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A field study examining leader-member exchange (LMX): Challenging the universally positive conceptualization of LMX

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A FIELD STUDY EXAMINING LEADER-MEMBER EXCHANGE (LMX): CHALLENGING THE UNIVERSALLY POSITIVE CONCEPTUALIZATION OF LMX

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A FIELD STUDY EXAMINING LEADER-MEMBER EXCHANGE (LMX): CHALLENGING THE UNIVERSALLY POSITIVE CONCEPTUALIZATION OF LMX

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University of Nebraska, 2001

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The construct of Leader-Member Exchange (LMX) – which emphasizes the quality of the relationship within supervisor-subordinate dyads – has received much empirical support over the last 25 years. Although high LMX relationships have generally been construed as universally positive in the scientific literature, some recent evidence suggests that: (a) all employees may not have an equal opportunity to develop high LMX relationships with their superiors, and (b) some high LMX employees may actually perform below the level of their low LMX counterparts. In order to address *both* the positive and negative aspects of LMX, the present thesis proposed and tested the *Developmental Processing Model of LMX.* Building on the seminal work of Dienesch and Liden (1986), this model makes an important distinction between automatic vs. conscious-based leader-member relationship development processes. Where automatic-based LMX development is conceptualized to occur rapidly based on supervisor-subordinate similarity/dissimilarity, conscious-based relationships develop more slowly based on a work-related behavior/attribution cycle. As a means of discriminating automatic from conscious-based relationship development processing, the *Relationship*

Development over Time (RDT) scale was developed. The psychometric properties of this instrument were tested in Study 1, which consisted of 187 undergraduate participants who were employed at least part-time. Hypothesis testing occurred in Study 2, which utilized 83 sales representative and their respective managers as well as 70 back office insurance employees and their supervisors. The results of both Study 1 and 2 determined that the RDT scale: (a) possesses high internal consistency reliability, (b) appears to be measuring a single underlying latent variable, and (c) shows evidence of construct validity. In Study 2, automatic-based relationship processing was found to be associated with higher LMX, OCBs, perceived leader-member similarity, and increased supervisory ratings of employee performance (and vice versa). Conversely, conscious-based relationships were linked with higher objectively measured performance, reduced perceptions of organizational justice, and increased employee intentions to leave. The implications of these findings to Dienesch and Liden's developmental model, as well as the model proposed herein, are discussed.

To Renee and Thomas Michael II – for their love, encouragement,

and constant reminder of the significant things in life.

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Table of Contents

Table of Contents (continued)

Table of Contents (continued)

Table of Contents (continued)

List of Tables

List of Tables (continued)

List of Figures

Introduction and Literature Review

For over 50 years, organizational researchers have acknowledged the important role that interpersonal factors play in the development of effective leadership. Based on the *behavioral approach* to leadership, the Ohio State University leadership studies of the late 1940's identified "consideration", or the extent to which leaders express concern and are supportive and friendly, as one of two primary leadership dimensions (Steers, Porter, & Bigley, 1996). Based on a different methodology, leadership researchers at the University of Michigan later identified the importance of a similar dimension called "relationship-oriented behaviors" (Katz, Macoby, & Morse, 1950; Steers et al., 1996). The evolution of *contingency theories* of leadership in the 1960's and early 1970's attempted to further articulate the complex interactions of relationships in the workplace. For example, Fiedler's (1964) contingency model included leader-member relations – defined as the amount of trust, loyalty, and respect that followers have for their leader – as a major element in the situational performance of leadership. Yet, a major weakness of both behavioral and contingency models of leadership is that they implicitly assume that leaders have a constant interpersonal style and an equivalent relationship with all subordinates. Further, these theories assume that all subordinates will be similar in their interpersonal reaction to their supervisor. Some organizational scientists viewed this simplistic assumption as a fundamental theoretical flaw, and it was largely as a reaction to this that the *leader-member exchange* theory was proposed in the mid-1970's to specifically examine the intricate nature of interpersonal relationships between

supervisor-subordinate dyads in the workplace (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975).

Leader-Member Exchange Construct

Leader-member exchange – or *LMX* – refers to the quality of the relationship that develops within a superior/subordinate dyad, given the individual characteristics of each member, as well as the organizational context in general (Scandura & Lankau, 1996). Fundamental to LMX theory is an assumption that high quality supervisor/subordinate relationships will lead to positive outcomes at the individual, group, and organizational level (Gerstner & Day, 1997). The emphasis of LMX on the dyadic relationship represents the major theoretical distinction between LMX and prior behavioral and contingency leadership theories. Another important difference between LMX and earlier theories is that LMX does not accept the traditional average leadership style, asserting instead that leaders develop different interpersonal relationship styles with different employees. Although LMX theory was not intended to be an all-encompassing model of leadership, it does assume that interpersonal relationships are more complex and play a more central role than previous leadership theories recognized.

An axiomatic component of early theoretical thinking in this area was the concept of leadership *role-making*, which is a norm setting process in which supervisors and subordinates define their relationship (Graen, 1976). In general, role-making systems are processes where employees learn about the expectations and demands placed upon job-related behavior, adjust to feedback about behavior, assert job needs to others, and ultimately accept a certain pattern of job behavior. At the dyadic level, the two primary

steps in the role-making process include: (a) demonstrating how each will react to various situations (success, failure, conflict, etc.); and (b) defining vertical dyad relationship norms within their particular organizational culture (Graen, 1976). The role-making process is believed to develop early in the leader-member relationship, and based on the outcome of this procedure either an in-group or out-group relationship will develop. Central to this dyadic relationship is the supervisor's decision to adopt either a "leadership" or "supervisory" approach. In-group relationships (or high LMX) are characterized by a leadership approach, which implies an informal partnership between the vertical dyad, based on a reciprocal interpersonal exchange relationship. Here, the leader can provide the member with: job latitude, open and honest communications, support for the member's actions, and greater influence in decision-making. The member can then reciprocate by contributing additional time and effort, commitment to the unit, and acceptance of greater responsibility. In contrast, the out-group relationship (or low LMX) is typified by a supervisory approach that utilizes the formal employment contract to assert influence. Out-group relationships are characterized by low levels of support, trust, interaction, and rewards (Graen & Cashman, 1975; Dienesch & Liden, 1986). Dansereau et al. (1975) noted that leaders must avoid the use of supervisory tactics with an in-group member, or they risk jeopardizing the mutually respectful nature of the high LMX relationship.

In their comprehensive review of LMX theory, Graen and Uhl-Bien (1995) outline four primary stages through which LMX theory and research has evolved. These stages include: (a) vertical dyad linkage and work socialization, with an emphasis on the

differentiated dyadic relationships (i.e., in-groups vs. out-groups); (b) LMX, with a focus on the relationship and its outcomes; (c) LMX interventions, with an emphasis on dyadic partnership building; and (d) expansion of dyadic partnership to group and network levels. The vast majority of research has been performed on the second stage, although increased attention has recently been given to the forth stage and the concept of "team-member exchange". To provide a historical perspective of the LMX construct, both the early vertical dyad linkage research (stage 1), as well as a recent meta-analytic review of research on LMX and organizational outcomes (stage 2), will be briefly reviewed in the following section. The main focus of the present paper's literature review and proposed hypotheses will be based on research examining exchange relationships and their outcomes.

Initial Research

As originally conceptualized (Dansereau et al., 1975; Graen & Cashman, 1975; Graen, 1976), LMX theory was labeled *vertical dyad linkage* (VDL) theory because of its emphasis on two-way vertical exchanges between leader and member. In order to test the VDL model, Dansereau, Graen, and Haga (1975) performed a quasi-experimental longitudinal study in an administrative housing division at a large university. Participants included 17 supervisors and 60 subordinates. Uniquely, this division had recently undergone a major reorganization that produced approximately 90% "new" leader-member dyads, defined as vertical dyads where at least one member was new to his/her position (Dansereau et al., 1975). This reorganization took place immediately prior to the

beginning of the academic year, and participants were interviewed four times at 1, 3, 6, and 8 months after reorganization.

Contrary to previous assumptions, the results of this study provided evidence that leaders typically develop heterogeneous relationships with subordinates; with only 15% of the units having either *all* in-group or out-group LMX relationships, and 85% of the units reporting a mixture of exchange relationships. In general, data analysis determined that in-group members received more supervisory attention than out-group members, were provided with higher levels of support, were given greater amounts of latitude in developing their roles, and were shown more consideration for their feelings than out-group members. The results also found that out-group members reported their superior as a greater source of job-related problems than in-group members. In addition, it was determined that there was significantly less role discrepancy between leader's expectations and member's performance for in-groups than for out-groups. Finally, it was found that in-group members spent considerably more time and energy performing, communicating, and administering activities than out-group members.

Although the result of Dansereau et al. (1975) provided preliminary support for the vertical dyad linkage approach, it was by no means conclusive. In an attempt to replicate these initial findings, Graen and Cashman (1975) performed a similar study on 109 vertical dyads from three departments within a large organization. This study duplicated many of the same techniques as utilized by Dansereau et al., including a series of four interviews over a nine-month period. Three new content domains were also considered, including: (a) communication activities; (b) bases of influence (expert,

referent, reward, bureaucratic, and coercive); and (c) dyadic loyalty (behaviors showing trust in leader) (Graen & Cashman, 1975). Another extension of this study was the use of two distinct procedures to determine leader-member exchanges, including a psychometric instrument and the VDL map method. The VDL map method required participants to map out each vertical working relationship within his/her unit, and then to classify each relationship as either effective, intermediately effective, or ineffective.

In general, the results of Graen and Cashman's (1975) study were highly supportive of the earlier findings of Dansereau et al. (1975). Consistent with the initial research, 15% of the units were found to have homogenous exchange relationships, compared to 85% of the units containing heterogeneous LMX combinations. Further, based on VDL mapping technique, it was determined that of the vertical dyads, 25% were high LMX (or high-negotiation latitude), 50% medium LMX, and 25% low LMX. The trichotomy produced by the VDL mapping was also found to account for more variance than the median dichotomy (or 50-50 split) that the psychometric scale produced (Graen & Cashman, 1975). In comparison to low and medium LMX groups, high LMX (or in-group) members were found to receive more support, consideration, influence in decision-making, and inside information. Leaders were found to use more referent and expert power with in-group and middle-group members, and more coercive power with out-group members. Finally, the results supported the hypothesis that in-group members would demonstrate the most loyalty behaviors, and that out-group members would exhibit the least.

Viewed in combination, the results of these two seminal studies provided initial support for the LMX model. As stated by Graen and Cashman (1975), the results "support the generalizability of the nature of these leader-member exchanges involving (as they do) member involvement in activities interlocked with the leader's distribution of positional resources and the nature of the support relationship" (p. 163). Yet, this research is not without critical flaws. Although the use of qualitative techniques (such as structured interviews) can be both useful and appropriate in early theory development and testing, these procedures do not allow for conclusive statements to be made. Further, many of the quasi-experimental methods used in these studies were questionable. For example, Dansereau et al. (1975) used a poorly defined concept of "negotiation latitude," based on a two-item scale administered during the first interview series, as the primary independent variable for the entire study. In addition, Graen and Cashman used a procedure called the VDL map method, without providing any justification of its theoretical background or information regarding its development. Fortunately, in the 25 years since these early pioneering studies, organizational scientist have conducted a plethora of research that has helped to both validate the principles of LMX theory as well as greatly expand professional understanding of the impact that interpersonal relationships have in the workplace.

Meta-Analytic Overview of LMX Research

Since the initial leader-member exchange research was performed in the mid-1970's, an extensive collection of research has been amassed to examine the relationship between LMX and a wide variety of individual and organizational variables. Recently,

Gerstner and Day (1997) conducted a meta-analytic review of LMX correlates, which, based on an exhaustive literature review, identified 79 LMX related research studies. The results of this meta-analytic procedure indicated a significant positive correlation between LMX and the following variables: supervisory ratings of performance, satisfaction with supervision, overall satisfaction, organizational commitment, role clarity, and member competence (Gerstner & Day, 1997). In addition, a significant negative relationship was found between LMX and turnover intentions as well as role conflict. (A summary of Gerstner and Days findings is provided in Table 1.) These results provide convincing and solid support for the beneficial organizational outcomes associated with positive leader-member relationships. As Gerstner and Day stated: "Overall, the results suggest that having a high-quality relationship with one's supervisor can affect the entire work experience in a positive manner, including performance and affective outcome" (p. 835).

Psychometric Measurement

As Dienesch and Liden (1986) noted, psychometric measurement of LMX was highly inconsistent and problematic in early LMX research. At least nine instruments have been used to measure LMX, including: the "Leader Behavior Description Questionnaire" (Graen, Dansereau, Minami, & Cashman, 1973); VDL mapping technique (Graen & Cashman, 1975); as well as 2, 4, 5, 7, 10, 12, and 14 item LMX scales (for review see Graen & Uhl-Bien, 1995). In addition, LMX has been measured from various sources, including the member's perspective, the leader's perspective, and a combined leader-member perspective. Since the mid-1980's, Graen, Novak, and Sommerkamp's (1982) seven-item LMX scale, labeled the *LMX-7*, has emerged as the most frequently

Table 1

Gerstner and Day's (1997) LMX Meta-Analysis: Number of Sample, Aggregate Sample Size, and Summary of Effect Sizes

Relationship	*k*	*N*	*d*+	*r*	*Corrected r*
Correlate					
Performance ratings (leader LMX)	12	1,909	0.91	.41	.55 a
Performance ratings (member LMX)	30	4,218	0.58	.28	.30 b
Objective performance	8	982	0.19	.10	.11 b
Satisfaction with supervisor	27	5,302	1.59	.62	.71 a
Overall satisfaction	33	6,887	1.03	.46	.50 a
Organizational commitment	17	3,006	0.75	.35	.42 a
Role conflict	12	3,728	-0.53	-.26	-.31 a
Role clarity	14	4,105	0.73	.34	.43 a
Turnover	7	856	-0.07	-.03	-.04 b
Turnover intentions	8	1,074	-0.58	-.28	-.31 b
Member competence	15	3,880	0.53	.26	.28 a
Construct issues					
Leader-member agreement	24	3,460	0.62	.29	.37 a
Leader-member reliability	22	3,329	2.40	.77	--
Member LMX reliability	69	13,885	3.25	.85	--

Note. Dashes indicate that the statistic could not be computed; *k* = number of studies included the relationship of interest; *N* = total number of individuals across the *k* samples; d+ = mean sample-weighted effect size; *r* = mean sample-weighted correlation; Corrected *r* = mean weighted correlation corrected for measurement unreliability; LMX = leader-member exchange. a = Correlations were corrected for unreliability of both LMX and criterion measures. b = Correlations were corrected for only unreliability of LMX measure. This table is adapted from "Meta-analytic review of leader-member exchange theory: Correlates and construct issues," by C.R. Gerstner and D.V. Day, 1997, Journal of Applied Psychology, 82, pp. 832-833.

used and reliable scale. Based on an extensive literature review, Graen and Uhl-Bien (1995) concluded that the LMX-7 was the most appropriate measure of the LMX construct because (a) it was specifically designed to only measure a single factor (as opposed to larger instruments measuring highly correlated multiple factors), and (b) consistently had the strongest internal consistency reliability. In addition, Gerstner and Day's (1997) meta-analysis review of LMX research determined that the LMX-7 had a higher Cronbach's alpha than the mean of all other LMX instruments; reporting an average LMX-7 member scale alpha of .89 and an average leader scale alpha of .78. Thus, the LMX-7 appears to have emerged as the most reliable psychometric measure of the LMX construct, and the member LMX scale generally has a better reliability than the leader LMX scale. Finally, Gerstner and Day recommended measuring LMX from both the leader and the member perspective, and calculating the leader-member agreement as an index of the data quality.

Dimensionality

Although early LMX research did not directly address whether LMX relationships were unidimensional or multidimensional, more recent theorizing has proposed that the LMX is best conceptualized as a multidimensional construct. Dienesch and Liden (1986) first addressed this issue, and postulated that three major dimensions characterize LMX relationships, including: (a) perceived contribution to the exchange; (b) loyalty; and (c) affect (the interpersonal attraction and mutual affections dyad members have for each other). Graen and Uhl-Bien (1995) provided a review of six studies that empirically tested Dienesch and Liden's multidimensional model, and reported mixed findings. In

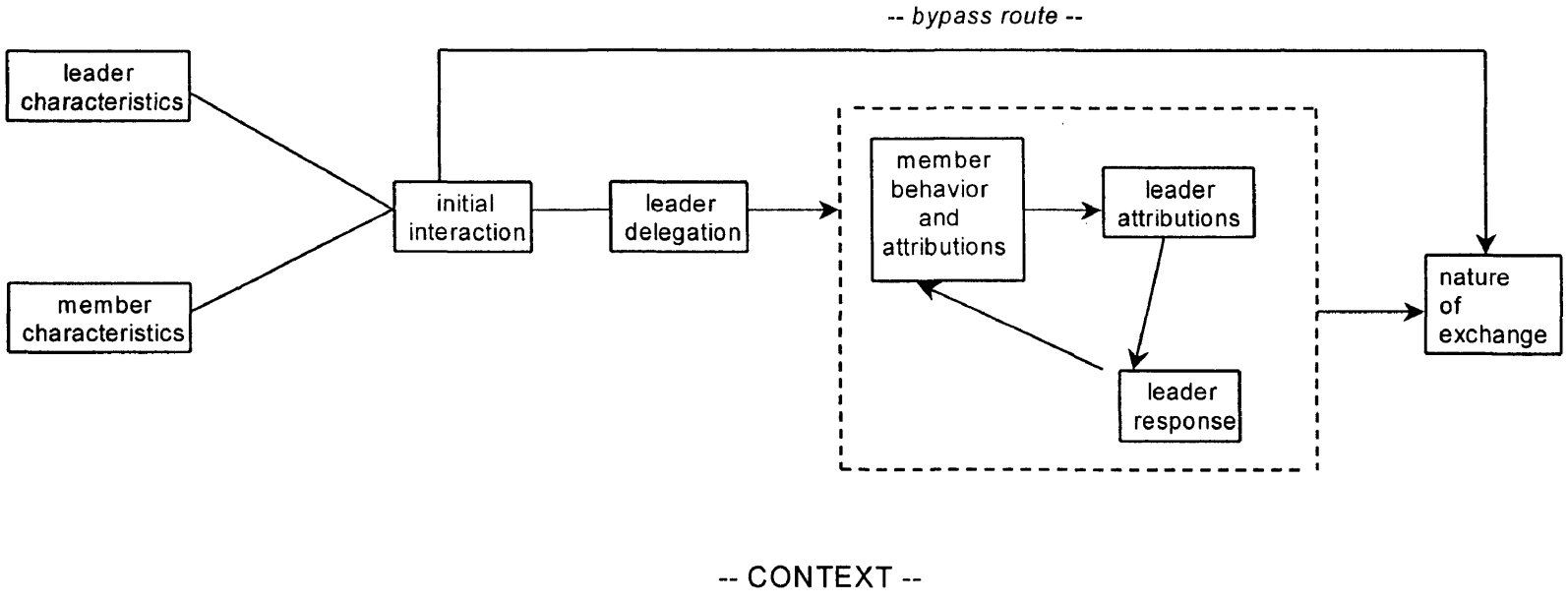
general, the results most strongly supported the existence of only one dimension, with single measure Cronbach's alphas in the .80-.90 range, and exploratory factor analyses finding just one primary dimension. Yet, some confirmatory factor analyses have supported the existence of multiple dimensions. Graen and Uhl-Bien concluded that the LMX construct does have multiple dimensions, which they suggest are best categorized as respect, trust, and obligation. Although these researchers speculate that the LMX construct is comprised of multiple dimensions, they believe that these dimensions are so highly correlated that they can be satisfactorily measured using the unidimensional LMX-7 measure.

Developmental Processes

Dienesch and Liden (1986) proposed an influential model of LMX development (see Figure 1). According to this model, both members of the vertical dyad bring to the relationship a unique set of *individual characteristics*, including: attitudes, physical characteristics, abilities, personality, age, experience, and newcomer/incumbent status (Dienesch & Liden, 1986). These individual characteristics inherently influence the *initial interaction* between a superior and subordinate, which is defined as the first time dyad members interact in their job positions (i.e., first impressions). Following the initial interaction, *leader delegation* is the second step, in which the leader delegates duties and assignments, both to outline the general job duties as well as to test the member on critical dimensions. The next major developmental process involves a behavior and attributional cycle. First, the *member behavior and attributions* stage occurs when the member responds to the leader's delegation of tasks and duties, and makes attributions

Figure 1

Dienesch and Liden's (1986) Model of the Leader-Member Exchange Developmental Process



Note. This figure is from "Leader-member exchange model of leadership: A critique and further development," by R.M. Dienesch and R.C. Liden, 1986, Academy of Management Review, 11, p. 627.

about the leader's choice of assignments (i.e., fair vs. unfair). Based on the member's actions and performance, the leader attempts to understand and interpret the member's behavior (*leader attribution*), which is subsequently followed by the *leader's response*. This behavior and attribution cycle continues during the early development phase, until finally the *nature of the exchange* is solidified. The entire developmental process is permeated and influenced by the *context* of the workplace environment. These authors postulate that the primary contextual factors related to LMX development include organizational policies and culture, the work group/unit composition, and the leader's power (Dienesch & Liden, 1986).

Dienesch and Liden (1986) also proposed an alternative process that may occur based on the outcome of the *initial interaction* stage. Here, a leader may *bypass* the usual behavior/attribution steps of the model and immediately decide on the nature of the exchange relationship. As the authors articulated: "If supervisors use a minimum of cues to automatically determine the type of exchange that will exist with members, the attributional aspects of the model are short-circuited and become irrelevant" (Dienesch & Liden, 1986, p. 628). Dienesch and Liden identified two conditions when the bypass route is most likely to occur. First, bypassing can happen when a member's individual characteristics are so salient that the leader makes immediate judgments about the member. They proposed that this form of bypassing is most likely to occur in cases of prominent leader-member differences, such as when preconceived prejudice influences the supervisor's LMX decision-making. Alternatively, this bypassing could occur when leaders are extremely impressed with a member's background or ability. The second and

related condition involves automatic versus controlled cognitive information processing. Here, the supervisor uses a minimum of cues and automatically determines the nature of the exchange relationship. Yet, Dienesch and Liden largely downplayed this condition due to the complex nature of relationship building, which, they argued, intuitively demands more conscious-based processing.

In conclusion, Dienesch and Liden (1986) propose that the bypassing route is relatively rare, and that most LMX exchanges develop based on the usual behavioral and attributional processes. Yet, this potential bypassing route represents a significant departure from traditional LMX theorizing, which seemed to implicitly assume that the nature of the exchange relationship is legitimately "earned" based on work-related behaviors and leader attributions. To date, little empirical research has been conducted to test the bypassing processes.

Summary of the LMX Construct

Leader-member exchange refers to the type and quality of interpersonal relationships that develop between a superior and subordinate. Empirical research has consistently found leader-member exchanges to be related with many positive workplace outcomes for in-group members, while out-group members received few advantages. Overall, the LMX-7 has been found to provide the most reliable measure of the construct. In addition, LMX is theorized to be multidimensional. Finally, exchange relationships are believed to develop based largely on work-related behaviors and attributional processes.

The following section will review research on the relationship between LMX and organizational as well as developmental variables. First, the literature on LMX and employee performance will be reviewed. Special consideration will be given to the discrepancy between LMX research that has utilized supervisory performance ratings versus objective performance measures. Second, the relationship between LMX and organizational citizenship behaviors (OCBs) will be examined, with an emphasis on the potential role of OCBs as a mediating variable between LMX and supervisory performance ratings. Third, research examining the impact of LMX on perceptions of organizational justice will be reviewed. Lastly, the similarity-attraction paradigm literature will be reviewed. In particular, the potential influence of gender, racial/ethnic, or attitude similarity on LMX development will be explored. Based on this literature review, specific research hypotheses will be proposed and a new conceptualization of LMX development will be presented.

Antecedents and Outcomes of Leader-Member Exchange

Employee Performance

The relationship between LMX and performance has been one of the most consistently researched components of LMX theory. The studies investigating the relationship between LMX and performance can be classified into two broad categories; those utilizing *objective performance* assessment (e.g., manufacturing output, sales volume, etc.) and those based on *subjective performance* (e.g., supervisor ratings of performance). Numerous studies have employed supervisory ratings to measure performance, with the results generally supporting a strong positive relationship between

this variable and LMX (Bauer & Green, 1996; Dunegan, Duchon, & Uhl-Bien, 1992; Graen, Wakabayashi, Graen, & Graen, 1990; Liden, Wayne, & Stilwell, 1993; Wayne & Ferris, 1990; Wayne, Shore, & Liden, 1997). In contrast, research that has examined the association between LMX and objective performance measures has received mixed results, with some studies reporting a significant positive relationship (Graen et al., 1982; Scandura & Graen, 1984), and others finding a nonsignificant correlation (Duarte, Goodson, & Klich, 1994; Vecchio & Gobdel, 1984).

Gerstner and Day's (1997) meta-analytic study on LMX confirms this general trend. Their extensive literature review found 42 studies that measured performance using supervisory ratings. These results determined a strong positive relationship between LMX and performance. In contrast, only eight studies were performed which applied objective performance ratings. Although this analysis indicated a statistically significant relationship between objective performance and LMX, the effect size was so small that the authors concluded that "its practical meaningfulness is questionable" (Gerstner & Day, 1997, p. 835).

