

ABSTRACT

Title of Dissertation: ARE YOU IN OR OUT? A GROUP-LEVEL
EXAMINATION OF THE EFFECTS OF LMX ON
JUSTICE AND CUSTOMER SATISFACTION

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Early work on leader-member exchange (LMX) theory suggested that leaders differentiating followers into in-groups and out-groups leads to superior group performance. However, research on LMX has almost exclusively studied individual outcomes as opposed to group outcomes. In addition, the notion of differentiation suggests that not all group members have high quality relationships with their leaders thereby violating rules surrounding experienced organizational justice. Thus, the purpose of this dissertation is to conceptualize and study LMX at the level of analysis at which it was initially conceptualized (i.e., the work group level), and to examine the effects of LMX level (i.e., mean in group members' LMX scores) and LMX strength (i.e., variance in group members' LMX scores, i.e., differentiation) on group performance (i.e., unit-level customer satisfaction) and group-level fairness perceptions (i.e., justice climates).

Drawing on LMX, organizational justice, social comparison theory, and multilevel theory and research, I derived a number of testable hypotheses involving the relationship between LMX level and LMX strength on justice climates and group performance.

There were three major sets of findings regarding (1): the effects of LMX level, (2) the effects of LMX differentiation (later called LMX strength), (3) and the moderating roles of task interdependence and group size on the LMX strength to justice climates relationships. First, LMX level was positively related to justice climates; however, the relationship between LMX level and customer satisfaction was not significant. Second, as predicted, LMX strength was negatively related to justice climates, but, incongruent with the differentiation (strength) hypothesis of LMX theory, there was not a significant relationship between LMX strength and customer satisfaction. Third, consistent with the hypothesis, task interdependence moderated the relationship between LMX strength and justice climates such that justice climates were more favorable when strength was high and task interdependence was high. Collectively, these results suggest that having variability (i.e., differentiation) in the quality of relationships in a work group may have negative effects on justice climates, particularly when individuals must work interdependently; but a negligible direct effect on group performance. Theoretical and practical implications are discussed.

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by

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INTRODUCTION

Decades of research have been devoted to understanding what behaviors characterize an effective leader (Bass, 1990; House & Aditya, 1997). One approach to understanding leader effectiveness is to dissect the relationship between a leader and his or her subordinates. The primary theory that concerns such relationships is Leader-Member Exchange (LMX) — a leadership theory that posits that because of limited time and resources, leaders *differentiate* between subordinates and create in-groups and out-groups as a means to increase *work-group* productivity (Dansereau, Graen, & Haga, 1975). Specifically Dansereau et al. (1975: 71) proposed that “... the differential treatment of members by superiors may be instrumental to adequate group functioning.” Empirical work on LMX has demonstrated that individual in-group members reap a number of benefits such as higher job performance ratings, higher objective performance, superior job satisfaction and commitment, improved role perceptions and feelings of empowerment, and lower turnover (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Schriesheim, Castro, & Cogliser, 1999). While LMX theory suggests that leaders having both high- and low-quality relationships with followers improves group functioning what the empirical research on LMX has shown is that individual in-group members derive many personal benefits from their in-group status.

Thus, while the original conceptualization of LMX highlights dyadic leader-member relationships in work groups and the usefulness of differentiating for improving group outcomes (Dansereau et al., 1975), the vast majority of empirical research on LMX has simply focused on the outcomes for followers. In doing so, the literature has failed to explore the combination of different leader-member relationships within a group and the

consequences of this differentiation of relationships for the group as a whole. LMX research, then, has focused on dyads devoid of the implications for group performance and as such has not actually tested LMX theory at the appropriate level of analysis (Schriesheim et al., 1999). For example, the typical research on LMX involves collecting data from either an employee or manager about the LMX relationship and correlating that assessment with individual employee outcomes, such as performance ratings or job-related attitudes. Unfortunately, this methodological approach does not take into account the pattern of relationships within a group and does not test a fundamental proposal of LMX — namely, that differentiation leads to superior *group* performance. In addition to this level of analysis issue, a second limitation of the empirical literature on LMX is that even though Graen and Scandura (1987: 178) suggested that “... each party must see the exchange as reasonably equitable or fair,” research has largely ignored the potential deleterious effects of differentiating on group members’ fairness perceptions. Indeed, organizational justice theory proposes that differentiating between employees leads to shared cognitions regarding fair treatment — referred to as *justice climate* in the lexicon of present day organizational justice research (Scandura, 1999).

Thus, an interesting paradox emerges: LMX theory suggests that having high quality relationships with some group members and low quality relationships with other members is vital for superior group performance. However, research on organizational justice suggests that such differentiation will have negative effects on fairness perceptions, and fairness perceptions have been shown to relate positively to many beneficial individual (Colquitt, Conlon, Wesson, Porter, & Ng, 2001) and group (Colquitt, Noe, & Jackson, 2002) outcomes. The question then becomes: Can

differentiation simultaneously have a negative impact on justice climates but a positive effect on group performance?

This dissertation will address this question and the aforementioned limitations by expanding LMX research to the group level of analysis and by exploring the effects of “LMX level” (the mean of group members’ LMX perceptions) and “LMX strength” (the variance in group members’ LMX perceptions) on group-level fairness perceptions (i.e., justice climates) and group performance (i.e., unit-level customer satisfaction).

Throughout this dissertation I use the term LMX level to refer to the group mean on LMX and the term LMX strength to refer to the variance in group member’s perceptions of LMX (i.e., differentiation) as these terms are the vernacular used in current climate research (Schneider, Salvaggio, & Subirats, 2002; Colquitt, et al., 2002). Scholars have noted the dearth of multilevel research on LMX and the need for this work (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Schriesheim et al., 1999; Schriesheim, Castro, & Yammarino, 2000; Cogliser & Schriesheim, 2000), so in this study I heeded the advice of researchers (Graen & Uhl-Bien, 1995) by not only conceptualizing but studying LMX at the group level of analysis. Further, drawing on social comparison theory, I examined potential boundary conditions of the LMX strength (i.e., differentiation) to justice climates relationships.

Specifically, by conceptualizing LMX at the group level of analysis and by using group-level data this study adds to the literatures on LMX and organizational justice in a number of important ways. First, consistent with the initial theorizing on LMX, this study makes a strong *theoretical* contribution by taking a group-level approach to understanding the effects of LMX vis-a-vis justice climates and group performance.

Specifically, I investigate the effects of LMX level and LMX strength on justice climates — a dependent variable rarely examined in LMX research yet conceptually central to the long-term group-level consequences of differentiation — and group-level customer satisfaction. In addition, drawing on social comparison theory (Festinger, 1954), I explore task interdependence and group size conceptually and empirically as potential boundary conditions of the hypothesized relationships between LMX strength and justice climates. I propose that the effects of leaders having similar levels of quality in relationships with group members will have significantly improved consequences on justice climates when there is high task interdependence and when the group is small. I develop the logic later that because these group characteristics increase the chance of social comparison, it is increasingly important to not differentiate under these contexts.

Second, this study makes a *practical* contribution by examining the relationship between LMX level and LMX strength and an important group outcome — customer satisfaction, an objective measure of group performance shown to relate to bottom-line performance such as sales (Schneider, Ehrhart, Mayer, & Saltz, 2004). Third, this study makes a *methodological* contribution by revisiting the original group-level conceptualization of LMX research by examining the effects of LMX level and LMX strength on group-level outcomes while controlling for possible context effects on the outcomes of interest, and by collecting data from multiple sources and using split sample analyses when possible to reduce the potential for response bias.

The remainder of the introduction has four sections. First, I describe the developmental history of LMX theory and research and highlight the recent work that has taken a multilevel approach. Second, I introduce organizational justice theory focusing

primarily on the dimensionality of justice, the rules used to govern fairness perceptions, and the emerging literature on justice climates. Third, I integrate the literatures on LMX and justice by presenting relevant research and then draw on LMX and justice theories to formulate hypotheses about the effects of LMX level and LMX strength on justice climates and customer satisfaction. Fourth, I draw on social comparison theory to propose how task interdependence and group size serve as boundary conditions of the relationship between LMX strength and justice climates.

Following the introduction I provide a method section that details the participants, procedure, levels of analysis issues, and data analytic techniques used to test the hypotheses; a results section that provides descriptive statistics, tests of the hypotheses, and post-hoc analyses; and a discussion section that describes the findings, discusses theoretical and practical implications, and mentions limitations of the study and future directions for research.

LMX Theory and Research

Few leadership theories have sustained researchers' interest and continued to flourish as long as LMX theory has. LMX, originally called vertical dyadic linkage (VDL), was developed approximately 30 years ago by Dansereau et al. (1975) as a response to average leadership style (ALS), which assumed that leaders maintain similar relationships with all of their employees. LMX broke away from this conceptualization by highlighting the way leaders differentiate between their subordinates by creating in-groups and out-groups. In-group members have high quality exchanges characterized by "mutual trust, respect, and obligation" (Graen & Uhl-Bien: 227), whereas out-group members have low quality exchanges that have less trust, respect, and obligation. LMX

began as an alternative lens to understand relationships between leaders and followers, and has evolved into an empirically tested, influential leadership theory whose theoretical development has progressed steadily over the past 30 years. Below I briefly define LMX as a relationship-oriented approach to leadership based on social exchange processes and highlight the four major developmental stages of LMX research (Graen & Uhl-Bien, 1995).

Defining LMX as a Relationship-Based Social Exchange Form of Leadership

Graen and Uhl-Bien (1995) provide a brief taxonomy of leadership theories that differ based on their primary focus. Specifically, leadership can be examined from three major perspectives: (1) from the leader's perspective, (2) from the follower's perspective, or (3) from the perspective of the relationship between the leader and follower. When studying leadership from the leader's perspective, issues of concern include what appropriate behavior is for a leader, what qualities a leader possesses, what behaviors he or she exhibits, and when a leader is most effective. When studying leadership from the follower's perspective, pertinent issues include whether the followers are able and motivated to manage themselves, whether they will give up control, and the factors that influence their acceptance of and need for leadership.

The third perspective, the relationship-based approach, best describes LMX theory. The focus is not just on the leader or the follower, instead the relationship between leaders and followers is of primary concern. Thus, central issues are related to the amount of trust, respect, and mutual obligation of the leader and follower, and how strong relationships are fostered and preserved. An important aspect of this relationship-based approach to leadership taken by LMX is that there is a social exchange process

going on between leaders and followers. As Graen and Uhl-Bien (1995: 225) note, “The centroid concept of the theory is that effective leadership processes occur when leaders and followers are able to develop mature relationships and thus gain access to the many benefits these relationships bring.” This statement highlights the idea that the essence of LMX as a construct is that it is a relationship-based approach to leadership that is focused on the social exchange process between a leader and follower. More detail on the nature of how mature relationships develop is provided in the following section that describes the major developmental stages of LMX theory.

Developmental Stages of LMX Theory

Research on LMX has gone through four major developmental stages (Graen & Uhl-Bien, 1995). These stages reflect considerable theoretical conjecture and empirical examinations aimed at understanding leader-member relationships. An important theme throughout the stages of development is the change in focus with regard to the level of analysis specified by the theory at the different stages. In order to make the levels of analysis issues more salient across the different stages, I have provided Table 1 to serve as a summary. Table 1 names each of the four stages, briefly explains the focus of each stage, highlights the theoretical level of analysis of each stage, and describes the level of analysis to which the results of potential (or actual) empirical examinations apply (e.g., leader, follower, group, organization).

Insert Table 1 Here

To briefly summarize, the table helps illustrate that the initial conceptualization of LMX in the first stage concerned dyads in *work groups* and the focus was on differentiating LMX from ALS. The second stage continued the focus on *dyads* and largely concerned examining potential individual outcomes of high quality relationships for followers. However, while this stage was useful because it found many benefits for followers in high quality relationships, the focus was on individual rather than group outcomes (Liden, Erdogan, Wayne, & Sparrowe, 2002). The third stage also concerned *dyads* devoid of a focus on group outcomes but instead of focusing on outcomes, the primary focus of this stage was theoretical in that the process of the development of leader-follower relationship was chronicled. The fourth stage moved the level of analysis to an aggregate of dyads at the work group and/or organization level. While there is presently no published empirical research at this stage, it is important because the original conceptualization of LMX highlighted the idea that differentiating was important for group and/or organizational performance (Graen & Uhl-Bien, 1995). Thus, by extending the level of analysis to work groups and organizations, LMX research can build on the plethora of research demonstrating positive effects for followers with high quality relationships to examining whether the *collective of dyads* in a group and/or organization predict important *group* and *organizational outcomes*. With this level of analysis orientation as a background, I will now describe each of the stages in more detail.

The first stage of work on LMX investigated issues such as work socialization (Johnson & Graen, 1973) as well as Vertical Dyad Linkage (Dansereau et al., 1975). At this stage, the level of analysis was dyads within work groups so the importance of the pattern of relationships in a group and group outcomes were highlighted. The results of

these pioneering studies on LMX were in stark contrast to the work of proponents of ALS who believed that leaders treat all of their subordinates equally. Longitudinal studies where managers were asked to report on their relationships with subordinates revealed that leaders purposefully differentiated their employees into “in-groups” and “out-groups” (Graen, 1976; Graen, Liden, & Hoel, 1982). In-group members had relationships with a high level of mutual trust and respect, whereas out-group members had significantly less satisfying relationships. These findings did not support the well known Ohio State and Michigan studies that suggested group members were treated similarly by leaders. The act of differentiating was a critical aspect of early work on LMX as the theory held that in order to maximize group performance, leaders are expected to depend on a set of trusted employees because of time constraints and limited resources. However, at this stage of LMX the focus was not on examining outcomes of LMX but rather just exploring leader-follower relationships within work groups from a VDL/LMX perspective on differentiation.

The second stage of research on LMX focused primarily on understanding characteristics of the leader-follower relationship and examining individual outcomes of LMX relationships for the parties involved, especially the followers. The level of analysis was also the dyad at this stage. However unlike the first stage which had implications for group performance (although these were not tested), empirical examinations in the second stage focused on individual-level outcomes. In other words, although the original conceptualization of LMX posited that dyads within work groups were of primary concern for group performance, empirical examinations of LMX looked at individual- rather than group-level outcomes. In addition, the terminology changed

from VDL to LMX at this stage as the focus shifted from simply acknowledging that leaders differentiate among followers to examining the characteristics and individual-level outcomes for followers.

Aspects of the relationship examined included dyadic role-making processes, communication frequency, interactive communication patterns, leader-member value agreement, upward maintenance tactics, interaction patterns, decision influence, influence tactics, and member affect (Graen & Uhl-Bien, 1995). This research served to uncover the attributes and actions of both leaders and followers that impact relationship development.

