followers' names and leaders' names were matched before conducting analyses.

At Time 1, there were 115 teams (575 followers) that agreed to participate in this study and completed the survey. All of these 115 teams also completed the Time 2 survey. At Time 3, because seven teams were dismissed by their companies before Maction distributed the survey, only108 teams (540 followers and 108 leaders) completed the survey. Thus, of the 115 teams that agreed to participate in this study, 93.91% completed all three surveys. Study 3 therefore consists of 540 full-time followers and 108 leaders (each leader has five followers) from 108 teams [the average of the original team size was 7.35 (SD = 2.20) and ranged from 5-12 members]. Teams represented various industries (34.26% information, 28.27% manufacturing, 22.22% retail, 7.41% professional, scientific, and technical service, and 7.84% others). Females represented around one quarter of followers (27.78%) and leaders (27.78%). The average age of followers was 29.30 years old ($SD_{follower\ age}$ = 4.00); and the average age of leaders was 35.77 years old ($SD_{leader\ age}$ = 5.21). Followers' average tenure in their organizations was 2.80 years ($SD_{followe\ tenure}$ = 1.33); and their leaders' average tenure in their organizations was 6.39 years ($SD_{followe\ tenure}$ = 2.54). Five hundred and twelve followers (94.82%) held bachelor's degree or above; and all their leaders held bachelor's degree or above.

Measurements

Followers' perceptions of LMXD (α = .72), LMX quality (α = .84), LMXSC (α = .85), supervisory interactional justice perceptions (α = .83), supervisor-directed deviance (α

= .68), and supervisor-directed OCBs (α = .67) were all measured with the same scales used in Study 2.

Objective Measurements of LMXD

Group Standard Deviation (SD) of LMX Quality. Following Nishii and Mayer (2009), I generated the within-group standard deviation in individual-level LMX quality scores to represent the objective LMXD.

Group Variance of LMX Quality. In addition to the group SD of LMX quality, following Liden et al. (2006), I generated the within-group variance in individual-level LMX quality scores to represent the objective LMXD.

Supervisory Overall Justice

I used the 6-item supervisory overall justice scale from (Ambrose & Schminke, 2009) to measure followers' supervisory overall justice perceptions. Sample items included "Overall, I'm treated fairly by my supervisor" and "In general, the treatment I receive from my supervisor is fair" (1 = *Strongly disagree* to 5 = *Strongly agree*). The estimated Cronbach's alpha is α = .77.

Supervisor-directed Deviance by Leader

I used the 10-item supervisor-directed deviance scale (Mitchell & Ambrose, 2007) to measure followers' supervisor-directed deviance. Leaders indicated how often each follower had engaged in a list of deviant behaviors toward them (1 = *Never* to 5 = *Very Often*). These behaviors included "Made fun of you" and "Acted rudely toward you". The estimated Cronbach's alpha is α = .84.

Supervisor-directed OCB by Leader

I used the 5-item OCB scale from Rupp and Cropanzano (2002). Leaders were asked to indicate how often each follower had engaged in a list of supervisor-directed OCBs (1 =

Never to 5 = *Very Often*). These behaviors included "Helped you when you were absent" and "Helped you when you had a heavy workload". The estimated Cronbach's alpha is α = .80.

Results

Confirmatory Factor Analyses (CFAs)

To examine the discriminant validity of study variables, I conducted multilevel CFAs on the seven follower self-reported variables – followers' perceptions of LMXD, LMX quality, LMXSC, supervisory interactional justice perceptions, supervisory overall justice perceptions, supervisor-directed deviance, and supervisor-directed OCBs. Consistent with Study 2, to maintain an acceptable indicator-to-sample-size ratio, I randomly created parcels for each variable (Bagozzi & Heatherton, 1994). The seven LMX quality items and the seven supervisory interactional justice items were randomly assigned into three parcels respectively, one parcel with three items and the other two with two items. The six LMXSC items and the six supervisory overall justice items were randomly assigned to three parcels respectively, each with two items. The four LMXD items were randomly parceled into two parcels, each with two items. The 10 supervisor-directed deviance items were randomly assigned to three parcels, two with three items and one with four items. Lastly, the five supervisor-directed OCB items were randomly assigned to one parcel with two items and one parcel with three items. I then conducted multilevel CFAs following the procedure by Dyer et al. (2005). The results indicated that the seven-factor model had a better fit ($\chi^2(262) = 380.95$, $p < .001$, $RMSEA = .03$, $SRMR_W = .04$, $SRMR_B = .25$, $CFI = .97$, $TLI = .96$) than an alternative six-factor model in which LMX quality and LMXSC were loaded on the same factor ($\Delta\chi^2(12) = 123.06$, $p < .001$, $RMSEA = .04$, $SRMR_W = .06$, $SRMR_B = .25$, $CFI = .95$, $TLI = .93$) and another alternative six-factor model in which LMX quality and supervisory interactional justice were loaded on the same factor ($\Delta\chi^2(12) = 189.59$, $p < .001$, $RMSEA = .05$, $SRMR_W = .06$, $SRMR_B = .30$, $CFI = .93$, $TLI = .92$). The seven-factor and the two six-

factor models were the only three models that converged properly. None of the other models converged (see Table 8), indicating the poor model fits of these alternative models. Thus, the hypothesized seven-factor model was the best among all models, supporting the discriminant validity of the follower-rated variables.

In addition to the CFAs on the follower-rated variables, I conducted CFAs on the two leader-rated variables – the supervisor-directed deviance and the supervisor-directed OCB rated by leaders. The 10 supervisor-directed deviance items were randomly assigned to three parcels, two with three items and one with four items. The five supervisor-directed OCB items were randomly assigned to one parcel with two items and one parcel with three items. The results indicated that the two-factor model ($\chi^2(8) = 13.83$, $p = .086$, $RMSEA = .04$, $SRMR_W = .02$, $SRMR_B = .04$, $CFI = .99$, $TLI = .99$) was better than the one-factor model ($\Delta\chi^2(2) = 285.57$, $p < .001$, $RMSEA = .23$, $SRMR_W = .20$, $SRMR_B = .42$, $CFI = .71$, $TLI = .41$) in which supervisor-directed deviance and supervisor-directed OCB were loaded on the same factor, supporting the discriminant validity of the leader-rated variables.

Descriptive Statistics and Correlations

Table 10 showed the descriptive statistics and correlations for the study variables. The correlation between supervisory interactional justice perceptions and supervisor-directed deviance rated by follower was not significant ($r = .04$, $p = .388$) whereas the correlation between supervisory interactional justice perceptions and supervisor-directed OCBs rated by follower was positive ($r = .39$, $p < .001$). Additionally, followers' perceptions of LMXD negatively ($r = -.71$, $p < .001$) correlated with supervisory interactional justice perceptions, whereas LMX quality ($r = .65$, $p < .001$) and LMXSC ($r = .65$, $p < .001$) positively correlated with supervisory interactional justice perceptions. Moreover, supervisory interactional justice perceptions positively correlated with supervisory overall justice perceptions ($r = .35$, $p < .001$). Furthermore, although the correlation between supervisory interactional justice

perceptions and follower-rated supervisor-directed deviance was not significant, the correlation between supervisory interactional justice perceptions and leader-rated supervisor-directed deviance was significant (r = -.25, p < .001) and so was the correlation between supervisory interactional justice perceptions and leader-rated supervisor-directed OCBs (r = .23, p < .001). Lastly, follower-rated supervisor-directed deviance positively correlated with leader-rated supervisor-directed deviance (r = .43, p < .001); and follower-rated supervisor-directed OCBs positively correlated with leader-rated supervisor-directed OCBs (r = .62, p < .001).

Tests of Hypotheses

Due to the multilevel nature of Study 3, I used multilevel modeling which also has been referred to as mixed-effect models (Cao & Ramsay, 2010), hierarchical linear modeling (Raudenbush & Bryk, 2002), or random coefficient modeling (Longford, 1993) to test my hypotheses. In order to reduce the biases in model estimates, following Enders and Tofighi (2007), I group-mean centered individual-level predictors (e.g., followers' perceptions of LMXD) and grand-mean centered group-level predictors (e.g., group SD of LMX quality) before conducting analyses. In addition, I employed the random slope and random intercept modeling to test my hypotheses.

LMXD Operationalized as Followers' Perceptions of LMXD. I included three operationalizations of LMXD in Study 3. Below, I tested my hypotheses with the first operationalization – LMXD operationalized as followers' perceptions of LMXD.

Test of Hypothesis 1. Hypothesis 1 predicted that LMXD would negatively predict supervisory interactional justice perceptions. Results in Table 11 indicated that LMXD negatively predicted supervisory interactional justice perceptions considering all products of LMXD properties (b = -0.27, p < .001; Model 3). Thus, Hypothesis 1 was supported.

Test of Hypothesis 2. Hypothesis 2 predicted that LMXD, LMX quality, and LMXSC would interact to influence supervisory interactional justice perceptions. Results in Table 11 indicated that the product of LMXD, LMX quality, and LMXSC significantly predicted supervisory international justice perceptions (b = 0.14, p =.036; ΔR^2 = .01, p = .048; see Model 3). I further conducted simple slop tests to analyze the relations between LMXD and supervisory interactional justice perceptions in different conditions qualified by LMX quality and LMXSC. Results indicated that the relation between LMXD and supervisory interactional justice perceptions was the weakest (zero) when LMX quality and LMXSC were both high (*simple slope* = -0.04, p = .518), whereas in other conditions, the relations between LMXD and supervisory interactional justice perceptions were all significantly negative, ranging from *simple slope* = -0.25 (p = .004) to *simple slope* = -0.42 (p < .001). These results replicate the findings of Study 1 and Study 2. However, unlike Study 1 and Study 2 in which the relations did not differ from one another in all conditions other than the condition in which LMX quality and LMXSC were both high, in Study 3 when LMX quality and LMXSC were both low, the relation between LMXD and supervisory interactional justice was significantly more negative than that in the condition when LMX quality was high and LMXSC was low (p = .041). To visualize these relations, I plotted out this 3-way interaction in Figure 4. The pattern is similar to that in Figure 2 and Figure 3. Thus, Hypothesis 2 was supported.