An interesting perspective on the relationship between exchange quality and objective versus supervisory performance ratings was provided by Duarte, Goodson, and Klich (1994). These researchers studied the interaction between objective performance, LMX, and dyadic duration (subordinates' length of time with current supervisor) on supervisory performance ratings. This study examined 261 supervisor-subordinate dyads of a regional telephone company where objective performance was electronically monitored on a routine basis. In general, the results found no significant relationship

between LMX and objective performance, but a robust correlation between LMX and supervisory performance ratings. Specifically, Duarte et al. determined that supervisors provided high subjective performance ratings for all high LMX members, regardless of actual objective performance ratings or dyadic duration. In addition, supervisors' subjective performance ratings for low LMX employees were based on objective performance only when there was a short dyadic duration; supervisors gave high subjective performance ratings for low LMX employees when there had been a long dyadic duration, regardless of objective performance levels. Although not noted by Duarte et al., some support for these findings regarding the impact of dyadic duration is provided by Tsui and O'Reilly (1989). Based on a field sample of 272 superior-subordinate dyads, these authors found a significant relationship between subordinates' length of job tenure and supervisors' ratings of performance and liking.

Duarte et al. (1994) provided several possible explanations for the findings that supervisors gave low LMX members positive subjective ratings when there was a long dyadic duration, regardless of objective performance. First, they posited that the performance of members becomes less salient over time for long-term members. Second, the authors suggested that by giving higher performance ratings, supervisors might be affirming their belief that they can positively influence their subordinates' productivity. Lastly, Duarte et al. speculated that the process of long-term organizational socialization could serve to make the low LMX members appear more attractive to supervisors.

The implications of Duarte et al.'s (1994) findings are that supervisory ratings are most strongly influenced by the nature of the exchange relationship, followed by dyadic

duration, and *lastly* by objective performance. One possible explanation for these results could be that the electronic system that calculated objective productivity did not measure other important performance variables (such as customer satisfaction, work quality, etc.). Yet, the general findings that objective performance is of secondary importance to supervisory evaluations was supported by MacKenzie, Podsakoff, and Fetter (1991, 1993), who found that organizational citizenship behaviors were a significantly better predictor of supervisory ratings than objective performance. Overall, these results contradict general wisdom in the area of performance appraisal, which considers measures of objective performance and supervisory ratings to be fundamentally equivalent.

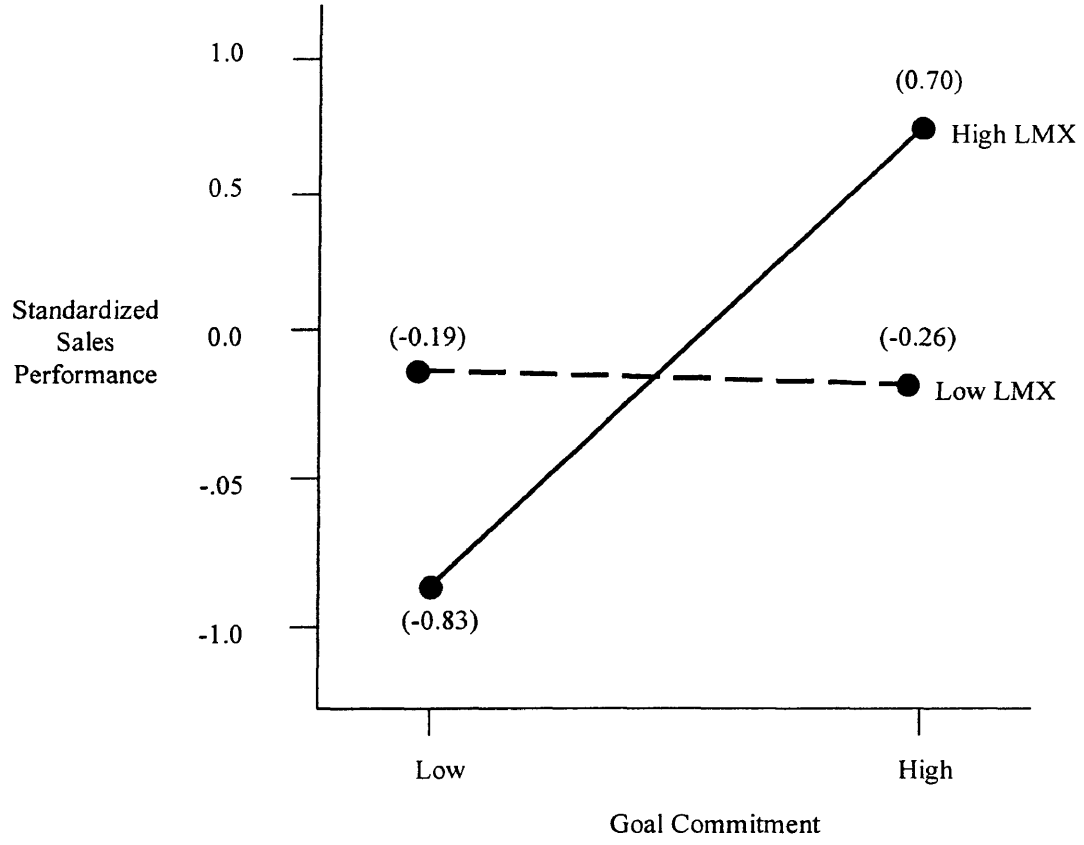
In a related vein, a recent study performed by Klein and Kim (1998) offers a unique perspective on LMX and performance outcomes. These researchers examined the influence of LMX, situational constraints, and goal commitment on performance. The data for this study were obtained from 59 salespeople who were employed at one of four branches of a retail organization that commonly utilized goal-based incentive programs. Participants for this study were measured on the following variables: LMX, situational constraints (or contextual factors beyond the control of employees), goal commitment (based on their current incentive program), and sales performance. Klein and Kim administered questionnaires to participants one week after the second quarter goals were announced to the salespeople. Following the end of this quarter, sales performance data were then obtained for all participants from company records.

The results of Klein and Kim's (1998) study found that LMX was negatively related to situational constraints. Although leader-member exchange alone was unable to significantly predict sales performance, goal commitment did predict sales performance. In addition, the regression analyses identified an interaction between LMX and goal commitment that significantly predicted sales performance. An interesting finding of this study was that, although goal commitment had no significant effect on sales performance for low LMX employees, goal commitment had a dramatic effect on sales performance for high LMX salespersons (see Figure 2). Specifically, low goal commitment/high LMX employees had the worst sales performance of any group, while high goal commitment/high LMX participants had the best sales performance of all groups. Low LMX employees showed an average level of sales performance regardless of goal commitment. Klein and Kim speculated that the low goal commitment/high LMX employees might have focused their attention on alternative areas unrelated to sales performance (i.e., creating displays, etc.) or on activities not formally required (i.e., nonspecific support given to the manager). The researchers concluded that "the results of such an orientation is a reduced level of personal sales performance that probably would not be tolerated in a lower-LMX employee" (Klein & Kim, 1998, pp. 93-94).

Could leaders develop different types of high exchange relationships that lead to *either* positive or negative organizational outcomes? Do some LMX relationships permit in-group members to perform at lower levels than would normally be tolerated by out-group members? This line of reasoning is a distinct departure from traditional LMX theory and research, which has only reported positive (or at worst neutral) organizational

Figure 2

Klein and Kim's (1998) Interaction: Relation between Goal Commitment and Sales Performance for High- and Low-LMX Employees[1]



Note. [1]High and low values of goal commitment and leader-member exchange were operationally defined as +1.0 and -1.0 standard deviations from the mean, respectively (p. 93). This figure is from "A field study of the influence of situational constraints, leader-member exchange, and goal commitment on performance," by H.J. Klein and J.S. Kim, 1998, Academy of Management Journal, 41, p. 93.

outcomes to high quality exchange relationships. One possible explanation for this phenomenon is that it is intuitively appealing and just makes good common sense that LMX *should* be related to positive outcomes. Thus, researchers findings inconsistencies in this area may have downplayed these findings, not submitted their research for publication, or their manuscripts may have been rejected by skeptical journal editors. Another possibility why past researchers failed to detect negative outcomes of high LMX is that few studies have employed objective performance ratings and/or goal commitment measures. Had Klein and Kim (1998) either used supervisory (as opposed to objective) performance ratings or not measured goal commitment, then they would not have discovered this unique interaction. Therefore, the relationship between LMX and goal commitment may be a key component to understanding the link between LMX and employee performance.

An extensive literature review for the present research revealed that no empirical studies have been undertaken to determine if high LMX relationships could lead to negative *as well as* positive organizational outcomes. As will be elaborated upon later, the present study proposes to replicate the unusual results of Klein and Kim (1998), and will develop a model to explain potential negative outcomes of high LMX under certain situations. The next section will focus on organizational citizenship behaviors, which may act as a mediating variable between LMX and supervisory performance ratings, and provide an alternate explanation for Klein and Kim's findings.

Organizational Citizenship Behaviors

As noted previously, Gerstner and Day (1997) determined that LMX generally has a strong relationship to supervisory ratings and a much weaker relationship to objective performance. One possible explanation for this phenomenon could be the influence of organizational citizenship behaviors (OCBs) on supervisory ratings. Organ (1997) has defined OCBs in terms of social contextual performance, or "performance that supports the social and psychological environment in which task performance takes place" (p. 95). Several theorists (Organ, 1988a; Settoon, Bennett, & Liden, 1996) have argued that OCBs are related to the norm of reciprocity from social exchange theory, whereby employees use OCBs as a social resource for receiving positive organizational outcomes. Organ (1988a) posited that because contextual restrictions (i.e., equipment limitations, interdependence on others, etc.) often bind the potential for objective performance outputs, employees are most likely to use OCBs, rather than increased levels of performance, in exchange for desired rewards (either interpersonal or material) from supervisors. In a recent literature review of the OCB construct, Organ (1997) substantiated this position in stating: "to the extent that 'rewards' follow from appraisals of performance, research... now strongly suggests that some forms of OCB might be just as likely as – if not more likely than – in-role performance to lead to monetary recompense" (p. 89).

OCBs and Performance Assessment. Do organizational citizenship behaviors exert influence on supervisory performance ratings even when objective performance assessment is readily available? To test this hypothesis, MacKenzie, Podsakoff, and

Fetter (1991, 1993) undertook a series of experiments to examine the effects of both objective performance and OCBs on supervisory ratings of performance. In order to obtain concrete measures of objective performance, these researchers studied 945 salespeople from five relatively diverse sales fields. The results across these samples were clear and consistent: (a) overall supervisory ratings were determined at least as much (and often more) by OCBs than by objective performance; and (b) the combination of OCBs and objective performance accounted for a substantial portion of variance in supervisory ratings of performance. This pattern of results has been subsequently supported across a number of studies. Podsakoff, MacKenzie, Pane, and Bachrach (2000) recently meta-analyzed 11 samples (including the aforementioned studies by MacKenzie et al.) that have measured the influence of OCBs and objective performance on supervisory ratings. These researchers found that overall, objective performance alone accounted for 9.5% of the variance in supervisory performance evaluations, OCBs accounted for 42.9% of the variance, and together objective performance and OCBs accounted for 61.2% of the variance in supervisory ratings. Podsakoff et al. concluded that "OCBs accounted for substantially more variance in performance evaluations than objective performance" (p. 537).

From a different perspective, Podsakoff and MacKenzie (1994) have also examined the broader impact of OCBs on organizational success. These researchers measured three aspects of OCB, including: *helping behavior* (which entails altruism, courtesy, peacekeeping, and cheerleading); *sportsmanship* (a willingness to tolerate less than perfect circumstances); and *civic virtue* (feeling concerned and responsible for the

life of the company). Similar to the research of MacKenzie et al. (1991, 1993), Podsakoff and MacKenzie utilized 839 insurance agents and collected ratings of objective sales performance, OCBs, and overall supervisory evaluations for each employee.

The results of this study were twofold. First, based on path analysis at the individual employee level, all three sub-scales of OCBs significantly predicted supervisory performance ratings. Specifically, helping behavior (standardized $\gamma = .55$, $p<.01$) had a much greater impact on managerial evaluations than sportsmanship (standardized $\gamma = .11$, $p<.01$) or civic virtue (standardized $\gamma = .09$, $p<.05$). Second, based on an aggregate unit level (n=116) path analysis, both the average within unit sportsmanship (standardized $\gamma = .30$, $p<.05$) and civic virtue (standardized $\gamma = .48$, $p<.05$) had a positive effect on overall unit performance; whereas helping behavior (standardized $\gamma = -.49$, $p<.05$) had a significant *negative* effect on unit sales performance (Podsakoff & MacKenzie, 1994). The finding that helping behavior reduces objective performance challenges the theory's implicit assumption that OCBs increase unit effectiveness (Organ, 1988b, 1997). Podsakoff and MacKenzie (1994) offered several possible explanations of this phenomenon: (a) that experienced agents spend too much time helping newcomers, (b) things intended to be helpful might sometimes in reality be not helpful, and (c) helping behavior may have negative effects in the short run but in the long run be positive. A more parsimonious explanation might be that these results are simply a sample-specific anomaly that may not generalize to other populations.

The results of MacKenzie et al. (1991, 1993) and Podsakoff et al. (2000) provide clear evidence that OCBs are at least as – and are likely more – influential in overall supervisory performance ratings than objective performance. In addition, Podsakoff and MacKenzie (1994) found evidence to suggest that although the OCB sub-dimensions of sportsmanship and civic virtue tend to increase unit effectiveness, helping behaviors significantly *decrease* unit performance. These general findings are directly relevant to the research of Klein and Kim (1998), who found that low goal commitment/high LMX employees had the worst sales performance of any group. Although not discussed by Klein and Kim, the results of MacKenzie et al., Podsakoff et al., and Podsakoff and MacKenzie could suggest that the low goal commitment/high LMX employees substituted OCBs (specifically helping behaviors) for actual objective performance, thereby maintaining a positive image (or high LMX relationship) with their supervisors.

OCBs and LMX. Based on a similar logic, it might be likely that members with a high exchange relationship with their supervisor may reciprocate with OCBs, which have been shown (MacKenzie et al., 1991, 1993; Podsakoff et al., 2000) to exert a powerful influence on the leader's subjective perceptions of the employee's performance. The strongest support for this notion comes from a study performed by Wayne, Shore, and Liden (1997). Based on a path analysis of 252 superior/subordinate dyads, these researchers found that LMX significantly predicted both subjective performance ratings and OCBs, and that OCBs were a strong predictor of performance ratings. In addition, Wayne et al. – as well as a recent meta-analysis of this and five other studies examining

these variables (Podsakoff et al., 2000) – found a significant positive correlation between LMX and OCBs.

In a similar vein, Settoon, Bennett, and Liden (1996) examined the effects of two levels of social exchange – LMX (dyad level) and perceived organizational support (organizational level) – on OCBs (defined specifically as helping behaviors), supervisory ratings of in-role behavior, and organizational commitment. Based on 124 hospital workers, these researchers found that: (a) perceived organizational support was significantly related to organizational commitment but not OCBs or supervisory ratings; and (b) that LMX was correlated with OCBs and supervisory ratings but not organizational commitment. As Settoon et al. noted, these results suggest that the underlying processes of employee attitudes, behavior, and social exchanges may be more complex than originally believed.

The present study proposes that OCBs may be a key component in understanding Klein and Kim's (1998) findings that some high LMX members performed significantly worse than low LMX employees. Specifically, these poorly performing high LMX employees may have used OCBs to make-up for substandard objective performance. In other words, OCBs (and not objective performance) may be an important mediator in the relationship between LMX and supervisory performance ratings. The next section will examine the association between LMX and perceptions of organizational justice, as well as the impact these factors have on OCBs and other important organizational outcomes relevant to the present study.

Organizational Justice

Another vein of research, recently undertaken, examines the relationship between leader-member relations and organizational justice variables. The construct of organizational justice includes several dimensions. *Distributive justice (DJ)*, based on equity theory (Adams, 1965), emphasizes the perceived fairness of outcome distributions (e.g., equity of salary increases/decreases, promotional decisions, etc.) . In contrast, *procedural justice (PJ)* focuses on perceptions of fairness toward the procedures and policies used to make decisions (e.g., consistently applying organizational policies in an unbiased manner; allowing employees to provide input before decisions are made, etc.) (Greenberg, 1990). More recently, the concept of *interactional fairness (IF)* was proposed, which addresses the perceived fairness of interpersonal treatment and communication (e.g., treating employees with respect and dignity; carefully explaining the rational for decisions to effected individuals, etc.) (Bies & Moag, 1986; Greenberg, 1990).

One of the most well researched phenomenon in last quarter century of organizational justice research is the relationship between distributive and procedural justice. In order to better understand and synthesize the findings from this broad research area, Brockner and Wiesenfeld (1996) analyzed the results of 45 independent samples that examined both DJ and PJ variables. The results of this analysis were twofold. First, it was determined that high procedural justice can mitigate the negative effects of low distributive justice (also known as the "process effect"). Conversely, it was found that high DJ can reduce the negative impact of low PJ (or the "outcome effect"). Although

Brockner and Wiesenfeld were not the first researchers to note the existence of the process and outcome effects, their aggregate level statistical analysis allowed them to ascertain the consistency of these effects across research samples, as well as to more definitively determine that the process effect is generally more robust and consistent than the outcome effect. These results suggest that people have the strongest and most negative reactions when both DJ and PJ are low. Assuming that organizations have finite financial resources and thus are restricted in the level of outcomes that they can provide employees (DJ), these general findings suggest that improving employees' perceptions of procedural fairness could be a beneficial technique for sustaining worker motivation and morale.

Although the relationship between DJ and PJ had become fairly canonized in the justice literature, much less certainty surrounds the distinction between PJ and IF. Following the introduction of interactional fairness, much theoretical ambiguity and discord developed regarding the interrelationship between, and independence of, the IF construct from PJ. Fortunately, a recent meta-analytic review by Colquitt, Conlon, Wesson, and Yee Ng (2001) has provided needed clarification in this area. Based on an extensive literature search over the last quarter century, Colquitt et al. examined 183 empirical studies and determined that the construct of interactional fairness is best represented by two distinct forms of interpersonal treatment, including *interpersonal justice* and *informational justice*. The concept of interpersonal justice denotes the extent to which people are treated with respect, dignity and politeness by authority figures enacting procedures or distributing valent outcomes. In contrast, informational justice

emphasizes the explanations given to people and how information is conveyed about relevant procedures and/or the distribution of outcomes. These researchers concluded that "procedural, interpersonal, and informational justice have different correlates, and measuring the three separately allows for further differences among the dimensions to be examined (Colquitt et al., 2001, p. 37). From a psychometric perspective, additional support for this distinction has been provided from two studies conducted by Colquitt (2001). These factor analytic studies, based on 301 undergraduate students and 337 automobile manufacturing employees, found distinct factor loading structures for distributive, procedural, interpersonal, and information justice scales.

Based on recent research findings (Colquitt, 2001; Colquitt et al., 2001) as well as the logical benefits of the interpersonal vs. information justice division for LMX research, the present study will conceptualize procedural, interpersonal, and information justice as distinct constructs. Yet, due to the newness of these constructs in the justice literature, most research reviewed herein is based on the earlier more omnibus concept of interactional fairness. The next subsection will review the literature that has examined how perceptions of justice are related to employee OCBs, which are believed to be a likely outcome of high procedural, interpersonal, and informational justice.

Justice and OCBs. Organizational justice has been an important theme in OCB theory since the early development of the OCB construct. Organ (1988b) stated that: "perceived fairness is a particularly salient attribute of the exchange relationship between individuals or between an individual or group and a larger entity, such as an organization" (pp. 67-68). He posited that due to their discretionary nature, the exchange or

withholding of OCBs is a more flexible means of reciprocity/redress when reacting to perceptions of justice than formally prescribed job duties and requirements (Organ, 1988a, 1988b). In a recent review of theory and research examining the relationship between justice and OCBs, Greenberg (1993) noted two major conceptual perspectives of this phenomenon. The most common viewpoint of this relationship is the "altruism" perspective, where people behave benevolently toward an organization when they believe that they are being fairly treated, and vice versa. In other words, people *react* to perceptions of justice with OCBs. Alternatively, other theorists support the "instrumentality" viewpoint, where employees *proactively* exhibit OCBs in order to gain valued rewards, and withhold OCBs when organizational procedures do not reward these behaviors. Although both the altruism and instrumentality perspectives emphasize social exchange processes, the altruistic view seems more intuitively consistent with LMX theory, which accentuates the importance of mutual trust, honestly, and communication.

In an attempt to gain a more complete understanding of how justice variables relate to OCBs, Konovsky and Pugh (1994) specifically examined the effects of DJ, PJ, and a "trust in supervisor" variable on OCBs. Based on 475 hospital employees, the results determined that trust in supervisor moderated the positive relationship between procedural justice and OCBs. Distributive justice was not significantly related to the trust in supervisor or OCB variables. These findings are consistent with a literature review performed by Greenberg (1993), which concluded that procedural justice is generally a better predictor of OCBs than distributive justice. Greenberg postulated that one potential explanation for this phenomenon is that procedural injustice may be perceived

as a long-term systemic flaw in an organization; whereas employees view distributive injustice as a more unique and short-term violation. Thus, individuals will be less likely to exhibit OCBs if they perceive an organization as inherently unfair than if they believe a justice violation was a one-time anomaly.

In a similar vein, Moorman (1991) extended the knowledge in this area by examining the relationship between interactional fairness and OCBs. In this field study of manufacturing workers, Moorman tested 225 supervisor/subordinate dyads on DJ, PJ, IF, and OCBs (including altruism, courtesy, sportsmanship, conscientiousness, and civic virtue). The results of this study found that as a whole, the combined justice variables significantly predicted OCBs. Yet, when the justice scales were separated, only interactional fairness significantly predicted OCBs. Specifically, IF predicted all OCB categories except civic virtue, while DJ and PJ were not significantly related to any of the OCBs. Ancillary support for Moorman's findings have recently been provided by Masterson, Lewis, Goldman, and Taylor (2000), who examined the relationship between PJ, IF, LMX and OCBs. Uniquely, these researchers made a distinction between OCBs directed at supervisors (including altruism, courtesy, and conscientiousness dimensions) and OCBs directed at the organization (including items representing the civic virtue dimension). The results of this study, based on 651 university employees, found that supervisor-directed OCBs were significantly related to IF but *not* PJ, while organization-directed OCBs were associated with both PJ and IF. Finally, this pattern of results has been bolstered by Colquitt et al.'s (2001) aforementioned meta-analysis, which

determined that supervisor-directed OCBs were mostly strongly correlated with interpersonal and informational justice followed by PJ and lastly DJ.

In summary, the theorizing of Organ (1988a, 1988b) and Greenberg (1993), as well as the research of Konovsky and Pugh's (1994), Moorman (1991), Masterson et al. (2000), and Colquitt (2001) are unanimous is their agreement that organizational justice is an important predictor of OCBs. In particular, most research shows that interactional fairness seems to have a stronger relationship with OCBs (specifically altruism, courtesy, and conscientiousness OCBs) than procedural and distributive justice (Colquitt, 2001; Masterson et al., 2000; Moorman, 1991). As Moorman stated: "perceptions of the fairness of the procedures used to determine outcomes may rise or fall depending only on the manner in which those procedures are enacted" (p. 852). One explanation of Konovsky and Pugh's findings of the importance of PJ to OCBs (which appears to contradict other research in this area) is the lack of conceptual agreement on the PJ versus IF constructs. As Greenberg (1990) noted, a major limitation of justice research is the lack of standardization of psychometric instruments to measure justice variables. Therefore, since Konovsky and Pugh did not specifically measure IF, it is possible that their PJ instrument may have also been detecting some of the same components measured by Moorman's and Masterson et al.'s IF instrument. The following subsection will move beyond OCBs to examine the relationship between organizational justice and LMX.

Justice and LMX. The concept of "organizational contracts" is uniquely relevant to both LMX and organizational justice. Rousseau and Parks (1993) conceptualized organizational contracts on a continuum, with *transactional contracts* on one end and

relational contracts on the other. From this perspective, transactional agreements are "short-term monetizable agreements with limited involvement of each party in the lives and activities of the other" (Rousseau & Parks, 1993, p. 10). In contrast, relational contracts are generally long-term, open-ended, and involve the exchange of socioemotional elements. Although transactional contracts can be simply characterized as pay for performance arrangements, relational contracts often evoke feelings of loyalty and long-term commitment. From the perspective of LMX theory, transactional contracts are conceptually similar to low exchange relationships, whereas relational contracts are akin to high LMX relations. Because only a select group of employees generally develop high LMX relations with their supervisor, other employees must settle for low LMX (or transactional) agreements. This scarcity of resources is likely to evoke feelings of organizational *injustice* for employees who are denied access to high exchange (or relational contract) arrangements.

In an attempt to better understand the association between organizational fairness and leader-member exchange, Cleyman, Jex, and Love (1995) performed a study to explore the relationship between LMX and employee intentions to file grievances. Uniquely, this study measured supervisor-subordinate information exchange, a sub-construct of LMX theory, which specifically examines the quality of communication in the relationship. This measure was chosen in part because of prior research which had shown that communication variables, similar to those found in high quality information exchange relationships, can positively effect perceptions of procedural justice (Cleyman et al., 1995). Cleyman et al. tested 125 unionized blue-collar employees at a large

automotive plant. All participants were measured on their current supervisor-subordinate quality of information exchange as well as their past history of filing grievance complaints (ascertained by company records). In addition, based on their current supervisor/subordinate relationship, subjects were asked to respond to eight hypothetical scenarios and then rate the likelihood that they would file a grievance complaint for each vignette. The results of regression analysis determined that even after controlling for an employee's prior history of filing grievance complaints, the quality of information exchange significantly predicted intentions to file grievance complaints. Although the results do support the proposed hypothesis, the findings of Cleyman et al. should be viewed as tentative due to their employment of hypothetical and unnatural vignette techniques.