In addition to these characteristics that helped define the LMX relationship, researchers examined numerous consequences of LMX. In general, strong support was found for the relationship between LMX and a number of important individual-level outcomes for followers including performance, turnover, job satisfaction, organizational commitment, performance appraisal ratings, innovation, organizational citizenship behaviors, empowerment, procedural and distributive justice, and career progress (Graen & Uhl-Bien, 1995; Dienesch & Liden, 1986). In other words, subordinates who had high quality relationships with their leader accrued a number of personal benefits whereas low quality relationships led to less favorable individual outcomes for subordinates. Two major conclusions can be drawn from this stage: (1) LMX relationships are impacted by attributes and actions of both leaders and followers and a role-making process helps to define the relationship, and (2) high quality LMX relationships relate to beneficial individual outcomes for in-group members.

The third stage focused less on in-groups and out-groups and instead was concerned with the processes by which leaders develop high quality relationships with all of their followers. This theoretical stance — that of trying to establish high quality relationships with all subordinates — is in contrast to previous work that suggested differentiating between employees to create a cadre of trusted workers was the best way to maximize group performance. As was the case for stage two, the level of analysis at this stage was the dyad — the relationship. Research in this stage conceptualized the leader-follower relationship more as a partnership and suggested that giving *all* followers the opportunity for high quality relationships is the ideal way to manage — an important departure from the original conceptualization of LMX. Thus, the intent of the third stage was to develop a more practical model for how leaders can improve performance by developing high quality LMX relationships with all subordinates.

Work by Graen and colleagues (Graen et al., 1982; Graen, Scandura, & Graen, 1986) on the leadership making model was aimed at understanding the processes by which leader-follower relationships develop. They found preliminary support for the notion that when leaders gave the opportunity for high quality relationships to all followers, the average individual performance of followers improved dramatically. The researchers inferred from these individual-level results that group performance should also improve — although this was not directly tested. This is in contrast to the assumption of early LMX research that proposed differentiating between followers into in-groups and out-groups resulted in the most productivity for the group.

In addition to examining the outcomes of making high quality relationships available to all group members, the third stage of research studied the process by which

such relationships develop. This process, referred to as “leadership making,” was operationalized as a series of steps that can eventuate in leadership relationship maturity (Graen & Uhl-Bien, 1995). The first step is termed the “stranger” phase and involves the initial interactions between the leader and follower. An offer by the leader to the follower for an improved working relationship may result from this step. If this offer is accepted, the “acquaintance” phase ensues with more social exchanges and more sharing of additional information and resources. However, exchanges at this stage are somewhat limited. Assuming the relationship continues to grow, the bond moves to the final stage, referred to as a “mature partnership.” Exchanges at this point are highly developed with mutual respect and trust being hallmarks of relationships that reach this level of maturity. While not all relationships reach the partnership phase, progressing to this stage is considered ideal and has been found to lead to many positive individual-level benefits for leaders and followers (Uhl-Bien & Graen, 1993).

The fourth stage of LMX research, which we are in now, extends the level of analysis from dyads within groups or dyads in isolation to work groups, organizations, and/or networks. This shift in level of analysis presumes that LMX should be conceptualized as a system of relationships within a group or organization (Scandura, 1999). In terms of the work group, the issue of how high and low quality relationships in a work group are combined to affect collective attitudes and behaviors is of primary interest (Graen & Uhl-Bien, 1995). For example, if some group members have high quality exchanges whereas others do not, how might this impact group members’ perceptions of fairness?

Conceptually, what is the difference in examining the group or organization versus the dyad? The research on dyads found that high quality relationships relate to beneficial individual outcomes especially for the follower (stage two and three), and also the leader (stage two). These findings have been provided as justification for how high quality relationships improve group and/or organizational performance but research on such higher level outcomes has been scant and such findings do not take into account the pattern of relationships within a particular group or organization. For example, the findings regarding dyads do not inform us about what the *group-level* effect is of having a leader who has high quality relationships with most or all of his or her followers versus another leader who has high quality relationships with only a few trusted subordinates. Thus, by extending LMX to higher levels of analysis, one can examine whether the pattern of relationships in a group impacts *group performance* — where the theory began.

In the following sections I describe recent multilevel work testing the level at which LMX theory holds, as well as the only study to date (although unpublished) that has examined LMX at the group level of analysis and with regard to group-level outcomes.

Multilevel LMX Research

As stated previously, LMX theory originally proposed that leaders differentiate among their followers in work groups. LMX theory developed in response to ALS which presumed that all group members were treated in the same manner by their leaders. Schriesheim and colleagues (Schriesheim, Neider, & Scandura, 1998; Coglisier & Schriesheim, 2000; Schriesheim et al., 2000; Schriesheim, Castro, Zhou, & Yammarino, 2001) have put together an impressive body of research using a multilevel analytical

approach to test predictions of LMX. The premise of this multilevel research is to test whether within-group effects proposed by LMX are indeed stronger than between-group effects. For example, if followers have different perceptions of their relationship quality with their leader then it supports the within-group approach as originally espoused by LMX. However, if members of a group rate their relationship quality similarly to other group members then this supports a between-group effect and substantiates the presumptions of ALS.

To test whether the LMX or ALS approach is most appropriate, Schriesheim and colleagues have used a statistical approach called WABA (within and between analysis; Dansereau, Alutto, & Yammarino, 1984). There are three primary steps to WABA. First, in WABA I, each variable is assessed to determine whether its variation is primarily attributable to within or between group entities. Second, in WABA II, relationships are assessed to determine whether their variation is primarily attributable to within-group entities, between-group entities, or none at all. Third, raw score correlations are separated into within- and between-group entities and the results from the first two steps are combined with the third step to determine the most appropriate level of analysis of the relationship.

The results of these multilevel examinations have generally found support for both within- and between-group effects (Schriesheim et al., 1998; Cogliser & Schriesheim, 2000; Schriesheim, Castro, & Yammarino, 2000; Schriesheim, et al., 2001). Thus, while there is some variation in how followers rate their relationships with a particular leader, the variation within groups appears to be smaller than the variance between groups. These results suggest that aspects of both the ALS and LMX

approaches have credence. While these results are potentially interesting, scholars have noted the potential weaknesses of WABA as a statistical approach because it is highly sample size dependent (Bliese, 2000).

Despite the possible limitations of WABA as an analytical tool, recent work by scholars using other multilevel frameworks have also found both within- and between-group effects using aggregation statistics and random coefficient modeling (RCM), commonly referred to as hierarchical linear modeling (HLM). Calculating aggregation statistics is an important first step before using RCM because it is important to determine if there is a between-group effect such that it makes sense to partition the variance attributable to within- and between-group effects. For example, Hoffman, Morgeson, and Gerrass (2003) found an ICC(1) value for LMX ratings of .39, which suggests that there is a significant between-group effect for LMX indicating that 39% of the variance in an individual's LMX score is attributable to the specific group in which that member resides.

The results of this emerging body of multilevel research on LMX is very useful in partly substantiating the claim of LMX theory that not all members in work groups feel like they have the same level of quality in their relationships with a particular leader. Later I will refer to my operationalization of the issue of differentiation—i.e., that not all members have the same quality relationship with their leader—as the *strength* of the relationship between followers in a group and the leader. By strength I merely refer to the variance around the average of members' perceptions, an index of the degree to which followers share reports on the quality of the relationship they have with their common leader. Thus, the aforementioned multilevel studies provide support for the

need to understand the effects of differentiation in groups. These WABA and ICC(1) findings are important because they provide evidence that LMX does in part operate at the group level of analysis, and thus provides evidence for why it is important to examine LMX level. However, there are fundamental flaws in WABA that can be addressed using alternative data analytic techniques. Similarly, this research still focuses solely on individual-level outcomes. In the next section I describe the only research to date that has examined LMX at the group level of analysis with a group-level dependent variable.

LMX at the Group Level of Analysis

As highlighted in detail throughout this proposal, research on LMX was initially conceptualized as producing group-level outcomes, but the empirical research has focused exclusively on individual-level outcomes. To date, there is no published research that examines group-level outcomes of LMX (Graen & Uhl-Bien, 1995).

The only research that has studied group-level outcomes associated with LMX was an Academy of Management Conference presentation by Liden et al. (2002). They found that variance in group members' perceptions of LMX was positively related to group performance (i.e., leader ratings of the group). In other words, the more variance in LMX relationship quality across group members, the higher the group performance. This is consistent with initial LMX theorizing that because of limited time and resources, it is advantageous for a leader to differentiate between his/her employees and to create in-groups and out-groups. In addition, this relationship was moderated by the LMX median. The authors dichotomized LMX using a median split and found that for groups with a low LMX median, differentiation improved performance, whereas, for groups with a high LMX median, differentiating did not impact performance. This finding suggested that

when group members are above the median with regards to high quality relationships, differentiation has less of an impact, but when group members are below the median in terms of being in the in-group, it is important to have a few trusted people who leaders can count on to perform. Finally, although not predicted, they found that LMX median was positively related to group performance. Thus, the notion that having a group of individuals with high quality relationships is advantageous was also supported.

This study provides an interesting initial foray into the examination of group-level outcomes of LMX. However, the Liden et al. (2002) study leaves numerous questions unanswered. For example, what is the effect of having different relationships with followers on the group's fairness perceptions (i.e., justice climates)? Are there contexts when having different levels of quality relationships with group members is particularly detrimental on group member's fairness perceptions? These questions will be addressed in this dissertation but first I provide an introduction to the literature on organizational justice to serve as a foundation for the hypotheses integrating LMX and justice at the group level.

Organizational Justice Theory and Research

Organizational justice theory is concerned with perceptions of fairness in the workplace (Greenberg, 1987). In addition to moral (e.g., treating others in a just manner), and legal concerns (e.g., avoiding lawsuits from unethical procedures), a practical reason that fairness perceptions are important relates to the variety of beneficial individual outcomes that research shows accompany perceived fair treatment: organizational commitment, organizational citizenship behavior (OCB), low levels of withdrawal behavior, performance, job satisfaction, and trust (Colquitt et al., 2001;

Cohen-Charash & Spector, 2001). In addition to the many important individual outcomes of fairness perceptions, another major development in this literature is the general acceptance of a multidimensional structure of justice. Recent work suggests that four related but conceptually distinct dimensions of justice exist including distributive (i.e., the fairness of received outcomes), procedural (i.e., the fairness of experienced procedures), interpersonal (i.e., the fairness of interpersonal treatment), and informational (i.e., the fairness of information provided) (Colquitt, 2001).

Theory and research suggest that individuals use a variety of justice rules as a basis for determining where they stand on these different dimensions of justice. Essentially, when a rule is violated perceptions of injustice are likely to occur and when rules are satisfied fair treatment is perceived. In the following sections I describe the development of the different dimensions of justice, the rules people use to govern their perceptions on each dimension, and recent multilevel theory and research on justice climate. Then I begin to integrate LMX and organizational justice theory.

Dimensionality and Rules of Organizational Justice

The initial work on organizational justice was concerned with the perceived fairness of decision outcomes, commonly referred to as distributive justice (Adams, 1965). The pioneering work in this domain concerned *equity* theory, which proposed that perceived fairness is the result of a comparison between one's own output-input ratio and a referent other's output-input ratio (Adams, 1965). An inequitable situation occurs when one's output-input ratio is not equivalent to a referent's ratio and the theory proposes that the resultant dissonance associated with such inequity constitutes a predicament that is disconcerting and dissatisfying for people. Subsequently, Deutsch (1975) proposed other

distributive justice rules besides equity that individuals use to determine the fairness of decision outcomes. These alternative rules include the *equality* rule which states that the absolute value of outcomes should be equivalent for all people, and the *needs* rule which proposes that those who are most in need should get more of the resources in absolute terms. In summary, equity, equality, and needs are distributive justice rules used by people to determine the fairness of decision outcomes. The justice rules relevant to distributive justice — and the other forms of justice to be described next — are presented in Table 2.

Insert Table 2 Here

In the mid to late 1970's and early 1980's, a movement began that proposed that people are not only influenced by the fairness of outcomes, but that the procedures used to make the decisions that resulted in the outcomes are also important. Two major streams of research helped define the early work on a second type of justice referred to as procedural justice. Thibaut and Walker (1975) examined procedural justice through a legal lens. They proposed that the procedural justice rule of *voice*, or giving individuals the opportunity to express themselves, is a major factor in determining procedural fairness perceptions. In addition to the work by Thibaut and Walker (1975), Leventhal (1976; 1980) highlighted a number of procedural justice rules that people use to govern procedural fairness perceptions. These rules include: *consistency*, *bias-suppression*, *accuracy*, *correctability*, *representativeness*, and *ethicality*. If these rules are satisfied, a positive perception of the fairness of the process ensues. However, if one or more of

these rules are violated, less favorable fairness perceptions are the likely result. Thus, these early conceptions of procedural justice laid a solid conceptual and empirical base for understanding what rules need to be satisfied for a procedure to be considered fair.

While research on procedural justice has flourished since the seminal work by Thibaut and Walker (1975) and Leventhal (1976; 1980), in the late 1980's, Bies and Moag (1986) suggested that justice research was missing a critical component of fairness by considering only outcomes and procedures — namely, they argued that the perceived fairness of interpersonal treatment had been ignored. Specifically, they proposed a new type of justice referred to as interactional justice, which concerns the respect and sensitivity of interpersonal treatment and providing adequate, timely information (Bies, 2003). This definition highlights the two dimensions of interactional justice: interpersonal and informational. The interpersonal justice dimension includes the rules of *truthfulness* and *respect*. The informational justice dimension includes the rules of *propriety of questions* and the provision of *adequate justifications*. This two dimensional structure of interactional justice is also supported by the work of Greenberg (1993) who theorized that fair interpersonal treatment and adequate information were both important aspects of justice.

In summary, over the past 40 years, theory and research on organizational justice have grown considerably as justice has gone from a unidimensional conceptualization to the multidimensional construct that most scholars generally accept today. While there is not universal acceptance of the distinction between procedural and interactional justice or interpersonal and informational justice (Cropanzano & Ambrose, 2001), recent research suggests that a four-dimension conceptualization of justice is most accurate (Colquitt,

2001; Kernan & Hanges, 2003). A consistency across all of this research is the notion that justice perceptions are governed by a set of justice rules, and the extent to which those rules are satisfied or violated determines the level of fair treatment that is perceived across the four dimensions.

A Multilevel Approach to Justice: The Emergence of Justice Climates

One of the more recent and interesting areas of research related to organizational justice has focused on perceptions of climates for justice (Mossholder, Bennett, & Martin, 1998; Naumann & Bennett, 2000; Colquitt, et al., 2002; Simons & Roberson, 2003; Dietz, Robinson, Folger, Baron, & Schulz, 2003; Ehrhart, 2004; Liao & Rupp, in press). Justice climate is a distinct group-level construct typically operationalized by aggregating individual perceptions of group justice practices from group members. Such research — still in its infancy — contrasts with the plethora of research on organizational justice perceptions at the individual level of analysis. This focus on justice climate is timely as it mirrors the growing trend of organizations using more team-based structures (Cropanzano & Schminke, 2001), and is useful because collective perceptions of justice in the group can account for unique variance (above that which is accounted for by individual perceptions) in important individual outcomes (Mossholder et al., 1998; Naumann & Bennett, 2000; Simons & Roberson, 2003; Liao & Rupp, in press).