Test of Hypothesis 3. Hypothesis 3 predicted that LMX quality and LMXSC would interact to buffer the positive indirect effect of LMXD on supervisor-directed deviance via followers' supervisory interactional justice perceptions. To test this hypothesis, I conducted a conditional moderated mediation analysis with parametric bootstrapping. For the follower-rated supervisor-directed deviance, results by parametric bootstrapping (draws = 5,000) (Efron & Tibshirani, 1986; Mackinnon et al., 2004; Preacher & Selig, 2012) in Table 12

indicated that the indirect effect of LMXD on follower-rated supervisor-directed deviance via supervisory interactional justice perceptions when LMX quality and LMXSC were both high was not different from that in other conditions. For the leader-rated supervisor-directed deviance, results by parametric bootstrapping (draws = 5,000) in Table 13 indicated that the indirect effect of LMXD on leader-rated supervisor-directed deviance via supervisory interactional justice perceptions was the weakest (zero) when LMX quality and LMXSC were both high (*indirect effect* = 0.00; *95% CI* [-0.01, 0.02], which included zero) as well as that this indirect effect significantly differed from that in all other conditions. Thus, Hypothesis 3 was supported with leader-rated supervisor-directed deviance but not with follower-rated supervisor-directed deviance.

Test of Hypothesis 4. Hypothesis 4 predicted that LMX quality and LMXSC interacted to weaken the negative indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice perceptions. For the follower-rated supervisor-directed OCBs, results by parametric bootstrapping (draws = 5,000) in Table 12 indicated that this indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice perceptions was the weakest (zero) when LMX quality and LMXSC were both high (*indirect effect* = -0.01; *95%* CI [-0.05, 0.03], which included zero) as well as this indirect effect significantly differed from that in all other conditions qualified by LMX quality and LMXSC. For the leader-rated supervisor-directed OCBs, results by parametric bootstrapping (draws = 5,000) in Table 13 indicated the same findings that this indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice perceptions was the weakest (zero) when LMX quality and LMXSC were both high (*indirect effect* = -0.01; *95%* CI [-0.07, 0.04], which included zero) as well as this indirect effect significantly differed from that in all other conditions qualified by LMX quality and LMXSC. Thus, Hypothesis 4 was supported with both follower self-rated and leader-rated supervisor-directed OCBs.

LMXD Operationalized as Group SD of LMX Quality. In Study 3, I included two objective operationalizations of LMXD in addition to the subjective measure – followers' perceptions of LMXD. Below, I tested my hypotheses with LMXD being operationalized as group SD of LMX quality.

Test of Hypothesis 1. Hypothesis 1 predicted that LMXD would negatively predict supervisory interactional justice perceptions. Results in Table 14 indicated that LMXD negatively predicted supervisory interactional justice perceptions (b = -0.86, p < .001; Model 3). Thus, Hypothesis 1 was supported.

Test of Hypothesis 2. Hypothesis 2 predicted that LMXD, LMX quality, LMXSC would interact to influence followers' supervisory interactional justice perceptions. Results in Table 14 indicated that the product of LMXD, LMX quality, and LMXSC marginally predicted followers' supervisory international justice perceptions (b = 0.38, p =.071; ΔR^2 = .08, p = .094, see Model 3). I plotted the nature of this 3-way interaction in Figure 5. Simple slopes of the relations of LMXD (i.e., group SD of LMX quality) and followers' supervisory interactional justice perceptions were all negative in the four different conditions qualified by LMX quality and LMXSC, ranging from *simple slope* = -.39 (p = .004) to *simple slope* = -1.11 (p < .001). Although this relation in the condition in which LMX quality and LMXSC were both high differed from that in the condition where LMX quality and LMXSC were both low (*difference* = .69, p < .001) as well as that in the condition where LMX quality was low and LMXSC was high (*difference* = .71, p = .015), it only marginally differed from that in the condition where LMX quality is high and LMXSC is low (*difference* = .44, p = .080). As such, Hypothesis 2 was marginally supported with LMXD being operationalized as group SD of LMX quality.

Test of Hypothesis 3. Hypothesis 3 predicted that LMX quality and LMXSC would interact to buffer the positive indirect effect of LMXD on supervisor-directed deviance via

followers' supervisory interactional justice perceptions. Consistent with the analyses abovementioned, I conducted a conditional moderated mediation analysis with parametric bootstrapping. For the follower-rated supervisor-directed deviance, results by parametric bootstrapping (draws = 5,000) (Efron & Tibshirani, 1986; Mackinnon et al., 2004; Preacher & Selig, 2012) in Table 15 indicated that the indirect effect of LMXD on follower-rated supervisor-directed deviance via supervisory interactional justice perceptions when LMX quality and LMXSC were both high was not different from that in other conditions. For the leader-rated supervisor-directed deviance, results by parametric bootstrapping (draws = 5,000) in Table 16 indicated that the indirect effect of LMXD on leader-rated supervisor-directed deviance via supervisory interactional justice perceptions was the weakest (zero) when LMX quality and LMXSC were both high (*indirect effect* = 0.04; *95% CI* [-0.00, 0.09], which included zero) as well as that this indirect effect marginally differed from that in all other conditions (i.e., all the *90% CI*s of the differences did not contain zero). Thus, Hypothesis 3 was marginally supported with leader-rated supervisor-directed deviance but not with follower-rated supervisor-directed deviance when LMXD was operationalized as group SD of LMX quality.

Test of Hypothesis 4. Hypothesis 4 predicted that LMX quality and LMXSC interacted to weaken the negative indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice perceptions. For the follower-rated supervisor-directed OCBs, results by parametric bootstrapping (draws = 5,000) in Table 15 indicated that this indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice perceptions was the weakest (zero) when LMX and LMXSC were both high (*indirect effect* = -0.14; *95% CI* [-0.31, 0.01], which included zero) as well as this indirect effect marginally differed from that in all other conditions qualified by LMX quality and LMXSC (i.e., all the *90% CI*s of the differences did not contain zero). For the leader-rated supervisor-directed

OCBs, results by parametric bootstrapping (draws = 5,000) in Table 16 indicated the same findings that this indirect effect of LMXD on supervisor-directed OCBs via supervisory interactional justice perceptions was the weakest (zero) when LMX quality and LMXSC were both high (*indirect effect* = -0.17; *95%* CI [-0.36, 0.01], which included zero) as well as this indirect effect marginally differed from that in all other conditions qualified by LMX quality and LMXSC (i.e., all the *90% CI*s of the differences did not contain zero). Thus, Hypothesis 4 was marginally supported with both follower-rated and leader-rated supervisor-directed OCBs when LMXD was operationalized as group SD of LMX quality.

LMXD Operationalized as Group Variance of LMX Quality. In addition to operationalizing LMXD as followers' perceptions of LMXD and group SD of LMX quality, in Study 3, I included another objective operationalization of LMXD – group variance of LMX quality. Below, I tested my hypotheses with LMXD being operationalized as group variance of LMX quality.

Test of Hypothesis 1. Hypothesis 1 predicted that LMXD would negatively predict supervisory interactional justice perceptions. Results in Table 17 indicated that LMXD negatively predicted supervisory interactional justice perceptions (b = -0.59, $p < .001$; Model 3). Thus, Hypothesis 1 was supported.

Test of Hypothesis 2. Hypothesis 2 predicted that LMXD, LMX quality, and LMXSC would interact to influence supervisory interactional justice perceptions. Results in Table 17 indicated that the product of LMXD, LMX quality, and LMXSC marginally predicted followers' supervisory international justice perceptions (b = 0.22, p =.073; ΔR^2 = .09, p = .099, see Model 3). I plotted the nature of this 3-way interaction in Figure 6. Simple slopes of the relations of LMXD and supervisory interactional justice perceptions were all negative in the four conditions qualified by LMX quality and LMXSC, ranging from *simple slope* = -.33 ($p < .001$) to *simple slope* = -.72 ($p < .001$). This relation in the condition in which LMX

quality and LMXSC were both high differed from that in the condition in which LMX quality and LMXSC were both low (*difference* = .39, *p* =. 009) and marginally differed from that in the condition in which LMX quality is low and LMXSC is high (*difference* = .36, *p* =. 080). However, this relation in the condition in which LMX quality and LMXSC were both high did not differ from that in the condition in which LMX quality was high and LMXSC was low (*difference* = .30, *p* =. 110). As such, although the product of the three LMXD properties marginally predicted followers' supervisory interactional justice perceptions, the relation between LMXD and supervisory interactional justice perceptions in the condition where LMX quality and LMXSC were both high was not the weakest. Thus, Hypothesis 2 was not supported with LMXD being operationalized as group variance of LMX quality.

Given that Hypothesis 2 was not supported with LMXD that was operationalized as the group variance of LMX quality, Hypothesis 3 and Hypothesis 4 also were not supported.

Additional Analyses. In Study 3, I included supervisory overall justice. Below I tested my hypotheses with supervisory overall justice perceptions as the mediator.

Test of Hypothesis 1. Hypothesis 1 predicted that LMXD would negatively predict supervisory interactional justice perceptions. Results indicated that LMXD negatively predicted supervisory overall justice perceptions regardless of how LMXD was operationalized – followers' perceptions of LMXD (*b* = -0.15, *p* = .012; Model 3, Table 18), group SD of LMX quality (*b* = -0.48, *p* < .001; Model 3, Table 19), and group variance of LMX quality (*b* = -0.34, *p* < .001; Model 3, Table 20). Thus, Hypothesis 1 was supported with supervisory overall justice perceptions.