Mansour-Cole and Scott (1998) conducted a longitudinal study that measured LMX, commitment, procedural fairness, and distributive justice both before and after major company layoffs occurred. The researchers measured 217 research and development professionals on the aforementioned variables 13 months prior to a series of layoffs; 189 of the original sample were again tested two months after the layoffs; and 78 employees who had participated in the previous two waves of testing were measured a third time, approximately 24 months after the layoffs occurred. The results of this analysis determined that between both the first/second and first/third testing administrations, LMX was positively correlated with initial levels of commitment (based on scores from the first testing wave), procedural fairness, and distributive justice. In addition, the study found employee perceptions of PJ were significantly higher if the

employees were originally informed about the layoffs from their immediate supervisor rather than from another source, and that this difference was stronger for high LMX employees than for low LMX employees. Mansour-Cole and Scott concluded that the relationship-based contract that is characteristic of high leader-member exchanges served to increase members' expectations about leaders' openness and honesty. Cropanzano and Prehar (2001) have recently postulated that the justice standards of organizational contracts are fluid and changing in nature, so that what may be perceived by employees as fair at one time may be perceived as unfair at a later date, or vice versa. The results of Mansour-Cole and Scott may suggest that the justice perceptions of relational contracts are more enduring than those transactional based contracts.

Tansky (1993) also performed a field study to examine the relationship between LMX and the general construct of organizational fairness. Based on two samples (n=75 and 55) of non-unionized employees, Tansky found a significant relationship between LMX and organizational fairness. Although these results should be viewed with caution due to the use of a three-item omnibus justice measure and the small sample size of this study, the results do lend some support to the general findings of Mansour-Cole and Scott (1998).

In order to obtain a more complete understanding of the relationship between LMX and both procedural and interactional justice, Masterson, Lewis, Goldman, and Taylor (2000) conducted a field study on 651 university employees. Uniquely, these researchers conceptualized a distinction between the employee-supervisor relationship (or LMX) and the employee-organization relationship, which they labeled *perceived*

organizational support (POS). The dependent measures for this study included performance (as measured by supervisor ratings), job satisfaction, intentions to quit, organizational commitment, and both supervisor and organization-directed OCBs. Masterson et al.'s major thesis was based on an "agent-system" model, which asserts that IF will be a stronger predictor of agent (or supervisor) reference outcomes than system (or organization) referenced outcomes (Colquitt et al., 2001). Specifically, these researchers hypothesized that: (a) LMX would mediate the relationship between IF and supervisor-related dependent variables (including performance, job satisfaction, and supervisor-directed OCBs); and (b) POS would mediate the relationship between PJ and organization-related DVs (including intentions to quit, organizational commitment, and organization-directed OCBs). Based on structural equation modeling, Masterson et al. found broad support for their hypotheses. In other words, the results indicate the relationship between employees perceptions of IF and supervisor-related outcomes is mediated by LMX, while the link between PJ and organizational-related outcomes is mediated by POS.

Although not addressed in Masterson et al. (2000), Scandura (1999) recently proposed an alternative model of justice and LMX. In this theoretical paper, Scandura asserts that LMX and interactional fairness interact to determine the nature of the LMX relationship. Once the LMX relationship is formed, she posits that PJ mediates the relationship between high LMX and performance, while DJ mediates the relationship between low LMX and performance. Although this theory appears to contradict the relationship between justice and LMX proposed by Masterson et al., there was a

significant interrelationship between nearly all variables in Masterson et al.'s study and they conceded that other models could also fit the data equally well. Therefore, the exact nature of the relationship between LMX, justice, and outcome variables cannot yet be concluded. Clearly, additional research is needed to better understand the interrelationship of these constructs.

The research of Cleyman et al. (1995), Mansour-Cole and Scott (1998), Tansky (1993), and Masterson et al. (2000) provide initial support for the postulate that LMX is positively related to perceptions of organizational justice. In particular, Masterson et al.'s recent findings that both interactional fairness and high LMX are related to positive outcomes at the supervisory level seems especially promising. In addition, the concepts of procedural, interpersonal, and information justice may be relevant to the results of Klein and Kim (1998), whose findings suggest that some high LMX members are allowed to perform significantly below minimally accepted standards which low LMX employees are required to maintain. This situation (low goal commitment/high LMX group) might likely lead to more strongly negative perceptions of justice for low LMX members than would occur when high LMX employees perform above the levels of low LMX members (high goal commitment/high LMX group).

Heretofore, the literature review has focused on employee performance, OCBs, and organizational justice, which are generally conceptualized as key outcomes of high-quality LMX relations. Yet, an understanding of this construct is incomplete without adequate consideration of possible antecedents of LMX. One likely antecedent of LMX development is leader-member similarity. The influence of dyad similarity on

interpersonal attraction has been a widely studied concept in social psychology. The following section will review research on the similarity-attraction paradigm, with special emphasis on the few empirical studies and theoretical papers that have considered the link between similarity and LMX. This review will conclude with a discussion of how the association between dyad similarity and LMX development may have been an important factor in the unique findings of Klein and Kim (1998).

Similarity-Attraction Paradigm

Since the early 1960's, the similarity-attraction paradigm has been a well-studied theory of social psychology (Berscheid & Walster, 1969; Byrne, 1971). The basic premise of this theory is that people tend to like and be more interpersonally attracted to others who are similar to themselves. A number of researchers have extended the similarity-attraction paradigm to a variety of workplace variables, including: race (Mobley, 1982; Schmitt & Lappin, 1980); gender (Hamner, Kim, Baird, & Bigoness, 1974; Tsui & O'Reilly, 1989); attitudes (Baskett, 1973); and values (Steiner & Dobbins, 1989; Turban & Jones, 1988). The general trend of these findings is that supervisor-subordinate similarity increases performance appraisal ratings and leads to positive outcomes for subordinates (i.e., promotions, pay raises, etc.).

Gender similarity. Research examining the effects of gender similarity on performance appraisals appears to be generally inconsistent. Tsui and O'Reilly (1989) examined the impact of gender similarity on 272 middle-management superior/subordinate dyads. Their results indicated that subordinates of mixed-gender dyads received significantly lower performance evaluations and experienced greater role

ambiguity than the subordinates of same-gender dyads. In a similar vein, Pulakos and Wexley (1983) studied the effects of gender on 171 manager/subordinate dyads, and found that gender-similarity significantly increased subordinate job evaluations. Yet, the results of Tsui and O'Reilly (1989) and Pulakos and Wexley (1983) have been contradicted by other researchers. Neither Schmitt and Lappin (1980) (N=64 dyads) nor Tsui and Gutek (1984) (N=295 dyads) found a significant relationship between gender-similarity and subordinate performance ratings. Further, based on a sample of 1,035 superior/subordinate dyads in a field setting, Mobley (1982) also found gender similarity and performance evaluations to be unrelated. In general, the empirical evidence on gender similarity and performance ratings outcomes remains contradictory and inconsistent. However, all of these studies were conducted on highly specific samples, based on jobs representing a wide range of stereotypical masculine/feminine characteristics (i.e., manufacturing, education, finance). Thus, these results could potentially be attributable to extraneous factors that were not accounted for in the research designs (i.e., social desirability, gender schemas, etc.), and that would not generalize to all workplace settings.

Research in the LMX domain that has examined the relationship between superior/subordinate gender diversity and the development of exchange relationships has also been largely discrepant. Green, Anderson, and Shivers (1996) examined the effects of demographic variables on LMX and work attitudes. Based on a sample of 208 public library workers (where 93% of subordinates and 67% of supervisors were female), the results determined that gender was significantly related to leader-member exchange, with

mixed-gender dyads experiencing lower LMX relations. Similar results were obtained by Duchon, Green, and Taber (1986), who studied LMX development in 427 Junior Achievement students working in a variety of industries. These researchers found that vertical dyad gender compatibility was significantly related to subordinate in-group LMX status. Yet, the findings of Green et al. and Duchon et al. are contradicted by the results of Bauer and Green (1996). These researchers performed an eight-month longitudinal study, examining 205 recent college graduates and their superiors. The results of this study found that gender similarity was unrelated to either LMX or performance evaluations.

Thus far, the few empirical studies that have examined the relationship between LMX and gender similarity have been inconsistent. Yet, these results should not be over generalized due to the limited number of sample population that have been tested. Considering the predominance of males in leadership positions in our society (Bem, 1993; Eagly & Johnson, 1990), *if* gender-similarity *is* related to LMX, then this could have serious workplace implications; namely, that women are generally disadvantaged in their potential to develop high LMX relationships with superiors. Clearly, this is an important area that needs additional research.

Racial/ethnic similarity. Another variable that has received much attention in the similarity-attraction literature is racial/ethnic similarity. Studies by Hamner et al. (1974) ($N = 36$) and Schmitt and Lappin (1980) ($N = 64$) are representative of laboratory research in this area. Both studies utilized videotapes of both African American and Caucasian actors in simulated workplace environments displaying various levels of

productivity, and had participants provide subjective performance ratings based on this video. These researchers found that participants (both black and white) rated actors of the same race significantly higher than different-race actors. Yet, the results of Hamner et al. and Schmitt and Lappin are partially contradicted by Mobley (1982), who performed a field study on 1035 blue-collar workers. His results ascertained that whites were rated significantly higher than blacks, but failed to find a rater by ratee interaction. In an attempt to statistically summarize the research in this area, Kraiger and Ford (1985) performed a meta-analysis based on 74 studies (N = 17,159) of ratee race effects in performance evaluations. The results of this analysis determined the following: (a) both white and black raters gave significantly higher ratings to members of their own race; (b) ratee race effects were generally more robust in field settings than in laboratory studies; and (c) the saliency of minorities in the workplace moderates performance ratings, with high conspicuity (i.e., few minority employees being represented) serving to decrease supervisory ratings, and vice versa (Kraiger & Ford, 1985). In general, these findings provide solid support for the extension of the similarity-attraction paradigm to racial/ethnic variables.

Although numerous studies have examined the effect of racial similarity on supervisory performance ratings in general, a comprehensive literature review could find no LMX research which has specifically examined the effects of race on exchange relationships. Yet, some preliminary theories have been developed to predict the effects of diversity on LMX. Scandura and Lankau (1996) proposed a developmental model of LMX for diverse leader-member dyads. As the authors noted, LMX research has

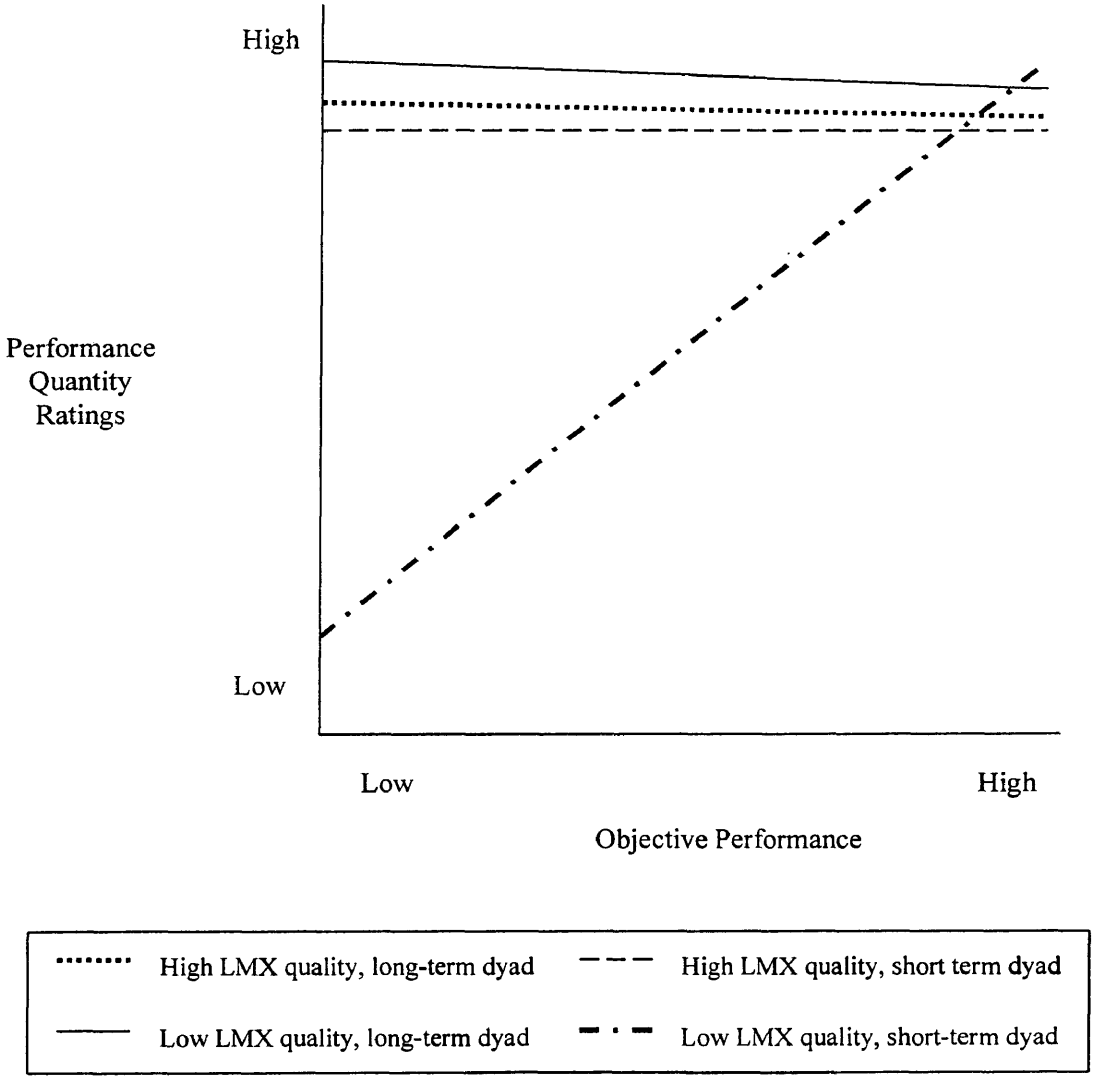
virtually ignored the relationship between vertical dyads of diverse gender and/or ethnicity and leader-member exchanges. As proposed by Scandura and Lankau, when *leader-member diversity* occurs, both *social psychological processes* and *contextual influences* moderate *LMX dyad development,* which in turn ultimately influence individual, dyadic, and organizational *outcomes* (see Figure 3). From this perceptive, social psychological processes include interpersonal skill, communication ability, self-knowledge, and cultural competence. Contextual influences consist of organizational support for diversity, group/organizational composition, economic environment, and organizational culture/climate. Scandura and Lankau articulated the potential implications of this model as follows:

> In the context of LMX, the leader often possesses characteristics that are congruent with the majority of individuals within the organization, and the member possesses characteristics that would categorize him/her socially as a minority-group member. Hence, it is more likely that the social categorization process will operate in a negative manner for the member in a diverse leader-member relationship and that this may affect both the role development process and the benefits that are known to result from a high quality relationship with the supervisors, such as higher performance ratings and career mobility. (p. 253)

In general, Scandura and Lankau's developmental model of LMX for diverse leader-member dyads does not seem to contradict the developmental model proposed by Dienesch and Liden (1986). Future synthesis of these models could provide a more complete understanding of the LMX developmental process.

Figure 3

Duarte et al.'s (1994) Interaction: Performance Quantity Ratings as a Function of Objective Performance, Leader-Member Exchange, and Time



Note. This figure is from "Effects of dyadic quality and duration on performance appraisal," by N.T. Duarte, J.R. Goodson, and N.P. Klich, 1994, Academy of Management Journal, 37, p. 512.

In addition to Scandura and Lankau (1996), Chen and Van Velsor (1996) have also identified leader-member exchange theory as a promising medium for exploring diversity leadership issues. In summary, it seems intuitively logical that, consistent with research on the association between supervisor/subordinate race similarity and performance evaluations (Kraiger & Ford, 1985), racial/ethnic diversity within leader-member dyads would play an influential role in LMX relational development.

Attitude/value similarity. The effects of perceived similarity of attitudes is another area that has received empirical attention in the similarity-attraction domain. An early study by Byrne (1961) examined the relationship between attitude similarity and interpersonal attraction using 64 undergraduate participants. The results of this research found that participants rated strangers with similar attitudes as being more interpersonally attractive than persons with dissimilar attitudes. In addition, Byrne discovered that strangers with similar attitudes were judged to have higher levels of intelligence, current event knowledge, and morality. Partial support for Byrne's attitude similarity findings is provided by Baskett (1973), who extended this research to the area of personnel selection. Based on a sample of 51 undergraduate students, Baskett found that although attitude similarity did not significantly affect participants' hiring recommendations for mock applicants, it did influence their recommendations for starting salary. Additionally, field studies by Turban and Jones (1988) (N=155 dyads) and Pulakos and Wexley (1983) (N=171 dyads) found that perceived similarity was significantly related to positive subordinate performance evaluations. Thus, the research findings in this area indicate that perceived attitude similarity is generally related to more positive rater evaluations.

In the realm of LMX research, several studies have been performed to determine the relationship between perceived attitude and/or value similarity and exchange quality. Research in this area generally examines employee *perceptions* of attitude/value similarity with their supervisor (and vice versa), as opposed to *actual* attitude/value similarity, typically assessed by comparing the responses of both dyad members to detailed attitude and value surveys. Liden, Wayne, and Stilwell (1993) examined the relationship between perceived similarity (including values, attitudes, and problem solving) and LMX. Based on a sample of 166 newly hired employees and their supervisors, these researchers found that perceived similarity was significantly predictive of high LMX (as measured by members, but not leaders). Engle and Lord (1997) employed a similar measure of perceived similarity, and found, based on a sample of 76 leader/member dyads in an electric company, that perceived similarity was significantly related to LMX (as measured by both leaders and members). Further, Townsend and Jones (2000) have also reported a significant association between perceived similarity and LMX (as assessed from both supervisors and subordinates), based on a sample of 210 full-time employees from diverse fields.

In addition, research by Steiner and Dobbins (1989) provides partial support for the hypothesized relationship between LMX and value similarity. Although these researchers failed to find a significant association between work values and LMX (defined as negotiating latitude in this study), they did determine that supervisors were more likely to attribute past high performance by subordinates to internal factors (such as

ability and effort) when there was a perceived congruence between work values. Steiner and Dobbins concluded that the relationship between work value similarity and supervisory attributions of subordinate performance may be a key component in LMX development.

From a multicultural perspective, several researchers have examined the relationship between LMX and value congruence across cultures. For instance, Steiner (1988) studied the impact of value congruence on LMX in both American and French samples (total N=371), while Ashkanasy and O'Connor (1997) have examined these variables on an Australian (N=160) sample. Although the results of these projects are complex and beyond the scope of the present review, in general, both studies found that perceived value similarity was significantly related to exchange quality.

Finally, in order to obtain a more complex understanding of this phenomenon, Dose (1999) recently examined the relationship between demographic similarity (e.g., gender and work experience), both perceived *and* actual value similarity (including work environment preferences, work ethic, and work values), and LMX. The sample for this research consisted of 198 resident advisors and dormitory hall directors at a large Midwestern university. The results of hierarchical regression analysis determined that neither demographic (entered first) nor actual values (entered second) significantly predicted LMX, while both perceived work ethic and values similarity (both entered in the third step) did significantly predict the exchange relationship. Thus, these findings suggest that it is the perception – and not the reality – of similarity that is the essential

antecedent of leader-member relations. Although Dose's findings generally contradict the research of Duchon et al. (1986) and Green et al. (1996), who found that gender similarity was significantly related to LMX, these researchers did not included perceived attitude and value similarity as a variable, so the analyses are not directly comparable.

In summary, it is clear that the similarity-attraction paradigm can exert a powerful and influential role in the development of exchange relationships. This perspective is consistent with Dienesch and Liden's (1986) developmental model of LMX, which proposed a bypass route of the usual behavioral/attributional process that can occur as a result of salient leader/member similarities or dissimilarities. The present study proposes that Klein and Kim's (1998) results – which found that some high LMX members performed significantly below the level of low LMX employees – may be based on initial LMX development. Specifically, if dyad similarity is a key factor in the development of some high exchange relationship, then high LMX employees may have special unearned privileges that allow them to perform below minimally acceptable standards. The following section will attempt to integrate the specific research on outcomes and antecedents of LMX reviewed thus far into a new conceptual model of leader-member exchange.

Developmental Processing Model of LMX and Proposed Hypotheses

The present study will attempt to replicate the unexpected results of Klein and Kim (1998), who found that, based on goal commitment, high LMX employees performed either above or below the levels of low LMX employees (see Figure 2). In addition, at a more broad level, this study will attempt to better understand and extend our

knowledge of key processes involved in the development of LMX relations. Diverging from past conceptualizations of LMX, which have construed LMX as being a universally positive force in the workplace, this study specifically hypothesizes that high exchange relations may have *either* positive or negative organizational outcomes. Further, this study postulates that the fundamental underlying difference between positive versus negative high LMX is rooted in the developmental processes in which the relationship evolves.

One area that has been largely ignored in LMX developmental theorizing is the distinction between *automatic* versus *conscious* social information processing. Some key distinctions between these processes include intentionality, controllability, awareness, and efficiency (Bargh, 1996). Thus, automatic social information processing tends be unintentional, uncontrollable, lack awareness, and efficient, while the opposite is generally true for conscious-based processing. Although a comprehensive review of this broad interdisciplinary field goes beyond the scope of the present discussion, suffice it to say that a large body of research has determined that much of day-to-day social decision-making occurs based on highly efficient – yet more error-prone – automatic processes (e.g., the use of heuristics and reliance on attributional biases). As Bargh noted in a recent review of this empirical literature:

> Much social information processing has been discovered to be more or less automatic: the understanding of behaviors in trait term, causal attributions of another's behavior, judgments about the self and other people, the making of

stereotypic assumptions about others based on their race, age, or gender, and so on. (p. 169)

From the perspective of Dienesch and Liden's (1986) model of LMX development (see Figure 1), the nature of the exchange relationship is usually based upon a deliberate and relatively lengthy cyclical process of behaviors and attributions, whereby employees earn (or do not earn) a high exchange relationship based on their actions. In addition, Dienesch and Liden's model also proposed a bypass route, where the LMX decision occurs quickly and irrespective of the behavioral/attribution process. These theorists posited that the bypass route might be utilized for salient leader-member difference (e.g., gender, racial, or religious stereotypes) or due to a reliance on automatic-based processes. Yet, Dienesch and Liden largely downplayed the potential role of automaticity in relationship development, noting: "one can reasonably assume that building a relationship within a new leader-member dyad would almost always be sufficiently problematical to elicit the controlled cognitive processing" (p. 628).

The present study postulates that automatic-based processing is a much more prevalent phenomenon in LMX relationship development. Further, it explicitly proposes that the key distinction between Dienesch and Liden's (1986) two developmental paths is conscious versus automatic social information processing. Thus, conscious-based LMX relationship development relies on the more cognitively taxing behavioral/attributional process, while automatic-based LMX development utilizes the more expeditious bypass route.

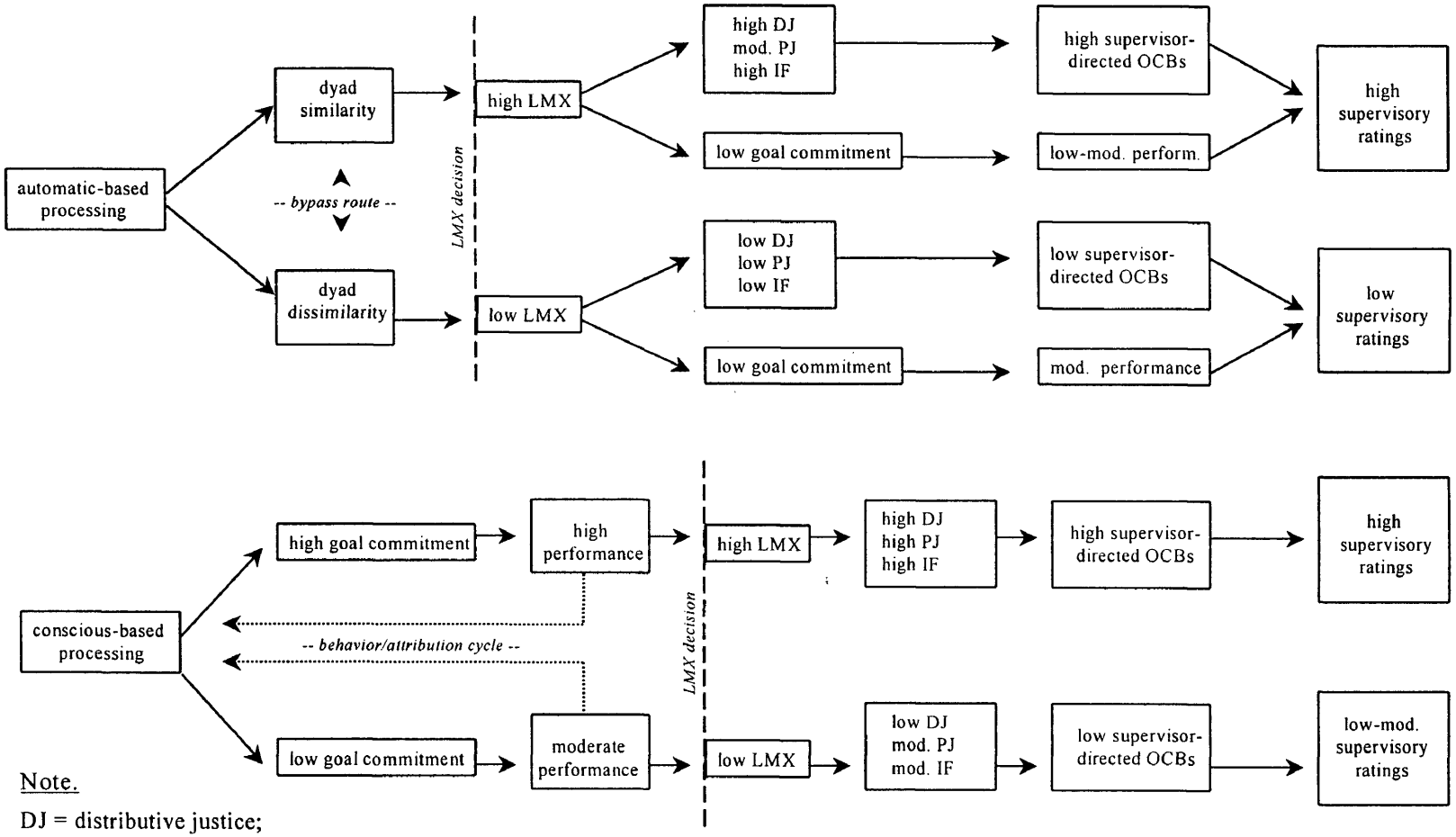
As previously noted, Dienesch and Liden (1986) emphasized that the bypass process is usually the result of salient *differences.* Unfortunately, Dienesch and Liden failed to address the potential impact of salient leader-member *similarities* on LMX development. Based on the similarity-attraction paradigm, the present study proposes that prominent supervisor-subordinate similarities can also lead to a bypassing of behavior/attribution processes. For example, vertical dyads could be strongly influenced by common demographic similarities (e.g., gender, race/ethnicity) or perceived similarities (e.g., attitudes and/or values). In addition, dyads could share a common membership to a personally valued organization, such as a sports league, a sorority/fraternity, volunteer group, or religious organization. These types of high exchange relationships – based on automatic processing and salient similarities – would be akin to the stereotypical concept of a "good old boy" style network.