Researchers have recently begun to examine justice climates and to relate them to objective unit-level criteria that are largely free from response bias (Colquitt et al., 2002; Naumann & Bennett, 2000; Simons & Roberson, 2003). Prior to this focus on justice climates, the majority of organizational justice research had been conducted at the individual level of analysis with regard to individual-level experiences. Typically,

organizational members are provided with a survey and asked to report on their perceptions of the fairness they personally experienced. These ratings were then correlated with other self-report attitudinal measures and/or objective indices of performance at the individual level. While these studies have been useful in developing an understanding of the many consequences of fairness perceptions, they may not adequately explain how justice operates at the unit level (e.g., how individuals' justice perceptions in the aggregate relate to aggregate indices and outcomes). The basic idea is that by aggregating individual responses regarding the perceived fairness of procedures made in a group and perceptions about how one feels he or she is treated by the group leader a new construct is born — referred to as justice climate.

Theoretical Basis for Justice Climates

There is a strong theoretical basis for the development of justice climates, i.e., the fact that individuals in a group or unit can end up reporting similar experiences there. Work by Mossholder et al. (1998), Naumann and Bennett (2000), Colquitt et al. (2002), and Liao and Rupp (in press) provide a rationale for how justice climates emerge for individual members of the group and that the members have similar experiences there. In particular, these scholars highlight three major ways that justice climates emerge: (1) social information processing, (2) socialization, and (3) attraction-selection-attrition (ASA) processes.

First, in terms of social information processing, individuals in a group are expected to use information from others in their social arena to make assessments regarding practices, values, and norms (Salancik & Pfeffer, 1978). Because group members are exposed to somewhat similar conditions, they are likely to have related

perceptions regarding fair treatment. Of course, not all followers are treated in the exact same way by their leaders so it is likely that agreement will not be perfect. A second explanation for how justice climates are developed comes from the socialization literature that suggests that fellow group members play a large role in communicating information about how things are done and how employees feel they are treated (Louis, Posner, & Powell, 1983; Ostroff & Kozlowski, 1992; Trice & Beyer, 1993). Members of the same work group are more likely to share such information and consequently are more likely to have more homogenous perceptions. A third explanation for justice climate emergence is based on the ASA model (Schneider, 1987). This perspective suggests that over time, a work group will become increasingly similar in terms of justice values and perceptions because of attraction, selection, and attrition processes.

Thus, these three mechanisms are described in the literature as ways that justice climates emerge and help explain why it is important to study justice climate as a distinct group-level construct. In addition to this theoretical evidence for why justice climates are distinct constructs, there is also empirical work that highlights the importance of justice climates over and above the effects of individual-level justice perceptions in predicting important individual outcomes (Mossholder et al., 1998; Nauman and Bennett, 2000; Liao & Rupp, in press), as well as the relationship between justice climate and group outcomes (Colquitt et al., 2002).

Empirical Research on Justice Climates

In recent years, there has been a considerable amount of research on justice climates. I provide a summary of the empirical findings in Figure 1. Below I describe some of this research in more detail.

Insert Figure 1 Here

Mossholder et al. (1998) provided the initial work on justice climate; however, they called it “climate context” in their paper. They aggregated individual-level perceptions of how each group member thought he or she was treated to calculate procedural justice context. They found that procedural justice context explained variance in employee job satisfaction over and above the effects of individual-level procedural justice perceptions. This pioneering study paved the way for future empirical examinations of justice climate.

A second influential justice climate paper was published by Naumann and Bennett (2000). In forming hypotheses, they drew on the organizational climate literature to understand the unit attributes and behavior that might be reflected in a shared perception of procedural fairness as well as the unit-level outcomes that might result from procedural fairness. They aggregated individual-level justice perceptions about the perceived fairness of procedures to the unit level of analysis. They found that group cohesion and supervisor visibility were related to the level of agreement (i.e., climate strength) in procedural justice perceptions within a work group, and that the mean unit score (i.e., climate level) was related to helping behaviors, but not commitment.

A third study on procedural justice climate was conducted by Colquitt et al. (2002). The focus of this study was to explore some antecedents and consequences of procedural justice climate level and strength. They aggregated individual team member perceptions of the extent to which team members were treated fairly with regard to the

procedures used to make decisions in the group. Their analyses revealed that team size was negatively related to climate level and strength, collectivism was positively related to climate level, and team diversity was negatively related to climate strength. Further, they found that procedural justice climate level was positively related to team performance and negatively to team absenteeism. Finally, the relationships between procedural justice climate level and team performance and absenteeism were moderated by procedural justice climate strength, such that the relationships were stronger when climate strength was high.

Dietz et al. (2003) provided a fourth study on procedural justice climate. They built on prior research by examining procedural justice climate at the plant level of analysis. They aggregated individual perceptions about the fairness of procedures within a plant to calculate plant-level procedural justice climate. They found that (organizational) procedural justice climate was negatively related to workplace aggression in the plant. This study is important because it looked at a previously unexamined dependent variable and also explored procedural justice climate at the plant level of analysis.

A fifth recent study, by Simons and Roberson (2003), examined not only procedural justice climate but also interpersonal justice climate and their consequences at both the unit and store levels of analysis. They aggregated individual-level perceptions with regard to how fairly each individual felt he or she was treated interpersonally to the unit and store levels of analysis to calculate measures of interpersonal justice climate, and they aggregated individual perceptions of how fair the procedures were for making decisions for all employees in a store to the unit and store levels of analysis to create

indices of procedural justice climate. They took a practical approach by examining the effects of justice on business unit-level outcomes such as turnover and customer satisfaction. At the unit level of analysis they showed that procedural justice climate and interpersonal justice climate were related to affective commitment (where the relationship between interpersonal justice and commitment was mediated by unit-level satisfaction with the supervisor), and commitment was in turn related to discretionary service behavior and intent to remain in the organization. Similarly, at the store level of analysis, they found parallel relationships but also found a link from employees' intent to remain to employee turnover, and from employee commitment and discretionary service behavior to guest service satisfaction, thereby demonstrating important business outcomes of justice climates. Thus, they found a relationship between justice and turnover that is mediated by a number of other more proximal constructs.

A sixth study by Ehrhart (2004) examined servant-leadership, a form of leadership where a leader recognizes his or her moral responsibility to multiple organizational stakeholders (see Greenleaf, 1997), as an antecedent of procedural justice climate. He aggregated individual responses about the fairness of procedures in one's department to the unit level to create the procedural justice climate variable. He found that when employees in a unit rated their manager high on servant-leadership, they also tended to report they have more favorable procedural justice climates. This study is important for the purposes of my dissertation as it highlights the important role of leadership in the development of justice climates.

In a seventh study by Liao and Rupp (in press), the authors take a person-situation approach in studying the effects of different types of justice climates. They crossed three

types of justice climates (e.g., procedural, interpersonal, informational) with two foci (e.g., organization, supervisor) to create six distinct justice climates. Organization-focused procedural justice climate was calculated by aggregating employee fairness perceptions regarding the organization's procedures. Organization-focused informational and interpersonal justice climates were calculated by aggregating employee fairness perceptions with regard to how interpersonally sensitive one was treated by the organization. Supervisor-focused justice climates were operationalized in the same manner except the treatment was from the supervisor as opposed to from the organization. They found support for the relationship between the majority of these justice climates over and above the effects of individual-level justice perceptions on individual-level commitment, satisfaction, and citizenship behavior. Further, they found that individuals with a justice orientation, people who have justice internalized as a moral virtue and are attentive to fairness-related issues around them, demonstrated a stronger relationship between the justice climates and the individual-level outcomes.

As can be seen in Figure 1, while many strides have been made in the past five years, one limitation of the literature on justice climate is that there is a dearth of research examining the effects of leader-member relations on the emergence of justice climates. Even though it has been suggested that leadership may be the most important predictor of a justice climate (see Dickson, Smith, Grojean, & Ehrhart, 2001), only Ehrhart (2004) examined the effects of leadership on procedural justice climate. In addition, none of the published studies on justice climates have examined antecedents to interpersonal or informational justice climates. Thus, as can be deduced from Figure 1, the present study adds to the literature by examining LMX as an antecedent of procedural, interpersonal,

and informational justice climates. In the next section I attempt to integrate the literatures on LMX and organizational justice.

Integrating LMX and Organizational Justice Theory

In the previous sections I explored the developmental history of both LMX and organizational justice, especially justice climate theory and research. While a natural marriage between these domains does not require a huge inferential leap, surprisingly there is a dearth of research that has attempted to integrate these broad literatures (Scandura, 1999). While Holander (1978: 71) described LMX as “fair exchange in leadership,” research examining the impact of LMX on fairness perceptions is conspicuously small. Scandura (1999: 29) provides the most thorough attempt to integrate these literatures by posing and attempting to answer the following question: “Can we have work group differentiation and organization justice as well?” It is this question that is at the heart of my dissertation and an inquiry I address in more detail in subsequent sections.

In the following sections I distinguish between LMX and justice and issues of causality, describe the research that has integrated LMX and justice, extend this research to the group level of analysis, and propose some hypotheses.

Distinguishing Between LMX and Justice and Causality Issues

Before reviewing research on LMX and justice, it is important to differentiate between these two constructs. In this dissertation, I assume that LMX and justice are conceptually and causally related and that they are also distinct constructs. LMX conceptualizes a follower’s relationship with his/her leader — the general feelings that characterize the relationship. For example, whether the leader recognizes the follower’s

potential or whether the leader is satisfied with the follower's performance. Justice perceptions are assumed to be a consequence of that leader-member relationship. That is, I assume that as leader-follower relationships are more positively described, followers are likely to also experience more fairness in dealings with the leader. Of course, some of the fairness experienced by followers is a function of what the leader actually does, but I assume that the fairness behaviors of leaders towards followers are more likely when a positive relationship between the two already exists. Thus, while these two constructs are related, they are conceptually and causally distinct and LMX is theorized to be a precursor to the fairness behavior of leaders and the fairness experiences of followers.

Research on LMX and Organizational Justice

There have been relatively few empirical examinations of the hypothesized relationship between LMX and organizational justice (Scandura, 1999). The general paradigm for this research involves asking employees to report on their relationships with their immediate supervisor and that assessment is correlated with their perceived fairness. The idea is that when an individual thinks he or she has a high quality relationship, the result is a perception of fair treatment. (Of course, this assumes a more Western philosophy whereby self-interest as opposed to collective-interest tends to pervade). Because in-group members have access to more support and resources, a number of justice rules are satisfied and the result is perceptions of fair treatment.

A number of studies have supported this assertion at the individual level of analysis. For example, Lee (2001) found that LMX was related strongly to procedural justice and weakly (but significantly) to distributive justice. Similarly, Andrews and Kacmar (2001) found support for a significant positive relationship between LMX and

procedural and distributive justice perceptions. Chi and Lo (2003) found a positive relationship between LMX and procedural justice, but the relationship between LMX and distributive justice was not significant. In addition, Mansour-Cole and Scott (1998) found that managers who were described as having provided an explanation for an impending layoff and who had high quality LMX relationships with subordinates had followers with more favorable fairness perceptions during a stressful time. Finally, Masterson, Lewis, Goldman, and Taylor (2000) extended this area of research by examining interactional justice. Drawing on social exchange theory, they predicted and found support for the notion that interactional justice is related to LMX (because it is more leader-focused).

Although preliminary, the results of these studies provide some initial empirical support for the relationship between LMX and justice at the individual level of analysis. It appears that LMX relates most strongly to interactional justice, to a lesser but significant extent to procedural justice, and weakly and inconsistently to distributive justice. A consistency across all of these studies is that they are conducted at the individual level of analysis. The issue of how LMX relates to justice and other outcomes at the group level of analysis has yet to be examined.

LMX and Organizational Justice at the Group Level

Thus far I have reviewed the developmental stages of LMX, provided background on organizational justice dimensions and rules, and described research that integrates these literatures at the individual level of analysis. An interesting extension of the aforementioned integration of these literatures involves extending this research to the group level of analysis. There are a number of reasons why this is potentially important.

First, consistent with the initial conceptualization of LMX, the effects of differentiation on work group performance are highlighted but have not been tested at the group level of analysis in empirical investigations. Second, Graen and Uhl-Bien (1995) stress that future research (i.e., in the fourth stage of development) should extend LMX research to higher levels of analysis. Third, by examining LMX at the group level, we can explore what the effects of differentiation are on justice climates. Fourth, some scholars (Graen & Uhl-Bien, 1995) have recently suggested that leaders should try to extend offers of in-group membership to all followers so the analysis of LMX at the group level allows one to examine whether having an increased number of high quality relationships improves justice climates and group performance. Fifth, organizations are presently using more team-based structures so it is important to examine how theories traditionally studied at the individual level of analysis operate at the group level. Sixth, the advent of increasingly sophisticated measurement models for studying phenomena at higher levels of analysis than characterized research in the past should be taken advantage of.

The hypotheses that follow are driven by an underlying premise: the extent to which LMX relationships hinder or promote the satisfaction of justice rules will impact group members' aggregate fairness perceptions (i.e., justice climates). More specifically, the way group members feel about the procedures used to make decisions in the group and their perceived relationship with their leader affects their perceptions about whether certain justice rules or norms are violated or satisfied, and consequently justice climates are impacted. In the present study, I examine the direct effects of LMX level and LMX strength on procedural, interpersonal, and informational justice climates.

I consider these three dimensions of justice, and exclude distributive justice for a number of reasons. First, results from the studies that have examined the relationship between LMX and distributive justice have found weak and inconsistent results. For example, Chi and Lo (2003) and Wayne, Shore, Bommer, and Tetrick (2002) did not find a significant relationship between LMX and distributive justice, and Lee (2001) found only a weak significant relationship for distributive justice. Second, recent work by Masterson et al. (2000) suggests that interactional justice (i.e., interpersonal and informational justice) is most relevant because fair treatment is often attributed to one's immediate supervisor, as opposed to distributive justice which is often determined by higher levels of management. Third, there is no published research on distributive justice climate to draw on. None of the seven published studies on justice climate have examined distributive justice climate because there is not a clear conceptualization of distributive justice climate as a construct. Similarly, no research on justice climate (nor research on LMX and justice) has even controlled for the effects of distributive justice. For example, recent work by Liao and Rupp (in press) examined procedural, interpersonal, and informational justice climates and did not measure or address the issue of distributive justice. Fourth, in the organization used in the present study, rewards are not determined by immediate supervisors but are instead determined by union agreements. In contrast, fair procedures and just interpersonal treatment are more easily attributable to one's leader. Thus, in the present study I examine only the effects of LMX level and strength on procedural, interpersonal and informational justice climates.