Test of Hypothesis 2. Hypothesis 2 predicted that LMXD, LMX quality, and LMXSC would interact to influence supervisory interactional justice perceptions. Many models involving supervisory overall justice perceptions with the random intercept and random slope modeling did not converge to a solution properly in Stata (most likely because at least one of

the variance estimates of the random slopes was zero at the group level, indicating slopes should be fixed; see Snijders & Bosker, 1999 for more information). As such, following Snijders and Bosker's (1999) recommendation, I employed a more parsimonious modeling (i.e., random intercept and fixed slope model) to test the 3-way interactions of LMXD, LMX quality, and LMXSC on supervisory overall justice perceptions. Results in Table 18 to Table 20 indicated that when LMXD was operationalized as followers' perceptions of LMXD, the product of LMXD, LMX quality, and LMXSC did not significantly predict supervisory overall justice perceptions ($b_{product\ of\ followers'\ perceptions\ of\ LMXD,\ LMX\ quality,\ and\ LMXSC}$ = -0.01, p =.844; ΔR^2 = .00, p = .845, see Model 3, Table 18). However, when LMXD was operationalized as the group SD of LMX quality and group variance of LMX quality, the products of the three LMXD properties marginally predicted supervisory overall justice perceptions ($b_{product\ of\ group\ SD\ of\ LMX\ quality,\ LMX\ quality,\ and\ LMXSC}$ = 0.47, p =.077; ΔR^2 = .03, p = .081, see Model 3, Table 19; $b_{product\ of\ group\ variance\ of\ LMX\ quality,\ LMX\ quality,\ and\ LMXSC}$ = 0.26, p =.078; ΔR^2 = .05, p = .084, see Model 3, Table 20). I plotted the 3-way interactions in which LMXD was operationalized as the group variance and SD of LMX quality (see Figure 7 and Figure 8). When LMXD was operationalized as the group SD of LMX quality, the relations between LMXD and supervisory overall justice perceptions were zero in both conditions in which LMX quality and LMXSC were both low (*simple slope* = -.22, p = .204) and in which LMX quality was low and LMXSC was high (*simple slope* = -.33, p = .220). In addition, the relations were negative in conditions in which LMX quality and LMXSC were both high (*simple slope* = -.44, p = .017) as well as in which LMX quality was high and LMXSC was low (*simple slope* = -.91, p < .001). Moreover, When LMXD was operationalized as the group variance of LMX quality, the patterns of the relations of LMXD and supervisory overall justice perceptions were similar to those when LMXD was operationalized as the group SD of LMX quality. The relations between LMXD and supervisory overall justice perceptions were zero

in both conditions in which LMX quality and LMXSC were both low (*simple slope* = -.13, p = .285) and in which LMX quality was low and LMXSC was high (*simple slope* = -.20*, p* = .307). In addition, these relations were negative in conditions in which LMX quality and LMXSC were both high (*simple slope* = -.38, p = .002) as well as in which LMX quality was high and LMXSC was low (*simple slope* = -.63, p = .001). Therefore, LMXD, LMX quality, and LMXSC did not interactively influence supervisory justice perceptions as I hypothesized. As such, Hypothesis 2 was not supported with followers' supervisory overall justice perceptions. In addition, as Hypothesis 2 was not supported, Hypothesis 3 and 4 also were not supported as well.

Discussion

Consistent with Study 1 and Study 2, Study 3 replicated results that followers' perceptions of LMXD, LMX quality, and LMXSC interactively influenced supervisory interactional justice perceptions, such that when LMX quality and LMXSC were both high, the negative effect of LMXD on supervisory interactional justice perceptions was the weakest (zero). Moreover, followers' perceptions of LMXD, LMX quality, and LMXSC also interacted to indirectly influence followers' supervisor-directed deviance and OCBs via their supervisory interactional justice perceptions, such that when LMX quality and LMXSC were both high, LMXD's positive indirect effect on leader-rated supervisor-directed deviance as well as its negative indirect effect on both follower-rated and leader-rated supervisor-directed OCBs via followers' supervisory interactional justice perceptions were the weakest (zero). Thus, the only difference in findings across Study 1, Study 2, and Study 3 was that in Study 3 results did not suggest the interactive effect of the three LMXD properties on follower-rated supervisor-directed deviance via supervisory interactional justice perceptions, although this effect was observed for leader-rated supervisor-directed deviance. Possibilities for this difference are discussed below.

As noted above, Hypothesis 3 was only supported by leader-rated supervisor-directed deviance but not by follower-rated supervisor-directed deviance. I speculate that such results could be due to India's high-power-distance culture (e.g., Robert et al., 2000; Triandis, 1998). In a country with high power distance, followers may be more reluctant to reveal their real deviant behaviors toward their leaders in fear of being revenged by their leaders in the future. Alternatively, it may be in this sample, or in India, followers did not perceive themselves to be acting deviantly in response to leaders' differentiating behaviors. These possibilities could lead to at least two measurement issues that potentially decreased the possibility of observing significant relations. First, the reliability of follower-rated supervisor-directed deviance in Study 3 was below 0.70 as recommended by Nunnally (1982) (α = .68, see Table 10), lower than that in Study 1 (α = .95) and Study 2 (α = .91). Second, the necessary variance in the follower-rated supervisor-directed deviance was lower than that in the other two studies – the standard deviation of follower-rated supervisor-directed deviance in Study 3 was 0.19, whereas it was 0.71 in Study 1 and 0.49 in Study 2.

Models utilizing objective operationalization of LMXD (i.e., group SD of LMX quality) also indicated similar 3-way interaction patterns. When LMX quality and LMXSC were both high, the relation between LMXD and supervisory interactional justice perceptions marginally were the weakest. In addition, LMXD's positive indirect effect on leader-rated supervisor-directed deviance as well as its negative indirect effect on both follower-rated and leader-rated supervisor-directed OCBs via followers' supervisory interactional justice perceptions marginally were the weakest. These marginally significant results perhaps are not surprising. Choi et al. (2020) indicated that compared with follower' perceptions of LMXD, objective measurement of LMXD may be less predictive of criteria given that perceptions are more powerful than reality in shaping individual cognitions and behaviors (e.g., Kristof-Brown et al., 2005). I labelled these results as marginally significant just to be consistent with

other research using multilevel modeling (e.g., Ward et al., 2016; Yakovleva et al., 2010). However, these marginally significant results are meaningful because with one-tailed tests, these results would be significant at $p < .05$ level. Based on my theory as well as the results from both Study 1 and Study 2, one-tailed tests are acceptable and the results are meaningful. Therefore, these results indicated that my hypothesized model was supported regardless of how LMXD was operationalized.

As additional analyses, I also tested the 3-way interaction of LMXD, LMX quality, and LMXSC on supervisory overall justice perceptions. However, the 3-way interactions did not significantly predict supervisory overall justice perceptions regardless of how LMXD was operationalized. As I mentioned above, supervisory interactional justice perceptions are almost exclusively influenced by leader behaviors, whereas overall justice perceptions may be influenced by both supervisory and organizational factors (Ambrose & Schminke, 2009). Thus, overall justice perceptions may be noisier than supervisory interactional justice perceptions when investigating how leader behaviors shape followers' supervisory justice perceptions. This may be one reason why I did not observe the 3-way interactions of LMXD properties significantly influenced followers' overall justice perceptions.

To sum up, overall, Study 3 largely replicated the findings of Study 1 and Study 2. The three LMXD properties interactively influenced followers' supervisory interactional justice perceptions as well as indirectly influenced followers' supervisor-directed deviance and OCBs via their supervisory interactional justice perceptions (for a summary of findings across three studies, see Table 21).

CHAPTER 6: GENERAL DISCUSSION

Although leader differentiation is ubiquitous in the workplace, its effects on followers are not well understood in the extant literature. I argued that the inconclusive findings in leader differentiation literature possibly are due to the fact that researchers oversimplified the differentiation process. In this research, I integrated three key LMXD properties to investigate how followers' cognitions and behaviors are influenced by leaders differentiation. I developed and tested a theoretical model in which key LMXD properties (i.e., LMXD, LMX quality, and LMXSC) interact to influence followers' supervisory interactional justice perceptions and their subsequent supervisor-directed deviance and supervisor-directed OCBs. Across three studies with different designs and samples from different cultures, results consistently indicate that the three LMXD properties interact to influence followers' supervisory interactional justice perceptions and their subsequent behaviors toward their leaders. When LMX quality and LMXSC are both high, LMXD's negative effect on followers' supervisory interactional justice perceptions is the weakest. Moreover, when LMX quality and LMXSC are both high, LMXD's positive indirect effect on supervisor-directed deviance as well as its negative indirect effect on supervisor-directed OCBs via followers' supervisory interactional justice perceptions are the weakest. These results highlight the importance of simultaneously considering these three key LMXD properties to better understand the complex leader differentiation process. As such and as discussed below, my findings have theoretical implications for LMX literature, leadership literature involving leader differentiation, justice literature, and deviance literature as well as practical implications for leaders wanting to positively influence follower cognitions and behaviors.

Theoretical Implications

My research findings highlight the interactive effects of LMXD properties on followers. Across my three studies, the nature of the interaction of the three LMXD

properties on followers' supervisory interactional justice perceptions, supervisor-directed deviance, and supervisor-directed OCBs largely is consistent. Figures 2 to Figure 4 illustrate that when LMX quality and LMXSC are both high, the effect of LMXD on followers' supervisory interactional justice perceptions is the weakest (zero). In all other conditions, as LMXD increases, followers' supervisory interactional justice perceptions decrease regardless of the combination of levels of the other two LMXD properties (i.e., LMX quality and LMXSC). Differentiation which is pervasive in the workplace (Liden & Graen, 1980) appears to have negative effects in terms of supervisory interactional justice perceptions for all followers except for those who perceive themselves to have higher-quality dyadic relationships with their leaders and higher standings among coworkers. But even for them, the effect of LMXD on supervisory interactional justice perceptions is not positive, but rather zero. These results indicate that the leader differentiation, the core tenet of LMX theory, is more complex than what prior researchers had theorized.

My research also has implications for other leadership theories. Specifically, implicitly or explicitly in virtually all leadership theories is that leaders treat followers differently. For example, one key aspect of transformational leadership theory is that leaders give individualized considerations (e.g., attention and support) to their followers (Bass, 1985). Similarly, theory and research on idiosyncratic deals (i-deals) highlight that effective leaders customize employment arrangements (e.g., tasks assignments) with followers (Rousseau, 2005; Rousseau et al., 2006). As another example, research on ethical leadership shows that leaders vary in how ethically they treat different followers (Bormann et al., 2018). Differential treatment of followers by leaders often is argued to be good for both leaders and followers (Dansereau et al., 1975; Liden & Graen, 1980). Consistent with such theorizing, research observes positive relations between individualized consideration, i-deals, and ethical leadership with subordinate work-related criteria. For example, leaders' individualized

considerations increase followers' job performance (Walumbwa et al., 2008); i-deals enhance followers' job satisfaction and OCBs (Anand et al., 2010; Rosen et al., 2013), and leaders' ethical behaviors promote job satisfaction (Neubert et al., 2009). However, results in my research suggest that the differential treatment rooted in these leader practices has the potential to negatively influence follower-related criteria unless the follower is treated well by the leader and treated better than others. Thus, future leadership research should move from focusing on leader-follower dyads to all leader-follower relations in a team and theorize and examine the potential effects of differential treatment within these leadership frameworks.