As presented in Figure 4, the present study proposes the *Developmental Processing Model of LMX.* Axiomatic to this model is the distinction between automatic versus conscious-based social information processing. This model yields four separate LMX development paths: (a) *automatic-based high LMX* (AH-LMX), *automatic-based low LMX* (AL-LMX), *conscious-based high LMX* (CH-LMX), *and conscious-based low LMX* (CL-LMX).

According to this model, high LMX relations based on automatic processes (AH-LMX) would likely result from salient leader-member similarities. Based on a logical extension of the empirical literature reviewed herein, these relationships might be expected to lead to low employee goal commitment, low-moderate objective

Figure 4

Developmental Processing Model of LMX



Note.

DJ = distributive justice;
PJ = procedural justice;
IF = interactional fairness (including interpersonal and informational fairness).

performance, moderate perceptions of organizational justice, high supervisor-directed OCBs, and high supervisory performance ratings. Conversely, automatic-based low LMX relations (AL-LMX) are likely associated with salient supervisor-subordinate differences. As a result of this inherently unfair exchange outcome, employees would be expected to exhibit reduced goal commitment, moderate performance (so as to meet minimally acceptable criterion), low perceptions of justice, low OCBs, and low supervisory performance ratings.

In contrast, when conscious-based processes are utilized, employees "earn" a high (or low) exchange relationship based on work-related variables (e.g., goal commitment, performance, etc.); here, salient similarities/dissimilarities should have a greatly reduced impact on the developmental process. Thus, high LMX based on conscious processing (CH-LMX) would be expected to be associated with high goal commitment, high objective performance, high perceptions of organizational justice, high supervisor-directed OCBs, and high supervisory performance ratings. On the other hand, conscious-based low LMX (CL-LMX) should be related to low-moderate goal commitment, moderate performance (again, in order meet minimally acceptable criterion), moderate perceptions of justice, low supervisor-directed OCBs, and low supervisory performance ratings.

One apparent distinction between the conscious vs. automatic developmental process for LMX is the duration of time it takes for the exchange relationship to develop. Due to the nature of the hypothesized developmental processes, automatic-based LMX relationships would be expected to develop relatively quickly, whereas conscious-based

exchanges would necessitate a slower developmental phase. Therefore, in an attempt to distinguish automatic from conscious-based LMX relationships, an instrument assessing the speed at which LMX relationships develop will be created for the present study. In addition, as noted previously, another important difference between automatic vs. conscious-based processing is the influence of dyad similarity/dissimilarity. Here, dyad similarity/dissimilarity would be expected to have a greater impact in automatic-based development, and an attenuated role in conscious-based processing. Therefore, the length of time it takes for relationships to initially develop, as well as leader-member similarity, will be used as two key indicators to initially test the proposed model.

A major extension of this model beyond past theorizing is the explicit and axiomatic role of automatic vs. conscious social information processing in leader-member exchange development. From the perspective of Klein and Kim's (1998) findings, the low goal commitment/high LMX group may have developed based on automatic processing, whereas the high goal commitment/high LMX group might have relied more heavily on conscious behavior/attribution processes. Continuing this logic to the present study, AH-LMX members would be expected to exhibit low goal commitment and low-moderate objective performance, while CH-LMX employees should show high levels of both commitment and performance. It is also hypothesized that all low LMX employees, irrespective of developmental processing, will yield moderate levels of objective performance due to minimal productivity requirements specified (either implicitly or explicitly) in their transactional work contract. This line of reasoning is supported by the

results of Klein and Kim, who found that low LMX employees maintained a relatively constant moderate level of objective performance irrespective of goal commitment.

Because this model proposes that some employees gain a high exchange relationship through fundamentally unfair (or automatic) developmental processes, organizational justice issues may be of importance. Yet, due to the novelty of the proposed developmental processing model, as well as the dearth of prior research considering both LMX and organizational justice variables, these specific justice predictions are logically derived. Based on the nature of distributive justice (DJ) and assumed saliency of LMX outcomes to employees, it is predicted that regardless of developmental processing, all high LMX employees will have high perceptions of DJ and that all low LMX employees will perceive low DJ. From the perspective of procedural justice (PJ), it is proposed that CH-LMX employees will have high PJ perceptions; whereas AL-LMX members will perceive low PJ. Based on past "outcome effect" research (Brockner & Wiesenfeld, 1996), it is believed that in comparison to CH-LMX members, AH-LMX workers will have decreased (or moderate) perceptions of procedural justice because even though their exchange outcome was favorable, they were the benefactors of a procedurally unfair LMX relationship. In contrast, from a "process effect" perspective, compared to AL-LMX members, CL-LMX employees are posited to have increased (or moderate) perceptions of justice because even though the exchange outcome was unfavorable, the procedure used to establish the relationship was essentially fair. Lastly, through the lens of interactional fairness, it is hypothesized that all high LMX (both AH-LMX and CH-LMX) employees will have high perceptions of

interpersonal and informational justice, and that AL-LMX members will perceive low IF. Compared to AL-LMX members, CL-LMX employees are predicted to have increased (or moderate) perceptions of interpersonal and informational justice because by the nature of the conscious-based developmental process, these supervisors demonstrated a concern for IF issues in the initial LMX distribution process.

Organizational citizenship behaviors are another important element of the present model. Based on prior organizational justice research (Colquitt, 2001; Masterson et al., 2000; Moorman, 1991), it is believed that interactional fairness (including interpersonal and informational justice) will be most strongly predictive of supervisor-directed OCBs. Thus, it is hypothesized that the AH-LMX and CH-LMX groups will exhibit high supervisor-directed OCBs, while the AL-LMX group will show low OCBs. In addition, CL-LMX employees are posited to show moderate supervisor-directed OCBs due to their moderate perceptions of IF.

The last component of the developmental processing model is supervisory performance ratings. Based on the research of Gerstner and Day (1997), MacKenzie et al. (1991, 1993) and Podsakoff et al. (2000), it is proposed that: (a) LMX, OCBs, and objective performance will influence subjective supervisory performance ratings, (b) LMX and OCBs will account for a larger percent of variance than objective performance in overall supervisory ratings, and (c) OCBs will mediate the relationship between LMX and supervisory performance ratings. From this perspective, both CH-LMX and AH-LMX members are hypothesized to have high supervisory ratings, AL-LMX workers are

predicted to have low ratings, and CL-LMX employees are posited to have moderate supervisory ratings.

The division of the traditional concept of leader-member exchanges into automatic versus conscious-based developmental categories has numerous implications. For example, the AH-LMX developmental processes might be partially responsible for the research indicating that same-gender vertical dyads are related to higher LMX relations (Duchon et al., 1986; Green et al.,1996). In addition, the relatively low correlation between LMX and objective performance measures, as reported by Gerstner and Day (1997), could be partly explained by the mediating effects of AH-LMX subordinates. Finally, as opposed to leaders relying on automatic-based processing, supervisors who routinely base LMX decisions on conscious-based processes might be more likely to induce positive perceptions of procedural, interpersonal, and informational justice in employees at the unit-level.

The *Developmental Processing Model of LMX* has been proposed to provide a synthesis of diverse research areas relevant to the following primary thesis: exchange relations can have *either* positive or negative organizational outcomes based on the type of early relationship developmental processing (automatic vs. conscious) used. Yet, due to the broad and complex nature of the proposed model herein, the present study will not attempt to prove or disprove the model per se. Rather, using the model as a template, the present study will posit a limited number of specific hypotheses that, when considered together, should provide some initial support or refutation of the model at a general level. With this in mind, the following hypotheses are made:

H1: *The duration of initial relationship development will moderate the association between similarity and LMX so that similarity will have a significant effect on LMX for automatic-based relationships but not for conscious-based relational development. (A graphic representation of this interaction is provided in Figure 5).*

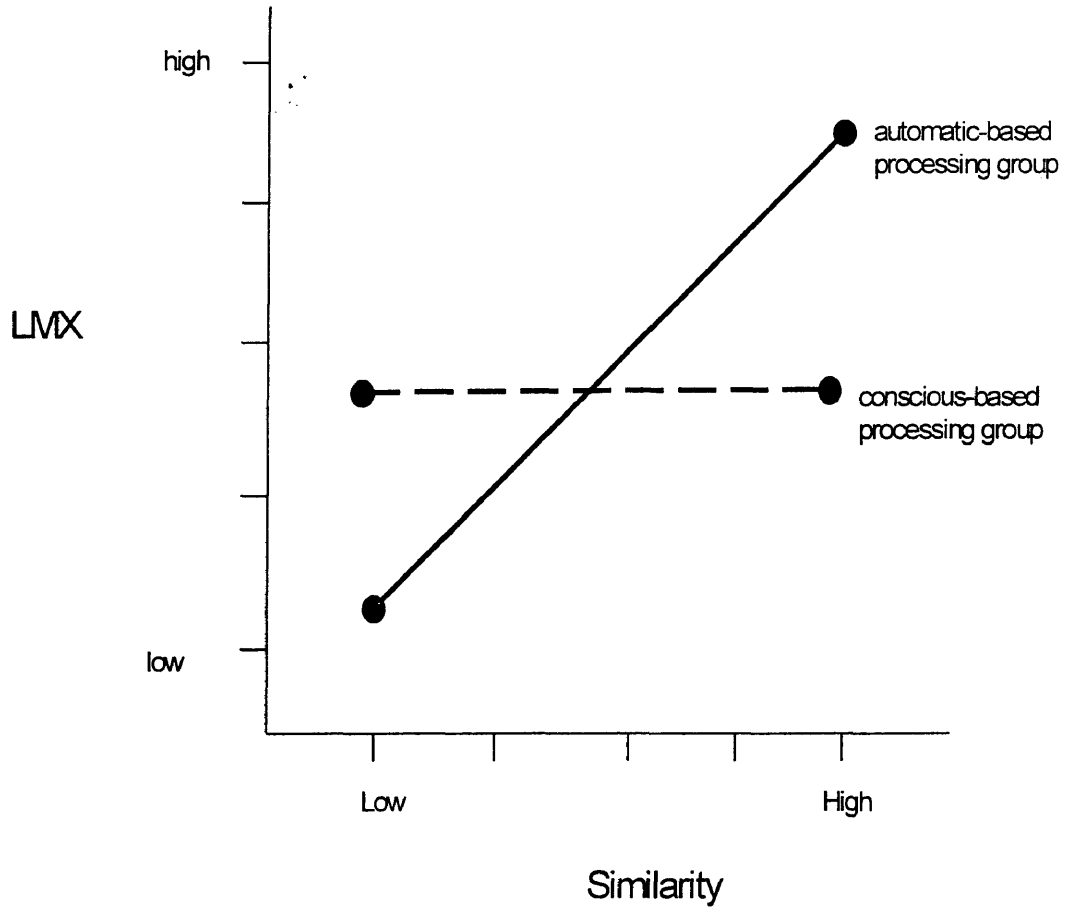
The first hypothesis can best be understood in relation to the proposed *Developmental Processing Model of LMX* (see Figure 4). Here, expanding on Dienesch and Liden (1986) bypass route to LMX development, similarity is only posited to influence relationship development in automatic-based processing. Therefore, as can be seen in Figure 5, similarity should have little effect on LMX in the conscious-based processing group, and a much greater effect in the automatic-based processing group.

H2: *The duration of initial relationship development will significantly predict objective performance, with slower relationship development being associated with higher objective performance, and vice versa.*

Hypothesis two is rooted in the research of Klein and Kim (1998), who found that high LMX employees sometimes performed below the levels of low LMX employees. As is proposed in the present model (see Figure 4), a key antecedent to both LMX and performance outcomes is the type of processing used in relational development. Automatic-based relationship development occurs irrespective of employee performance levels, while conscious-based development is based on work-related behaviors (e.g., performance). In other words, LMX is contingent upon employee performance in conscious-based, but not automatic-based, relationship processing. Thus, in general, it

Figure 5

Graphical Representation of Proposed Hypothesis 1 Interaction



would be expected that slower initial relationship development (conscious-based processing) would be associated with higher objective performance levels, and vice versa.

H3: *The variability in supervisory performance ratings will be significantly greater within the low LMX group than within the high LMX group.*

Hypothesis three is based on the aforementioned research of Duarte et al. (1994), who found that supervisors generally provided high subjective performance ratings for all high LMX members, but that subjective performance ratings for low LMX employees varied as a function of objective performance and dyadic duration. Similarly, in the proposed *Developmental Processing Model of LMX* (see Figure 4), all high LMX members are posited to receive high supervisory ratings of performance, while more variability is expected to exist in the low LMX group based on the type of relationship processing.

H4: *The relationship between LMX and supervisory performance ratings will be mediated by organizational citizenship behaviors.*

This hypothesis is based on prior research which has found that: (a) LMX is significantly related to supervisory performance ratings (Gerstner & Day, 1997); (b) OCBs are strongly associated with supervisory performance ratings (MacKenzie et al., 1991, 1993; Podsakoff et al., 2000); and (c) LMX and OCBs are correlated with each other (Podsakoff et al., 2000; Wayne et al., 1997). The proposed *Developmental Processing Model of LMX* (see Figure 4) elaborates on this past research, hypothesizing that the relationship between LMX and supervisory ratings of performance is mediated by OCBs. In other words, (a) LMX predicts OCBs, (b) both LMX and OCBs influence

supervisory performance ratings, and (c) their combined effect on supervisory performance ratings is greater than that of LMX alone.

H5: *Perceptions of (a) procedural and (b) interactional justice will be significantly higher for the conscious-based processing group than for the automatic-based processing group.*

Hypothesis five is logically derived based on the underlying factors of the proposed model. If relationships are based on automatic processing and are strongly influenced by leader-member similarity/dissimilarity and other non-work-related variables, then employees (regardless of their outcome) should perceive a certain amount of procedural and interactional unfairness. In contrast, when relationship development is founded on conscious-based processing and is relatively unaffected by dyad similarity, then employees (again, regardless of their outcome) would be expected to perceive higher levels of workplace justice.

H6: *Leader-member exchange will moderate the relationship between objective performance and goal commitment so that there will be a significantly positive relationship between performance and commitment when LMX is high but not when it is low.*

Due to the importance of the unexpected findings of Klein and Kim (1998) to the proposed *Developmental Processing Model of LMX*, hypothesis six serves as a replication of this prior research. Refer to Figure 2 for a graphic representation of this predicted interaction

Study 1 – Instrument Development

Method

Participants

One hundred and ninety undergraduate students participated in this study. Participants were solicited from both introductory and upper-level psychology courses, and students received extra-credit for their cooperation. Because of the temporal nature of the proposed scale (which will be elaborated upon the "instruments" section), the following criteria were required in order for students to qualify for participation in this study: within the last 9 months, participants must have had (a) worked in a job for at least 20 hours per week, and (b) worked with the same supervisor for at least 3 months. Two participants were eliminated from the original sample because they did not meet the prerequisites, and 1 subject was removed due to a photocopy error that made his/her data unusable. Therefore, 187 participants remained in the final sample population.

The sample consisted of 118 females and 69 males. Their mean age was 21.5 (*SD* = 4.6). One hundred and fifty-seven participants identified themselves as Caucasian, 13 as African American, 7 as Hispanic, 4 as Asian, 1 each as Native American and Middle Eastern, and 7 participants reported a mixed racial/ethnic background or did not match any of the aforementioned groups.

Procedure

Participants for this study were recruited at the beginning of their regular classes. Students were read the requirements and instructions for participation, and were informed that their participation was completely voluntary and would remain confidential. Those

students who agreed to participate were given a questionnaire to complete on their own time, and were provided with directions for returning their questionnaire packets within one week. The survey packet also included a non-signature consent form that informed participants that "your consent to participate in this research is acknowledged by completing and returning this questionnaire." As required by Nebraska state law, all participants under the age of 19 were required to return a "Parental Consent Form" signed by a parent or designated guardian. Using a number coding system, students received extra-credit points upon returning their questionnaire packet.

Instruments

Relationship Development over Time (RDT). The 12-item RDT scale was developed to assess the speed with which dyad relationships initially developed (see Table 2). Prior to scale construction, a multidisciplinary literature review was performed on past theorizing and research examining the development of interpersonal relationships. In particular, this review focused on interpersonal relationship formation (Conville, 1991), trust (Holmes, 1991), self-disclosure (Altman, 1973), and stability/maturity (Pingleton, 1984). Unfortunately, this literature review discovered no past research, theorizing, or instruments which focused specifically on the proposed temporal perspective of early relationship development. Therefore, the RDT scale items were developed rationally, based in part on the aforementioned literature review as well as interviews with subject matter experts in I/O psychology, counseling, and clinical social work. Participants responded to eight possible options for each item, ranging from *1-2 weeks* (which is coded as 1 for data entry purposes) to *1-2 years* (which is coded as

Table 2

Relationship Development over Time (RDT) Item Descriptions

RDT Item # (Study 1)	RDT Item # (Study 2)	Item Description
1*	7	How long did it take until you felt comfortable being around your supervisor (i.e., stopped feeling self-conscious around him/her; didn't worry about what to say, etc.)?
2*	8	How long did it take before you felt reasonably sure that you could trust (or not trust) your supervisor?
3*	9	How long did it take until you began to speak in a more casual or informal style with your supervisor (i.e., began to talk in a more relaxed and comfortable way; started to joke around some, etc.)?
4*	10	How long did it take before you developed a firm and relatively permanent opinion about your supervisor (i.e., determined that he/she was generally a good or bad person; decided that you liked or disliked him/her, etc.)?
5*	11	How long did it take before you were able to predict your supervisor's reactions in common situations (i.e., knew how your supervisor would react to things when he/she was in a good or bad mood; knew how they would handle common problems, etc.)?
6*	12	How long did it take before you started to share at least some personal information with your supervisor (i.e., shared information about a significant other, a child, or a parent; asked for personal advice, etc.)?
7	--	How long did it take before *your supervisor* started to share at least some personal information with *you*?
8	--	How long did it take before you felt fairly comfortable discussing workplace problems with your supervisor as they would come up?

(*table continues*)

RDT Item # (Study 1)	RDT Item # (Study 2)	Item Description
9	--	How long do you think it took for your supervisor to "size up" (or judge) your merit/worth as an employee (i.e., how long did it take for your supervisor to decide that you were generally an effective or ineffective employee; judge your future potential, etc.)?
10*	13	How long did it take until your relationship with your supervisor (good or bad) became predictable and stable (i.e., when both you and your supervisor developed a routine pattern of interaction; formed a mutual understanding about your relationship, etc.)?
11	--	How long did it take for you to decide that your supervisor would generally treat you fairly (or unfairly) in comparison with other employees?
12*	14	How long did it take until you decided that you were generally satisfied (or unsatisfied) with your supervisor overall (i.e., form an opinion that they were a good or bad leader; decide that you did or did not like having him/her as your supervisor, etc.)?

Note. * indicates that item was retained for 8-item revised RDT scale. The RDT scale utilizes eight possible response options, ranging from *1-2 weeks* (coded 1) to *1-2 years* (coded 8). See Appendix A to for scale as printed in questionnaire.

8). See Appendix A (*Relationship Development Scale* section) for the scale as printed in the questionnaire.

Perceived similarity. Perceptions of similarity were measured with a six-item scale developed by Liden et al. (1993; see Appendix A, *Similarity Scale* section). This scale includes three items developed by Turban and Jones (1988) that assess general attitude and value similarities, as well as three additional items that focus on problem solving style similarity. Participants responded to a 7-point Likert-type scale that ranges from (1) *Strongly Disagree* to (7) *Strongly Agree*. This instrument was found to have a Cronbach's alpha of .95 in the present sample.

LMX-7. The seven-item LMX-7 (Graen et al., 1982; Graen & Uhl-Bien, 1995) was utilized to measure the quality of exchange relationships (see Appendix A, *Relationship Cohesiveness Scale* section). Participants rated each item on a 5-point Likert-type scale. The LMX-7 was determined to possess a Cronbach's alpha of .90 for this sample.

Organizational justice. Three dimensions of justice were measured based on a scale developed by Moorman (1991) and further modified by Niehoff and Moorman (1993). Distributive justice (DJ) was measured with five items which focus on work outcomes (see Appendix A, *Workplace Justice Scale* section, items 1-5); the procedural justice (PJ) scale included six items examining the fairness of workplace procedures (see Appendix A, *Workplace Justice Scale* section, items 6-11); and interactional fairness (IF) was assessed with seven items which focused on interpersonal perceptions of fairness (see Appendix A, *Workplace Justice Scale* section, items 12-18). Although the original

IF scale developed by Niehoff and Moorman included nine items, the two items with the lowest reported factor loadings were eliminated due to concerns about the overall questionnaire length. Participants rated each item on a 7-point Likert-type scale, ranging from (1) *Strongly Disagree* to (7) *Strongly Agree*. Based on the current sample, Cronbach's reliability alphas were found to be .86, .93, and .96 for the DJ, PJ, and IF scales, respectively.

Organizational citizenship behaviors (OCBs). The 14-item scale developed by Podsakoff and MacKenzie (1994) was used to measure participants' workplace OCBs. This scale was developed to measure subordinate OCBs from a supervisory perspective. Because supervisors were not contacted in the present study, this scale was modified to measure employee use of OCBs from their own perspective. This instrument measures three dimensions of OCB, including: seven items assessing *helping behavior* (which entails altruism, courtesy, "peacekeeping", and "cheerleading;" see Appendix A, *Extra-Role Behavior Scale* section, items 1-7); three items examining *civic virtue* (i.e., feeling concerned and responsible for the life of the company; see Appendix A, *Extra-Role Behavior Scale* section, items 8-10); and four items measuring *sportsmanship* (i.e., a willingness to tolerate less than perfect circumstances; see Appendix A, *Extra-Role Behavior Scale* section, items 11-14). Participants rated their use of OCBs on a 7-point Likert-type scale, ranging from (1) *Strongly Disagree* to (7) *Strongly Agree*. For the present sample, this instrument was found to possess alphas of .84, .74, and .77 for the civic virtue, sportsmanship, and helping behavior sub-scales, respectively.

Racial/gender/age similarity. A general survey was developed to assess basic information about participant demographics (including their age, gender, and race/ethnicity), work history, and their supervisor demographics (including their supervisor's gender, race/ethnicity, and approximate age). See Appendix A (*Demographic Survey* section) for a listing of these items. Based on this information, an *age similarity* variable was created by computing the absolute value age difference of each leader-member dyad. Descriptive analysis determined that the mean (absolute value) age difference was 16.65 (*SD*=9.46) years for this variable.

Other measures. Several one-item variables were also included to explore the relationship between key constructs and subjectively assessed performance (see Appendix A, *Demographic Survey* section). In order to assess estimated supervisory ratings of employee performance, one questions asked participants: "Whether or not you agree or disagree with the opinion and judgment of your supervisor, please provide your best estimate of how he/she would rate your overall job performance." Participants were asked to respond on a 10-point scale ranging from (1) *low* to (10) *high*. The average response to this item was 8.38 (*SD*=1.13). In addition, employees were asked: "How would you rate the overall job performance of your supervisor." Again, participants were asked to respond on a 10-point scale ranging from (1) *low* to (10) *high*. Here, the mean response was 7.57 (*SD*=2.24).

Analyses

The statistical analysis included frequency and descriptive information for all variables. Each instrument was tested for internal consistency reliability using

Cronbach's alpha analysis. Correlational analyses between all psychometric scales and key variables were also performed. Finally, in order to ascertain the dimensionality of the RDT scale, an exploratory factor analysis was performed, utilizing the SPSS "principle axis factoring" program.

Results

Descriptive and Frequency Analysis

Of the 187 participants, frequency analysis determined that 42 leader-member dyads (22.5%) were of different racial/ethnic backgrounds; 67 dyads (35.8%) were mixed-gender dyads. Descriptive statistics found that the average (absolute value) age difference between supervisors and subordinates was 16.7 years (*SD*=9.5). In addition, the average number of years that participants had worked under their current supervisor was 1.5 years (*SD*=1.5). Descriptive statistics for all psychometric scales are presented in Table 3.