In the following section I present a rationale for hypotheses regarding LMX level on both justice climates and customer satisfaction.

LMX Level and Justice Climates and Customer Satisfaction Hypotheses

Research at the individual level of analysis has demonstrated a consistent relationship between LMX and procedural and interactional justice perceptions (Masterson et al., 2000; Wayne et al., 2002). A likely reason for these findings is that high quality leader member exchanges help satisfy a number of the rules individuals use to govern fairness perceptions. It is reasonable to believe that the relationship between LMX and justice found at the individual level will also be present at the group level of analysis. For example, if group members feel the leader's support when in a tough situation at work and/or feel the leader would use his or her power and influence to help if necessary then it is likely that each follower will have more positive perceptions of interpersonal treatment (i.e., dignity and respect) and subsequently interpersonal justice climates will be more favorable.

In addition to interpersonal justice rules that may be satisfied, informational justice rules may also be satisfied. For example, when group members feel they have an effective working relationship with their leader they may be more likely to receive adequate and relevant information from their leader. Thus, informational justice climates may be more favorable.

In addition, when employees believe their manager understands one's problems and needs, it is likely that they will have the opportunity to express themselves. When leaders provide this opportunity it is likely to satisfy Thibaut and Walker's (1975) rule of allowing voice to their subordinates. Thus, in the present study, I examine the effects of followers' perceptions of their relationship with their leader and how such perceptions impact perceptions of fairness. Because high quality LMX relationships help satisfy a

number of the rules used to govern procedural, interpersonal, and informational justice, I hypothesize that the higher the group mean on LMX, the more favorable justice climates will be. It should be noted that LMX may have an impact on individual-level fairness perceptions, a topic I turn to in the results section. Figure 2 provides a model of all hypothesized relationships.

Insert Figure 2 Here

Hypothesis 1: LMX level will be positively related to procedural, interpersonal, and informational justice climates. In other words, the more high quality relationships in the group, the more favorable justice climates will be.

There is reason to believe that LMX level will also have a positive effect on group performance. In support of this notion is the plethora of research conducted at the individual level of analysis that has demonstrated the relationship between individual-level perceptions of LMX and individual-level performance (Graen & Uhl-Bien, 1995; Gerstner & Day, 1997). Individual performance is operationalized in both subjective and objective terms. For example, when followers have more favorable LMX ratings they score higher on subjective indicators of performance, such as managerial ratings. Further, these individuals who have high quality relationships also tended to score higher on objective measures of performance, such as quantity or quality of work or total dollars in sales. However, a cautionary note is that measures of objective performance showed a corrected correlation of .11, whereas the relationship between LMX and subjective performance was considerably greater with a corrected correlation of .30 (Gerstner &

Day, 1997). This research suggests that LMX is positively related to individual performance, but that the relationship is weaker for objective measures of performance.

These results at the individual level suggest that the more individuals in a group that have high quality relationships with the leader, the more favorable the group performance. This is consistent with work by Graen and Uhl-Bien (1995) which takes a radical departure from initial LMX theorizing by proposing that offering all group members the opportunity for high quality relationships (as opposed to differentiating into in-groups and out-groups) leads to the best group performance. Thus, based on the vast research domain at the individual level and the more recent theoretical stance taken by some LMX scholars, I predict that LMX level will be positively related to group performance — operationalized as customer satisfaction in the present study.

Hypothesis 2: There will be a direct positive relationship between LMX level and group-level customer satisfaction. In other words, the more high quality relationships in the group, the more favorable group-level customer satisfaction will be.

LMX Strength and Justice and Customer Satisfaction Hypotheses

An interesting aspect of the original conceptualization of LMX is the notion that group performance is greatest when leaders differentiate between their followers because they have limited time and resources. However, the following question emerges: What is the effect of having different quality relationships on justice climates? This is an important question because conceptually a number of deleterious consequences may accompany perceptions of injustice (Colquitt et al., 2001; Cohen-Charash & Spector,

2001), and if differentiation creates these perceptions then the costs of differentiating may be greater than the benefits.

To examine this question in more detail, it is important to conceptualize the effects of differentiating on the justice rules people use to determine fair treatment. For example, in terms of procedural justice, if leaders have high quality exchanges with some group members and not with others, this violates the rule of consistency. By not treating all group members in the same way, leaders may run the risk of leading groups that have lower overall procedural justice climates. In addition to procedural justice, rules determining interpersonal and informational justice are also violated: interpersonal justice rules are not satisfied as out-group members are not treated with the same respect as in-group members and only in-group members are likely to be provided adequate information about relevant issues, whereas individuals with low quality relationships are likely to be out of the loop. I hypothesize that differentiating between followers will lead to less favorable procedural, interpersonal, and informational justice climates because this process violates a number of justice rules.

Hypothesis 3: There will be a direct positive relationship between LMX strength and procedural, interpersonal, and justice climates. In other words, the less variance in relationship quality between the leader and followers in a group, the more favorably the justice climates will be judged.

As highlighted earlier in this dissertation, an interesting paradox emerges whereby the organizational justice literature suggests that having different levels of quality in relationships will lead to less favorable fairness perceptions, while the initial conceptualization of LMX theory proffers that having different levels of relationships is

critical for group performance (Dansereau et al., 1975). The crux of the foundational work on LMX claims that because of limited time and resources, it is important for leaders to develop high quality relationships with some group members, and low quality relationships with other group members.

How might this differential treatment lead to group performance? Dansereau et al. (1975) suggest that there are many demands on a leader to accomplish tasks relevant for group performance. If a leader spends too much of his or her time investing in relationships with all of his or her group members it is less likely he or she will not have the time to get all of the necessary tasks done. Thus, by counting on a few trusted followers and developing high quality relationships with a subset of group members, group performance is expected to improve.

Hypothesis 4: There will be a direct negative relationship between LMX strength and group-level customer satisfaction. In other words, the more variance in relationship quality between the leader and followers in the group, the more favorable group-level customer satisfaction will be judged.

Moderators of the LMX to Justice Relationship at the Group Level

Although there is considerable research examining the effects of LMX on numerous individual outcomes (see Gerstner & Day, 1997, Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995; Schriesheim et al., 1999, for reviews), there is a dearth of research on conceptualizing and studying the boundary conditions of such relationships (Howell & Hall-Mandela, 1999; Schriesheim et al., 2000; Schriesheim et al.). It is important to examine boundary conditions of the LMX to outcomes relationships because it helps add to the specificity of LMX as a theory. Because the focus of this study was to

examine LMX and justice at the group level, and social interaction in groups is so important, I propose two group characteristics — task interdependence and group size — serve as boundary conditions of the LMX level to justice climates relationships at the group level. In the next section I draw on the relationship between social comparison theory and justice to serve as background for the boundary condition hypotheses.

Social Comparison Theory and Justice in Groups

A fundamental group process that sheds light on the effects of LMX on justice at the group level is social comparison. Social comparison is the process by which individuals compare themselves to others to get information about how to behave, what is expected, and/or how well one is being treated (Festinger, 1954). Social comparison theory (Festinger, 1954: 117-118) suggests at the most basic level that humans have “a drive to evaluate (their) opinions and abilities” and “to the extent that objective, non-social means are not available, people evaluate their opinions and abilities by comparison respectively with the opinions and abilities of others.”

The link between social comparison and justice has been a key aspect of justice research from its foundation. For example, Adams’ (1965) equity theory proposed that fairness perceptions are a result of one’s own output-input ratio compared to a referent’s output-input ratio. According to equity theory, a perception of (in)justice can only occur after comparing oneself to some referent other. A precursor to research on contemporary theories of justice was work on relative deprivation (Martin, 1981). Relative deprivation theory suggests that deprivation feelings result from comparing one’s own treatment in a group to others in the group. More recently, process theories of organizational justice that seek to understand how justice judgments are formed such as referent cognitions

theory (RCT; Folger, 1986) and its successor fairness theory (FT; Folger & Cropanzano, 2001) draw largely on social comparisons. For example, FT proposes that justice judgments are formed by addressing a series of counterfactuals (i.e., potential alternative outcomes; Roese, 1997) aimed at understanding if another situation *would* have felt better, if this situation *could* have been avoided, and whether it *should* have been prevented. This process relies on the comparison to other situations and/or referents. These justice theories help illustrate the inseparable nature of social comparison processes and justice judgments.

While the relationship between social comparison and justice has been a foundation of many justice theories, there has been a dearth of empirical investigations of the effects of social comparison processes on fairness perceptions in groups. An important part of the present study is to conceptualize the effects of social comparison processes in work groups. Much theoretical speculation suggests that social comparison processes are an essential part of determining the quality of LMX relationships in groups, that individuals tend to turn to other group members as referents, and that these evaluations impact group members' fairness perceptions. For example, Scandura (1999: 30) states, "Social comparison processes operate at the unit, team, or network level," and further adds, "... justice in LMX processes must be studied," and "... social comparison processes between work group members (i.e., between dyads) must be addressed." Further, Scandura (1999: 36) states, "Between-dyad justice issues emerge at the unit level, when social comparison processes are operative." These statements by Scandura (1999) propose the importance of social comparison processes in work groups and highlight the role of such processes in the justice judgment formation process in groups.

In support of Scandura's (1999) claims, Schriesheim et al. (2001) took a multilevel approach to understand the effects of group membership on LMX perceptions. In particular, they highlighted the important role of social comparison processes that exist in groups when members think about the quality of their relationship with their immediate supervisor. More specifically they stated, "This within-groups framework implies that how subordinates react to their exchange relationship is a function of the nature of the exchange relationships that other subordinates have with the same supervisor. In other words, subordinates are engaging in a within-group social comparison process that employs the supervisor's work group as the basis for judging the exchange and its correlates" (Schriesheim et al., 2001: 529). This quote highlights the importance of social comparison processes in work groups when members examine the quality of their relationships with their supervisor. To the extent that others' relationships are superior, perceptions of injustice are likely to occur.

Other scholars have also referred to the importance of social comparison processes in work groups. Shah (1998: 259-252) took a networks perspective to understand which employees are chosen as social referents and made a number of key points about referent choice. First, she stated, "the choice of a referent other is constrained by the social network in which one is embedded." Second, proximity and frequency of contact are highlighted as important determinants of social comparison referent choice. Third, "... social information enables individuals to assess their acceptance in work groups." Thus, this line of reasoning suggests that individuals do search for social referents, and when they do they are likely to turn to fellow group members as sources of social information. Shah (1998: 264) goes on to highlight the

importance of social comparison processes in work groups when determining if one is fairly treated, “Equity...is of substantial concern for all organizations. Employees often use referents as they form these critical equity judgments ...”

Now that I have described social comparison theory, highlighted the strong link in the literature between social comparison theory and organizational justice theories, and integrated LMX, justice, and social comparison, I turn in the next section to examine two group characteristics that are expected to serve as boundary conditions of the relationship between LMX strength and justice climates at the group level as they are expected to impact social comparison processes. Specifically, I will describe the expected moderating effects of *task interdependence* and *group size* on the LMX strength to justice climates relationships. Briefly, the amount that group members must work together (i.e., task interdependence) and the number of people in the group (i.e., group size) are expected to impact the amount of social comparison information that is available and salient, and subsequently when more information is available and when leaders treat their subordinates differently, the less favorable justice climates will be. Thus, it should be noted that while actual social comparison data were not collected, task interdependence and group size are used as proxies for the amount of social comparison under the hypothesis that the larger the group and the less the task interdependence, the lower the possibility for social comparison. A more detailed explanation of task interdependence and group size as boundary conditions of the LMX strength to justice climates relationships at the group level of analysis is provided in the next section.

Task Interdependence

Task interdependence is defined as “The extent to which team members cooperate and work interactively to complete tasks” (Stewart & Barrick, 2000: 137). When groups are high on task interdependence, they work together and depend on one another for information, resources, and effort (Thompson, 1967; Campion, Medsker, & Higgs, 1993). Task interdependence is a structural variable that is related to a number of important outcomes such as productivity, satisfaction, and manager judgments (Campion, Papper, & Medsker, 1996).

Task interdependence might impact the amount and accuracy of social comparison information in a group and subsequently impact the relationship between LMX differentiation and justice climates. For example, Graen and Uhl-Bien (1995: 234) suggest that an important part of stage four research on LMX should examine, “task interdependencies and the quality of the relationships that develop among organizational participants as a result of these interdependencies.” Similarly, Scandura (1999: 36) provides a more direct rationale for the relationship between task interdependence and social comparison processes in work groups, “Since there is a higher level of interdependence between leader and member, issues in the work-group are more openly discussed with in-group members. Thus, these members will rely on information from the leader in making social comparisons involving others in the work group.”

In addition to the theoretical link between task interdependence and social comparison processes in groups, empirical research on task interdependence and justice perceptions at the group level substantiates the claim that the type of justice rule used impacts the effects of task interdependence on group productivity. For example, when an equity rule is in place (i.e., the most important group members have high quality LMX

relationships), group productivity is highest when there is low task interdependence. However, when an equality rule is in place (i.e., all group members are given equal opportunities to have high quality LMX relationships), group productivity is most favorable when there is high task interdependence (Miller & Hamblin, 1963; Chen & Church, 1993). These results suggest that it is important for all group members to be treated more equally when individuals work in an environment characterized by high task interdependence. It follows that when groups are high on task interdependence, justice climates will be more favorable when LMX strength is high.

It must be noted that although equity and equality are generally described as distributive justice rules, distributive justice was not assessed in this study. However, while distributive justice was not assessed, the aforementioned research regarding equity and equality rules can apply to other types of justice as well. In support of this notion, Cropanzano and Ambrose (2001: 130) state "... it should suffice it to note that consistency or equal treatment is an important aspect of both procedural and distributive justice. It does not clearly belong to one or the other." This statement highlights the idea that distributive justice rules may also apply for other types of justice and subsequently the aforementioned research provides relevant support for the following hypothesis.

Hypothesis 5: Task interdependence will moderate the relationship between LMX strength and procedural, interpersonal, and informational justice climates such that when task interdependence is high, justice climates will be more favorable when LMX strength (i.e., low variance) is also high. In other words, it is more important to have low variance in LMX ratings when group members work interdependently.

Group Size

Group size is one of the most commonly studied structural variables in the literature on groups (Kimberly, 1976; Talacchi, 1972; Pugh, Hickson, Hinnings, & Turner; 1968; 1969). Size is typically operationalized as the number of employees in a group, unit, or organization (Pugh et al.; Schminke, Ambrose, & Cropanzano, 2000). It has been shown to relate negatively to a variety of attitudes such as job satisfaction and fairness perceptions, such that attitudes are more favorable when groups are small (Talacchi; Schminke et al.).

The logic is as follows: if individuals use other group members as social comparison referents, when a group is large it is less likely that an individual will have social comparison information from all group members. However, in smaller groups, members are more likely to have knowledge about the subordinate-supervisor relationship for all group members and are thus likely to have more information. When a group is small and a leader differentiates between employees, employees have intimate knowledge of this differential treatment and subsequently justice climates are less favorable.