Other than the implications for leadership theory and research, my studies also contribute to the justice literature. Researchers are in the fifth wave of justice research which focuses on how individual justice perceptions are formed (Brockner et al., 2015). In this research, I identified three important factors that interact to influence followers' interactional justice perceptions – LMXD, LMX quality, and LMXSC. When researchers investigate how justice perceptions are formed, they may need to consider both individuals themselves and the social context in which they are embedded. In addition, although Scandura (1999) called for in-depth investigations of justice issues in the LMX process, when researchers investigate justice issues in the LMX process in the past two decades, they focused on distributive justice and procedural justice (for a meta-analysis, see Dulebohn et al., 2012). Little is known regarding how LMX properties influences interactional justice, which is a crucial type of justice in the workplace. My studies thus contribute to justice literature by revealing how followers' interactional justice perceptions are influenced in the LMX process. Lastly, although justice issues had been investigating in past LMX literatures, the majority of research focused on only one LMX property. However, findings of my studies indicate the complexity of justice issues at work – individual justice perceptions are not only influenced

by a single LMX property but by a combination of different properties. Therefore, past research looking at how a single LMX property influences individual justice perceptions might yield findings that do not fully capture the complexity of justice issues in the LMX process. Thus, it is necessary for justice researchers to incorporate different LMX properties into their research in the future.

For my contributions to the deviance literature, previous research on deviance mainly focuses on how leaders' direct treatment among followers influences followers' deviant reactions. For example, research has found that abusive supervision increases followers' deviance (e.g., Mayer et al., 2012; Mitchell & Ambrose, 2007). However, less research investigates how the social comparisons may result from the variability of leaders' treatment influence followers' deviant reactions. As an exception, Tse et al. (2013) demonstrated that the dissimilarity in two followers' LMX quality increases the contempt between both parties. Accordingly, the out-group members and the in-group members may react negatively to each other or even the source of the dissimilarity – the leader. My findings thereby contribute to the deviance literature by confirming that not only leaders' direct effect but also followers' social comparisons derived from leaders' differential treatment influence followers' deviant behaviors.

Practical Implications

This research has several implications for practitioners. Recommendations from the past LMX literature emphasize the benefits of leaders' differential treatment among followers (e.g., Dansereau et al., 1975). My findings show that leaders' differential treatment also may bring negative consequences to leaders including lowering followers' justice perceptions, increasing their supervisor-directed deviance, and decreasing their supervisor-directed OCBs. Leaders should beware of these possible negative outcomes before implementing the practice of differentiating followers. Of course, not all leaders likely are able to develop a high-quality

relationship with every follower. Under such conditions, leaders may engage in several practices to potentially mitigate the negative impact of differentiating followers. For example, leaders can be more transparent and communicate more with their followers including explaining to followers their reasons for the differentiation, increasing their informal discussions and formal meetings with followers, and giving their followers more opportunities to voice their concerns – all practices of which have been shown to increase followers' justice perceptions (e.g., Lind et al., 1990; Niehoff & Moorman, 1993). Additionally, leaders can provide more supervisory guidance to their followers because such guidance may help suppress followers' intentions for engaging in deviant behaviors (Dineen et al., 2006). Taken together, if leaders are primarily concerned about whether their followers view them as being fair, they should try to minimize differentiating followers. But if they do, as discussed above, there are a variety of practices leaders can do to minimize the negative effects of differentiation.

Limitations and Suggestions for Future Research

My research is not without limitations, several of which may provide directions for future research. First, Although Study 2 and Study 3 adopted time-lagged designs with three waves each, I investigated my research question with a relative static perceptive by only measuring my study variables once. It would be interesting to study how the change of LMXD properties influences followers' justice perceptions and their subsequent behaviors with a longitudinal design. The development of LMX relationships is essentially a role-making process (Graen & Cashman, 1975). Leaders communicate their expectations to given followers. Based on followers' responses, the LMX relationships between leaders and followers evolve into either higher-quality socio-emotional relationships or a lower-quality transactional relationships (Graen & Uhl-Bien, 1995). Thus, followers may have different perceptions of LMX quality and LMXSC at different stages of this role-making process.

Leaders also may have different amounts of differentiating behaviors at different stages. For example, leaders may exhibit equal treatment at the beginning stage. Later, because of the different levels of competence among their followers, leaders may start to treat followers differently. Would followers react more negatively to these changing leaders or vice versa? Or would the moderating strength of LMX quality and LMXSC differ at different stages of this role-making process? These questions are worthy investigating.

Second, although I tested the generalizability of my hypothesized model with samples from two countries (i.e., USA and India), it is unknown whether my findings apply to other countries and the role that cultural orientations may play. There are at least three cultural orientations that may influence how people react to leader differentiation. The first one is uncertainty avoidance orientation. Uncertainty avoidance refers to "the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity" (Hofstede, 1984, p. 83). Individuals with higher uncertainty avoidance orientations may see leader differentiation more negatively given that differentiation is expected to introduce significant uncertainty in the workplace. In contrast, individuals with lower uncertainty avoidance orientations may tolerate leader differentiation more, resulting in less negative reactions. The second one is collectivistic orientation. Collectivism refers to "a preference for a tightly knit social framework in which individuals can expect their relatives, clan, or other in-group to look after them in exchange for unquestioning loyalty" (Hofstede, 1984, p. 83). Collectivistic individuals may view differentiation as a threat to group harmony and may react more negatively to the leader's differential treatment. In contrast, individuals with weaker collectivistic orientations may react to leaders' differential treatment in an opposite manner. The third one is power distance orientation. Power distance refers to "the extent to which the members of a society accept that power in institutions and organizations is distributed unequally" (Hofstede, 1984, p. 83) and is probably the cultural orientation that affects

employees most given that power is naturally distributed differentially in organizations (Daniels & Greguras, 2014). Individuals with higher power distance orientations may see a leader's differential treatment of followers as being more legitimate than those with lower power distance orientations. Thus, individuals with higher power distance orientations may react less negatively to the leader's differential treatment. As such, individual cultural orientations may influence the nature of LMX components' impact on individual reactions and future research could consider these possibilities.

Third, my research focuses on only one of the mechanisms (i.e., justice perceptions) underlying the influence of LMXD properties on supervisor-directed deviance and supervisor-directed OCBs. There may be other cognitive (e.g., self-esteem) and non-cognitive mechanisms (e.g., emotions) linking LMXD properties to supervisor-directed deviance and supervisor-directed OCBs. For example, Cropanzano et al. (2017) theorized that, in a high LMXD situation, followers with higher LMXSC are more likely to experience gratitude, whereas followers with lower LMXSC are more likely to experience anger and disgust toward the leader. Thus, LMXD properties may influence followers' emotions as well. Exploring other potential mechanisms between LMXD properties and followers' behavioral reactions might identify additional mechanisms linking LMXD processes to followers' reactions.

Fourth, current studies only investigate followers' discretionary behaviors toward their leaders. As followers are aware of and sensitive to how their peers are treated by their leaders in the workplace (Duchon et al., 1986; Liden et al., 1997; Tse et al., 2013), leader differentiation also may impact followers' behaviors toward their peers. For example, research has shown that in-group members may become the victimizing targets of out-group members due to out-group members' hostility toward the in-group members (Tse et al., 2018). It could be fruitful for future research to explore how the three LMXD properties

interactively influence follower behaviors toward other peers within the team. As an example, in a high LMXD situation, followers with lower LMXSC may engage in more deviant behaviors toward their peers whose LMXSC is higher because the relatively lower position might make their envy their peers (Smith, 2012).

Fifth, other than deviance and OCBs, justice relates to many other important criteria at work (e.g., Cohen-Charash & Spector, 2001; Colquitt et al., 2001). Future research should explore how the interactive effect of the three LMXD properties influence other work criteria through followers' justice perceptions (e.g., job satisfaction, performance).

Lastly, my dissertation focuses on how LMXD influence followers at the individual level. Researchers can extend this focus to the team level. LMXD has the potential to influence team outcomes. For example, as I mentioned above that in a high LMXD situation, followers with low LMXSC may ill-treat their counterparts whose LMXSC is higher. Such behaviors in a team may trigger team conflict and reduce team cohesion. Thus, investigating the impact of LMXD at the team level is another potential direction for future research.

CHAPTER 7: CONCLUSION

Through an experimental study and two field studies, I observed that the three LMXD properties interactively influence followers' supervisory interactional justice perceptions such that when LMX quality and LMXSC are both high, the negative effect of followers' perceptions of LMXD on followers' supervisory interactional justice perceptions is the weakest (zero). In addition, I found a conditional moderated mediation demonstrating that the positive indirect effect of followers' perceptions of LMXD on supervisor-directed deviance as well as the negative indirect effect of followers' perceptions of LMXD on supervisor-directed OCBs via their supervisory interactional justice perceptions is moderated by LMX quality and LMXSC. When LMX quality and LMXSC are both high, both the positive indirect effect and the negative indirect effect are nullified. These findings contribute to a variety of literatures including leadership, justice, and deviance as well as identified several areas for future research to better understand the complex processes of leader-follower dynamics.

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TABLES

Table 1

Study 1: Means, Standard Deviations, and Correlations among Key Variables

Variables	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**
1. LMXD	0.52	0.50	-					
2. LMX	0.50	0.50	.04	-				
3. LMXSC	0.49	0.50	-.00	.01	-			
4. Supervisory interactional justice	2.93	1.03	-.29***	.58***	.43***	**(.88)**		
5. Supervisor-directed deviance intention	1.40	0.71	-.02	-.06	-.05	-.17**	**(.95)**	
6. Supervisor-directed OCB intention	3.10	1.07	-.13*	.21**	.28***	.46***	-.19**	**(.89)**

Note. $N = 245$. LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. Cronbach's αs are shown on the diagonal. LMXD, LMX, and LMXSC are dummy coded (0 = low condition; 1 = high condition).