Internal Consistency Reliability Analyses

Cronbach's alpha analysis was performed on all instruments to assess internal consistency reliability in the present sample. As noted previously, in order to assess the length of time it took for supervisor/subordinate relationships to develop, the RDT scale utilizes eight possible response options, ranging from *1-2 weeks* to *1-2 years*. Because of concerns regarding restriction of range for new leader-member dyads (i.e., dyads formed within the last five months would be confined to about half of the response options), it was decided to limit the reliability analysis of the RDT scale only to participants who had been with their current supervisor for 9 months or more. This procedure reduced the

Table 3

Scale Means, Standard Deviations, Sample Size, and Cronbach's Alpha Summary

Scale	*M*	*SD*	*N*	α
Perceived similarity	25.55	8.62	186	.95
RDT (full 12-item)	41.51	16.34	130	.93
RDT (revised 8-item)	27.80	11.38	130	.92
LMX	25.37	5.80	184	.90
Distributive justice	26.96	6.62	184	.86
Procedural justice	26.98	9.35	183	.93
Interactional fairness	35.85	10.61	185	.96
OCB - Helping	38.50	5.44	185	.77
OCB - Civic Virtue	13.38	4.81	185	.84
OCB - Sportsmanship	17.51	4.69	184	.74

Note. RDT scale analysis was based on reduced sample (employees who have worked with their supervisor for 9 months or longer). Lower scores on the RDT scales represent faster relationship development, and vice versa. All internal consistency reliability analyses are based on Cronbach's alpha.

sample size for this analysis from 187 to 130 participants. Cronbach's alpha analysis found that the 12-item RDT scale possessed an alpha of 0.93, indicating strong internal consistency for this sample. Due to the developmental nature of this scale and in an attempt to eliminate redundancy among items, four items were dropped from the original scale (see Table 2 for a listing of specific items deletions). The procedure employed for eliminating items consisted of dropping the item with the lowest corrected item-total correlation and/or the highest "alpha if item deleted" statistic, rerunning the Cronbach's analysis, and then repeating this procedure as needed. Analysis of the final eight-item revised RDT scale found an alpha of 0.92 (see Table 4 for revised-RDT scale Cronbach's alpha and inter-item correlation information). Refer to Table 3 for internal consistency results for all other scales, which were based on the full sample.

In order to ascertain the dimensionality of the revised RDT scale, an exploratory factor analysis was performed based on the reduced sample of 130 participants. As recommended by Tabachnick and Fidell (2001), transformations were performed on items as needed to correct skewness and kurtosis in variable distributions (see Table 4 for details on item transformations) and the data was screened for univariate and multivariate outliers. Although no univariate outliers were detected (based on $\underline{z}$ scores), three multivariate outliers were identified based on the Mahalanobis distance statistic ($\alpha <$ .001). After the deletion of outlier cases, the sample was further reduced to 127 cases for this analysis. The results of this exploratory factor analysis found a strong primary factor, with an eigenvalue of 5.30, which accounted for 66.28% of the total variance. The second and third factors had eigenvalues of 0.81 and 0.58, respectively. See Table 4 for

Table 4

Revised-RDT Item Means, Standard Deviations, Item-Total Correlations, Alpha if Item Deleted, Loadings, and Inter-Item Correlations

RDT Item	*M*	*SD*	Corrected Item-Total Correlation	Alpha if Item Deleted	Factor Loading	Inter-Item Correlations							
						1	2	3	4	5	6	7	8
1[a]	3.19	1.91	.76	.90	.80	--	.63	.84	.59	.71	.46	.56	.46
2[a]	3.48	2.01	.74	.90	.82		--	.59	.69	.60	.52	.57	.54
3[a]	3.25	1.75	.79	.90	.82			--	.64	.67	.56	.54	.54
4[a]	3.09	1.69	.79	.90	.86				--	.71	.42	.65	.77
5[b]	3.42	1.56	.80	.90	.81					--	.41	.72	.66
6	4.28	2.14	.55	.92	.58						--	.40	.39
10[a]	3.76	1.68	.72	.90	.78							--	.69
12	3.35	1.57	.71	.91	.78								--

Note. Lower scores on RDT items represent faster relationship development, and vice versa. [a] indicates that a square root transformation was performed for the exploratory factor analysis, while [b] denotes that a log10 transformation was performed. All correlations are based on two-tailed Pearson *r*, and are significant at $p<.01$.

specific item loadings. No rotations were performed due to the presence of only one factor. These findings provide preliminary support for the dominance of a single factor within the RDT scale. Yet, the results of this analysis should be viewed with caution because the total number of participants approached minimally acceptable criterion levels (Comrey, 1973; Kass & Tinsley, 1979; Nunnally, 1978; Tinsley & Tinsley, 1987).

Correlational Analyses

Correlational analyses were performed to determine the relationships between the RDT-revised scale and all other scales as well as several other key variables. All correlations are based on the full sample. The correlation matrix is presented in Table 5. The general results of this analysis found that the RDT-revised scale was significantly negatively related to the LMX and similarity scales; with $r = -.31$, $p<.01$; and $r = -.27$, $p<.01$; respectively. Because lower scores on the RDT represent faster developing relationships, these results indicate that relationships which developed more expeditiously were significantly related to high perceived attitude/value similarity and high LMX scores. The RDT scale was also negatively related to the DJ, PJ, and IF scales, with $r = -.25$, $p<.01$; $r = -.38$, $p<.01$; and $r = -.39$, $p<.01$; respectively. Thus, faster developing relationships are associated with higher perceptions of organizational justice. Finally, the RDT scale was not significantly related to any of the OCB scales, indicating that the speed of relationship development is unrelated to employee use of OCBs, as reported by the employee.

Other correlations of interest include a positive relationship between the number of months with supervisor variable and both perceived attitude/value similarity and

Table 5

Correlation Matrix for Psychometric Scales and Key Variables

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. RDT (full 12-item)	--	.98**	-.33**	-.27**	-.25**	-.38**	-.39**	.01	-.05	-.12	.09	.14	-.05	-.36**
2. RDT (revised 8-item)		--	-.31**	-.27**	-.25**	-.38**	-.39**	-.02	-.06	-.13	.11	.13	-.04	-.36**
3. LMX			--	.71**	.58**	.76**	.79**	.24**	.31**	.41**	.03	.14	.45**	.77**
4. Perceived attitude/ value similarity				--	.53**	.69**	.69**	.23**	.29**	.43**	.07	.15*	.27**	.67**
5. Distributive justice					--	.65**	.60**	.21**	.16*	.49**	.11	.07	.28**	.54**
6. Procedural justice						--	.85**	.25**	.30**	.60**	.11	.05	.26**	.78**
7. Interactional fairness							--	.19**	.26**	.50**	.09	.07	.30**	.80**
8. Helping OCBs								--	.47**	.35**	.12	.14	.35**	.09
9. Civic virtue OCBs									--	.32**	-.01	.17*	.31**	.28**
10. Sportsmanship OCBs										--	.14	.05	.26**	.47**
11. Leader-member age similarity											--	-.05	.05	.11
12. Months with supervisor												--	.13	.04
13. Estimated supervisor ratings of employee/participant performance													--	.37**
14. Employee ratings of supervisor performance														--

Note. Lower scores in RDT scales represent faster relationship development, and vice versa. All correlations based on two-tailed Pearson *r*, calculated from the full sample. *$p<.05$; **$p<.01$

sportsmanship OCBs, with $r = .15, p<.05$; and $r = .17, p<.05$; respectively. Therefore, the longer the preexisting relationship the more perceived similarity and the greater the use of sportsmanship OCBs. The results also found positive correlations between employees' estimates of supervisory ratings and LMX, employee use of helping OCBs, and interactional fairness, with $r = .45, p<.01$; $r = .35, p<.01$; and $r = .30, p<.01$; respectively. Thus, these findings indicate that employee perceptions of how their supervisor would evaluate their performance is importantly related with their perceptions of LMX and interactional fairness as well as their use of helping OCBs. In addition, employee ratings of their supervisor's performance had a strong association with all other variables *except* helping OCBs and months with supervisor (see Table 5). Finally, no relationship was determined between the age similarity variable and RDT-revised scale scores, with $r = 0.11, p>.05$. These results indicate that age similarity/differences were not significantly related to relationship development over time.

Group Mean Comparisons

Due to the gender and racial diversity of the present sample, exploratory analyses were performed to examine the effect of gender and racial similarity on the amount of time it took relationships to become congealed. Because of the nominal nature of theses variables, leader-member dyads were coded as either (1) *similar* or (-1) *dissimilar* for both race and gender. Based on prior research and expectations outlined in the *Similarity Attraction Paradigm* section of the literature review, one-tailed *t* tests were used to assess the hypothesis that similar dyads would develop significantly faster than dissimilar dyads. The results found that the mean RDT-full scale score for the similar racial dyad group

(M=38.7) was significantly lower than for the dissimilar racial dyad group (M=43.7), with $t(184) = 1.88, p<.05$. Similar results were found for the RDT-revised scale, where the difference between the similar racial dyad group (M=26.0) and the dissimilar group (M=28.9) approached statistical significance, with $t(184) = 1.59, p<.06$. These results indicate that the relationships between racially similar supervisor/subordinate dyads evolved and solidified significantly faster than racially dissimilar dyads. In addition, the findings suggest that the full 12-item RDT scale is somewhat more sensitive to racial similarity differences than the revised 8-item scale in the present sample, possibly due to the greater length and the slightly higher reliability of the full scale. In contrast, no significant group differences were uncovered between same gender (M=40.6) versus opposite gender (M=38.2) leader-member dyads based on the RDT-full or RDT-revised scales, with $t(184) = 1.04, p>.05$; and $t(184) = .94, p>.05$; respectively.

Study 2 – Hypothesis Testing

Method

Participants

In order to better understand and test the hypothesized relationship among variables in an applied setting, Study 2 was based on two field samples from separate companies. As both samples completed nearly identical surveys and employed the same basic experimental procedures, the samples will only be identified separately as needed in the following sections.

Sample A. This sample consisted of sales representatives from a large Midwestern direct-sales home improvement company. One hundred and twenty-one surveys were distributed to sales representatives. In addition, managers (N=13) were asked to complete a survey for each sales representative. Surveys were returned from 83 sales representatives, and the managers completed and returned surveys for each of their sales representatives. Due to the fact that not all sales representatives chose to disclose their employee identification number, employee-manager matches were only possible for 56 dyads. Employee objective performance was based on company records for a 3-month period prior to the study. This variable was comprised of a composite score of two standardized variables, including number of sales and gross sales volume per month.

Sample A consisted of 77 male and 5 female sales representatives; all managers were male. The mean age was 36.5 (SD = 12.6) and 41.8 (SD = 11.8) for sale representatives and managers, respectively. Of the sales representatives, 74 identified themselves as Caucasian, 1 as African American, 1 as Hispanic, 1 as Asian, and 6 participants did not report their racial/ethnic background. All managers were Caucasian. The mean number of months that managers and sales representatives had worked together was 9.2 (SD=11.1), with a median of 6.0.

Sample B. The second sample consisted of 132 customer service representatives and claims examiners at a Southwestern division of a large national insurance company. In addition, 12 supervisors were asked to complete a survey for each employee. Questionnaires were returned from 70 employees, including: 40 claim examiners, 26 customer service representatives, and 4 employees who did not provide identifying

information. Supervisors completed and returned surveys for all employees. Due to the fact that not all employees included their employee identification number, employee-supervisor matches were only possible for 55 pairs. Employee performance was based on company quality and production records for a 3-month period prior to the study. For customer service representatives, objective performance measures included average number of calls per hour and independently assessed call quality ratings. For claims examiners, objective measures included claims production information as well as payment, processing, and financial quality ratings.

The employee sample consisted of 65 females and 5 males. There were nine female supervisors, two males, and one supervisor who did not provide identifying information. The average age was 36.1 (*SD*=9.9) and 36.1 (*SD*=6.3) years for employees and supervisors, respectively. All employees identified themselves as Caucasian. Eleven supervisors were Caucasian and one supervisor did not report his/her racial background. The average number of months that supervisors and employees had worked together was 17.9 (*SD*=19.0), with a median of 12.0.

Procedure

In an attempt to avoid the introduction of unwanted statistical artifacts due to methodological differences, the same study procedures were employed at both companies. Survey packets were distributed to participants at their work site. A cover letter provided an overview of the study, detailed requirements and instructions for participation, and clearly informed employees that their participation was completely voluntary in nature. In addition, the survey packet also included a non-signature consent

form that informed participants "your consent to participate in this research is acknowledged by completing and returning this questionnaire." The study included no participants under the age of 19. Employees were assured that all research information would remain confidential and that no one from their participating company would have access to their individual survey responses (as was explicitly agreed upon in writing by the participating organizations prior to the study). In order to assure confidentiality, participants were instructed to return their surveys directly to the primary researcher in stamped and preaddressed envelopes. Employee-manager dyads were matched using employee identification numbers. Objective performance data was obtained from company records for the 3 months prior to survey distribution.

Instruments

The original employee and supervisor questionnaire versions are presented in their entirety in Appendix B and C, respectively. Slight modifications were made to the instruments to reflect company-specific terminology (e.g., supervisor vs. manager). The following subsections provide details on the specific surveys embedded within the employee and supervisor questionnaires.

Relationship Development over Time (RDT). The speed with which leader-member relationships initially develop was assessed using the revised eight-item RDT scale developed in Study 1 (referred to hereafter simply as the "RDT scale"). Participants responded to eight possible options for each item, ranging from *1-2 weeks* to *1-2 years* (see Appendix B, items 7-14). The RDT scale was found to possess a Cronbach's alpha of .91 in the combined samples of this study (see Table 6 for specific sample reliabilities).

Table 6

Scale Means, Standard Deviations, Sample Size, and Cronbach's Alpha Summary

Scale	Sample A				Sample B				Combined (AB)			
	M	*SD*	*N*	α	*M*	*SD*	*N*	α	*M*	*SD*	*N*	α
Perceived similarity (employee)	31.11	6.20	83	.92	27.33	8.17	70	.95	29.38	7.39	153	.94
RDT	17.00	8.16	82	.85	26.69	12.15	69	.91	21.43	11.24	151	.91
LMX (employee)	28.59	4.22	81	.84	26.00	5.11	68	.87	27.41	4.81	149	.87
Procedural justice	15.01	4.06	83	.94	12.84	3.83	70	.88	14.02	4.09	153	.92
Distributive justice	11.29	3.08	83	.92	9.40	3.90	70	.91	10.43	3.59	153	.92
Interpersonal justice	17.71	2.63	82	.94	17.23	4.06	69	.94	17.49	3.35	151	.94
Informational justice	20.95	3.64	81	.90	19.87	4.71	68	.89	20.46	4.18	149	.90
Goal setting (original)	12.94	2.24	81	.62	12.71	2.07	69	.47	12.83	2.16	150	.54
Goal setting (revised)	8.95	1.53	81	.83	8.94	1.34	69	.67	8.95	1.44	150	.72

(*table continues*)

Scale Means, Standard Deviations, Sample Size, and Cronbach's Alpha Summary (cont.)

	Sample A				Sample B				Combined (AB)			
Scale	*M*	*SD*	*N*	α	*M*	*SD*	*N*	α	*M*	*SD*	*N*	α
Intentions to leave	NA	--	--	--	5.20	3.02	68	.87	NA	--	--	--
Perceived similarity (supervisor)	26.74	7.14	80	.96	22.16	7.54	132	.96	23.89	7.71	212	.96
LMX (supervisor)	29.58	3.29	80	.77	26.74	3.46	130	.78	27.82	3.66	210	.80
OCB - Helping Behavior	29.13	7.88	80	.95	24.92	7.47	131	.92	26.51	7.88	211	.94
OCB - Sportsmanship	19.95	6.67	80	.96	19.08	6.51	128	.94	19.41	6.57	208	.95

Note. All values are based on original untransformed data. Parenthesized "employee" vs. "supervisor" denotes the perspective of the scale respondent.

LMX-7. The seven-item LMX-7 (Graen et al., 1982; Graen & Uhl-Bien, 1995) was utilized to measure the quality of exchange relationships. As recommended by Gerstner and Day (1997), LMX was measured from both the leader and member perspective. Refer to Appendix B, items 15-21, for the employee LMX scale; and Appendix C, items 7-13, for the supervisor version. Based on the combined samples in the present study, the LMX-7 was found to possess an average Cronbach's alpha of .87 for the member scale, and .80 for the leader scale (see Table 6 for specific sample reliabilities).

Perceived similarity. Perceptions of similarity were measured with a six-item scale developed by Liden et al. (1993). Within this instrument, three items assess general attitude and value similarities and three items focus on problem solving style similarity. Perceptions of similarity were measured from both the managers' and sales representatives' perspectives. See Appendix B and C, items 1-6, for the employee and manager versions, respectively. In the present combined samples, this instrument was found to have a Cronbach's alpha of .94 and .96 for the employee and manager versions, respectively (see Table 6 for specific sample reliabilities).

Organizational citizenship behaviors (OCBs). As in Study 1, the measurement of OCBs was based on the 14-item scale developed by Podsakoff and MacKenzie (1994). Yet, due to logistical concerns about the overall questionnaire length, the following changes were made to the original instrument: (a) the four-item civic virtue scale was not used, and (b) item number two of the helping scale was dropped because it had the lowest "corrected item-total correlation" from study one. Therefore, a six-item helping behavior

scale (which entails altruism, courtesy, "peacekeeping", and "cheerleading;" see Appendix C, items 14-19) and a four-item sportsmanship scale (i.e., a willingness to tolerate less than perfect circumstances; see Appendix C, items 20-23) was used in this study. Participants responded to a 7-point Likert-type scale, ranging from (1) *Strongly Disagree* to (7) *Strongly Agree*. As recommended by Podsakoff and MacKenzie, this instrument was rated from the supervisors' perspective. Based on the combined samples in the present study, the OCB helping behavior and sportsmanship scales were found to have alphas of .94 and .95, respectively (see Table 6 for specific sample reliabilities).

Organizational justice. Study 1 (conducted in 1999) utilized distributive, procedural, and interactional justice measures. Yet, a recent meta-analysis by Colquitt et al. (2001) and factor analytic study by Colquitt (2001) identified interpersonal and informational justice as distinct constructs within interactional fairness. In deference to these recent findings (which were obtained after the collection of data in Study 1), the present study included interpersonal and informational justice scales in addition to measures of distributive and procedural justice. The justice measures included in this study were developed by Colquitt (2001), based on an extensive review of the justice literature and synthesis of existing psychometric instruments. Due to logistical concerns about the overall questionnaire length, some items were deleted from the original instrument based on inter-item correlations reported in Colquitt (2001) as well as rational considerations. Three items were excluded from the seven-item PJ scale and one item was deleted from the four-item DJ scale. No changes were made to the original four-item interpersonal justice scale or the five-item informational justice scales due to their

particular relevance to the present study. See Appendix B, items 22-25 for the PJ scale; items 26-28 for the DJ scale; items 29-32 for the interpersonal justice scale; and items 33-37 for the informational justice scale. For each instrument, participants rated items on a 5-point Likert-type scale ranging from (1) *To a Small Extent* to (5) *To a Large Extent.* Based on the combined sample in the present study, reliability analysis determined that the DJ, PJ, interpersonal justice, and informational justice scales possessed alphas of .92, .92, .94, and .90, respectively (see Table 6 for specific sample alphas).

Goal commitment. Employees' commitment to performance goals was assessed using a modified version of Hollenbeck, Williams, and Klein's (1989) seven-item scale. Due to concerns about overall questionnaire length, three items were rationally selected for inclusion in the present study (see Appendix B, items 38-40). Respondents indicated their agreement with items based on a 5-point Likert-type scale. Based on the combined samples, this three-item instrument was found to possess a Cronbach's alpha of .54. Careful examination of *corrected item-total correlation* and *alpha if item deleted* statistics indicated that item 39 (see Appendix B) was having a significant adverse impact on the internal consistency reliability of the scale. Due to the unacceptably low alpha of the three-item instrument, item 39 was dropped. The revised goal commitment scale was found to have a Cronbach's alpha of .72, based on the combined samples. See Table 6 for specific sample reliabilities for both the original and revised goal commitment scales. Here forth, goal commitment analyses will be based on the revised goal commitment scale.

Intentions to leave. As requested by the participating insurance company, an instrument to assess employee intentions to leave was included in the questionnaire for Sample B only (see Appendix B, items 41-42). This scale consisted of two items, including: "during the next year I will probably look for a new job outside (company name)," adapted from Masterson et al. (2000); and "I often think about quitting," from Wayne et al. (1997). This scale was found to have an alpha of .87 in Sample B.

Supervisory performance assessment. Subjective managerial perceptions of employee performance were measured with the following item: "How would you rate the overall job performance of this employee on a scale from 1 (very low) to 10 (very high)?" (see Appendix C, item 25). This item was found to have an average response of 6.79 (*SD*=1.94) in the combined sample, and means of 6.98 (*SD*=1.90) and 6.67 (*SD*=1.96) in Sample A and B, respectively.

Racial/gender/age similarity. A general survey was developed to assess basic information about participant demographics (including their age, gender, and race/ethnicity) and work history (e.g., duration of job tenure, time length of leader-member dyad, etc.). Refer to Appendix B, items 43-51, for employee questions; and Appendix C, *Demographic Survey* section, items 1-5, for supervisor version. Based on this information, an *age similarity* variable was created by computing the absolute value age difference of each leader-member dyad. Descriptive analysis determined that the mean (absolute value) age difference was 11.44 (*SD*=8.19) years for the combined sample; the average age difference for Sample A and B was 13.57 (*SD*=9.39) years and 9.20 (*SD*=6.10) years, respectively.

Other measures. Several one-item variables were also included for exploratory purposes. In order to assess employees' perceptions of their supervisor's performance, employees were asked: "How would you rate the overall job performance of your supervisor?" Participants responded to this question on a 10-point scale ranging from (1) *low* to (10) *high* (see Appendix B, item 53). Based on the combined sample, the average response to this item was 8.27 (*SD*=1.84); the mean for Sample A and B was 8.56 (*SD*=1.47) and 7.93 (*SD*=2.17), respectively. In addition, one item was created to determine employees' satisfaction with their performance appraisal system. Specifically, this question asked: "Please indicate your satisfaction with the current performance evaluation system on a scale from 1 (very low) to 10 (very high)" (see Appendix B, item 52). The mean response to this item was 6.79 (*SD*=2.27) for the combined sample; the average response for Sample A and B was 7.33 (*SD*=1.93) and 6.16 (*SD*=2.27), respectively.

Analyses

The statistical analyses included frequency and descriptive information for all variables. Each instrument was tested for internal consistency reliability using Cronbach's alpha analysis. Correlational analyses between all scales and key variables were also performed. In order to ascertain the dimensionality of the RDT scale, an exploratory factor analysis was performed, utilizing the SPSS "principle axis factoring" program.

H1 and H6 were tested using hierarchical regression procedures. Standard regression was used in order to test H2 and H4. H3 was tested using variance hypothesis

testing procedures. Additionally, H5 was tested using *t* test statistics. In order to create high vs. low RDT groups, a mean split of the RDT variables was performed, within each sample, for H5. In a like manner, a mean split of the LMX variable (within each sample) was performed to create high vs. low LMX groups for the H3 testing.

Results

Descriptive and Frequency Analysis

Sample A. Of the direct-sales company sample, frequency analysis determined that 58 dyads (98.3%) were of the same racial/ethnic background and 62 dyads (98.4%) were of the same gender (discrepancies between the number of dyads and subsequent percentages reflect variations in missing data on specific variables). Descriptive statistics found that the average age difference (based on absolute values) between managers and subordinates was 13.6 years (*SD*=9.4), and the average number of months that employees had worked for their supervisors was 9.2 (*SD*=11.1), with a median of 6.0 months. Finally, the average number of months that employees had served in their current position was 20.3 (*SD*=36.5), with a median of 8.0 months. In general, these results indicate a very homogenous sample with relatively high turnover.

Sample B. In the insurance company sample, 55 dyads (100%) were of the same racial/ethnic background and 39 (70.9%) were the same gender. The mean age difference between leaders and members (based on absolute values) was 9.2 (*SD*=6.1). In addition, the average number of months that employees had worked for their supervisors was 17.9 (*SD*=19.0), with a median of 12.0 months; while the average number of months that employees had served in their current position was 28.7 (*SD*=25.6), with a median of 21.0

months. Overall, these findings indicate a homogenous sample with a rather high rate of employee attrition.

Crosstabs. In order to assess the proportion of high vs. low LMX members in both the automatic and conscious-based processing groups, crosstabs analyses were performed using a mean split on the RDT and LMX variables. Based on the combined sample, the results determined that the fast developing relationship (automatic-based processing) group had 30 low LMX members vs. 57 high LMX members (see Table 7). In contrast, the slow developing relationship (conscious-based processing) group had 43 low LMX members and 21 high LMX members. These findings indicate that the faster developing relationship group had twice as many high vs. low LMX members, while the reverse was true for the slower developing group. See Table 7 for specific sample results.

Internal Consistency Reliability Analyses

Cronbach's alpha analysis was performed on all instruments to assess internal consistency reliability in the present sample. The means, standard deviations, sample size, and alphas of all instruments for both the combined and separate samples are presented in Table 6. Due to the developmental nature of the RDT scale, item-by-item reliability information, as well as inter-item correlations, are presented in Table 8 for the RDT instrument.