Some research speaks to the issue of the effects of group size on LMX relationships. Kacmar, Witt, Zivnuska, and Gully (2003) found that communication frequency between a leader and his or her subordinates moderated the relationship between LMX and individual-level performance ratings, such that ratings were higher when there was more communication. Although this study does not directly assess group size or justice, the notion that communication frequency is an important aspect in the LMX to outcome relationship has implications for the hypothesized moderating effects of

group size on the LMX to justice climates relationships at the group level. For example, when the group is small and a leader interacts more with certain individuals as opposed to others, it will be more salient than in a large group and subsequently justice climates will be less favorable. Thus, I hypothesize that when the group is small, justice climates will be more favorable when LMX strength is high.

Hypothesis 6: Group size will moderate the relationship between LMX strength and procedural, interpersonal, and informational justice climates such that when the group size is small, justice climates will be more favorable when LMX strength (i.e., low variance) is high. In other words, it is more important to have low variance in LMX ratings when a group is small.

Summary

The purpose of this dissertation is to test a conceptualization of the relationships existing between LMX level and LMX strength on justice climates and customer satisfaction and to explore the boundary conditions of the LMX strength to justice climates relationships at the group level of analysis. First, I hypothesize that higher mean levels of LMX in a group will result in more favorable justice climates (H1), and higher customer satisfaction (H2). Second, I hypothesize that the more variance in LMX relationships in a group, the less favorable the justice climates (H3), but the higher the customer satisfaction (H4). Third, based on social comparison theory (Festinger, 1954), I hypothesize that task interdependence (H5) and group size (H6) moderate the LMX strength to justice climates relationships.

The methods section including the sample, procedure, measures, and levels of analysis issues is provided next.

METHOD

Sample

Participants in this study were 3,445 employees (40% response rate) in 383 departments (e.g., meat, deli, bakery) from stores in a grocery store chain on the East coast. In terms of the racial demography of the employees, 81% were White, 5% African American, 1% Hispanic, 1% Asian, and 2% “other,” while 9% did not provide demographic data. In terms of gender, 35% were male, 56% female, and 9% had missing data. In terms of age, 10% were under 18, 18% were between 18-22, 10% were 23-29, 16% were 30-39, 38% were above 40, and 9% did not provide data. Over half (58%) of the employees had been employed at the company for more than three years, over half were part-time (58%), and approximately half the employees were single (47%).

In addition to department employees, four corporate managers in the organization reported on the task interdependence of each department type (e.g., meat, deli, bakery). All corporate managers had considerable tenure with the sponsoring organization and were well versed in the operations of all department types within the stores.

Procedure

In this study, employees responded to survey items regarding LMX in their department and their perceptions of the three types of justice (e.g., procedural, interpersonal, informational). The survey was distributed by the organization to employees while they were at work, and all participants were given the opportunity to fill out the survey during working hours. Completed surveys were then mailed back by the respondent to the primary investigator of the project in order to ensure confidentiality (particularly from the company’s management).

Task interdependence data were collected via e-mail from four corporate managers at the organization. They were e-mailed a short survey and then responded via e-mail within one week. Task interdependence data were collected at approximately the same time as the employee survey data.

Group size, operationalized as the number of employees in each department, was provided by the organization. Similarly, the organization provided group-level customer satisfaction data from the quarter following the employee survey data collection.

Measures

All measures are provided in the Appendix.

Leader-member exchange (LMX). LMX was assessed using the LMX-7 measure (Scandura & Graen, 1984). Although LMX research has been riddled with measurement problems (Schriesheim et al., 1999), there is now consensus that the LMX-7 measure is the best option (Schriesheim et al.; Gerstner & Day, 1997; Graen & Uhl-Bien, 1995). Participants were asked to respond to a number of statements and indicate the extent to which they agree ranging from 1 (not agree at all) to 5 (to a great extent). The seven-item measure was slightly adapted and a sample item includes, “I can count on my manager to support me even when I’m having a tough situation at work.” Note that individual level perceptions were assessed. The alpha for LMX was .88.

LMX level was calculated by aggregating individual employee perceptions of their relationship with their manager to create a mean score for each group. LMX strength was calculated by taking the standard deviation of LMX level for all of the employees in a group such that each group had a single value for LMX strength. It should be noted that to ease interpretation the sign is reversed for all LMX strength

analyses such that less variance means more strength and vice versa. This operationalization of LMX strength is consistent with recent empirical (cf. Schneider et al., 2002) and theoretical (cf. Harrison & Klein, 2004) work on climate strength.

Organizational justice. The three dimensions of organizational justice were assessed using the Colquitt et al. (2001) measure. The items in this measure are aimed to reflect a variety of justice rules used for each dimension. For procedural justice, employees were asked to think about procedures in their department and rate the extent they agree with a number of questions on a scale ranging from 1 (not agree at all) to 5 (to a great extent). Four of the six items from Colquitt et al.'s measure were used. A sample item includes, "Have those procedures (in your department) been applied consistently?" The alpha for procedural justice was .88.

Interpersonal and informational justice were assessed using the same Colquitt et al. (2001) measure. However, employees were asked to think about their manager when answering these questions. The same rating scale was used as for procedural justice. Three of the four interpersonal justice items, and three of the four informational justice items from Colquitt et al. were used in this study. A sample item for interpersonal justice includes, "Has your manager treated you with respect?" and a sample item for informational justice includes, "Has your manager explained the procedures thoroughly?" The alpha for interpersonal justice was .95 and the alpha for informational justice was .86. All justice data were collected from individual employees about the procedures used to make decisions in their group and the way their manager treated them personally and these data were aggregated to the group level of analysis. This is a similar methodology

to other justice climate research (e.g., Mossholder et al., 1998; Simons & Roberson, 2003; Ehrhart, 2004; Liao & Rupp, in press).

As there is some debate in the organizational justice literature about the distinctiveness of these three dimensions of justice, a confirmatory factor analysis (CFA) was run to see if a three-factor solution adequately represented the data. The CFA revealed that a three-factor solution with procedural, interpersonal, and informational justice as distinct but correlated factors revealed good fit ($X^2(32) = 698.745, p < .001$; CFI = .976; SRMR = .037; RMSEA = .078) so they were kept as three facets of justice for the analyses to follow. In addition, because of the conceptual similarity between LMX and justice, a CFA was run to determine whether a model specifying the three justice dimensions and LMX as distinct but correlated factors showed good fit. The results of the CFA revealed good fit ($X^2(113) = 1810.282, p < .001$; CFI = .966; SRMR = .034; RMSEA = .067) further supporting the distinctiveness of these constructs.

Task interdependence. Task interdependence was assessed using the ratings of four corporate managers from the sponsoring organization. They rated each of the department types (e.g., meat, deli, bakery) on the amount of task interdependence required to do the work of the department. Specifically they were asked, “How much do department employees need to work with others and cooperate to get their work done and to provide service to customers?” They were asked to rate all of the types of departments in a store using a rating scale that included the following descriptions: (1) *rarely* if ever need to work together, (2) *at few times* do they need to work together, (3) *sometimes* they need to work together, (4) *often* they need to work together, and (5) they need to *continuously* work together. Reliability information with regards to the task

interdependence ratings was calculated using the Spearman-Brown prophecy formula. Results of this analysis revealed that task interdependence had a reliability of .82.

Group size. Consistent with prior research (Pugh et al. 1968; 1969; Schminke et al., 2000) group size was operationalized as the number of employees in each group.

Customer satisfaction. Customer satisfaction data were collected internally by the sponsoring organization the quarter after the employee survey was administered and customer satisfaction data were then provided to the primary investigator. The customer satisfaction items used in the present study relate to customer's satisfaction with employees in each group (i.e., department within store). All customer satisfaction data were collected at the group level of analysis. A total of four items were included and customers were asked to report on a 1 to 5 scale how satisfied they were with the service from employees in a particular department. A sample item includes, "How would you rate our check-out area personnel for friendly, courteous service?" The alpha for customer satisfaction was .94.

Levels of Analysis Issues

The level of analysis in the present study is the department (or group level). The primary reason for the concentration on departments is that focus groups revealed that employees clearly identify with their departments as opposed to the store in which their departments exist. Further supporting the claim that this organization tends to use departments as their focal level of analysis is the fact that employees in piloting the survey told us that this is what their frame of reference is and that customer satisfaction data are collected at the department level of analysis.

Because employees in this study are nested within both departments and within stores, it was important to examine aggregation statistics to see (1) if there was justification for aggregation, and (2) whether there were department- or store-level effects, before running any group-level analyses. Because the focal unit of analysis in this study is groups I calculated aggregation statistics (e.g., r_{wg} , ICC(1), and ICC(2)) on the LMX and justice data at that level of analysis. In an effort to have reliable group-level measures, I only used groups that had four or more employees (Bliese, 2000).

The aggregation statistics are presented in Table 3. The results for these statistics at the department level of analysis show that procedural justice was above the .60 recommended cutoff for r_{wg} 's (James, 1982), whereas interpersonal and informational justice fell just below this cutoff. However, the ICC(1) and ICC(2) values were statistically significant and the ICC(1) values ranging from .14 - .15 are all higher than the .12 recommended cutoff (Bliese, 2000). In addition, all ICC(2) values were above the .60 rule of thumb (Glick, 1985). Taken together, the aggregation statistics provide support for a group-level effect for justice and provide justification for aggregation to the group level.

Insert Table 3 Here

In terms of LMX, the r_{wg} for LMX was .54. This value is below the recommended .60 cutoff. However, some of the hypotheses in this study use LMX as a part of a dispersion model (Harrison & Klein, 2004). A dispersion model is focused on the variance in group member perceptions so the r_{wg} values ensure that there will be at

least some variance. It should also be noted that the ICC(1) and ICC(2) values were statistically significant and similar to the values for the justice measures. Thus, consistent with recent multilevel research on LMX, the aggregation statistics show that while there is sufficient reason to aggregate LMX and to view it as a group-level construct as proposed by ALS, there is also variation in LMX ratings within a group which is consistent with LMX theory.

Because employees are nested within stores as well as work groups, it was important to look at the ICC(1) values for justice at the store level of analysis to see if store-level effects needed to be modeled. Following the recommended procedures prescribed by Singer (1998), the first step in determining whether one has to control for higher-level effects is to examine the ICC(1) values. In terms of the present study, a significant ICC(1) value indicates the dependent variable at the group level is impacted by store-level effects. The ICC(1) values were all statistically significant but were small (ranging from .03-.04). Thus, because these ICC(1) values were significant but not large, I standardized the three justice climates by controlling for any effect of the store on group-level justice climates.

In summary, there was adequate support for the theorized level of analysis being at the group level and there was sufficient justification for aggregation. In addition, because store-level effects were statistically related to group-level justice climates, all store-level effects were controlled for in the analyses involving the justice climates.

Data Analysis

All hypotheses tests were conducted at the group level of analysis. Hypothesis 1 involving the effects of LMX level on the justice climates was analyzed with linear

regression using a split-sample. A split-sample procedure involves taking LMX perceptions from half of the respondents in a group and justice perceptions from the other half of the group, thereby decreasing response bias. Hypothesis 2 involving the effect of LMX level on customer satisfaction was tested with linear regression. Hypothesis 3 involving the effect of LMX strength on the three justice climates was conducted using a split-sample in linear regression. Hypothesis 4 involving the effects of LMX strength on customer satisfaction was tested with linear regression. Hypothesis 5 involving the interaction between LMX strength and task interdependence on the three justice climates was tested with hierarchical regression. Similarly, Hypothesis 6 involving the interaction between LMX strength and group size on the three justice climates was also tested with hierarchical regression. Hypotheses 5 and 6 were not tested with the split-sample data because the number of groups would have dropped to only 146 and due to the difficulty in detecting interactions (Aguinis, Beaty, Boik, & Pierce, in press), there would have been a dearth of statistical power.

RESULTS

Descriptive Statistics

The means, standard deviations, and intercorrelations among the key variables are presented in Table 4.

Insert Table 4 Here

LMX Level Hypotheses

Hypothesis 1 predicted that LMX level would be positively related to the three justice climates. Split-sample regression results revealed significant relationships for procedural justice climate ($\beta=.30, p<.01$), interpersonal justice climate ($\beta=.44, p<.01$), and informational justice climate ($\beta=.39, p<.01$). Further, by correcting for the unreliability in the more variance is explained. As an example, if a group has 10 members I created an LMX score (LMX 1) with 5 randomly chosen members and another LMX score (LMX 2) for the other 5 group members. The same process is done for the justice climates as well therefore creating Justice 1 and Justice 2. To correct for unreliability in the data, I took the average of the two correlations between LMX and justice (one for LMX 1 and Justice 2, and one for LMX 2 and Justice 1) and divided that value by the square root of the correlation between LMX 1 and LMX 2 multiplied by the correlation between Justice 1 and Justice 2. After correcting for unreliability, the relationship between LMX level and procedural justice climate ($\beta=.77, p<.001$), interpersonal justice climate ($\beta=.84, p<.001$), and informational justice climate ($\beta=.89, p<.001$) all become stronger. Thus, hypothesis 1 was supported. The results are in Table 5.

Insert Table 5 Here

Hypothesis 2 predicted that LMX level would be positively related to customer satisfaction. The results of the linear regression did not reveal a significant relationship between LMX level and customer satisfaction ($\beta=.09, p>.05$). Thus, hypothesis 2 was not supported. The results are in Table 6.

Insert Table 6 Here

LMX Strength Hypotheses

Hypothesis 3 predicted that LMX strength would be positively related to the three justice climates such that when strength is high (i.e., differentiation is low) justice climates will be higher. The results of the split-sample linear regression analyses revealed a significant relationship between LMX strength and procedural justice climate ($\beta=.18, p<.05$), interpersonal justice climate ($\beta=.26, p<.001$), and informational justice climate ($\beta=.18, p<.05$). The procedure used for hypothesis 1 to correct for the unreliability in the data was not used for hypothesis 3 because the correlation between the two groups on each variable was too low. Thus, hypothesis 3 was supported. The results are in Table 7.

Insert Table 7 Here

Hypothesis 4 predicted that LMX strength would be negatively related to customer satisfaction such that the lower the strength (i.e., the greater the differentiation) the higher would be customer satisfaction. The results of the linear regression did not reveal a significant relationship between LMX strength and customer satisfaction ($\beta=.08, p>.05$). Thus, hypothesis 4 was not supported. The results are in Table 8.

Insert Table 8 Here

LMX Strength Interaction Hypotheses

Hypothesis 5 predicted an interaction between LMX strength and task interdependence on the three justice climates, such that when task interdependence is high, justice climates are more favorable when LMX strength is high. The results of hierarchical regression analyses revealed a marginally significant effect for procedural justice climate ($\beta = -.71, \Delta R^2 = .01, p < .08$), and significant results for interpersonal justice climate ($\beta = -.98, \Delta R^2 = .02, p < .05$) and informational justice climate ($\beta = -.78, \Delta R^2 = .01, p < .05$). Thus, hypothesis 5 was partially supported. The results are in Table 9. Plots of the interactions can be found in Figure 3.