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

Table 2

Study 1: The Interactive Effects of LMXD Properties on Supervisory Interactional Justice Perceptions

	Supervisory interactional justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.63***	(0.08)	-0.87***	(0.14)	-0.71***	(0.16)
LMX	1.22***	(0.08)	1.14***	(0.14)	1.32***	(0.16)
LMXSC	0.87***	(0.08)	0.91***	(0.14)	1.08***	(0.16)
LMXD x LMX			0.35*	(0.16)	0.02	(0.23)
LMXD x LMXSC			0.14	(0.16)	-0.20	(0.23)
LMX x LMXSC			-0.22	(0.16)	-0.57*	(0.23)
LMXD x LMX x LMXSC					0.68*	(0.32)
Constant	2.22***	(0.08)	2.29***	(0.11)	2.21***	(0.11)
R^2	0.62***		0.63***		0.64***	
$\triangle R^2$			.01		.01*	

Note. $N = 245$. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD, LMX, and LMXSC are dummy coded (0 = low condition; 1 = high condition).
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3

Study 1: Indirect Effects of LMXD on Supervisor-directed Deviance Intention and Supervisor-directed OCB Intention via Supervisory Interactional Justice Perceptions (Parametric Bootstrapping; Draws = 5,000)

Conditions	***Deviance***			***OCB***		
	Indirect Effect	***95% CI***		***Indirect Effect***	***95% CI***	
		LL	***UL***		***LL***	***UL***
1. When LMX and LMXSC are both high	0.03	-0.011	0.087	-0.11	-0.269	0.044
2. When LMX is high and LMXSC is low	0.09	0.026	0.173	-0.34	-0.527	-0.173
3. When LMX is low and LMXSC is high	0.12	0.038	0.225	-0.44	-0.651	-0.268
4. When LMX and LMXSC are both low	0.10	0.029	0.177	-0.34	-0.524	-0.188
Difference between condition 1 and condition 2	0.06	0.002	0.151	0.23	0.012	0.467
Difference between condition 1 and condition 3	0.09	0.019	0.195	0.34	0.119	0.593
Difference between condition 1 and condition 4	0.07	0.005	0.151	0.24	0.026	0.460

Note. $N = 245$. LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison; Deviance = supervisor-directed deviance intention; OCB = supervisor-directed OCB intention. 95% CI = 95% confidence interval; LL = lower limit; UL = upper limit.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4

Study 2: The Results of CFA Tests

Models	χ^2	df	RMSEA	SRMR	CFI	TLI
6-factor model[a]	155.99***	89	.05	.04	.98	.97
5-factor model[b]	471.93***	94	.12	.09	.90	.88
5-factor model[c]	838.43***	94	.17	.21	.81	.75
5-factor model[d]	451.41***	94	.12	.08	.91	.88
5-factor model[e]	528.13***	94	.13	.07	.89	.86
5-factor model[f]	575.30***	94	.14	.16	.88	.84
4-factor model[g]	305.84***	98	.09	.37	.67	.59
1-factor model[h]	2011.88***	104	.26	.17	.51	.43

Note. $N = 273$; LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. χ^2 = chi-square statistic; df = degree of freedom; RMSEA = root mean squared error of approximation; SRMR = standardized root mean squared residual; CFI = comparative fit index; TLI = Tucker-Lewis index.

[a] No variables are combined in this model.

[b] LMXD and LMX items are loaded on the same factor.

[c] LMXD and LMXSC items are loaded on the same factor.

[d] LMX and LMXSC items are loaded on the same factor.

[e] LMX and supervisory interactional justice items are loaded on the same factor.

[f] Supervisor-directed deviance and supervisor-directed OCB items are loaded on the same factor.

[g] LMXD, LMX, and LMXSC items are loaded on the same factor.

[h] All variable items are loaded on one factor.

*** $p < .001$

Table 5

Study 2: Means, Standard Deviations, and Correlations among Key Variables

Variables	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**
1. LMXD	3.06	1.00	**(.87)**					
2. LMX	3.87	0.90	-.48***	**(.93)**				
3. LMXSC	3.01	0.89	-.09	.65***	**(.89)**			
4. Supervisory interactional justice	3.72	1.03	-.45***	.72***	.53***	**(.94)**		
5. Supervisor-directed deviance	1.20	0.49	.26***	-.14*	.00	-.25***	**(.91)**	
6. Supervisor-directed OCB	3.67	0.92	-.07	.46***	.46***	.43***	-.09	**(.86)**

Note. $N = 273$; LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. Cronbach's αs are shown on the diagonal.

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

Table 6

Study 2: The Interactive Effects of LMXD Properties on Supervisory Interactional Justice

	Supervisory interactional justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.20***	(0.05)	-0.20***	(0.05)	-0.31***	(0.06)
LMX	0.57***	(0.07)	0.58***	(0.08)	0.51***	(0.08)
LMXSC	0.23***	(0.07)	0.19**	(0.07)	0.27***	(0.07)
LMXD x LMX			-0.02	(0.06)	0.10	(0.07)
LMXD x LMXSC			0.12*	(0.06)	0.04	(0.06)
LMX x LMXSC			0.05	(0.05)	-0.06	(0.06)
LMXD x LMX x LMXSC					0.16**	(0.05)
Constant	3.72***	(0.04)	3.69***	(0.05)	3.74***	(0.05)
R^2	0.55***		0.56***		0.57***	
ΔR^2			0.01		0.02**	

Note. $N = 273$. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD, LMX, and LMXSC are centered. All the interaction products are created by the centered variables.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7

Study 2: Indirect Effects of LMXD on Supervisor-directed Deviance and Supervisor-directed OCBs via Supervisory Interactional Justice Perceptions (Parametric Bootstrapping; Draws = 5,000)

Conditions	***Deviance***			***OCB***		
	Indirect Effect	***95% CI***		***Indirect Effect***	***95% CI***	
		LL	***UL***		***LL***	***UL***
1. When LMX and LMXSC are both high	0.00	-0.006	0.019	-0.03	-0.088	0.033
2. When LMX is high and LMXSC is low	0.03	0.006	0.060	-0.17	-0.265	-0.084
3. When LMX is low and LMXSC is high	0.04	0.005	0.085	-0.22	-0.386	-0.066
4. When LMX and LMXSC are both low	0.02	0.005	0.048	-0.14	-0.211	-0.070
Difference between condition 1 and condition 2	0.03	0.004	0.053	0.14	0.051	0.242
Difference between condition 1 and condition 3	0.03	0.002	0.079	0.19	0.030	0.362
Difference between condition 1 and condition 4	0.02	0.002	0.044	0.11	0.026	0.201

Note. $N = 273$. LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison; Deviance = supervisor-directed deviance; OCB = supervisor-directed OCB. 95% CI = 95% confidence interval; LL = lower limit; UL = upper limit.

Table 8

Study 3: The Results of CFA Tests (Follower-rated Variables)

Models	χ^2	df	RMSEA	$SRMR_W$	$SRMR_B$	CFI	TLI
7-factor model[a]	380.95***	262	0.03	0.04	0.25	0.97	0.96
6-factor model[b]	This model doesn't converge						
6-factor model[c]	This model doesn't converge						
6-factor model[d]	504.01***	274	0.04	0.06	0.34	0.95	0.93
6-factor model[e]	570.54***	274	0.05	0.06	0.30	0.93	0.92
6-factor model[f]	This model doesn't converge						
5-factor model[g]	This model doesn't converge						
4-factor model[h]	This model doesn't converge						
1-factor model[i]	This model doesn't converge						

Note. *N* of groups = 108; *N* of individuals = 540; LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. χ^2 = chi-square statistic; df = degree of freedom; RMSEA = root mean squared error of approximation; $SRMR_W$ = within-level standardized root mean squared residual; $SRMR_B$ = between-level standardized root mean squared residual; CFI = comparative fit index; TLI = Tucker-Lewis index.

[a] No variables are combined in this model.

[b] LMXD and LMX items are loaded on the same factor.

[c] LMXD and LMXSC items are loaded on the same factor.

[d] LMX and LMXSC items are loaded on the same factor.

[e] LMX and supervisory interactional justice items are loaded on the same factor.

[f] Supervisor-directed deviance and supervisor-directed OCB items are loaded on the same factor.

[g] LMXD, LMX, and LMXSC items are loaded on the same factor.

[h] LMXD, LMX, LMXSC, and supervisory interactional and overall justice items are loaded on the same factor.

[i] All variable items are loaded on one factor.

*** $p < .001$

Table 9

Study 3: The Results of CFA Tests (Leader-rated Variables)

Models	χ^2	df	RMSEA	$SRMR_W$	$SRMR_B$	CFI	TLI
2-factor model[a]	13.83	8	0.04	0.02	0.04	0.99	0.99
1-factor model[b]	299.40***	10	0.23	0.20	0.42	0.71	0.41

Note. *N* of groups = 108; *N* of individuals = 540. χ^2 = chi-square statistic; df = degree of freedom; RMSEA = root mean squared error of approximation; $SRMR_W$ = within-level standardized root mean squared residual; $SRMR_B$ = between-level standardized root mean squared residual; CFI = comparative fit index; TLI = Tucker-Lewis index.

[a] No variables are combined in this model.

[b] The two variables are combined in this model.

*** $p < .001$

Table 10

Study 3: Means, Standard Deviations, and Correlations among Key Variables

Group-Level Variables	***M***	***SD***	**1**	**2**							
1. Group variance of LMX	0.36	0.42	-								
2. Group standard deviation of LMX	0.49	0.34	.96***	-							
Individual-Level Variables	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. LMXD	2.36	0.78	**(.72)**								
2. LMX	3.93	0.67	-.52***	**(.84)**							
3. LMXSC	3.90	0.73	-.50***	.70***	**(.85)**						
4. Supervisory interactional justice	3.92	0.69	-.71***	.65***	.65***	**(.83)**					
5. Supervisory overall justice	3.83	0.75	-.27***	.28***	.31***	.35***	**(.77)**				
6. Supervisor-directed deviance (by follower)	1.16	0.19	-.08	.05	.18***	.04	.13**	**(.68)**			
7. Supervisor-directed OCB (by follower)	3.73	0.67	-.29***	.46***	.41***	.39***	.30***	.15***	**(.67)**		
8. Supervisor-directed deviance (by leader)	1.20	0.26	.14**	-.18***	-.07	-.25***	-.03	.43***	.03	**(.84)**	
9. Supervisor-directed OCB (by leader)	3.72	0.76	-.16***	.27***	.20***	.23***	.31***	.08	.62***	.05	**(.80)**

Note. *N* of groups = 108; *N* of individuals = 540; LMXD = leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. Cronbach's αs are shown on the diagonal.