As discussed previously, the major purpose of Study 1 was to test the psychometric properties of the newly developed RDT scale. As an extension of this initial research, the present study conducted an exploratory factor analysis in order to better understand the dimensionality of the RDT scale. As recommended by Tabachnick

Table 7

Crosstabs for High vs. Low RDT by LMX

	LMX	
RDT	Low	High
	Combined Sample (N=151)	
Low (fast)	30	57
High (slow)	43	21
	Sample A (N=77)	
Low (fast)	15	29
High (slow)	20	13
	Sample B (N=69)	
Low (fast)	12	23
High (slow)	24	10

Table 8

RDT Item Means, Standard Deviations, Item-Total Correlations, Alpha if Item Deleted, Factor Loadings, and Inter-Item Correlations

RDT Item	*M*	*SD*	Corrected Item-Total Correlation	Alpha if Item Deleted	Factor Loading	Inter-Item Correlations							
						7	8	9	10	11	12	13	14
$7^{(1)}$	2.40	1.68	.79	.91	.82	--	.75	.80	.62	.58	.41	.74	.65
$8^{(2)}$	2.45	1.77	.76	.92	.81		--	.69	.66	.54	.37	.72	.66
$9^{(3)}$	2.44	1.68	.82	.91	.87			--	.63	.58	.53	.79	.66
$10^{(4)}$	2.44	1.54	.77	.92	.82				--	.65	.42	.69	.73
$11^{(5)}$	2.85	1.76	.68	.92	.74					--	.46	.67	.49
$12^{(6)}$	3.00	2.06	.55	.93	.72						--	.61	.48
$13^{(10)}$	2.96	1.75	.89	.90	.93							--	.81
$14^{(12)}$	2.70	1.63	.78	.91	.84								--

Note. Lower scores on RDT items represent faster relationship development, and vice versa. Item numbering is based on the Study 2 employee questionnaire (see Appendix B); parenthesized numbers in superscript indicate corresponding item number in Study 1 (Appendix A). Log10 transformation were performed on all items for the exploratory factor analysis only. All correlations are based on two-tailed Pearson *r*, and are significant at $p<.01$.

and Fidell (2001), transformations were performed on items as needed to correct skewness and kurtosis in variable distributions (see Table 8 for details on item transformations) and the data were screened for univariate and multivariate outliers. Although no univariate outliers were detected (based on z scores), five multivariate outliers were identified based on the Mahalanobis distance statistic ($\alpha < .001$). After the deletion of outlier cases and missing data, the sample was reduced to 146 for this analysis. The results of the exploratory factor analysis found a strong primary factor, with an eigenvalue of 5.70, which accounted for 71.16% of the total variance. The second and third factors had eigenvalues of 0.57 and 0.48, respectively. See Table 8 for specific item loadings. No rotations were performed due to presence of only one factor. These findings are highly consistent with those of Study 1. As in the first study, the results of this analysis should be viewed with caution because the total number of participants approached minimally acceptable criterion levels (Comrey, 1973; Kass & Tinsley, 1979; Nunnally, 1978; Tinsley & Tinsley, 1987). However, the similar pattern across both studies lends confidence to the assertion that the RDT scale is comprised of just one factor.

Correlation Analyses

Correlational analyses were performed to determine the inter-relationships between all scales and several key variables, including: (a) supervisory ratings of employee performance; (b) objective performance (based on productivity records); (c) independently assessed performance quality ratings (only available for Sample B); (d) leader-member age similarity; (e) duration of leader-member dyad (in months); (f)

employee satisfaction with current performance appraisal system; and (g) employee ratings of supervisor performance. The correlation matrix for both Sample A and B are presented in Table 9 (note: Sample A correlations are to the right of the center diagonal while Sample B are to the left). Table 10 provides the correlation matrix for the combined samples; this matrix does not include objective or quality ratings as these variables were highly sample specific and could not be aggregated. Critical values for significance varies both between and within samples due to missing data for specific variables (e.g., variables that require a leader-member match vs. those which do not). Due to the voluminosity of this data and considerations of parsimony, the present analysis of correlations will be limited to general trends in the results. In addition, this discussion will be based primarily on the combined dataset (Table 10), and will only address specific sample correlations as needed. The interested reader is referred to the correlational matrices for more details.

The general results of this analysis found that the RDT scale had a significant negative relationship (at the $p<.01$ level) with LMX and perceptions of similarity (from both the leaders' and members' perspective), as well as all justice and OCB scales. Considering that low RDT scale scores indicate a faster developing leader-member relationship, these findings suggest that more expedient initial relationship development is a key correlate with higher LMX, higher perceptions of justice, and greater employee use of helping and sportsmanship OCBs. In addition, the RDT scale was negatively related to subjective performance ratings in the combined sample (with $r = -.25$, $p<.05$), but was not significantly associated with objective or quality performance ratings in either

Table 9

Correlation Matrix between Psychometric Scales and Key Variables for Samples A and B

Scale	1	2	3	4	5	6	7	8	9	10
1. RDT	---	**-.31**	-.18	-.11	-.15	-.22	**-.33**	-.01		-.27
2. LMX (employee)	**-.54**	---	**.37**	**.42**	**.46**	**.59**	**.68**	*.25*		.12
3. Perceived similarity (employee)	**-.32**	**.54**	---	.17	**.30**	**.43**	**.46**	.14		.10
4. Distributive justice	-.22	**.41**	**.35**	---	*.23**	**.36**	**.31**	**.38**		.25
5. Procedural justice	*-.27*	**.53**	*.27*	**.52**	---	**.42**	**.47**	.14		-.03
6. Interpersonal justice	**-.45**	**.62**	**.38**	.21	**.37**	---	**.71**	.16		-.06
7. Informational justice	**-.46**	**.73**	**.47**	**.37**	**.56**	**.75**	---	.22		-.09
8. Goal setting	.05	.05	.05	.10	*.25*	-.06	.14	---		.06
9. Intentions to leave†	**.40**	**-.49**	-.18	**-.35**	**-.35**	**-.33**	**-.50**	-.22	---	
10 Perceived similarity (supervisor)	**-.44**	**.50**	**.38**	*.29*	.24	**.37**	.26	*-.30*	*-.33*	---
11. LMX (supervisor)	-.06	*.28*	.22	.13	-.05	.09	.00	.04	-.19	**.50**
12. Helping OCBs	**-.39**	**.52**	**.49**	**.38**	*.28*	**.62**	**.45**	-.14	-.24	**.61**
13. Sportsmanship OCBs	-.22	**.45**	*.29*	.19	.25	**.42**	**.40**	-.09	-.23	**.52**
14. Subjective perform. ratings (supervisor)	-.18	**.45**	*.28*	*.30*	.14	**.38**	*.28*	.15	**-.42**	**.58**
15. Objective perform. (production records)	.22	-.24	-.20	-.02	-.24	**-.35**	*-.28*	*.31*	-.03	-.05
16. Quality ratings (independent)†	-.04	.12	.09	.08	.05	.02	.04	*.33*	*-.32*	.08
17. Leader-member age similarity	.25	.00	.10	.05	.15	.05	.11	-.09	.04	.00
18. Duration of leader-member dyad	.03	-.14	-.06	-.01	-.13	-.14	-.18	**-.33**	.10	.04
19. Employee satisfaction with performance appraisal system	-.14	-.14	*.27*	**.51**	**.52**	.23	**.38**	*.31*	**-.50**	.13
20. Employee ratings of supervisor perform.	*-.30*	*-.30*	**.43**	.19	**.40**	**.70**	**.71**	.21	**-.39**	.12

(*table continues*)

Scale	11	12	13	14	15	16	17	18	19	20
1. RDT	-.16	*-.31*	*-.35*	-.24	.26		-.12	.21	-.10	-.14
2. LMX (employee)	.16	.17	-.27	.17	.02		.05	.18	**.30**	**.66**
3. Perceived similarity (employee)	.25	.04	-.19	.09	.23		-.01	.12	**.37**	**.51**
4. Distributive justice	.18	.27	-.22	*.31*	.19		.20	.03	*.26*	**.30**
5. Procedural justice	.09	.02	-.10	.03	.16		.11	-.01	**.36**	**.36**
6. Interpersonal justice	.24	-.05	-.28	-.04	-.05		.02	.00	**.44**	**.61**
7. Informational justice	.13	-.07	-.29	-.13	-.07		-.04	.09	**.51**	**.77**
8. Goal setting	*.31*	.24	-.07	.17	.03		.12	.11	**.30**	.18
9. Intentions to leave†										
10 Perceived similarity (supervisor)	**.59**	**.76**	**.41**	**.67**	.11		.08	.04	.14	.02
11. LMX (supervisor)	---	**.66**	*.28*	**.67**	.18		.16	.09	*.38*	.14
12. Helping OCBs	**.44**	---	**.46**	**.71**	.20		.08	-.04	*.33*	.02
13. Sportsmanship OCBs	**.29**	**.62**	---	**.34**	-.08		.05	-.20	-.22	-.20
14. Subjective perform. ratings (supervisor)	**.49**	**.45**	**.37**	---	**.54**		.28	.16	.20	.02
15. Objective perform. (production records)	**.38**	-.14	-.14	*.19*	---		.20	.21	.13	-.01
16. Quality ratings (independent)†	**.30**	.14	.07	**.37**	**.48**	---				
17. Leader-member age similarity	.01	.14	.10	-.04	.09	.13	---	.06	-.04	-.12
18. Duration of leader-member dyad	.13	-.18	-.21	-.13	.25	-.01	-.06	---	-.01	.18
19. Employee satisfaction with performance appraisal system	.19	*.31*	.11	*.31*	.19	*.32*	.15	-.04	---	**.53**
20. Employee ratings of supervisor perform.	.04	**.52**	.27	**.35**	-.24	.09	.13	-.21	**.45**	---

Note. Sample A (direct sales company) correlations are to the right of the center diagonal while Sample B (insurance company) correlations are to the left. Numbers in italics are significant at $p<.05$; bold indicates significance at $p<.01$. † identifies variables that were only collected for Sample B. Lower scores on RDT scale represent faster relationship development, and vice versa.

Table 10

Correlation Matrix between Psychometric Scales and Key Variables for Combined Samples

Scale	1	2	3	4	5	6	7	8	9
1. RDT	---	**-.51**	**-.35**	**-.27**	**-.30**	**-.36**	**-.42**	.02	**-.41**
2. LMX (employee)		---	**.51**	**.46**	**.52**	**.60**	**.70**	.14	**.42**
3. Perceived similarity (employee)			---	**.32**	**.33**	**.40**	**.48**	.09	**.33**
4. Distributive justice				---	**.42**	**.28**	**.37**	**.24**	**.37**
5. Procedural justice					---	**.39**	**.52**	*.18*	.18
6. Interpersonal justice						---	**.73**	.04	*.22*
7. Informational justice							---	*.18*	.15
8. Goal setting								---	-.12
9 Perceived similarity (supervisor)									---
10. LMX (supervisor)									
11. Helping OCBs									
12. Sportsmanship OCBs									
13. Subjective perform. ratings (supervisor)									
14. Leader-member age similarity									
15. Duration of leader-member dyad									
16. Employee satisfaction with performance appraisal system									
17. Employee ratings of supervisor perform.									

(*table continues*)

Scale	10	11	12	13	14	15	16	17
1. RDT	**-.28**	**-.44**	**-.32**	*-.25*	-.06	.09	**-.22**	**-.30**
2. LMX (employee)	**.33**	**.43**	.19	**.38**	.09	.01	**.39**	**.68**
3. Perceived similarity (employee)	**.30**	**.36**	.14	*.25*	.09	.06	**.36**	**.48**
4. Distributive justice	**.30**	**.41**	.12	**.34**	*.20*	-.01	**.45**	**.27**
5. Procedural justice	.11	*.21*	.12	.12	.12	.02	**.47**	**.40**
6. Interpersonal justice	.13	**.35**	.16	*.25*	.02	-.04	**.32**	**.67**
7. Informational justice	.08	*.25*	.13	.15	.05	-.04	**.45**	**.74**
8. Goal setting	.16	.04	-.06	.16	.09	.07	**.29**	*.19*
9 Perceived similarity (supervisor)	**.58**	**.69**	.48	**.61**	.11	-.12	.19	.09
10. LMX (supervisor)	---	**.56**	**.29**	**.54**	.20	-.01	**.31**	.09
11. Helping OCBs		---	**.55**	**.55**	.17	-.12	**.36**	**.32**
12. Sportsmanship OCBs			---	**.36**	.07	**-.31**	.03	.09
13. Subjective perform. ratings (supervisor)				---	.11	.08	**.30**	*.23*
14. Leader-member age similarity					---	.01	.11	.02
15. Duration of leader-member dyad						---	-.02	-.06
16. Employee satisfaction with performance appraisal system							---	**.50**
17. Employee ratings of supervisor perform.								---

Note. Numbers in italics are significant at $p<.05$; bold indicates significance at $p<.01$. Lower scores on RDT scale represent faster relationship development, and vice versa.

Sample A or B. Thus, the time it takes leader-member relationships to solidify is uniquely related to supervisor – but not objective – performance ratings. Finally, the RDT scale had a negative correlation with both employees' satisfaction with their performance appraisal system and their ratings of supervisor performance, with $r =$ -.36, $p<.01$; and $r =$ -.32, $p<.01$; respectively. These findings indicate that faster initial relationship development is associated with higher employee satisfaction with both their performance evaluation system and their manager's performance.

Consistent with previous research in this area (Engle & Lord, 1997; Liden et al., 1993; Podsakoff et al., 2000), LMX – from both the employees' and supervisors' perspective – was significantly positively related (at the $p<.01$ level) to perceived similarity and helping OCBs. In addition, employee LMX was positively related (at the $p<.01$ level) with all justice scales and sportsmanship OCBs. Although there was a significant correlation between subjective performance ratings and LMX from both the leaders' and members' perspective, this association was stronger from the supervisors' perspective than the employees', with $r =$ .54, $p<.01$; and $r =$ .38, $p<.01$; respectively. Interestingly, LMX was not significantly correlated with objective or quality performance in either Sample A or B. As recommended by Gerstner and Day (1997), correlations between both the leader and member perspectives' of LMX were examined as an index of the data quality. Results determined that the employees' and supervisors' perspective of LMX were significantly related to each other in Sample B *but not* Sample A, with $r = .28$, $p<.05$; and $r = .16$, $p>.05$; respectively. These findings suggest that the leader-member relationship perspectives were moderately calibrated in Sample B, but indicate

mismatched employee-manager perspectives in Sample A. In the combined sample, the correlation between supervisor LMX and employee LMX was significantly positively related, with $r = .33$, $p<.01$.

Another key variable in this research is objective performance data. In Sample A, objective performance was significantly correlated with subjective performance ratings, with $r = .54$, $p<.01$; suggesting a strong match between supervisors' perceptions of performance and actual objective performance in this sample. In Sample B, objective performance was positively related to employee goal setting, supervisor LMX, and subjective performance ratings. Surprisingly, objective performance was negatively related with interpersonal and informational justice, with $r = -.35$, $p<.01$; and $r = -.28$, $p<.05$; respectively. These results suggest that higher levels of interpersonal and informational justice are associated with lower objective performance. Finally, the independently assessed quality ratings in Sample B were positively related to goal setting, supervisor LMX, subjective performance ratings, and objective performance ratings; this variable was also negatively correlated with employee intentions to leave.

Hypothesis Testing

Hypothesis 1. The first hypothesis – which posited that the duration of initial relationship development would moderate the association between similarity and LMX so that similarity would have a significant effect on LMX for fast developing relationships but not for slow relational development – was tested using hierarchical regression. In this analysis LMX was regressed on similarity and RDT in step one, and then on the similarity

by RDT interaction in step two. The following section will outline the procedure and results for the combined sample (see Table 11 for specific sample results).

As recommended by Tabachnick and Fidell (2001), an evaluation of assumptions was performed using regression and frequencies analyses. The results of these tests led to the transformation of several variables in order to reduce skewness and thus improve the normality of variable distributions. A square root transformation was performed on the LMX variable, while a logarithmic transformation was used on the RDT scale. Following transformations, no significant univariate outliners (using *z* scores, $p<.001$) or multivariate outliers (based on Mahalanobis distance, $p<.001$) were detected. Missing data were addressed using the listwise procedure, resulting in a total of 151 cases for this analysis. Finally, as suggested by Aiken and West (1991), all variables were centered in order to reduce multicollinearity between the predictors and the interaction term.

Table 11 outlines the procedure and results of the hierarchical regression for the combined sample. After entering RDT and similarity in step 1, $R^2 = .37$, F_{inc} (2, 148) = 44.18, $p<.01$. Following step 2, with the RDT by similarity interaction added to RDT and similarity, $R^2 = .37$, F_{inc} (3, 147) = 29.27, $p<.01$. Yet, the standardized regression weight for the interaction term was not significant, with *beta* = .01, $p>.05$. Thus, the addition of the interaction to the equation did not reliably improve R^2. As can be seen in Table 11, similar results were obtained for Sample A and B in separate regression runs. These findings do not lend support to the predictions of hypothesis one.

Why did the results fail to support the supposition put forth in H1? A key problem with this analysis was the relatively high first-order correlation between the RDT

Table 11

Hierarchical Regression for Hypothesis 1: Combined Sample, Sample A, and Sample B

Variable Entry	R	R^2	Adjusted R^2	Change in R^2	B	$\mathcal{B}$
			Combined Sample (N=151)			
Step 1	.61**	.37**	.37			
RDT[a]					-.22**	-.39**
Similarity					.01**	.36**
Step 2	.61**	.37**	.36	.00		
RDT[a]					-.22**	-.39
Similarity					.01**	.37**
RDT[a] x similarity					.00	.01
			Sample A (N=82)			
Step 1	.45**	.21**	.19			
RDT[a]					-.49**	-.28*
Similarity					.03**	.31**
Step 2	.46**	.21**	.18	.00		
RDT[a]					-.48**	-.27**
Similarity					.03**	.31**
RDT[a] x similarity					-.02	-.06
			Sample B (N=69)			
Step 1	.66**	.44**	.42			
RDT					-.07**	-.43**
Similarity					.01**	.38**
Step 2	.66**	.44**	.41	.00		
RDT					-.07**	-.43**
Similarity					.01**	.38**
RDT x similarity					.00	.00

Note. [a] indicates that a square root transformation was performed on this variable. Square root transformations were also performed on the DV (LMX) for both the combined sample and for Sample B. All variables were centered. *p<.05 **p<.01

and perceived similarity scales (r = -.35, p< .01). As noted by Aiken and West (1991) as well as Tabachnick and Fidell (2001), high correlations among predictor variables serve to attenuate statistical power in detecting interactions. Another issue here was the relatively low sample size for the testing of interactions. As suggested by Aiken and West, nearly 400 cases may be needed in order to detect small interaction effect sizes. In general, these statisticians recommended the use of larger sample sizes for social science research involving multiple regression interactions. Of course, an alternative explanation is that the predictions laid-out in H1 were mistaken and the lack of interaction detected was accurate. Obviously, this alternative would serve to challenge the proposed *Developmental Processing Model of LMX* in general.

Hypothesis 2. Hypothesis two proposed that the duration of initial relationship development (RDT scale) would significantly predict objective performance, with slower relationship development being associated with higher objective performance, and vice versa. This hypothesis was tested using standard multiple regression, regressing objective performance on RDT. Due to the sample specific nature of the objective performance variables, separate analyses were conducted for Samples A and B.

An evaluation of key assumptions was performed using frequencies analyses. The results of these tests led to the transformation of several variables in order to reduce skewness and thus improve the normality of variable distributions. Square root transformations were performed on the RDT scale and objective performance variable in Sample A. Following transformations, no significant univariate outliners (using z scores,

$p<.001$) were detected in either sample. Missing data were addressed using the listwise procedure, resulting in a total of 50 cases in Sample A and 56 cases in Sample B.

The results of this analysis for Sample A determined that the RDT scale was a significant predictor of objective performance, with $R^2 = .08$, F_{inc} (1, 48) = 4.15, $p<.05$. The standardized regression weight was found to be significantly positive, with *beta* = .28, $p<.05$. This finding indicates that RDT scale was a significant predictor of objective performance, with slower developing relationships (denoted by higher RDT scores) being associated with high performance, and vice versa. Therefore, H2 was supported for Sample A.

In Sample B, the RDT scale approached significance in predicting objective performance, with $R^2 = .05$, F_{inc} (1, 54) = 2.76, $p=.10$. The standardized regression weight was .22, $p=.10$. As in Sample A, the association was in the predicted direction, with slower developing relationships being associated with higher performance, and vice versa. Because the analysis did not meet the $p<.05$ criterion, H2 was only partially supported in Sample B. However, considering the similar trend in both samples as well as the low sample sizes involved, these findings lend confidence to the assertions put forth in H2.

As an exploratory follow-up to these findings, parallel analyses were rerun, regressing supervisory performance ratings (rather than objective performance) on the RDT scale. Based on the combined sample, the RDT scale was found to significantly predict supervisory ratings, with $R^2 = .05$, F_{inc} (1, 94) = 5.07, $p<.05$. The standardized

regression weight was found to be significantly negative, with *beta* = -.23, $p<.05$. Thus, fast developing relationships (represented by lower scores on the RDT) were significantly related to higher supervisory ratings of performance. These findings are the exact reverse of those in H2, but are generally consistent with the proposed *Developmental Processing Model of LMX* (see Figure 4). As can be see in Table 12, the regression analysis did not reach significance in either Sample A or B, although they showed a similar trend to the analysis based on the combined sample. The lack of significance in the individual samples is likely related to reduced statistical power.

Hypothesis 3. The third hypothesis predicted that the variability in supervisory performance ratings would be significantly greater within the low LMX group than within the high LMX group. This thesis was tested with variance hypothesis testing, where $F = s_1^2 / s_2^2$. A mean split was performed on the sample in order to obtain high vs. low LMX groups, and descriptive statistics were used to determined group variance.

Based on the combined sample, descriptive statistics determined a variance of 4.82 and 2.70 for the low and high LMX groups, respectively. Variance testing lead to a significant difference between the groups, with $F(45,50) = 1.79$, $p<.05$; therefore, the null hypothesis (Ho: $\sigma_1^2 = \sigma_2^2$) is rejected (see Table 13). These findings indicate that the low LMX group had significantly greater variance in supervisory performance ratings than the high LMX group, thus hypothesis 3 was supported based on the combined sample. Interestingly, examination of Table 13 reveals that these findings were more attributable to Sample B than to Sample A.

Table 12

Standard Regression for Exploratory Follow-Up Analyses to Hypothesis 2: Combined Sample, Sample A, and Sample B

Regression	R	R^2	Adjusted R^2	B	ß
Combined Sample (N=96)					
Supervisory ratings[a] (DV)	.23	.05*	.04*		
RDT scale[a] (IV)				-.27*	-.23*
Sample A (N=42)					
Supervisory ratings (DV)	.20	.04	.02		
RDT scale[a] (IV)				-.96	-.20
Sample B (N=54)					
Supervisory ratings[a] (DV)	.17	.03	.01		
RDT scale (IV)				-06.	-.17

Note. [a] indicates that a square root transformation was performed on this variable.

*p<.05 **p<.01

Table 13

Variance Hypothesis Testing of Supervisory Performance for Low and High LMX: Sample A, Sample B, Combined Sample

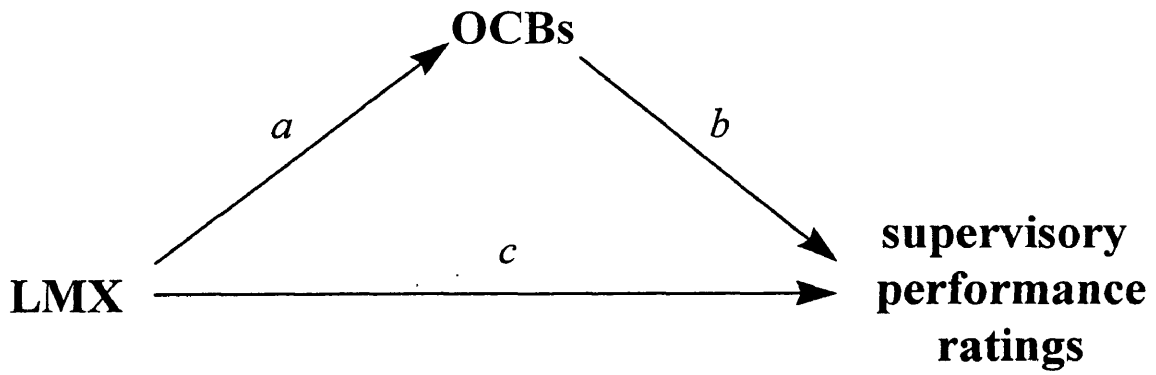
	N	df	*M*	σ^2	*F*
			Combined Sample		
low LMX	46	45	6.39	4.82	
high LMX	51	50	7.55	2.70	1.79*
			Sample A		
low LMX	19	18	7.00	3.89	
high LMX	23	22	7.70	2.40	1.62
			Sample B		
low LMX	27	26	5.89	5.64	
high LMX	28	27	7.50	2.33	2.42*

Note. *p<.05 **p<.01

Hypothesis 4. Hypothesis 4 postulated that the relationship between LMX and supervisory performance ratings would be mediated by organizational citizenship behaviors. This proposition was tested based on a four-part procedure recommended by Baron and Kenny (1986). First, supervisory performance was regressed on LMX (path c; see Figure 6). Second, OCBs were regressed on LMX (path a). Third, supervisory performance was regressed on OCBs (path b). Lastly, in step four, performance was regressed on OCBs and LMX. In order for mediation to occur, the standard regression in steps one through four must all be significant. If the effect of LMX is reduced to zero in the forth equation, then OCBs fully mediate the relationship between LMX and performance. If the effect of LMX on performance is attenuated (but remains significant) in step four relative to step one, then partial mediation has occurred. Separate mediation analyses were run for both the helping and sportsmanship OCBs.