Insert Table 9 Here

Insert Figure 3 Here

Hypothesis 6 predicted an interaction between LMX strength and group size on the three justice climates, such that when group size is small, justice climates are more favorable when LMX strength is high. The results of hierarchical regression analyses revealed non-significant effects for procedural justice climate ($\beta = -.39, \Delta R^2 = .00, p > .05$), interpersonal justice climate ($\beta = -.42, \Delta R^2 = .00, p > .05$) and informational justice climate ($\beta = -.21, \Delta R^2 = .00, p > .05$). Thus, hypothesis 6 was not supported. The results are in Table 10.

Insert Table 10 Here

Post-Hoc Analyses

While the tests of the hypotheses provided a number of interesting findings, it was important to take an exploratory approach to examine a number of other relationships. First, I examined the direct effect of the justice climates on customer satisfaction. Second, consistent with the social comparison hypothesis, I tested to see whether task interdependence was related to the degree to which perceptions of justice were shared (i.e., justice climate strength). Third, I conducted a contextual analysis to determine whether LMX level predicted individual-level fairness perceptions over and above the effects of individual-level LMX perceptions. Given the rationale provided for social comparison in groups, I deemed it important to see if a group effect emerging from social comparison processes tells us anything about individual-level fairness perceptions. Fourth, I examined the interaction of LMX strength and LMX level on justice climates and customer satisfaction. Post-hoc it is reasonable to think that the effects of LMX strength on the outcomes may be moderated by LMX level. To briefly elaborate, LMX strength simply describes the amount of variation in group member's ratings of LMX. However, this construct does not inform us about the group mean. For instance, there could be little variance with a high mean (i.e., most group members have a high quality relationship with their leader) or little variance with a low mean (i.e., most group members have a low quality relationship with their leader). Thus, the group mean, LMX level, may serve as a moderator of the effects of LMX strength on the outcomes. Fifth,

along the same lines as the argument just made, it was important to test the three-way interactions between LMX strength x task interdependence/group size x LMX level. Essentially, LMX level may moderate the LMX strength x task interdependence/group size interactions with the outcomes. Sixth, in hypotheses 5 and 6 I tested the LMX strength x task interdependence/group size interactions on justice climates. However, I did not make specific predictions regarding customer satisfaction so I provide these analyses in this section.

Direct effect of justice climates on customer satisfaction. In this study I was largely concerned with the direct effects of LMX level and LMX strength on justice climates and customer satisfaction. However, the model presented in Figure 1 highlights also the direct relationship between justice climates and outcomes. Thus, it is important to test whether the justice climates directly relate to customer satisfaction, and if so, whether justice climates mediate the relationship between LMX and customer satisfaction. Before testing for mediation, it is necessary to examine the direct relationship between justice climates and customer satisfaction.

First, each justice climate was tested to examine its direct effects on customer satisfaction. Results of these regression analyses demonstrate non-significant effects for procedural justice climate ($\beta=.04, p>.05$), interpersonal justice climate ($\beta=.06, p>.05$) and informational justice climate ($\beta=.03, p>.05$). Next, I put all three justice climates in the regression equation in the same step to see if they collectively accounted for significant variance in customer satisfaction. The results of the model with all three justice climates simultaneously entered was not significant ($F(3, 85) = 1.78, p>.05$).

Effect of task interdependence on justice climate strength. The rationale behind the task interdependence hypothesis is that when group members must work together to complete their tasks it is likely that they will share information and subsequently differentiation will be more unfavorable. One way to test the idea that task interdependence relates to more social interaction and comparison is to see if task interdependence positively relates to climate strength. Thus, if task interdependence positively relates to climate strength it provides some support for the notion that when group member's work closely together they tend to share work-related information with one another. Correlational analyses with one-tailed tests of significance were utilized to test the relationships between task interdependence and the strength of the justice climates. The results show significant effects for procedural justice climate strength ($r = .09, p < .05$), interpersonal justice climate strength ($r = .10, p < .05$) and informational justice climate strength ($r = .09, p < .05$). These results offer additional evidence substantiating the inference that task interdependence results in sharing perceptions and experiences.

LMX contextual analysis. In addition to the data attained from the ICC(1) value, it was important to further examine the potential group-level effect of LMX by conducting a contextual analysis that examined the effects of LMX level over and above the effects of individual-level LMX ratings on individual-level fairness perceptions. A contextual analysis allows one to see if the group mean predicts a dependent variable above and beyond the effects of individual-level perceptions (James & Williams, 2000). The contextual analysis was conducted using random coefficient modeling (also referred to as hierarchical linear modeling) because this procedure uses maximum likelihood

procedures that provide the most accurate test of the relationship. The results of the contextual analysis using random coefficient modeling revealed significant relationships for procedural fairness perceptions ($b=.17, p<.001$), interpersonal fairness perceptions ($b=.06, p<.054$), and informational fairness perceptions ($b=.11, p<.001$). These results provide further support for studying LMX at the group level of analysis.

LMX strength x LMX level interactions. Based on the rationale above, I deemed it important to test if LMX level moderated the relationship between LMX strength and justice climates and customer satisfaction. In terms of the justice climates, hierarchical regression results revealed non-significant interaction terms for procedural justice climate ($\beta=.11, \Delta R^2=.00, p>.05$), interpersonal justice climate ($\beta=.25, \Delta R^2=.00, p>.05$) and a marginally significant effect for informational justice climate ($\beta=.37, \Delta R^2=.00, p<.07$). In terms of customer satisfaction, hierarchical regression results revealed a non-significant interaction term for customer satisfaction ($\beta=-.16, \Delta R^2=.00, p>.05$).

LMX strength x LMX level x task interdependence/group size interactions. Using the same rationale as above, I tested three-way interactions between LMX strength, LMX level, and task interdependence on the justice climates and customer satisfaction. In terms of the justice climates, the hierarchical regression results revealed non-significant effects for procedural justice climate ($\beta=1.4, \Delta R^2=.00, p>.05$), interpersonal justice climate ($\beta=2.74, \Delta R^2=.00, p>.05$) and informational justice climate ($\beta=2.11, \Delta R^2=.00, p>.05$). In terms of customer satisfaction, hierarchical regression results revealed a non-significant interaction term for customer satisfaction ($\beta=3.34, \Delta R^2=.00, p>.05$).

I also tested three-way interactions between LMX strength, LMX level, and group size on the justice climates and customer satisfaction. In terms of the justice climates, the hierarchical regression results revealed a non-significant effect for procedural justice climate ($\beta = -.43$, $\Delta R^2 = .00$, $p > .05$), a marginally significant effect for interpersonal justice climate ($\beta = -4.28$, $\Delta R^2 = .01$, $p < .07$) and a non-significant effect for informational justice climate ($\beta = -1.60$, $\Delta R^2 = .00$, $p > .05$). In terms of customer satisfaction, hierarchical regression results revealed a non-significant interaction term for customer satisfaction ($\beta = 3.20$, $\Delta R^2 = .02$, $p > .05$).

LMX strength x task interdependence/group size on customer satisfaction.

Hypotheses 5 and 6 tested the interaction between LMX strength and task interdependence/group size on the justice climates. However, no specific hypotheses were made for this interaction with customer satisfaction as a DV. Hierarchical regression results revealed a non-significant LMX strength x task interdependence interaction term on customer satisfaction ($\beta = -1.45$, $\Delta R^2 = .03$, $p > .05$). In contrast, hierarchical regression results revealed a moderately significant LMX strength x group size interaction term on customer satisfaction ($\beta = -.83$, $\Delta R^2 = .04$, $p < .06$).

Post-hoc results summary. The first set of post-hoc analyses examined the direct effects of the justice climates on customer satisfaction and the direct effect of task interdependence on justice climate strength. The results of the analyses involving the direct effects of justice climates on customer satisfaction yielded no significant effects. In contrast, the analyses examining the relationship between task interdependence and justice climate strength were all significant suggesting that group members do tend to share more social comparison information when they work together interdependently.

The second set of post-hoc analyses were largely aimed at examining the group-level effect of LMX and potential interactive effects of LMX level on the LMX strength hypotheses. The contextual analysis revealed that LMX level was positively related to individual-level fairness perceptions over and above the effects of individual-level LMX ratings. The results of the LMX level x LMX strength analyses revealed no significant relationships with any of the dependent variables. Further, LMX level did not moderate the LMX strength x task interdependence/group size relationships for any of the dependent variables, except for a marginally significant effect on informational justice climate. Finally, LMX strength did not interact with task interdependence to affect customer satisfaction, but there was a marginally significant effect for the LMX strength x group size interaction on customer satisfaction. Despite these two marginal effects, no reliable patterns emerged from these post-hoc analyses involving LMX level as a moderator.

DISCUSSION

A primary purpose of this dissertation was to address the paradox that having differential relationships with group members is expected to improve group performance according to LMX theory, whereas based on organizational justice theory such unequal treatment is expected to adversely affect what individuals in groups collectively see as fair. Specifically, this study extended LMX research to the group level of analysis by examining the effects of LMX level on justice climates and group performance (i.e., customer satisfaction). Further, with regard to the differential relationships paradox, the effects of LMX strength on justice climates and customer satisfaction were examined. Finally, an intent of this research was to begin understanding when treating group

members in the same way is most important. Using a sample of departments in a large supermarket chain, a number of hypotheses were tested aimed to address these issues.

A number of interesting findings emerged from this study. First, building on recent multilevel research on LMX, LMX level was found to positively relate to justice climates. Surprisingly, LMX level was not found to relate to group performance at least in the form of customer satisfaction. Second, LMX strength was found to positively relate to justice climates, however, no significant relationship was found between LMX strength and customer satisfaction. Finally, as predicted, task interdependence served as a boundary condition for the LMX strength to justice climates relationships, such that LMX strength was more important when task interdependence was high. The effects of group size were not found to be a boundary condition. Thus, these results have a number of implications for future research on LMX, organizational justice, and multilevel theory and research.

In what follows I elaborate on these three sets of findings and discuss their theoretical and methodological implications, highlight implications for practice, detail strengths and limitations of the research, and provide avenues for future research before concluding.

LMX Level: A Multilevel Approach to LMX

One important aspect of the present study was to examine the relationship between LMX and justice climates at the group level. As predicted, the results revealed a positive relationship between LMX level and all three justice climates. Thus, when there were more high quality relationships in the group justice climates were more favorable. This is consistent with the leadership making model which suggests that it is best for

leaders to try to create high quality relationships with all group members (Graen & Uhl-Bien, 1995). In addition, the results of the ICC(1) and the contextual analysis suggest that there is in fact a group-level effect for LMX. In essence, these results suggest that aggregating individual ratings of LMX to the group-level is important because the ICC (1) value demonstrates that some of the variance in LMX perceptions is due to the group that one belongs, and the contextual analysis reveals that LMX level predicts fairness perceptions (at the individual level) over and above individual-level LMX perceptions. It is important to mention the ICC(1) and contextual analysis because these findings provide some support for examining the relationship between LMX and justice climates at the group level.

How might this occur? Group members may examine the way other group members are treated by the leader and this can influence their perceptions of the leader and consequently their fairness perceptions. For example, if LMX level is high then group members perceive their relationship with their leader in positive terms. Group members may share information with one another about how they are treated and this can influence perceptions of the leader and consequently how individuals' rate their own interpersonal treatment as well as the fairness of procedures in the group.

In addition to the results regarding LMX level and justice climates, the effect on customer satisfaction was also examined. Much work at the individual level of analysis has shown that LMX is related to performance (Graen & Uhl-Bien, 1995). An important addition to the literature by studying LMX as a group-level construct is that one can see if it is related to group performance. In the present study, the relationship between LMX

level and group-level customer satisfaction was examined. Results revealed there was not a significant relationship between LMX and customer satisfaction.

Why have consistent relationships been found at the individual level of analysis between LMX and performance but these results were not replicated at the group level of analysis? There are a number of potential reasons for this finding. First, the use of customer satisfaction as a measure of group performance may play a part. Whereas individual-level performance is often operationalized as managerial ratings, customer satisfaction is an objective measure of performance. Second, LMX may be a more distal predictor of certain types of group performance such as customer satisfaction. Perhaps there are certain mediators that help better explain how LMX at the group level can impact group-level customer satisfaction ratings. For example, perhaps LMX relates to OCB (Ehrhart, 2004) which in turn may relate to more satisfied customers. In addition, LMX has been found to relate to individual job satisfaction and scholars have theorized that satisfied employees in the aggregate lead to satisfied customers (Bowen, Gilliland, & Folger, 1999).

LMX Strength: The Effects of Differential Relationships on Justice Climates and Group Performance

An important aspect of the present study was to examine the apparent paradox that having variance in relationship quality in a group is expected to lead to superior group performance according to LMX theory, but is expected to have adverse effects on justice climates according to organizational justice theory. The first step was to explore the effects of LMX strength on justice climates. As predicted, the results demonstrated that the more LMX strength (the less leaders differentiate), the more favorable the justice

climates. This finding suggests that when individuals rate the quality of their relationship with the leader in similar terms, group members tend to perceive more fair treatment. This finding is consistent with research on justice rules. For example, the consistency rule states that people like to be treated the same as others in their group. Thus, these findings support rules used to govern justice perceptions.

While the results regarding justice climates were consistent with organizational justice theory, LMX theory proposes that having variance in relationship quality is expected to lead to better group performance. The results of this study do not support this notion as LMX strength was not related to customer satisfaction. These results are more indicative of recent theorizing on LMX that suggests leaders should try to build high quality relationships with all of their subordinates (Graen & Uhl-Bien, 1995). Perhaps differentiation inhibited certain processes that lead to customer satisfaction. For example, by having different levels of relationship quality with group members leaders may reduce the cohesiveness of the group. In the present study, the sponsoring organization places a strong emphasis on service to customers. If some group members have better relationships with their leaders, it is likely that all group members will not strive for the same goal of serving customers.

LMX Strength to Justice Climates Boundary Conditions: Identifying Contexts When Differential Relationships Hurt Justice Climates

The third set of hypotheses addressed the issue of boundary conditions of the LMX strength to justice climates relationships. Social comparison theory was the primary theory used to understand how having variance in the quality of relationships between a leader and his or her followers may be particularly detrimental under certain

conditions. More specifically, I predicted and found support for the notion that having similar relationships with group members is particularly important when task interdependence is high.

This result has some implications for understanding the effects of leader-member relations in groups. These results suggest that when group members are in close quarters and must work together a lot, they are aware of the relationship quality of other group members. When there is little variability in the quality of relationships in the group, and group members are aware of it through frequent interaction, this can have a positive effect on justice climates.