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

Table 11

Study 3: The Interactive Effects of LMXD Properties on Supervisory Interactional Justice (LMXD = Followers' Perceptions of LMXD)

	Supervisory interactional justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.25***	(0.04)	-0.25***	(0.04)	-0.27***	(0.04)
LMX	0.26***	(0.07)	0.23***	(0.06)	0.25***	(0.06)
LMXSC	0.12*	(0.06)	0.13*	(0.06)	0.15**	(0.06)
LMXD x LMX			0.24***	(0.07)	0.24***	(0.07)
LMXD x LMXSC			0.09	(0.07)	0.11	(0.07)
LMX x LMXSC			0.14*	(0.06)	0.15**	(0.06)
LMXD x LMX x LMXSC					0.14*	(0.07)
Constant	3.92***	(0.04)	3.94***	(0.04)	3.94***	(0.04)
R^2	.34***		.34***		.35***	
$\triangle R^2$			.00		.01*	

Note. *N* of groups = 108; *N* of individuals = 540. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = followers' perceptions of leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD, LMX, and LMXSC are group-mean centered. All the products are created by the centered variables.

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

Table 12

Study 3: Indirect Effects of LMXD on Follower-rated Supervisor-directed Deviance and Supervisor-directed OCBs via Supervisory Interactional Justice Perceptions (Parametric Bootstrapping; Draws = 5,000)

Conditions	***Deviance***			***OCBs***		
	Indirect Effect	***95% CI***		***Indirect Effect***	***95% CI***	
		LL	***UL***		***LL***	***UL***
1. When LMX and LMXSC are both high	0.00	-0.002	0.002	-0.01	-0.052	0.030
2. When LMX is high and LMXSC is low	0.00	-0.005	0.005	-0.07	-0.131	-0.025
3. When LMX is low and LMXSC is high	0.00	-0.007	0.007	-0.11	-0.181	-0.052
4. When LMX and LMXSC are both low	0.00	-0.008	0.008	-0.12	-0.194	-0.057
Difference between condition 1 and condition 2	0.00	-0.005	0.004	0.06	0.010	0.125
Difference between condition 1 and condition 3	0.00	-0.007	0.007	0.10	0.040	0.175
Difference between condition 1 and condition 4	0.00	-0.008	0.008	0.11	0.040	0.197

Note. *N* of groups = 108; *N* of individuals = 540. LMXD = followers' perceptions of leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison; Deviance = supervisor-directed deviance; OCB = supervisor-directed OCB. 95% CI = 95% confidence interval; LL = lower limit; UL = upper limit.

Table 13

Study 3: Indirect Effects of LMXD on Leader-rated Supervisor-directed Deviance and Supervisor-directed OCB via Supervisory Interactional Justice Perceptions (Parametric Bootstrapping; Draws = 5,000)

Conditions	***Deviance***			***OCBs***		
	Indirect Effect	***95% CI***		***Indirect Effect***	***95% CI***	
		LL	***UL***		***LL***	***UL***
1. When LMX and LMXSC are both high	0.00	-0.011	0.020	-0.01	-0.074	0.042
2. When LMX is high and LMXSC is low	0.03	0.008	0.049	-0.10	-0.177	-0.038
3. When LMX is low and LMXSC is high	0.04	0.016	0.071	-0.16	-0.251	-0.080
4. When LMX and LMXSC are both low	0.04	0.018	0.076	-0.17	-0.266	-0.090
Difference between condition 1 and condition 2	0.02	0.003	0.047	0.08	0.015	0.169
Difference between condition 1 and condition 3	0.04	0.013	0.068	0.14	0.061	0.241
Difference between condition 1 and condition 4	0.04	0.013	0.076	0.16	0.062	0.274

Note. *N* of groups = 108; *N* of individuals = 540. LMXD = followers' perceptions of leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison; Deviance = supervisor-directed deviance; OCB = supervisor-directed OCB. 95% CI = 95% confidence interval; LL = lower limit; UL = upper limit.

Table 14

Study 3: The Interactive Effects of LMXD Properties on Supervisory Interactional Justice (LMXD = Group SD of LMX)

	Supervisory interactional justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.68***	(0.09)	-0.82***	(0.10)	-0.86***	(0.10)
LMX	0.43***	(0.08)	0.33***	(0.09)	0.34***	(0.09)
LMXSC	0.18**	(0.06)	0.17*	(0.07)	0.17**	(0.07)
LMXD x LMX			0.42†	(0.23)	0.45†	(0.23)
LMXD x LMXSC			0.21	(0.20)	0.18	(0.20)
LMX x LMXSC			0.13*	(0.05)	-0.02	(0.10)
LMXD x LMX x LMXSC					0.38†	(0.21)
Constant	3.92***	(0.03)	3.89***	(0.03)	3.90***	(0.03)
R^2	.74***		.74***		.82***	
ΔR^2			.00		.08†	

Note. *N* of groups = 108; *N* of individuals = 540. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = group SD of LMX; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD is grand-mean centered; LMX, and LMXSC are group-mean centered. All the products are created by the centered variables.

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 15

Study 3: Indirect Effects of LMXD on Follower-rated Supervisor-directed Deviance and Supervisor-directed OCBs via Supervisory Interactional Justice Perceptions (Parametric Bootstrapping; Draws = 5,000)

Conditions	***Deviance***					***OCBs***				
	Indirect	***95% CI***		***90% CI***		***Indirect***	***95% CI***		***90% CI***	
	Effect	***LL***	***UL***	***LL***	***UL***	***Effect***	***LL***	***UL***	***LL***	***UL***
1. When LMX and LMXSC are both high	0.00	-0.003	0.011	-0.002	0.009	-0.14	-0.306	0.005	-0.275	-0.021
2. When LMX is high and LMXSC is low	0.01	-0.007	0.019	-0.005	0.016	-0.30	-0.505	-0.137	-0.466	-0.160
3. When LMX is low and LMXSC is high	0.01	-0.009	0.024	-0.007	0.021	-0.39	-0.613	-0.215	-0.576	-0.240
4. When LMX and LMXSC are both low	0.01	-0.009	0.023	-0.006	0.020	-0.39	-0.601	-0.208	-0.560	-0.231
Difference between condition 1 and condition 2	0.00	-0.004	0.012	-0.003	0.010	0.16	-0.024	0.372	0.005	0.328
Difference between condition 1 and condition 3	0.00	-0.006	0.018	-0.003	0.010	0.25	0.056	0.495	0.086	0.447
Difference between condition 1 and condition 4	0.00	-0.006	0.018	-0.004	0.015	0.25	0.013	0.522	0.048	0.472

Note. *N* of groups = 108; *N* of individuals = 540. LMXD = group SD of leader-member exchange quality; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison; Deviance = supervisor-directed deviance; OCB = supervisor-directed OCB. 95% CI = 95% confidence interval; 90% CI = 90% confidence interval; LL = lower limit; UL = upper limit.

Table 16

Study 3: Indirect Effects of LMXD on Leader-rated Supervisor-directed Deviance and Supervisor-directed OCB via Supervisory Interactional Justice Perceptions (Parametric Bootstrapping; Draws = 5,000)

Conditions	Deviance					OCBs				
	Indirect Effect	*95% CI*		*90% CI*		*Indirect Effect*	*95% CI*		*90% CI*	
		LL	*UL*	*LL*	*UL*		*LL*	*UL*	*LL*	*UL*
1. When LMX and LMXSC are both high	0.04	-0.001	0.092	0.005	0.082	-0.17	-0.356	0.007	-0.322	-0.022
2. When LMX is high and LMXSC is low	0.08	0.033	0.148	0.039	0.137	-0.35	-0.582	-0.163	-0.542	-0.192
3. When LMX is low and LMXSC is high	0.11	0.051	0.187	0.059	0.172	-0.46	-0.727	-0.252	-0.674	-0.282
4. When LMX and LMXSC are both low	0.11	0.050	0.184	0.058	0.170	-0.46	-0.705	-0.247	-0.662	-0.277
Difference between condition 1 and condition 2	0.04	-0.007	0.107	0.001	0.096	0.19	-0.028	0.424	0.006	0.382
Difference between condition 1 and condition 3	0.07	0.014	0.146	0.021	0.131	0.30	0.064	0.577	0.100	0.528
Difference between condition 1 and condition 4	0.07	0.004	0.155	0.012	0.141	0.29	0.016	0.609	0.056	0.550

Note. *N* of groups = 108; *N* of individuals = 540. LMXD = group SD of leader-member exchange quality; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison; Deviance = supervisor-directed deviance; OCB = supervisor-directed OCB. 95% CI = 95% confidence interval; 90% CI = 90% confidence interval; LL = lower limit; UL = upper limit.

Table 17

Study 3: The Interactive Effects of LMXD Properties on Supervisory Interactional Justice (LMXD = Group Variance of LMX)

	Supervisory interactional justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.43***	(0.08)	-0.54***	(0.09)	-0.59***	(0.09)
LMX	0.42***	(0.08)	0.36***	(0.08)	0.37***	(0.08)
LMXSC	0.17**	(0.06)	0.17*	(0.07)	0.17**	(0.07)
LMXD x LMX			0.18	(0.17)	0.21	(0.17)
LMXD x LMXSC			0.17	(0.15)	0.14	(0.15)
LMX x LMXSC			0.11†	(0.05)	0.00	(0.08)
LMXD x LMX x LMXSC					0.22†	(0.12)
Constant	3.92***	(0.04)	3.90***	(0.04)	3.90***	(0.04)
R^2	.59***		.56***		0.65***	
$\triangle R^2$			-.03*		0.09†	

Note. *N* of groups = 108; *N* of individuals = 540. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = group variance of LMX; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD is grand-mean centered; LMX, and LMXSC are group-mean centered. All the products are created by the centered variables.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 18

Study 3: The Interactive Effects of LMXD Properties on Supervisory Overall Justice (LMXD = Followers' Perceptions of LMXD)

	Supervisory overall justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.15**	(0.06)	-0.15**	(0.06)	-0.15*	(0.06)
LMX	0.01	(0.08)	0.01	(0.08)	0.01	(0.08)
LMXSC	0.23***	(0.07)	0.23**	(0.07)	0.23**	(0.07)
LMXD x LMX			-0.01	(0.09)	-0.01	(0.09)
LMXD x LMXSC			-0.02	(0.10)	-0.02	(0.11)
LMX x LMXSC			-0.02	(0.08)	-0.01	(0.08)
LMXD x LMX x LMXSC					-0.01	(0.07)
Constant	3.83***	(0.04)	3.83***	(0.04)	3.83***	(0.04)
R^2	.07***		.07***		.07***	
$\triangle R^2$			.00		.00	

Note. *N* of groups = 108; *N* of individuals = 540. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = follower perception of leader-member exchange differentiation; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD, LMX, and LMXSC are group-mean centered. All the products are created by the centered variables.