Figure 6

Proposed Mediation Model for Hypothesis 4



Critical assumptions were assessed using frequencies analyses. The results of these tests led to the transformation of several variables in order to reduce the skewness of the variable distributions (see Table 14 for specific variable transformations in each sample). Following transformations, no significant univariate outliners (using *z* scores, $p<.001$) were detected. In order to insure that the same cases within each sample were included in the mediation analyses, missing data were deleted as needed.

Table 14 outlines the results of the standard regressions for helping OCBs. Based on the combined sample, step one found that LMX significantly predicted subjective supervisory performance, with $R^2 = .13$, F_{inc} (1, 94) = 13.52, $p<.01$. (See Table 14 for *beta* weights.) In step two, LMX was found to significantly predict OCBs, with $R^2 = .17$, F_{inc} (1, 94) = 18.90, $p<.01$. Next, OCBs were found to predict performance ratings, with $R^2 = .33$, F_{inc} (1, 94) = 46.85, $p<.01$. In the final step, OCBs and LMX were together found to significantly predict subjective performance, with $R^2 = .59$, F_{inc} (2, 93) = 24.99, $p<.01$. The standardized regression weight for OCBs was significantly positive, with *beta* = .52, $p<.01$; for LMX, the regression weight was nonsignificant, with *beta* = .14, $p > .05$. Considered in sum, these findings indicate that helping OCBs fully mediate the relationship between LMX and supervisory performance ratings. Thus, hypothesis four was supported for helping OCBs based on the combined sample. Support for H4 was mixed in the individual samples, with the proposed mediation model being affirmed for Sample B but not Sample A (see Table 14 for specific details regarding the sample specific mediation analyses).

Table 14

Hierarchical Regression for Hypothesis 4 Based on Helping OCBs: Combined Sample, Sample A, and Sample B

Steps	R	R^2	Adjusted R^2	B	$\mathcal{B}$
Combined Sample ($N = 96$)					
1. (perform.[a] on LMX[a])	.36**	.13**	.12		
LMX[a]				.77**	.36**
2. (OCBs on LMX[a])	.41**	.17**	.16		
LMX[a]				14.23**	.41**
3. (perform.[a] on OCBs)	.58**	.33**	.33		
OCBs				.04**	.58**
4. (perform.[a] on OCBs & LMX[a])	.59**	.35**	.34		
OCBs				.03**	.52**
LMX[a]				.31	.14
Sample A ($N = 42$)					
1. (perform. on LMX)	.17	.03	.01		
LMX				.49	.17
2. (OCBs on LMX)	.17	.03	.01		
LMX				2.17	.17
3. (perform. on OCBs)	.71**	.50**	.50		
OCBs				.17**	.71**
4. (perform. on OCBs & LMX)	.70**	.49**	.46		
OCBs				.16**	.69**
LMX				.15	.05

(table continues)

Steps	R	R^2	Adjusted R^2	B	$\mathcal{B}$
		Sample B ($N = 54$)			
1. (perform.[a] on LMX[a])	.44**	.19**	.18		
LMX[a]				.95**	.44**
2. (OCBs on LMX[a])	.50**	.25**	.24		
LMX[a]				16.32**	.50**
3. (perform.[a] on OCBs)	.48**	.23**	.22		
OCBs				.03**	.48**
4. (perform.[a] on OCBs & LMX[a])	.53**	.28**	.26		
OCBs				.02*	.35*
LMX[a]				.57	.27

Note. All analyses are based on standard regression; "Steps" refers to mediation testing.
[a] indicates that a square root transformation was performed on this variable. *p<.05
**p<.01

Table 15 outlines the results of the standard regressions for sportsmanship OCBs. Based on the combined sample, step one found that LMX significantly predicted supervisory performance, with $R^2 = .13$, F_{inc} (1, 94) = 13.52, $p<.01$. (See Table 15 for *beta* weights.) In step two, LMX was not found to significantly predict sportsmanship OCBs, with $R^2 = .02$, F_{inc} (1, 94) = 1.56, $p>.05$. Because the regression in step two must be significant in order for a mediated relationship to exist, H4 was not supported for sportsmanship OCBs based on the combined sample. A similar outcome was obtained for the sample specific mediated analyses (see Table 15 for specific details).

Hypothesis 5. H5 proposed that: perceptions of (a) procedural and (b) interactional justice would be significantly higher for the conscious-based processing group than for the automatic-based group. This supposition was tested using *t* test analyses. Automatic-based (fast) vs. conscious-based (slow) relationship development groups were created from a mean split of the RDT scale. In addition, both interpersonal and informational justice scales were used to assess interactional fairness.

Results of two-way *t* tests for the combined sample determined that there was a significant difference between automatic vs. conscious-based processing groups on the procedural [t (149)=3.29, $p<.01$], interpersonal [t (147)=2.97, $p<.01$], and information [t (146)=4.39, $p<.01$] justice variables. Examination of mean differences (see Table 16) indicates that in each case, automatic-based processing was associated with greater perceptions of justice. These findings are in the opposite direction of the assertions made in H5. Therefore, hypothesis five was not supported. Examination of *t* tests for the

Table 15

Hierarchical Regression for Hypothesis 4 Based on Sportsmanship OCBs: Combined Sample, Sample A, and Sample B

Steps	*R*	R^2	Adjusted R^2	B	*Β*
Combined Sample ($N = 96$)					
1. (perform.[a] on LMX[a])	.36**	.13**	.12		
LMX[a]				.77**	.36**
2. (OCBs[b] on LMX[a])	.13	.02	.01		
LMX[a]				.14	.13
3. (perform.[a] on OCBs[b])	.35**	.12**	.11		
OCBs[b]				.69**	.35**
4. (perform.[a] on OCBs[b] & LMX[a])	.47**	.22**	.20		
OCBs[b]				.61**	.31**
LMX[a]				.68**	.32**
Sample A ($N = 42$)					
1. (perform. on LMX)	.17	.03	.01		
LMX				.49	.17
2. (OCBs on LMX)	.27	.08	.05		
LMX				-2.80	-.27
3. (perform. on OCBs)	.34**	.12**	.11		
OCBs				.10**	.34**
4. (perform. on OCBs & LMX)	.41*	.17*	.12		
OCBs				.11*	.38*
LMX				.78	.28

(*table continues*)

Steps	R	R^2	Adjusted R^2	B	$\mathcal{B}$
		Sample B (N = 54)			
1. (perform. on LMX[a])	.44**	.19**	.18		
LMX[a]				.95**	.44**
2. (OCBs[b] on LMX[a])	.31*	.10*	.08		
LMX[a]				.30*	.31*
3. (perform. on OCBs[b])	.39**	.15**	.14		
OCBs[b]				.81**	.39**
4. (perform. on OCBs[b] & LMX[a])	.47**	.22**	.19		
OCBs[b]				.36	.16
LMX[a]				.84**	.39**

Note. All analyses are based on standard regression; "Steps" refers to mediation testing. [a] indicates that a square root transformation was performed on this variable. [b] indicates that a log10 transformation was performed. *p<.05 **p<.01

Table 16

Analyses for Hypothesis 5: Combined Sample, Sample A, and Sample B

Group	*n*	*M*	*SD*	df	*t*
		Combined Sample			
Procedural justice				149	3.29**
Automatic-based processing	87	14.85	3.86		
Conscious-based processing	64	12.72	4.05		
Interpersonal justice				147	2.97**
Automatic-based processing	86	18.14	2.80		
Conscious-based processing	63	16.52	3.83		
Informational justice				146	4.39**
Automatic-based processing	85	21.68	3.61		
Conscious-based processing	63	18.79	4.39		
		Sample A			
Procedural justice				77	1.21
Automatic-based processing	45	15.51	3.85		
Conscious-based processing	34	14.38	4.40		
Interpersonal justice				76	1.52
Automatic-based processing	44	18.09	2.51		
Conscious-based processing	34	17.18	2.78		
Informational justice				76	2.36*
Automatic-based processing	44	21.82	3.27		
Conscious-based processing	34	19.88	3.98		

(*table continues*)

Group	*n*	*M*	*SD*	df	*t*
	Sample B				
Procedural justice				67	1.10
Automatic-based processing	35	13.23	2.96		
Conscious-based processing	34	12.24	4.43		
Interpersonal justice				66	2.78**
Automatic-based processing	34	18.50	3.14		
Conscious-based processing	34	15.88	4.50		
Informational justice				65	2.04*
Automatic-based processing	33	20.97	4.06		
Conscious-based processing	34	18.68	5.08		

Note. All analyses are based on *t* tests with equal variances assumed. *$p<.05$ **$p<.01$

individual samples (see Table 16) show a similar trend with the combined sample regarding the direction of mean differences between groups.

Hypothesis 6. The sixth hypothesis – which postulated that LMX would moderate the relationship between objective performance and goal commitment so that there would be a significantly positive relationship between performance and commitment when LMX is high but not when it is low – was a replication of the findings of Klein and Kim (1998). Like Klein and Kim, this supposition was tested using hierarchical regression. This analysis utilized the revised goal commitment scale. Here, objective performance was regressed on LMX and goal commitment in step one, and then on the LMX by goal commitment interaction in step two. The following discussion will outline the procedure and results for Samples A and B (the combined sample is not appropriate for inclusion in this analysis due to the sample specific nature of the objective performance measures).

As recommended by Tabachnick and Fidell (2001), an evaluation of assumptions was performed using regression and frequencies analyses. The results of these tests led to the transformation of several variables in order to reduce skewness and thus improve the normality of variable distributions (see Table 17 for specific variable transformations in each sample). Following transformations, no significant univariate outliners (using z scores, $p<.001$) or multivariate outliers (based on Mahalanobis distance, $p<.001$) were detected. Missing data were addressed using the listwise procedure, resulting in a total of 50 participants for Sample A and 56 for Sample B. Finally, as suggested by Aiken and West (1991), all variables were centered in order to reduce multicollinearity between the predictors and the interaction term.

Table 17

Hierarchical Regression for Hypothesis 6: Sample A and Sample B

Variable Entry	R	R^2	Adjusted R^2	Change in R^2	B	$\mathcal{B}$
			Sample A (N=50)			
Step 1	.03	.00	-.04			
LMX					.08	.02
goal (revised)[b]					-.01	-.01
Step 2	.12	.01	-.05	.01		
LMX					-.82	-.22
goal (revised)[b]					.07	.02
LMX x goal (revised)[b]					.59	-.26
			Sample B (N=56)			
Step 1	.43**	.18**	.15			
LMX[a]					-.78	-.18
goal (revised)[b]					1.57**	.38**
Step 2	.44**	.19**	.14	.01		
LMX[a]					-.69	-.16
goal (revised)[b]					1.60**	.39**
LMX[a] x goal (revised)[b]					-1.92	-.10

Note. For all analyses, DV = objective performance. [a] indicates that a square root transformation was performed on this variable. [b] indicates that a log10 transformation was performed on this variable. All variables were centered. *p<.05 **p<.01

Table 17 outlines the procedure and results of the hierarchical regression for each sample. In Sample A, after entering LMX and goal commitment in step 1, $R^2 = .00$, F_{inc} (2, 47) = .02, $p>.05$. Following step 2, with the LMX by goal commitment interaction added to LMX and goal commitment, $R^2 = .01$, F_{inc} (3, 46) = .23, $p>.05$. Clearly, the addition of the interaction to the equation did not reliably improve R^2. For the Sample B analyses, upon entering LMX and goal commitment in step 1, $R^2 = .18$, F_{inc} (2, 53) = 5.86, $p<.01$. Following step 2, with the LMX by goal commitment interaction added to LMX and goal commitment, $R^2 = .19$, F_{inc} (3, 52) = 4.07, $p<.01$. Yet, the standardized regression weight for the interaction term was not significant, with *beta* = -.10, $p>.05$. Thus, although R^2 remained significant upon entering the interaction term in step 2, the interaction itself was not significant. These results failed to support hypothesis six.

Why did the present study fail to replicate the findings of Klein and Kim (1998)? One key difference between these studies was that Klein and Kim included a measure of *situational constraints*, a 10-item scale assessing employee perceptions of factors beyond their control that could impede goal achievement. These researchers included this variable in the moderation analysis, and it, in combination with LMX, was found to account for 13% of the variance. The present study did not assess situational constraints, thus it was not an exact replication of Klein and Kim's research. An alternative explanation is that the very small *N* of the present analyses (between 50 and 56 cases per sample) may have been an important factor here, making it only possible to detect large interaction effects (Aiken & West, 1991). Especially in Sample B, it is quite possible that

an interaction would have been detected with a larger sample size. Yet, it should be noted that the sample sizes of the present analyses were comparable to that of Klein and Kim. Finally, a key limitation of the present analyses was the low reliability of the goal commitment scale. As noted in the *Instruments* section of Study 2, the original three-item scale used had an unacceptably low internal consistency reliability ($\alpha = .54$). Thus, the item with the worst *corrected item-total correlation* was dropped, and a two-item scale was created. Yet, the reliability of this revised scale remained in the low range, with $\alpha = .72$. In contrast, Klein and Kim used a seven-item goal commitment scale, which was found to have much better internal reliability ($\alpha = .87$). Therefore, measurement error and unreliability may have played a role in the failure of the present study to support H6.

General Discussion

At its core, this research was designed to challenge the implicit assumption in the LMX field that high exchange relationships unconditionally lead to positive organizational outcomes. This vein of reasoning was inspired in part from a recent study by Klein and Kim (1998), who found that high LMX employees performed either above or below the levels of low LMX employees based on their degree of goal commitment. Supplementary support for this rationale came from a comprehensive meta-analysis on the LMX literature by Gerstner and Day (1997). These researchers established that there was a strong positive correlation between LMX and supervisory performance ratings, but a barely significant association between LMX and objectively measured performance. In

addition, Dienesch and Liden's (1986) conceptualization of a bypass route to LMX development – whereby employees with salient differences to their supervisors may not have access to the typical work-related behavior/attribution cycle – was also influential to this line of deduction. Based on a detailed multidisciplinary literature review of relevant constructs, the *Developmental Processing Model of LMX* was proposed. Axiomatic to this model is the distinction between automatic versus conscious-based leader-member relationship development processes.

As a means of discriminating automatic from conscious-based relationship development processing, the *Relationship Development over Time* (RDT) scale was developed. The psychometric properties of this 12-item scale were first tested in Study 1, based on 187 undergraduate participants who were employed at least part-time. From the data collected in this study, revisions were then made to the RDT scale, resulting in an eight-item revised RDT instrument. Study 2 was then conducted to test the proposed hypotheses put forth in the *Developmental Processing Model of LMX*. This applied field study consisted of two samples, including: Sample A, comprised of 83 sales representatives and their respective managers; and Sample B, composed of 70 back office insurance employees and their supervisors. An important component of this study was the collection of both subjective supervisory ratings of employee performance as well as objectively measured employee output. For analyses that did not involve objectively measured performance – which was highly sample specific in nature – the samples were aggregated and analyzed together.

One of the most consistent findings in the LMX literature is a strong positive correlation between LMX and supervisory performance ratings (Gerstner & Day, 1997). Conversely, a much weaker association is typically found between LMX and objectively measured performance. Consistent with these prior trends, the present study found a relatively strong association between LMX and supervisory performance ratings (based on the combined samples), but a nonsignificant correlation between LMX and objectively measured performance (based on the separate samples). In noting the traditionally low correlation between LMX and objective performance, Gerstner and Day suggested that "more complex models may be necessary to specify the nature of the relationship between LMX and objective outcomes" (p. 835). The present paper addresses this issue in the proposed *Developmental Processing Model of LMX* (see Figure 4). In this model, automatic versus conscious-based processing was posited to be a key factor to both subjective performance ratings and objectively measured output.

Uniquely, the RDT scale was found to have a significant relationship with both supervisory performance ratings and objectively measured performance, but in the *opposite* direction. As tested in hypothesis two, results determined that the RDT scale was a significantly positive predictor of objective performance. As predicted, these findings indicate that slower developing conscious-based relationships are associated with higher levels of objective performance, and vice versa. Yet, in exploratory follow-up analyses to H2, the RDT scale was found to be a significant *negative* predictor of subjective performance. Thus, faster developing (automatic-based) relationships are related to higher levels of supervisory performance ratings.

The apparent paradox of these conflicting findings is best explained in relation to the proposed *Developmental Processing Model of LMX* (see Figure 4). This model essentially posits that slower conscious-based relationship processing is analogous to Dienesch and Liden's (1986) typical path to exchange relationships, where employees earn (and are rewarded for) high objective performance through a cycle of work-related behaviors and attributions (see Figure 1). In contrast, with faster automatic-based relationship processing (akin to Dienesch and Liden's bypass route) the nature of the relationship is decided quickly, based on either salient similarities or differences. Therefore, from this perspective, it seems intuitive that employees who have been rewarded for higher levels of objective performance would continue to produce at above average levels, while employees whose leader-member relationship was not contingent on objective performance would be less concerned about stellar performance output. Further, considering the significant association between faster developing relationships and high perceptions of leader-member similarity (and vice versa), it seems logical that supervisors who granted relationships based on automatic processes (and high similarity) would give higher subjective performance ratings to these employees.

From the perspective of supervisory performance ratings and LMX, the proposed model postulated that all high LMX employees (irrespective of the type of initial relationship processing) would receive high supervisory ratings of performance. In contrast, for low LMX employees, the type of initial relational processing (automatic vs. conscious) was predicted to be more influential toward supervisory ratings. This theory was directly tested in hypothesis three, which posited that the variability in supervisory

performance ratings would be significantly greater within the low LMX group than the high LMX group. Based on the combined sample, this hypothesis was supported.

The relationship between objective performance, LMX, and goal commitment – as proposed in the *Developmental Processing Model of LMX* – was not supported. Specifically, nonsignificant results were found for hypothesis six [a replication of Klein and Kim's (1998) findings], which proposed that LMX would moderate the relationship between objective performance and goal commitment so that there would be a significantly positive relationship between performance and commitment when LMX was high but not when it was low. As noted previously, this analysis suffered from several key limitations, including: (a) failure to measure situational constraints (a construct included in Klein and Kim's research), (b) low samples sizes for the detection moderation effects, and (c) low internal consistency reliability for the goal commitment scale. Yet, the lack of support for the proposed model should not be underscored. Should future research also fail to support these predictions, then revisions to the model may be warranted.

As proposed in the present model (see Figure 4), a key category of antecedents to supervisory performance ratings, but not objective performance, are organizational citizenship behaviors. Consistent with this supposition, both helping and sportsmanship OCBs were found to have a strong relationship with supervisory performance ratings (based on the combined samples), but a nonsignificant correlation with objective performance measures (based on the individual samples). Further, as posited in H4, the relationship between LMX and supervisory performance ratings were expected to be

mediated by organizational citizenship behaviors. As previously noted, this prediction is based on prior research which has found that: (a) LMX is significantly related to supervisory performance ratings (Gerstner & Day, 1997); (b) OCBs are strongly associated with supervisory performance ratings (MacKenzie et al., 1991, 1993; Podsakoff et al., 2000); and (c) LMX and OCBs are correlated with each other (Podsakoff et al., 2000; Wayne et al., 1997). Based on a series of regression analyses performed on the combined sample, this hypothesis was supported for helping OCBs but not sportsmanship OCBs.

A recent comprehensive literature review and meta-analysis by Podsakoff et al. (2000) provides some guidance in interpreting the aforementioned OCB findings. These researchers suggested that greater deference should be given to helping OCBs in general. As Podsakoff et al. stated: "helping behavior has been identified as an important form of citizenship behavior by virtually everyone who has worked in this area" (p. 516). In contrast, Podsakoff et al. indicated that sportsmanship OCBs have received much less attention in the field, and that there remains disagreement on exactly what constitutes being a "good sport" at work. More importantly, they noted: "empirical research that has included this construct in the context of other forms of citizenship behavior has shown it to be distinct from them, and to have somewhat different antecedents and consequences" (p. 517). The findings of the present study serve to provide additional support for the assertion that sportsmanship OCBs may have different antecedents and consequences from helping OCBs. Based on Podsakoff et al.'s review, it seems justified to give greater

weight to the mediation analyses based on helping OCBs, which support the predictions of H4.

Another important variable in the proposed *Developmental Processing Model of LMX* is leader-member similarity. Here, similarity was posited to be a key component in automatic-based relationship development but not conscious-based development. As a preliminary means of testing this assertion, the first hypothesis suggested that LMX would moderate the association between similarity and LMX so that similarity would have a significant effect on LMX for automatic-based relationships but not for conscious-based relational development. This supposition was tested using hierarchical regression analyses. Based on the combined sample, the results found that both RDT and similarity significantly predicted LMX, but the interaction term did not reach significance. Thus, hypothesis one was not supported. As previously noted, this analysis suffered from several limitations, including a low sample size for detecting moderate to small effects as well as a high first-order correlation between the RDT and similarity scales (thereby reducing power to detect interactions). Nevertheless, the failure to support these basic assumptions regarding the role of LMX, similarity, and developmental processing in the proposed model is problematic.

In a different vein, perhaps the most direct challenge to the proposed model is evoked from the findings regarding hypothesis five. Recall that H5 proposed: perceptions of (a) procedural and (b) interactional justice would be significantly higher for the conscious-based processing group than for the automatic-based group. This theory was tested using *t* test analyses. Both interpersonal and informational justice scales were used

to assess interactional fairness. Surprisingly, the results of this analysis determined that perceptions of procedural, interpersonal, and information justice were all significantly higher in the automatic-based relational processing group than in the conscious-based processing group. Thus, the exact opposite results of those proposed in H5 were found.

Why would employees in the automatic processing relationship development group – based on procedures that appear to be inherently unfair in nature – have the highest levels of perceived workplace justice? Considering the aforementioned correlations between RDT and both LMX and perceived similarity, it can be inferred that employees in the automatic-based processing group are generally the most similar with their supervisors and enjoy the highest exchange relationships. One likely explanation of the high perceptions of justice in this group is the *outcome effect*. As previously described in the *Organizational Justice* section of the literature review, one of the most consistent findings in the justice literature is the distinction between the *process effect* – where high procedural justice (PJ) can mitigate the negative effects of low distributive justice (DJ) – and the outcome effect – where high DJ can reduce the negative impact of low PJ. Therefore, employees in the automatic-based processing group, being recipients of a valent outcome, may have been more likely to overlook the inherently unfair procedure used to arrive at the LMX decision based on the outcome effect. Conversely, it can be deduced that employees in the conscious-based processing group generally had lower dyad similarity with their supervisors and lower levels of LMX. If these employees felt that they received a poor outcome and that their supervisor had treated them

differently than others (i.e., coworkers in the automatic-high LMX group), then they may have been more vigilant to issues of workplace unfairness.

Perhaps the most promising outcome of this research program was the development and initial validation of the RDT scale. Psychometric analyses in both Study 1 and 2 found a very consistent pattern of results: (a) the RDT scale appears to be measuring a single underlying latent variable, (b) the RDT scale possesses high internal consistency reliability (with Cronbach's alphas in the low .90s), and (c) the RDT scale was found to have a similar pattern of associations with other scales across the three diverse samples. Intended originally as a simple means of differentiating employees to test the proposed *Developmental Processing Model of LMX*, this instrument was found to be associated with a wide variety of constructs and two separate measures of performance. Across both Study 1 and 2, the RDT scale was found to have a significant negative correlation with LMX, perceived similarity, all organizational justice measures, and employee ratings of supervisor performance. In Study 2 (which measured OCBs from the supervisors' perspective), it was also negatively associated with both helping and sportsmanship OCBs. Considering that lower RDT scores represent faster developing relationships, these findings indicate that more rapidly developing relationships are associated with higher levels of LMX, perceived similarity, perceptions of justice, and employee use of OCBs.

From a psychometric theory perspective, this research program serves to provide an initial test of validity for the RDT scale. First, content validity – or the adequacy of sampling from a pool of content (Nunnally & Bernstein, 1994) – was assessed by having

the scale items reviewed by subject matter experts in I/O psychology, counseling, and clinical social work prior to the administration of the instrument in Study 1. Second, initial evidence of predictive (or criterion-related) validity – which is the establishment of a statistical relationship with one or more criteria measures – is indicated from the RDT scale's consistent association with a variety of measures across the three diverse samples. Finally, the results provide evidence of construct validity, which concerns the measurement of psychological attributes. As noted by Nunnally and Bernstein (1994), three key aspects of construct validity include:

> (1) specifying the domain of observables related to the construct; (2) determining the extent to which observables tend to measure the same thing...; and (3) performing subsequent... experiments to determine the extent to which supposed measures of the construct are consistent with "best guesses" about the construct. (pp. 86-87)

Based on these criteria, and the RDT scale's support of several key predictions made by the *Developmental Processing Model of LMX* (e.g., H2, exploratory analyses associated with H2), this research provides an early indication of construct validity for the RDT scale. Yet, it should be emphasized that the reliability and validity of the RDT scale remains preliminary in nature, and more research, based on larger sample sizes, is needed before more definitive conclusions can be made.

The pattern of findings related to the RDT scales may have some important implications regarding Dienesch and Liden's (1986) model of LMX development, as well as the proposed *Developmental Processing Model of LMX* herein. For example, as

initially proposed by Dienesch and Liden (see Figure 1), the bypass route is utilized primarily when there are salient leader-member differences. In contrast, based on the similarity-attraction paradigm, the model proposed in the present paper suggests that some supervisors might also utilize the bypass route as a result of prominent dyad similarities. Both Study 1 and 2 found that automatic-based processing – which is conceptualized as being analogous to the bypass route – is associated with higher levels of perceived dyad value and work style similarities. Therefore, this pattern of results lends support to the present *Developmental Processing Model of LMX*. Further, the findings that automatic-based processing (or faster developing relationships) are correlated with higher levels of LMX appear to suggest that the Dienesch and Liden's bypass route – originally theorized to be ancillary to the more common behavior-attribution process – may in fact be the most typical, or default, path to high LMX relationships. In other words, from the perspective of Dienesch and Liden's model, the usual path to high LMX relationships may be based on salient leader-member similarities and the bypass route. Only when there is *not* prominent dyad similarity is the LMX relationship based on a work-related behavior/attribution cycle. This line of reasoning represents a radical departure from traditional assumptions and theorizing in the LMX domain. Clearly, caution should be exercised before turning Dienesch and Liden's influential model on its head. Yet, the potential implications in these findings are indeed provocative and undoubtedly warrant more research in this area.