Surprisingly, this interaction was not found for group size. Perhaps a smaller group size does not ensure that members of a group have access to the knowledge about other leader-member relationships in the group. Thus, without access to this information, small groups are no more likely than large groups to be impacted by LMX strength.

Theoretical Implications

The results in this study have a number of theoretical implications that should be addressed in more detail. Specifically, it is important to (1) elucidate how this study fits with the theoretical work by Scandura (1999), (2) highlight the work by Lind and colleagues (Lind, Kray, & Thompson, 1998; Van den Bos & Lind, 2001) on the effects of others' treatment on fairness perceptions, and (3) discuss the potential for differential effects of LMX on the four dimensions of justice.

First, this study is important because it is the first to take an empirical approach to studying the relationship between LMX and justice in groups. As highlighted in detail in this dissertation, Scandura (1999) made the most thorough attempt to integrate the

literatures on LMX and justice. In this *theoretical* paper, Scandura poses the question of whether it is possible to have work group differentiation and organizational justice. She argues that differentiation and justice are compatible and describes the importance of focusing on the social comparison processes operating in groups. The present study builds off of this theoretical work by *empirically* testing the effects of differentiation on justice and by using social comparison theory as a basis for understanding boundary conditions of when differentiation may be most costly—both of which are issues that have previously not been empirically examined.

Second, the emerging literature on self vs. others' treatment may also be useful in understanding the effects of LMX on justice in groups. For example, Lind et al. (1998) found that while personal experiences of injustice were most salient to group members, group ratings of justice were more extreme after the group had the opportunity to discuss their treatment. This suggests that when group members must work together interdependently, they tend to share information about their relationship with their leader which in turn impacts mean levels of justice. Further, Van den Bos and Lind (2001) found that under certain circumstances the procedural treatment of others plays a significant role in evaluating one's own fairness judgments. This line of research by Lind and colleagues highlights the notion that when one has access to information regarding how other group members are treated it can factor into their own perceptions of fair treatment.

Third, in this study I focus on the effects of LMX level and LMX strength on procedural, interpersonal, and informational justice climates. Accordingly, I make similar predictions for the effects of the two operationalizations of LMX on all three

justice climates. However, it is possible that LMX may differentially impact justice climates. For example, recent work by Masterson et al. (2000) on the agent-system model suggests that LMX may be more strongly related to interactional justice (i.e., interpersonal and informational), whereas more system-focused outcomes such as OCB or organizational commitment relate more strongly to procedural justice. Indeed, in this study we find some support for this notion. For example, we find that the relationship between LMX level and interpersonal and informational justice is stronger than for procedural justice—although not significantly different. Further, the relationship between LMX strength and interpersonal justice climate is stronger than for procedural justice climate—but again not significantly different. These trends potentially provide some support for the agent-system model and suggest that LMX may relate more to interpersonal perceptions of fairness.

Another issue related to the effects of LMX on the different dimensions of justice involves the effects of distributive justice. In this study I did not assess distributive justice for a number of practical and methodological reasons discussed previously. However, in the right context (i.e., an organization where leaders are more empowered to dispense rewards) it would be interesting to see if there would be differential effects for LMX differentiation on the various justice climates. For example, based on equity theory (Adams, 1965) it is reasonable to believe that group members could accept being treated differently in terms of outcomes because group members may not all provide the same inputs (i.e., some may work harder or have more experience). However, differences in terms interpersonal treatment may not be as well accepted by group members. Thus, it is possible that treating group members differently in terms of outcomes may be more

acceptable under the right circumstances than differences in interpersonal treatment. Incorporating the work of Masterson et al. (2000) into future research on LMX and justice may prove fruitful.

Methodological Implications

In addition to these theoretical implications, a number of methodological issues for conducting multilevel research on LMX and justice also emerge. One salient issue is the way justice climates should be measured. In the present study, I chose to operationalize justice climate in the same manner as other scholars in this emerging literature. Research on justice climate generally words items about procedural justice with the group as a referent (i.e., Have the procedures in your group been applied consistently?) referred to as a referent-shift model; whereas items for interpersonal and informational justice have tended to be worded at the individual level of analysis (i.e., I am treated with dignity and respect.), referred to as a direct consensus model (Chan, 1998). Thus, to be consistent with past research the precedent set in the pioneering studies was used in part as a basis for operationalizing justice climate in the present study.

Justice scholars have noted that little is known about what is the best way to measure justice climate (Bashshur, Rupp, & Christopher, 2004). Research by Bashshur et al. suggests that a referent-shift approach leads to the most agreement. However, they have a limited sample size (e.g., 10 groups) so the generalizability of their results may be limited. Future research should continue to explore the most appropriate way to measure justice climate based on the research question of interest.

A second important issue is how to best operationalize the differentiation of relationships between a leader and followers in a group. In the present study, differentiation (i.e., LMX strength) is assessed using the standard deviation of individual group members' LMX ratings in a group. This operationalization is consistent with recent work on dispersion models (i.e., models emphasizing variance in ratings as opposed to mean values) which suggest that for the present study the standard deviation is the most appropriate index (Harrison & Klein, 2004).

However, the standard deviation does not capture all of the richness of potential combinations of relationships in a group. For example, what if one group member is a buddy with the leader and other group members have much lower quality relationships? What if there is a 50-50 split where half of the group members have high quality relationships and the other half have low quality relationships? These questions raise the important point that multilevel research involving dispersion models is still in its infancy. One potential way to expand the nomological network of dispersion constructs is to consider alternative operationalizations to measure the pattern of relationships in a group. Theory and research on kurtosis suggests that it might be an adequate indicator of bimodality (DeCarlo, 1997). If kurtosis can in fact give an indication of bimodality, it may be particularly useful in group-level LMX research because the original conceptualization of LMX discussed in-groups and out-groups—a notion that could be empirically tested with a measure of bimodality such as kurtosis. Future research should address these alternative operationalizations.

Implications for Practice

There are a number of practical managerial implications of this study. First and foremost, with the increasing reliance on teams in organizations, it is increasingly important to understand leadership issues and teams. An implication from the present study is that it appears to be important for the individuals in a group to feel in the aggregate that they have high quality relationships with their manager. In addition, if managers develop different levels of quality relationships with group members it is likely to lead to a climate where group members feel less fairly treated. An interesting caveat to this implication is that it is particularly important for leaders to pay attention to their relationships with followers when the members of the group must work interdependently to complete their jobs. When this is the case, in highly interdependent teams or groups, it becomes increasingly important for leaders to maintain the same types of relationships with all of their followers.

A second practical implication of this research relates to the effects of group-level LMX on group performance. While we did not find a direct relationship between LMX and customer satisfaction, it is possible that LMX level may relate to important outcomes which in turn lead to performance. This is an empirical question for now, but could provide important implications for managers. Further, as LMX strength did not relate to customer satisfaction either, this result suggests that differentiating, in addition to damaging justice climates, appears to have no positive effect on performance. In addition, while neither LMX level nor LMX strength had a significant effect on performance, their relationships were in opposite directions. LMX level was positively related to customer satisfaction ($r=.09$), while LMX strength, less variance as opposed to the predicted more variance, was positively related to customer satisfaction ($r=.08$).

These results, although not reaching traditional levels of significance, may suggest to managers that they should try to have a high level of LMX in a group as opposed to differentiating followers.

Strengths and Limitations

There are a number of strengths of the present research. First, this study takes a group-level perspective to understand the effects of LMX on group-level outcomes. As stated previously, although LMX was conceptualized as a construct involving dyads within work groups and focused on how LMX relationships impact group-level outcomes, there are presently no *published* studies to date with this group-level outcome orientation. Second, although conceptually linked to justice, there is a dearth of research on the effects of LMX on fairness perceptions. Further, none of the literature relating LMX and justice has examined justice climates. In addition to these theoretical advances, there are methodological strengths of the present research. For example, response bias was minimized by collecting data from multiple sources (e.g., employees, corporate managers, customers), and by using split-sample analyses when possible.

Like all research, in addition to these strengths there were also limitations of the present study. One limitation of this research is that one cannot determine causality of the LMX to outcome relationships, especially regarding justice climates. Although a theoretical rationale is provided for why LMX is a precursor to justice climates, due to the cross-sectional nature of the data it is impossible to demonstrate causality. Another limitation of this study relates to the operationalization of LMX. Although the most well-used and psychometrically sound measure of LMX was used (i.e., the LMX-7 measure), it is similar to the operationalization of justice. Although I have argued that these

constructs are distinct but conceptually related, the operationalization of these constructs may potentially be confounded. A final potential limitation is that distributive justice was not measured. Although no research to date has examined a distributive justice climate, and scholars studying LMX and justice typically do not control for distributive justice, it is possible that distributive justice perceptions could impact these results.

Future Directions

There were some interesting findings in this study that beg to be looked at in more depth. Future research can extend the findings of this study in two major ways: (1) exploring boundary conditions of the relationship between LMX strength and justice and (2) examining mediators of the LMX level to group performance relationship.

In terms of boundary conditions of LMX and justice, the primary question of interest is the following: When can leaders treat their followers differently yet still have group members perceive fair treatment? This fundamental question has yet to be addressed fully in the literature and is a ripe direction for future research. In the present study, task interdependence was found to be one such boundary condition, as having less differentiation had a more positive effect on justice climates when group members worked interdependently.

What are other possible boundary conditions? Research on the justice rule of equity suggests that if individuals do not have an output-input ratio consistent with others in the group, they are likely to lessen the amount of work they do and subsequently their outputs match their inputs compared to others in the group. This process of restoring equity suggests that as long as individuals are able to reduce their effort, the act of developing differential relationships with group members may not hurt fairness

perceptions to the same degree. Another possible boundary condition could be the extent to which people understand and accept their roles in a group. If group members accept their specific duty in a group, they may know their place and consequently not be as upset by differential treatment. A third potential boundary condition is how rewards are distributed. If group-based rewards are given, perhaps unequal treatment matters less if the group is performing at a high level. Future research should examine these and other variables to better understand when differential treatment is acceptable to group members.

In terms of mediators of the LMX level to group performance relationship, the central issue is that there may be a number of attitudinal and behavioral mediators of the relationship. For example, research at the individual level has demonstrated that LMX relationship quality is positively related to important attitudes such as job satisfaction and commitment. It is possible that LMX level may impact these intermediary steps which in turn affect performance, as opposed to the more distal direct relationship between LMX level and group performance.

In addition to these attitudinal outcomes of LMX relationships, there is also individual level research showing a relationship between LMX and behaviors. Findings from research on LMX and OCB have shown that being in a high quality relationship influences the likelihood of engaging in OCB (Yammarino & Dubinsky, 1992). Future research should examine the mechanisms by which LMX level impacts group performance.

Conclusion

In conclusion, the results of this study suggest that the pattern of relationships that develop between leaders and followers in a group impact how group members feel they are treated. Leaders need to be cognizant of the fact that their relationships with followers are not in isolation, but rather take place within a group context. Future research should continue to examine LMX at the group-level and further explore the effects of differentiation on important group-level outcomes.

TABLE 1
FOUR LMX STAGES AND LEVELS OF ANALYSIS

Stage	Description	Level of Analysis of Theory	Level of Analysis of Outcomes Examined in Empirical Studies			
			Fol	Lead	Group	Org
Stage 1: VDL	Validation of differentiation within work units	Dyads in work unit	No empirical studies of outcomes at this stage			
Stage 2: LMX	Validation of differentiated relationship on outcomes	Dyad	X			
Stage 3: Leadership-Making	Theory and exploration of dyadic relationship development	Dyad	X	X		
Stage 4: Team-Making Competence Network*	Investigation of assembling dyads into larger collectives	Groups and Orgs			X	X

Note: Table adapted from Graen and Uhl-Bien (1995).

Fol=Follower, Lead=Leader, Group=Group, Org=Organization

* = no published studies at this stage

TABLE 2
ORGANIZATIONAL JUSTICE RULES FOR THE FOUR JUSTICE
DIMENSIONS

Distributive Justice	
Equity Rule	Fairness perceptions result from a comparison of one's input-output ratio to the ratio of a referent.
Equality Rule	All individuals should be treated in the same manner when determining outcomes.
Needs Rule	Individuals who are most in need of the outcomes should get them.
Procedural Justice	
Voice Rule	Individuals have at least some control over the process used to make decisions.
Consistency Rule	Allocative procedures should be consistent across persons and over time.
Bias Suppression Rule	Personal self-interest and blind allegiance to narrow preconceptions should be prevented at all points in the allocative process.
Accuracy Rule	It is necessary to base the allocative process on as much good information and informed opinion as possible.
Correctability Rule	Opportunities must exist to modify and reverse decisions made at various points in the allocative process.
Representativeness Rule	All phases of the allocative process must reflect basic concerns, values, and outlooks of important subgroups in the population of interest.
Ethicality Rule	Allocative procedures must be compatible with the fundamental moral and ethical values accepted by the individual.
Interpersonal Justice	
Truthfulness Rule	Individuals are provided truthful information.
Respect Rule	Individuals are treated with dignity and respect.
Informational Justice	
Propriety of Questions Rule	Only appropriate and relevant questions are asked of individuals.
Adequate Justification Rule	An explanation or justification is provided to individuals for organizational processes and decisions.

TABLE 3
AGGREGATION STATISTICS

Group Level			
Variables:	r_{wg}	ICC(1)	ICC(2)
Procedural Justice	.62	.15	.62
Interpersonal Justice	.54	.14	.60
Informational Justice	.58	.15	.61
LMX	.54	.15	.62

Note: $n=383$ departments
 $n=104$ stores

TABLE 4
MEANS, STANDARD DEVIATIONS, AND INTERCORRELATIONS AMONG
KEY VARIABLES

	M	SD	1	2	3	4	5	6	7	8
1. LMX Level	3.63	.60								
2. LMX Strength	.90	.32	.49							
3. Task Interdependence	3.91	.42	.12	.11						
4. Group Size	8.99	7.71	-.09	-.11	.07					
5. Procedural Justice Climate	3.35	.55	.60	.35	.08	-.15				
6. Interpersonal Justice Climate	4.11	.58	.66	.39	.11	-.04	.60			
7. Informational Justice Climate	3.78	.57	.73	.39	.13	-.06	.74	.75		
8. Customer Satisfaction	3.57	.23	.09	.08	-.23	.17	.13	.19	.10	

Note: $n=361-383$ for correlations with LMX, task interdependence, group size, and justice; correlations greater than or equal to .11 are significant at $p<.05$.
 $n=88-89$ for correlations involving customer satisfaction; correlations greater than or equal to .23 are significant at $p<.05$.
 LMX strength is coded such that less variance means more strength.