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

Table 19

Study 3: The Interactive Effects of LMXD Properties on Supervisory Overall Justice (LMXD = Group SD of LMX)

	Supervisory overall justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.39***	(0.10)	-0.45***	(0.11)	-0.48***	(0.11)
LMX	0.07	(0.07)	0.26*	(0.11)	0.23*	(0.11)
LMXSC	0.27***	(0.07)	0.24**	(0.08)	0.24**	(0.08)
LMXD x LMX			-0.48*	(0.23)	-0.37	(0.23)
LMXD x LMXSC			0.16	(0.22)	0.16	(0.22)
LMX x LMXSC			0.09	(0.07)	-0.12	(0.14)
LMXD x LMX x LMXSC					0.47†	(0.27)
Constant	3.83***	(0.03)	3.81***	(0.04)	3.82***	(0.04)
R^2	.22***		.22***		.25***	
ΔR^2			.00		.03†	

Note. *N* of groups = 108; *N* of individuals = 540. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = group SD of LMX; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD is grand-mean centered; LMX, and LMXSC are group-mean centered. All the products are created by the centered variables.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 20

Study 3: The Interactive Effects of LMXD Properties on Supervisory Overall Justice (LMXD = Group Variance of LMX)

	Supervisory overall justice					
	Model 1		Model 2		Model 3	
Variables	***b***	***SE***	***b***	***SE***	***b***	***SE***
LMXD	-0.27**	(0.08)	-0.29**	(0.09)	-0.34***	(0.09)
LMX	0.07	(0.07)	0.28**	(0.10)	0.26**	(0.10)
LMXSC	0.27***	(0.07)	0.24**	(0.07)	0.23**	(0.07)
LMXD x LMX			-0.39**	(0.14)	-0.32*	(0.15)
LMXD x LMXSC			0.08	(0.17)	0.08	(0.17)
LMX x LMXSC			0.05	(0.07)	-0.09	(0.11)
LMXD x LMX x LMXSC					0.26†	(0.15)
Constant	3.83***	(0.04)	3.82***	(0.04)	3.83***	(0.04)
R^2	.17***		.18***		.23***	
$\triangle R^2$			.01*		.05†	

Note. *N* of groups = 108; *N* of individuals = 540. Unstandardized coefficients are displayed. Standard errors are in parentheses. LMXD = group variance of LMX; LMX = leader-member exchange quality; LMXSC = leader-member exchange social comparison. LMXD is grand-mean centered; LMX, and LMXSC are group-mean centered. All the products are created by the centered variables.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 21

Summary of Research Findings across Three Studies

Hypotheses	Study 1	Study 2	Study 3		
	LMXD operationalized as experimental manipulation	**LMXD operationalized as followers' perceptions**	**LMXD operationalized as followers' perceptions**	**LMXD operationalized as group SD of LMX quality**	**LMXD operationalized as group variance of LMX quality**
H1	Yes	Yes	Yes	Yes	Yes
H2	Yes	Yes	Yes	Marginally yes	No
H3	Yes	Yes	Yes, only for leader-rated deviance	Marginally yes, only for leader-rated deviance	No
H4	Yes	Yes	Yes, for both leader-rated and follower-rated deviance	Marginally yes, for both leader-rated and follower-rated deviance	No

Note. LMXD = group variance of LMX; LMX = leader-member exchange; "Yes" means this hypothesis is supported by the data; "Marginally yes" means tests of this hypothesis are marginally significant; "No" means this hypothesis is not supported by the data.

FIGURES

Figure 1

The Research Model

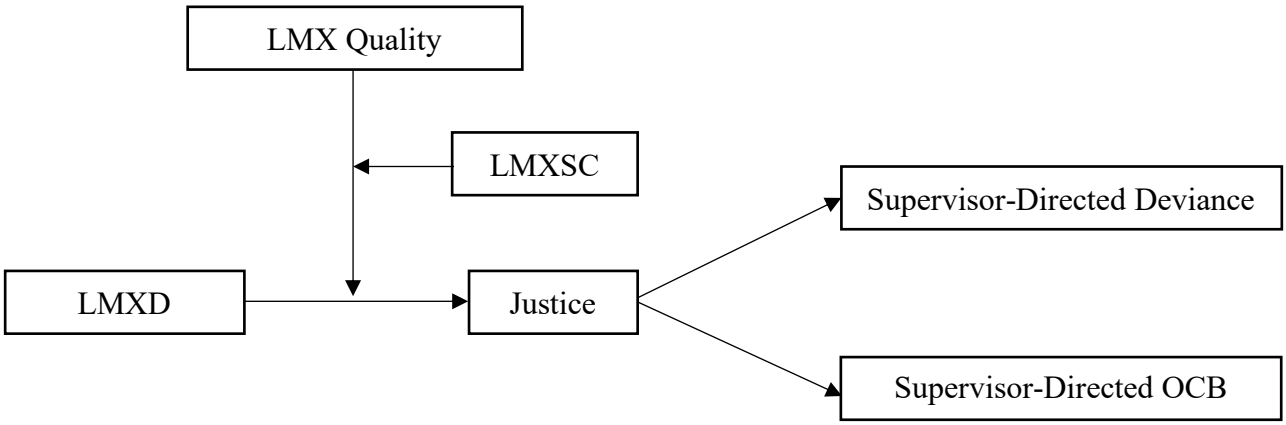


Figure 2

Study 1: The Interactive Effect of LMXD Properties on Supervisory Interactional Justice

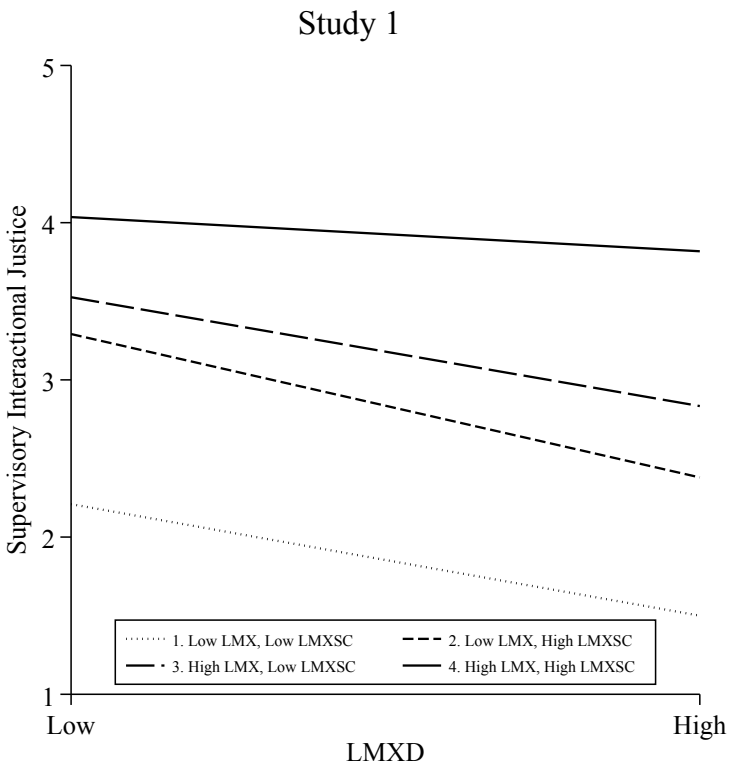


Figure 3

Study 2: The Interactive Effect of LMXD Properties on Supervisory Interactional Justice

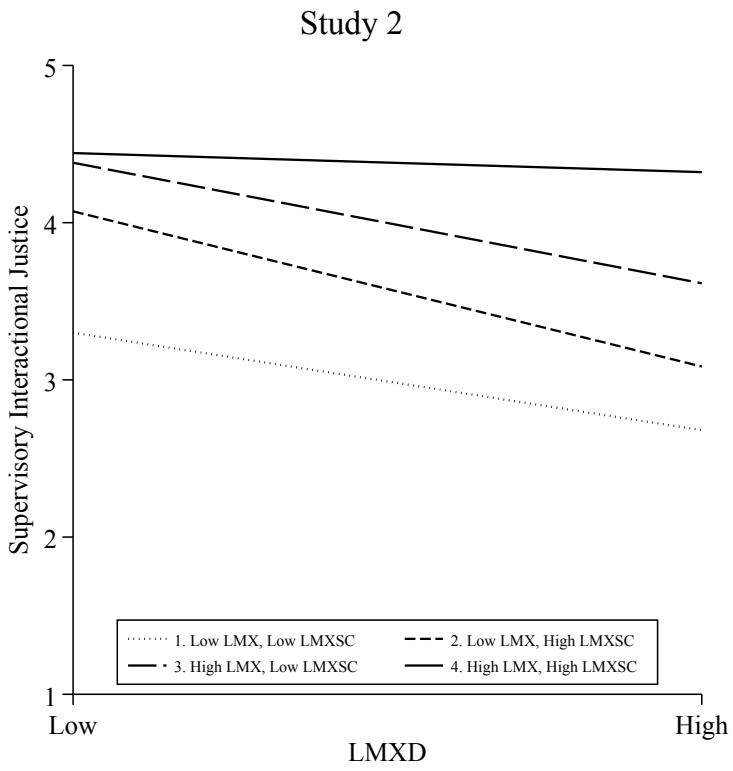


Figure 4

Study 3: The Interactive Effect of LMXD Properties on Supervisory Interactional Justice (LMXD = Followers' Perceptions of LMXD)