TABLE 5
HYPOTHESIS 1: LMX LEVEL ON JUSTICE CLIMATES

Variables:	Procedural Justice <u>Climate</u>		Interpersonal Justice <u>Climate</u>		Informational Justice <u>Climate</u>	
	β	R^2	β	R^2	β	R^2
LMX Level	.30**	.09	.44**	.20	.39**	.15

Note: $n=146$ groups

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

TABLE 6
HYPOTHESIS 2: LMX LEVEL ON CUSTOMER SATISFACTION

Variables:	β	<u>Customer Satisfaction</u>	R^2
LMX Level	.09		.01

Note: $n=88$ groups

TABLE 7
HYPOTHESIS 3: LMX STRENGTH ON JUSTICE CLIMATES

Variables:	Procedural Justice <u>Climate</u>		Interpersonal Justice <u>Climate</u>		Informational Justice <u>Climate</u>	
	β	R^2	β	R^2	β	R^2
LMX Strength	.18*	.03	.26**	.07	.18*	.03

Note: $n=146$ groups

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

TABLE 8
HYPOTHESIS 4: LMX STRENGTH ON CUSTOMER SATISFACTION

Variables:	β	<u>Customer Satisfaction</u>	R^2
LMX Strength	.08		.01

Note: $n=88$ groups

TABLE 9
HYPOTHESIS 5: LMX STRENGTH X TASK INTERDEPENDENCE ON
JUSTICE CLIMATES

	Procedural Justice			Interpersonal Justice			Informational Justice		
	β	ΔR^2	R^2	β	ΔR^2	R^2	β	ΔR^2	R^2
Step 1									
1. LMX Strength	.36			.58			.38		
2. Task Interdependence	.25*			.36**			.32**		
			.12			.16			.16
Step 2									
3. LMX Strength X Task Interdependence	-.71+			-.98*			-.78*		
		.08	.12		.02	.17		.01	.17

Note: $n=360$ groups

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

TABLE 10

HYPOTHESIS 6: LMX STRENGTH X GROUP SIZE ON JUSTICE CLIMATES

	Procedural Justice Climate			Interpersonal Justice Climate			Informational Justice Climate		
	β	ΔR^2	R^2	β	ΔR^2	R^2	β	ΔR^2	R^2
Step 1									
1. LMX Strength	.24**			.30**			.34**		
2. Group Size	.25			.40			.18		
			.13			.15			.15
Step 2									
3. LMX Strength X Group Size	-.39			-.42			-.21		
		.00	.13		.00	.16		.00	.16

Note: $n=360$ groups* $p<.05$, ** $p<.01$

FIGURE 1
JUSTICE CLIMATE ANTECEDENTS AND CONSEQUENCES

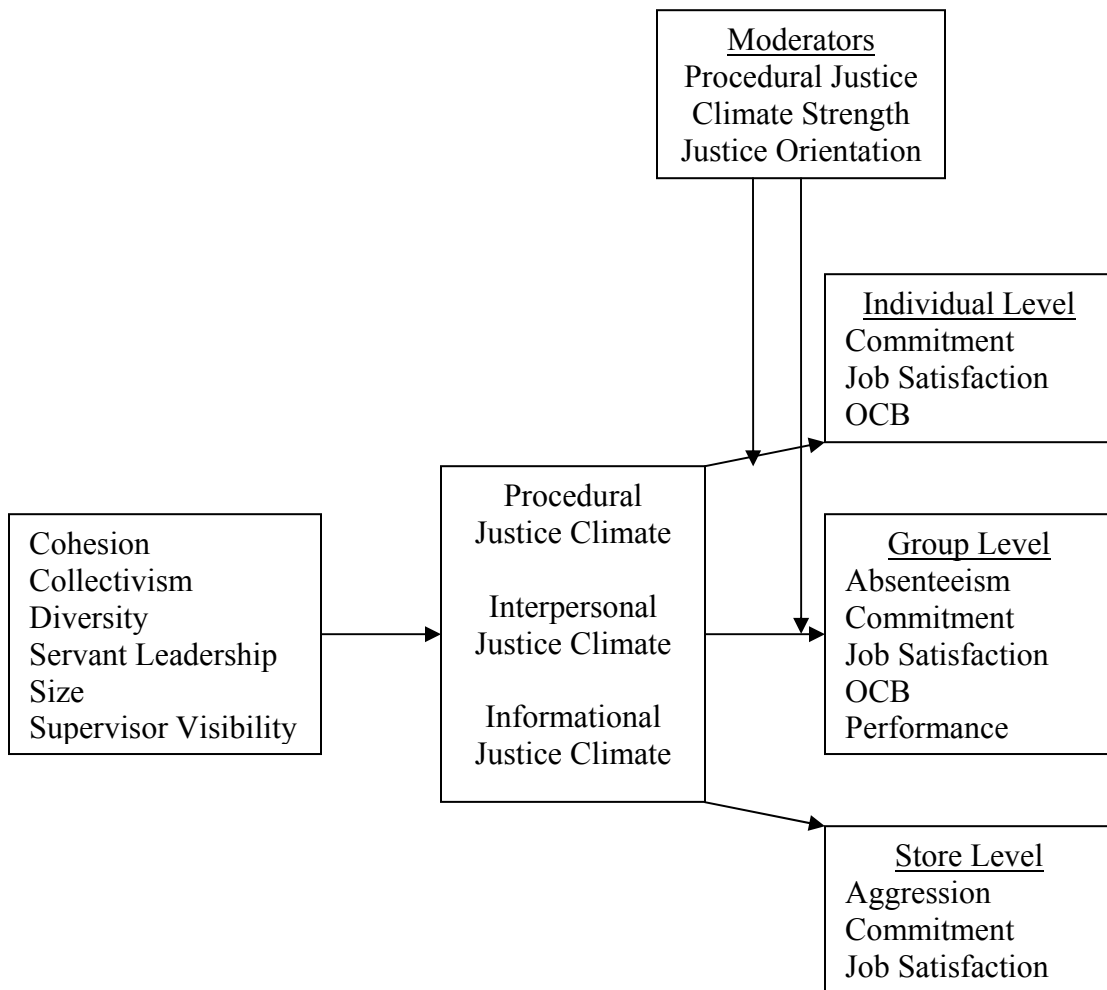


FIGURE 2
MODEL OF HYPOTHESIZED RELATIONSHIPS

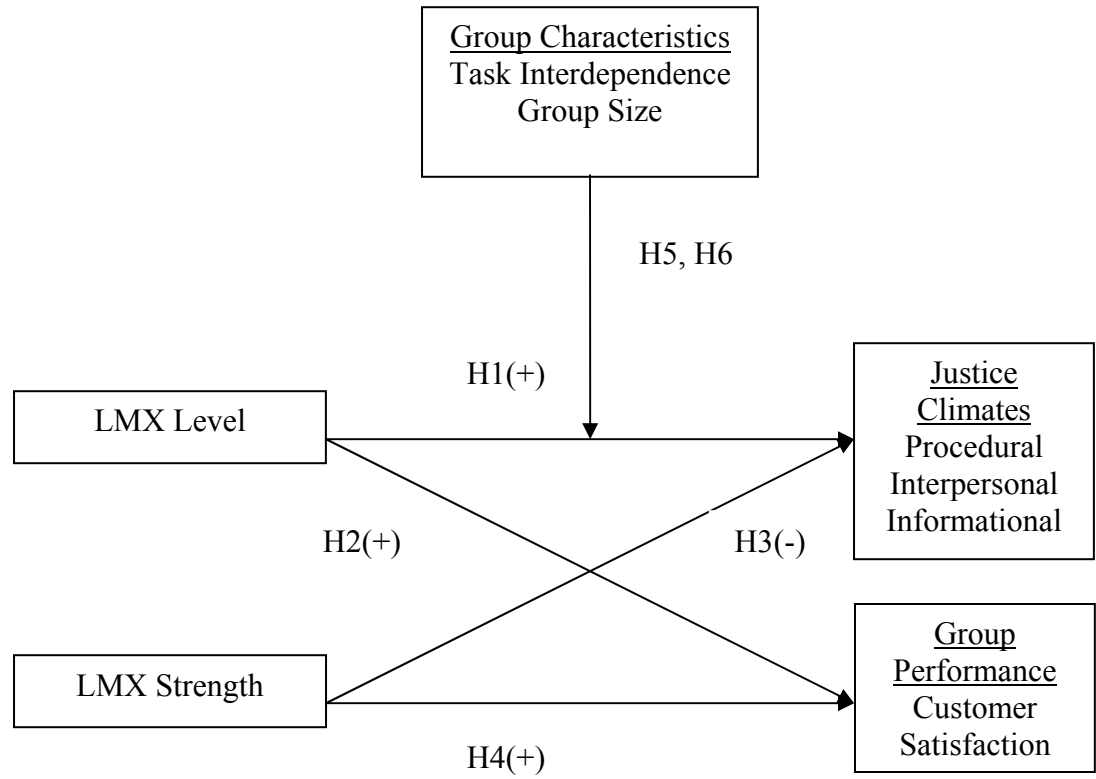
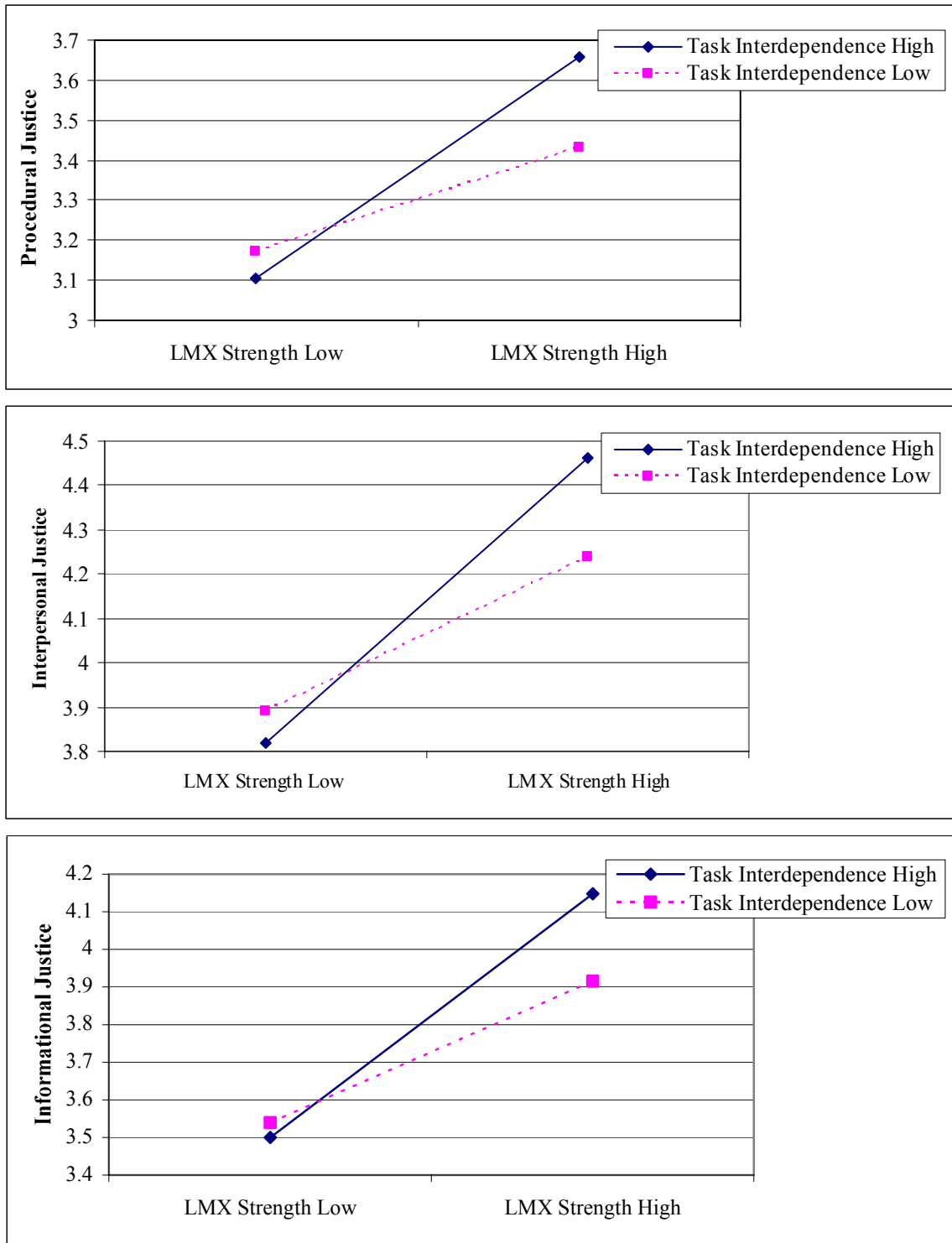


FIGURE 3

LMX VARIANCE X TASK INTERDEPENDENCE ON JUSTICE CLIMATES



APPENDIX A

MEASURES

Leader-Member Exchange (Scandura & Graen, 1984)

You will be asked to respond to statements about your relationship with your department manager. Please only think about your present department manager, (not your store manager, assistant manager, or any other manager) when you respond.

Read each description and tell us the extent to which it describes your relationship with your department manager using the following scale:

- A = Not at all
- B = To a limited extent
- C = To some extent
- D = To a considerable extent
- E = To a great extent

For the following questions, think about your department manager and indicate the extent to which each statement reflects your opinion.

1. I usually know how satisfied my manager is with what I do.
2. I feel that my manager understands my problems and needs.
3. I feel that my manager recognizes my potential.
4. If necessary, my manager would use his or her power and influence to help me.
5. I can count on my manager to support me even when I'm in a tough situation at work.
6. I would support my manager's decisions even if he or she was not present.
7. I have an effective working relationship with my manager.

Procedural Justice
(Colquitt et al., 2001)

This part of the survey asks you to provide details about your experiences working in your specific department. We are interested in what ***happens***, **not** how you feel about what happens or think things should happen; please report what you believe actually happens. Please respond to each of the descriptions using the following scale:

- A = Not at all
- B = To a limited extent
- C = To some extent
- D = To a considerable extent
- E = To a great extent

For the following items, think about the many decisions that have to be made in your department. Think about the procedures used to make those daily decisions. To what extent:

1. Have those procedures been applied consistently?
2. Have those procedures been fair?
3. Have you been able to express your views and feelings about those procedures?
4. Have those procedures been ethical?

Interpersonal and Informational Justice (Colquitt et al., 2001)

You will be asked to respond to statements about your relationship with your department manager. Please only think about your present department manager, (not your store manager, assistant manager, or any other manager) when you respond.

Read each description and tell us the extent to which it describes your relationship with your department manager using the following scale:

- A = Not at all
- B = To a limited extent
- C = To some extent
- D = To a considerable extent
- E = To a great extent

For the following items, think about the fact that your department manager has to make lots of decisions on a daily basis. With regard to the procedures that your department manager uses to make those decisions, to what extent:

Interpersonal Justice

1. Has your manager treated you in a polite manner?
2. Has your manager treated you with dignity?
3. Has your manager treated you with respect?

Informational Justice

1. Has your manager been candid in his/her communications with you?
2. Has your manager explained the procedures thoroughly?
3. Were your manager's explanations for the procedures reasonable?

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