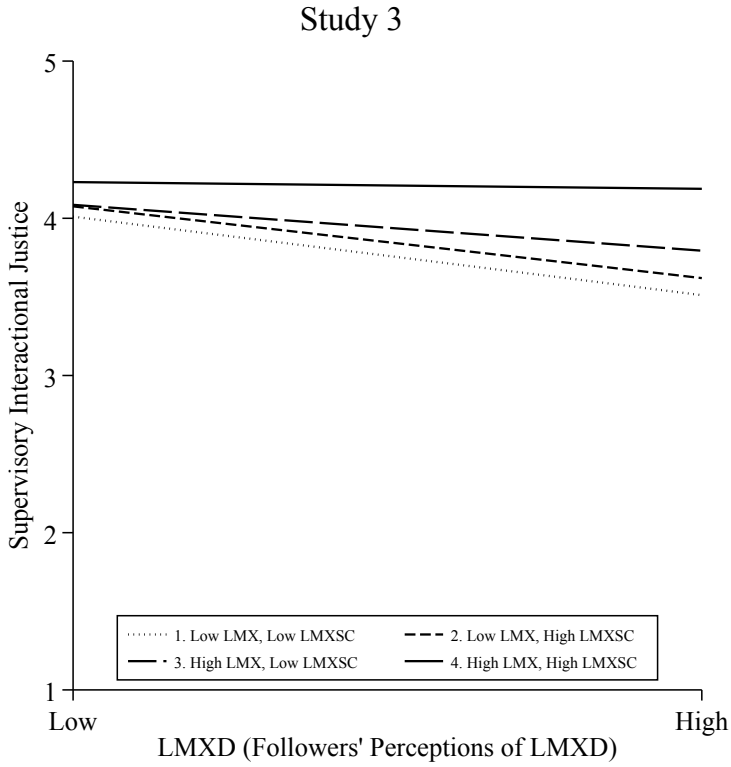


Figure 5

Study 3: The Interactive Effect of LMXD Properties on Supervisory Interactional Justice (LMXD =Group SD of LMX)

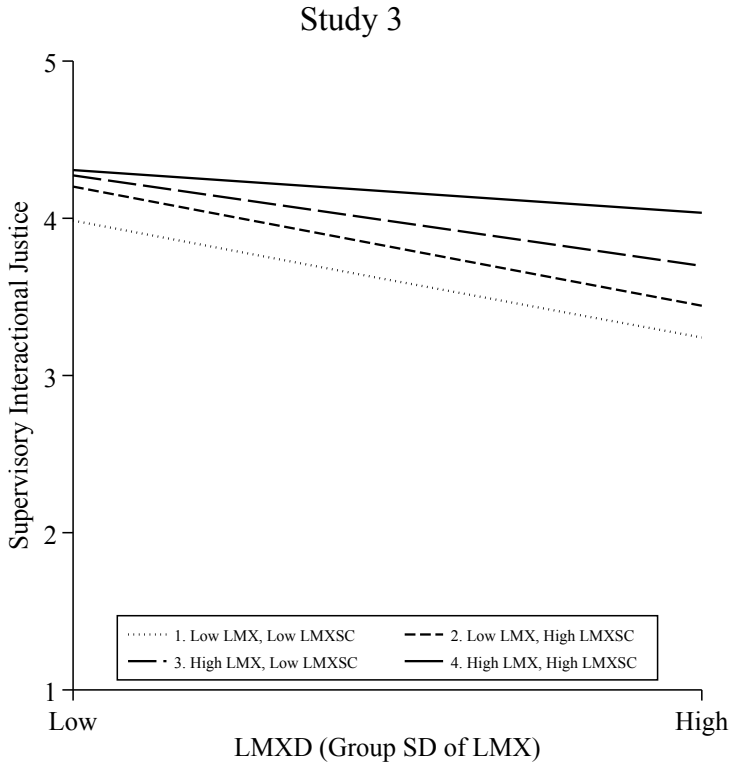


Figure 6

Study 3: The Interactive Effect of LMXD Properties on Supervisory Interactional Justice (LMXD = Group Variance of LMX)

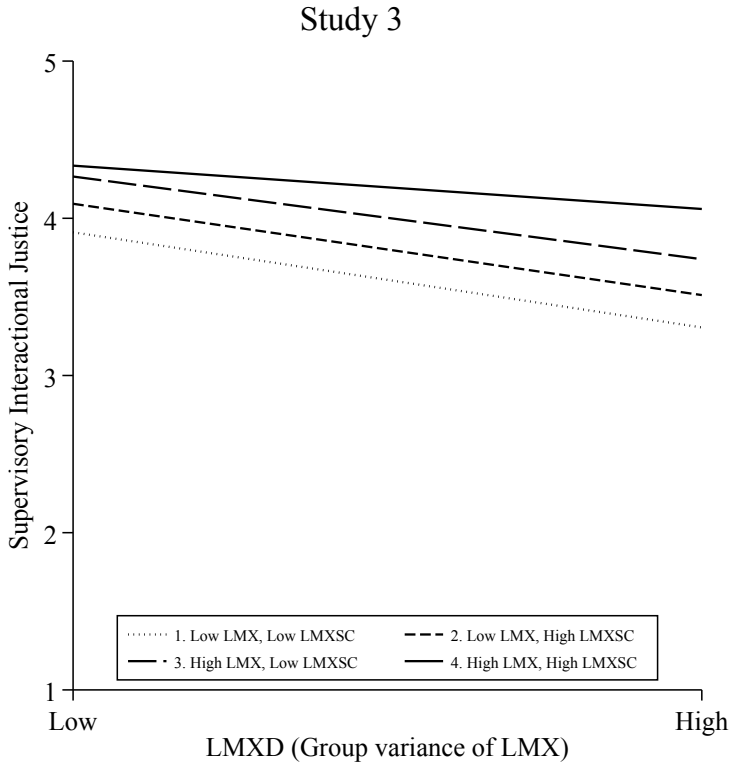


Figure 7

Study 3: The Interactive Effect of LMXD Properties on Supervisory Overall Justice (LMXD =Group SD of LMX)

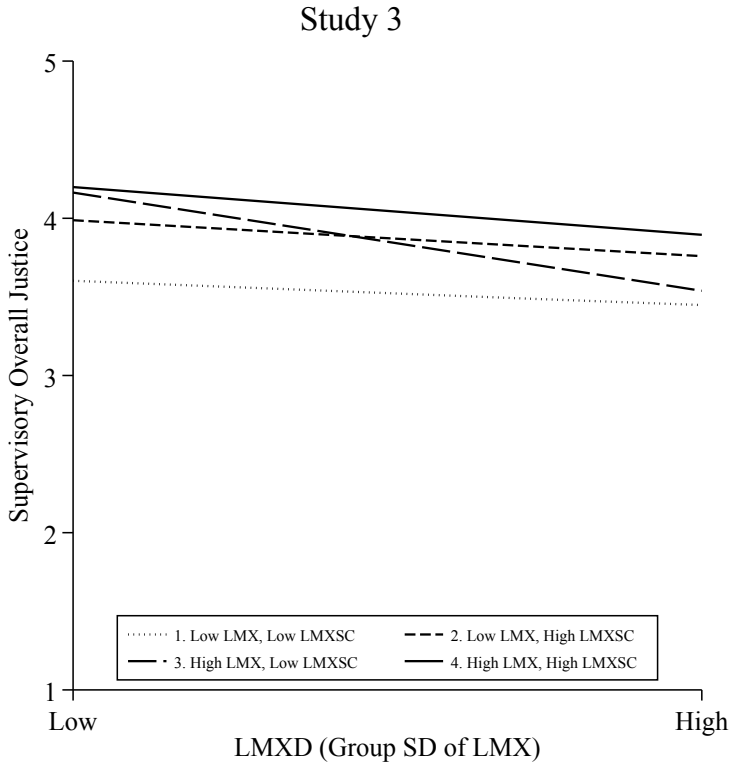
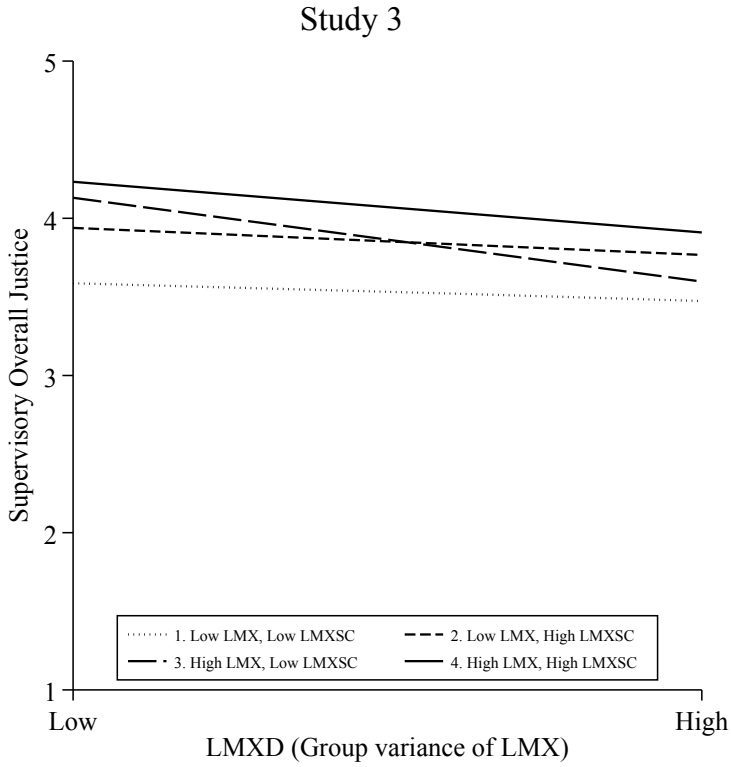


Figure 8

Study 3: The Interactive Effect of LMXD Properties on Supervisory Overall Justice (LMXD = Group Variance of LMX)



APPENDIX

A Sample Scenario

The condition of high LMXD, high LMX quality, and high LMXSC:

Imagine you are an employee in the marketing department of a moderate-sized company. You work closely with your manager and team members. Chris is your manager. As your manager, Chris tends to treat his subordinates differently. That is, he tends to be pretty varied in how he manages and treats members of your team [***High LMXD***]. Compared to other team members, you feel you receive more support from him. In general, Chris provides you with more respect, resources, and professional consideration, and commits to you more [***High LMXSC***]. You also feel Chris likes you as a person and admires your professional skills. Additionally, you feel he is loyal to you and is willing to apply extra efforts to help you [***High LMX quality***].