The findings of the present study offer a variety of possibilities for future research. Additional research, based on a much larger sample size, could potentially directly test

the proposed *Developmental Processing Model of LMX* using regression or structural equation modeling. Such research could provide new insights into the complex interrelationship among the variables discussed herein. In particular, it would be constructive if future research focused greater attention on the early stages of the proposed model and relationship development. For instance, are there individual differences between supervisors on: (a) the speed of leader-member relationship development, (b) the influence of similarity, or (c) the consistency of relationship development processes across subordinates? In addition, considering the surprising nature of Klein and Kin's (1998) findings, and the lack of support for these results in the present study, future research may consider retesting this hypothesis. Finally, employee *intentions to leave* – included as an ancillary variable at the request of the participating insurance company (Sample B) – were found to be related to faster automatic-based relationship development as well as lower levels of LMX and all justice variables. Interestingly, employees intentions to leave had a rather strong negative correlation with supervisory performance ratings but a near zero correlation with objective performance. These findings may have interesting implications for the proposed development model as well as the domain of organizational justice in general. Considering the recent trend of increased employee attrition in the workplace, additional research in this area may be valuable.

From an applied perspective, the findings of this research may have some significant practical implications for business and industry. First, this study found that the speed at which supervisor-subordinate relationships initially develop is importantly

related to a number of key variables, including employee perceptions of justice, use of OCBs, and intentions to leave, as well as LMX and supervisory performance ratings. Organizational practitioners wishing to address these issues might consider developing supervisory training and development programs that emphasize early relationship development with employees. Second, another group of findings that may have applied implications is the relationship between objective performance, LMX, OCBs, and supervisory performance ratings. Traditionally, there has been a tacit assumption that supervisory performance ratings are based on employees' actual performance output. Yet, the results of the present study found that LMX and helping OCBs explained a sizable portion of the variance in subjective performance ratings. Thus, practitioners developing subjective performance appraisal systems should be cognizant of the important role of relationships and extra-role behaviors in supervisory evaluations. Finally, the results regarding organizational justice may have practical relevance. This study found that high employee perceptions of procedural and interactional justice were associated with higher LMX, employee satisfaction with the performance appraisal system, and use of helping OCBs; lower perceptions of justice were associated with higher employee intentions to leave. Companies experiencing employee dissatisfaction with performance assessment, problems with high turnover, or employee unwillingness to do tasks not specified in their formal job description might evaluate workplace perceptions of justice and, if needed, develop strategies to assuage perceptions of injustice.

A general limitation for both Study 1 and 2 was the relatively short duration of employee tenure, caused by both youth (especially in Study 1) and turnover. Although the effects of this phenomenon are difficult to measure, it may have served to introduce an unwanted statistical artifact into the study. In addition, considering that the RDT scale provides response options ranging from *1-2 weeks* up to *1-2 years*, a restriction of range likely occurred in this instrument. In a different vein, the reliance on a survey methodology for most analyses (with the exception of objective performance) makes common method variance a threat to both studies. Further, the homogenous nature of the sample populations (especially in the Study 2 samples) may serve to constrain generalizations of these results to more diverse work samples.

An important limitation specific to Study 2 lies in the low correlations found between the leader and member versions of the LMX and perceived similarity scales. In Sample A, the correlation between the respective versions of both LMX and similarity were not found to be significant (with $r = .16$, $p>.05$; and $r = .10$, $p>.05$; respectively). In contrast, the correlation between the supervisor and subordinate versions of LMX and perceived similarity was significant in Sample B (with $r = .28$, $p<.05$; and $r = .38$, $p<.01$; respectively). In their recent meta-analysis, Gerstner and Day (1997) noted that leader-member agreement on ratings of LMX were surprisingly low, with an average sample-weighted correlation of .29. These researchers suggested: (a) collecting data from both leader and member LMX versions, (b) using leader-member agreement as a index of data quality, and (c) relying on the members' LMX perspective for key analyses (which was adhered to throughout this study). Thus, comparing the results of the present study

with those of Gerstner and Day, the calibration between supervisor and subordinate perceptions of LMX appear to be about average for Sample B, but well below average for Sample A. Due to its more recent development, no reliable data are available regarding supervisor-subordinate agreement on the perceived similarity scale. Yet, the low leader-member agreement on both the LMX and perceived similarity scales serves to call into question the quality of the data in Sample A, and perhaps the technique of aggregating Samples A and B into a combined sample. Further, the poor employee-manager agreement in Sample A may help explain the findings in H3 and H4 (helping OCBs) where expectations were supported in the combined sample and Sample B but *not* Sample A.

In conclusion, the present research program was able to shed new light on the developmental processes underlying exchange relationships. Considering the dearth of research specifically addressing the development of LMX relations, this work represents a major advance in this area. Yet, perhaps the greatest contribution of the present study to the field was the development and initial validation of the RDT scale. The consistent pattern of associations between the RDT scale and other key variables suggest that the length of time it takes for leader-member relations to solidify may be an important component in LMX development. Further, this unique instrument, and the underlying concept in general, may have broad applications to other areas, such as industrial-organizational, clinical, and social psychology. Finally, considering that mixed support was found for both Dienesch and Liden's (1986) model of LMX development, as well as the present *Developmental Processing Model of LMX*, the true latent variables likely

encompass components of both models. In many ways, this research program served to generate more questions than it was able to answer. For example, are high LMX relationships based primarily on leader-member similarity and automatic-based processes? Do employees of slower conscious-based relationship development really out-perform their counterparts in the automatic-based processing group? If so, why isn't this reflected in traditional subjective supervisory ratings of performance? Clearly, additional research is needed, as the answer to these questions may have important legal, ethical, and practical implications in the workplace.

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Appendix A

Michael Hepperlen
Masters Thesis Project
University of Nebraska at Omaha

This study is designed to explore how the relationship between employees and supervisors influence attitudes and behaviors in the workplace. In order to participate in this study, you must meet the following criteria. Either currently or within the last 9 months, you must have (1) worked in a job for at least 20 hours per week, and (2) worked with the same supervisor for at least 3 months. Participation in this study will take approximately 20 minutes and will involve completing a questionnaire about your work experiences. Your participation in this study is completely voluntary. Responses will be entirely anonymous -- *please do not write your name on this test.* Information from data obtained in the study will be kept strictly confidential. *Your consent to participate in this research is acknowledged by completing and returning this questionnaire.* You must be at least 19 years of age (or include a parent waiver form if you are 18) to participate in this study. You will receive one extra credit point if you turn-in your completed questionnaire *within one week.* Please return your questionnaire to the Arts & Science Hall room 377 in the box that will be clearly marked for this purpose. This study is being completed by Michael Hepperlen as part of his master's thesis at the University of Nebraska at Omaha. If you have any further questions or concerns regarding this study please feel free to contact him at the address given below. Thank you very much for your time and cooperation!

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DIRECTIONS

Please carefully circle the most accurate response to each question. If you are unsure about any item, then provide your best estimate. *Base all questions regarding a supervisor on your most recent supervisor that you worked with for at least three months*. DO NOT consider more than one supervisor while completing this questionnaire. Your responses will be completely anonymous and confidential, so please provide the most precise and truthful information as possible. *Return this questionnaire to ASH room 377 within one week to receive extra credit.*

A: Similarity Scale

(1.) My supervisor and I are similar in terms of our outlook, perspective, and values.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(2.) My supervisor and I see things in much the same way.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(3.) My supervisor and I are alike in a number of areas.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(4.) My supervisor and I handle problems in a similar way.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(5.) My supervisor and I think alike in terms of coming up with a similar solution for a problem.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(6.) My supervisor and I analyze problems in a similar way.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

B: Relationship Development Scale

(1) How long did it take until you felt comfortable being around your supervisor (i.e., stopped feeling self-conscious around him/her; didn't worry about what to say, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(2.) How long did it take before you felt reasonably sure that you could trust (or not trust) your supervisor?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(3.) How long did it take until you began to speak in a more casual or informal style with your supervisor (i.e., began to talk in a more relaxed and comfortable way; started to joke around some, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(4.) How long did it take before you developed a firm and relatively permanent opinion about your supervisor (i.e., determined that he/she was generally a good or bad person; decided that you liked or disliked him/her, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(5.) How long did it take before you were able to predict your supervisor's reactions in common situations (i.e., knew how your supervisor would react to things when he/she was in a good or bad mood; knew how they would handle common problems, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(6.) How long did it take before you started to share at least some personal information with your supervisor (i.e., shared information about a significant other, a child, or a parent; asked for personal advice, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(7.) How long did it take before *your supervisor* started to share at least some personal information with *you*?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(8.) How long did it take before you felt fairly comfortable discussing workplace problems with your supervisor as they would come up?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(9.) How long do you think it took for your supervisor to "size up" (or judge) your merit/worth as an employee (i.e., how long did it take for your supervisor to decide that you were generally an effective or ineffective employee; judge your future potential, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(10.) How long did it take until your relationship with your supervisor (good or bad) became predictable and stable (i.e., when both you and your supervisory developed a routine pattern of interaction; formed a mutual understanding about your relationship, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(11.) How long did it take for you to decide that your supervisor would generally treat you fairly (or unfairly) in comparison with other employees?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(12.) How long did it take until you decided that you were generally satisfied (or unsatisfied) with your supervisor overall (i.e., form an opinion that they were a good or bad leader; decide that you did or did not like having him/her as your supervisor, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

C: Relationship Cohesiveness Scale

(1.) Do you know where you stand with your leader.... do you usually know how satisfied your leader is with what you do?

Rarely Occasionally Sometimes Fairly Often Very Often

(2.) How well does your leader understand your job problems and needs?

Not a Bit A Little A Fair Amount Quite a Bit A Great Deal

(3.) How well does your leader recognize your potential?

Not at All *A Little* *Moderately* *Mostly* *Fully*

(4.) Regardless of how much formal authority he/she has built into his/her position, what are the chances that your leader would use his/her power to help you solve problems in your work?

None *Small* *Moderate* *High* *Very High*

(5.) Again, regardless of the amount of formal authority your leader has, what are the chances that he/she would "bail you out" at his/her expense?

None *Small* *Moderate* *High* *Very High*

(6.) I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so?

Strongly Disagree *Disagree* *Neutral* *Agree* *Strongly Agree*

(7.) How would you characterize your working relationship with your leader?

Extremely Ineffective *Worse Than Average* *Average* *Better Than Average* *Extremely Effective*

D: Workplace Justice Scale

(1.) My work schedule is fair.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* ***(Strongly Agree)***

(2.) I feel that my supervisor makes fair recommendations regarding my annual salary increase/raise.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* ***(Strongly Agree)***

(3.) I consider my workload to be quite fair.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* ***(Strongly Agree)***

(4.) Overall, the rewards I receive here are quite fair.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* ***(Strongly Agree)***

(5.) I feel that my job responsibilities are fair.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(6.) Job decisions are made by the manager in an unbiased manner.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(7.) My manager makes sure that all employee concerns are heard before job decisions are made.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(8.) To make job decisions, my manager collects accurate and complete information.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(9.) My manager clarifies decisions and provides additional information when requested by employees.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(10.) All job decisions are applied consistently across all effected employees.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(11.) Employees are allowed to challenge or appeal job decisions made by the manager.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(12.) When decisions are made about my job, the manager treats me with respect and dignity.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(13.) When decisions are made about my job, the manager is sensitive to my personal needs .

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(14.) When decisions are made about my job, the manager deals with me in a truthful manner.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(15.) When decisions are made about my job, the manager shows concern for my rights as an employee.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(16.) Concerning decisions made about my job, the manager discusses the implications of the decisions with me.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(17.) When making decisions about my job, the manager offers explanations that make sense to me.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(18.) My manager explains very carefully any decisions made about my job.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

E: Extra-Role Behavior Scale

Please answer the following questions as accurately and honestly as possible.

(1.) I willingly give my time to help other coworkers who have work-related problems.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(2.) I am willing to take time out of my busy schedule to help with recruiting or training of new employees.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(3.) I "touch base" with others before initiating actions that might effect them.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(4.) I take steps to try to prevent problems with other coworkers and/or other personnel in the company.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(5.) I encourages other coworkers when they are down.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(6.) I act as a "peacemaker" when others in the unit/department have disagreements.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(7.) I am a stabilizing influence in the unit/department when dissention (or discontent) occurs.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(8.) I attend functions that are not required but help the department/company image.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(9.) I attend training/information sessions that employees are encouraged but not required to attend.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(10.) I attend and actively participates in unit/department meetings.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(11.) I do not spend a lot of time complaining about trivial matters.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(12.) I never find fault with what the department/company is doing.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(13.) I do not tend to make "mountains out of molehills" (make problems bigger than they are).

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

(14.) I never focus on what is wrong with my situation rather than the positive side of it.

(Strongly Disagree) *1* *2* *3* *4* *5* *6* *7* *(Strongly Agree)*

F: Demographic Survey

Please provide the following general information about yourself.

(1.) Gender: *male* or *female* (please circle)

(2.) Age: _____

(3.) Ethnicity/Race: _____

(4.) Type of business you work for (i.e., restaurant, accounting firm, hospital, etc.): _____

(5.) Current job position (or the job position you considered for this survey) : _____

(6.) Number of months/years you have been (or were) employed with this company: _____

(7.) Number of months/years you have (or did) served in your position: _____

(8.) Number of months/years you have worked (or did work) under your current supervisor: _____

Please provide the following general information about <u>your supervisor</u>.

(9.) What is the gender of your supervisor: *male* or *female* (please circle)

(10.) Approximately how old is your supervisor (if you're not sure then just give your best guess):_____

(11.) What is the ethnicity/race of your supervisor: _____

(12.) Whether or not you agree or disagree with the opinion and judgment of your supervisor, please provide your best estimate of how he/she would rate <u>your</u> overall job performance:

(low) 1 2 3 4 5 6 7 8 9 10 (high)

(13.) How would <u>you</u> rate the overall job performance of <u>your supervisor</u>:

(low) 1 2 3 4 5 6 7 8 9 10 (high)

(14.) Approximately how long did it take you to complete this survey: _____

Appendix B

DIRECTIONS

Please carefully circle the most accurate response to each question. If you are unsure about any item, then provide your best estimate. ***Base all questions regarding a supervisor on your current supervisor.*** Your responses will be completely anonymous (i.e., your supervisor and other [company name] personnel will not see your individual responses), so please provide the most precise and truthful information as possible. *Please return this questionnaire to the University of Nebraska at Omaha in the preaddressed and prestamped envelope which has been provided.* Thank you very much for your time and cooperation!

		Strongly Disagree						*Strongly Agree*
(1)	My supervisor and I are similar in terms of our outlook, perspective, and values.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(2)	We see things in much the same way.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(3)	My supervisor and I are alike in a number of areas.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(4)	We handle problems in a similar way.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(5)	My supervisor and I think alike in terms of coming up with a similar solution for a problem.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(6)	We analyze problems in a similar way.	*1*	*2*	*3*	*4*	*5*	*6*	*7*

(7) How long did it take until you felt comfortable being around your supervisor (i.e., stopped feeling self-conscious around him/her; didn't worry about what to say, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(8) How long did it take before you felt reasonably sure that you could trust (or not trust) your supervisor?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(9) How long did it take until you began to speak in a more casual or informal style with your supervisor (i.e., began to talk in a more relaxed and comfortable way; started to joke around some, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(10) How long did it take before you developed a firm and relatively permanent opinion about your supervisor (i.e., determined that he/she was generally a good or bad person; decided that you liked or disliked him/her, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(11) How long did it take before you were able to predict your supervisor's reactions in common situations (i.e., knew how your supervisor would react to things when he/she was in a good or bad mood; knew how they would handle common problems, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(12) How long did it take before you started to share at least some personal information with your supervisor (i.e., shared information about a significant other, a child, or a parent; asked for personal advice, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(13) How long did it take until your relationship with your supervisor (good or bad) became predictable and stable (i.e., when both you and your supervisor developed a routine pattern of interaction; formed a mutual understanding about your relationship, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

(14) How long did it take until you decided that you were generally satisfied (or unsatisfied) with your supervisor overall (i.e., form an opinion that they were a good or bad leader; decide that you did or did not like having him/her as your supervisor, etc.)?

(1-2 weeks) (3-4 weeks) (1-2 months) (3-5 months) (6-8 months) (9-12 months) (1-2 years) (never)

---

(15) Do you know where you stand with your supervisor.... do you usually know how satisfied your supervisor is with what you do?

Rarely	*Occasionally*	*Sometimes*	*Fairly Often*	*Very Often*

(16) How well does your supervisor understand your job problems and needs?

Not a Bit	*A Little*	*A Fair Amount*	*Quite a Bit*	*A Great Deal*

(17) How well does your supervisor recognize your potential?

Not at All	*A Little*	*Moderately*	*Mostly*	*Fully*

(18) Regardless of how much formal authority he/she has built into his/her position, what are the chances that your supervisor would use his/her power to help you solve problems in your work?

None	*Small*	*Moderate*	*High*	*Very High*

(19) Again, regardless of the amount of formal authority your supervisor has, what are the chances that he/she would "bail you out" at his/her expense?

None	*Small*	*Moderate*	*High*	*Very High*

(20) I have enough confidence in my supervisor that I would defend and justify his/her decision if he/she were not present to do so?

Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*

(21) How would you characterize your working relationship with your supervisor?

Extremely Ineffective	*Worse Than Average*	*Average*	*Better Than Average*	*Extremely Effective*

The following items refer to the <u>procedures</u> (or process) used to arrive at important job decisions effecting you (e.g., pay/bonus incentives, promotions, sales assignments, etc.).

	TO WHAT EXTENT:	*To a Small Extent*				*To a Large Extent*
(22)	Have you been able to express your views and feelings regarding procedures effecting pay/bonus incentives, promotions, sales assignments, etc.?	*1*	*2*	*3*	*4*	*5*
(23)	Have those procedures been applied consistently?	*1*	*2*	*3*	*4*	*5*
(24)	Have those procedures been free of bias?	*1*	*2*	*3*	*4*	*5*
(25)	Have those procedures been based on accurate information?	*1*	*2*	*3*	*4*	*5*

The following items refer to your <u>job outcomes</u> (e.g., pay/bonus incentives, promotions, sales assignments, etc.).

	TO WHAT EXTENT:	*To a Small Extent*				*To a Large Extent*
(26)	Do your outcomes (e.g., pay/bonus incentives, promotions, sales assignments, etc.) reflect the effort you have put into your work?	*1*	*2*	*3*	*4*	*5*
(27)	Does your outcomes reflect what you have contributed to the organization?	*1*	*2*	*3*	*4*	*5*
(28)	Are your outcomes justified, given your performance?	*1*	*2*	*3*	*4*	*5*

The following items refer to your <u>supervisor</u>.

	TO WHAT EXTENT:	*To a Small Extent*				*To a Large Extent*
(29)	Has your supervisor treated you in a polite manner?	*1*	*2*	*3*	*4*	*5*
(30)	Has he/she treated you with dignity?	*1*	*2*	*3*	*4*	*5*

TO WHAT EXTENT:		*To a Small Extent*				*To a Large Extent*
(31)	Has your supervisor treated you with respect?	*1*	*2*	*3*	*4*	*5*
(32)	Has he/she refrained from improper/inappropriate remarks or comments?	*1*	*2*	*3*	*4*	*5*
(33)	Has your supervisor been candid in his/her communications with you?	*1*	*2*	*3*	*4*	*5*
(34)	Has he/she explained the procedures thoroughly?	*1*	*2*	*3*	*4*	*5*
(35)	Were his/her explanations regarding the procedures reasonable?	*1*	*2*	*3*	*4*	*5*
(36)	Has your supervisor communicated details in a timely manner?	*1*	*2*	*3*	*4*	*5*
(37)	Does your supervisor seem to tailor his/her communications to your specific needs.	*1*	*2*	*3*	*4*	*5*

		Strongly Disagree				*Strongly Agree*
(38)	I am strongly committed to pursuing specific production and quality goals.	*1*	*2*	*3*	*4*	*5*
(39)	It's unrealistic for me to expect to reach specific production and quality goals.	*1*	*2*	*3*	*4*	*5*
(40)	I think production and quality goals are a good thing to shoot for.	*1*	*2*	*3*	*4*	*5*

		Strongly Disagree				*Strongly Agree*
(41)	During the next year I will probably look for a new job outside [company name]	*1*	*2*	*3*	*4*	*5*
(42)	I often think about quitting.	*1*	*2*	*3*	*4*	*5*

Please provide the following general information about yourself.

(43) Your employee ID#: _____ (**note**: *all information provided in this survey will remain strictly confidential*).

(44) Age _____

(45) Gender: *male* or *female* (please circle)

(46.) Do you and your supervisor have a similar racial background (e.g., Caucasian, African American, Latino/Hispanic, etc.)? ***(yes)*** ***(no)***

(47.) Do you and your supervisor have a similar marital status (e.g., single, married, divorced, etc.): ***(yes)*** ***(no)***

(48.) Are you and your supervisor similar in term of having (or not having) children?

(yes) ***(no)***

(49.) Current job position: _____

(50.) Number of months/years you have served in your position: ____ (***months/years***)

(51.) Number of months/years you have worked under your current supervisor:_____ (***months/years***)

(52.) Please indicate your satisfaction with the current performance evaluation system on a scale from 1 (very low) to 10 (very high).

(very low) ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***8*** ***9*** ***10*** ***(very high)***

(53.) How would you rate the overall job performance of your supervisor?

(very low) ***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***8*** ***9*** ***10*** ***(very high)***

Appendix C

Your employee ID #: _____

Your subordinate's employee ID #: _____

DIRECTIONS

Please carefully circle the most accurate response to each question. If you are unsure about any item, then provide your best estimate. ***Base all questions regarding an employee on the subordinate whose employee number is at the top of this page.*** DO NOT consider more than one employee while completing this questionnaire. Your responses will be completely anonymous (i.e., your superior and other [*company name*] personnel will not see your individual responses), so please provide the most precise and truthful information as possible. *Return all questionnaires to the University of Nebraska at Omaha in the preaddressed and prestamped large manila envelope which has been provided.* Thank you very much for your time and cooperation!

Please rate the above employee on the following items

		Strongly Disagree						*Strongly Agree*
(1)	This employee and I are similar in terms of our outlook, perspective, and values.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(2)	We see things in much the same way.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(3)	This employee and I are alike in a number of areas.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(4)	We handle problems in a similar way.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(5)	This employee and I think alike in terms of coming up with a similar solution for a problem.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(6)	We analyze problems in a similar way.	*1*	*2*	*3*	*4*	*5*	*6*	*7*

(7.) Does this employee usually know where they stand with you.... do they usually know how satisfied you are with what they do?

Rarely	*Occasionally*	*Sometimes*	*Fairly Often*	*Very Often*

(8.) How well do you understand this employee's job problems and needs?

Not a Bit	*A Little*	*A Fair Amount*	*Quite a Bit*	*A Great Deal*

(9.) How well do you recognize this employee's potential?

Not at All	*A Little*	*Moderately*	*Mostly*	*Fully*

(10.) What are the chances that you would use your power to help this employee solve problems in their work?

None	*Small*	*Moderate*	*High*	*Very High*

(11.) What are the chances that you would "bail out" this employee at your expense?

None	*Small*	*Moderate*	*High*	*Very High*

(12.) This employee would have enough confidence in you that they would defend and justify your decision if you were not present to do so.

Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*

(13.) How would you characterize your working relationship with this employee?

Extremely Ineffective	*Worse Than Average*	*Average*	*Better Than Average*	*Extremely Effective*

		Strongly Disagree						*Strongly Agree*
(14)	This employee willingly gives of his/her time to help other coworkers who have work-related problems.	*1*	*2*	*3*	*4*	*5*	*6*	*7*

		Strongly Disagree						*Strongly Agree*
(15)	"Touches base" with others before initiating actions that might effect them.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(16)	This employee takes steps to try to prevent problems with other coworkers in the unit.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(17)	Encourages other coworkers when they are down.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(18)	Acts as a "peacemaker" when others in the unit have disagreements.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(19)	Is a stabilizing influence in the unit when dissention (or discontent) occurs.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(20)	This employee consumes a lot of time complaining about trivial matters.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(21)	Always finds fault with what the unit/company is doing.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(22)	Tends to make "mountains out of molehills" (make problems bigger than they are).	*1*	*2*	*3*	*4*	*5*	*6*	*7*
(23)	Always focuses on what is wrong with his/her situation rather than the positive side of it.	*1*	*2*	*3*	*4*	*5*	*6*	*7*

(24.) About how often do you meet with this employee to discuss production and quality performance goals?

(every month) ***(every 3 months)*** ***(every 6 months)*** ***(annually)*** ***(never)***

(25.) How would you rate the overall job performance of this employee on a scale from 1 (very low) to 10 (very high)?

(very low) *1* *2* *3* *4* *5* *6* *7* *8* *9* *10* ***(very high)***

Please provide the following general information about yourself (if you are completing surveys for multiple employees, you need only complete this section once).

(1.) Gender: *male* or *female* (please circle)

(2.) Age: _____

(3.) Current job position: _____

(4.) Number of months/years you have work for [*company name*]: _____ (***months/years***)

(5.) Number of months/years you have served in your current position:___(***months/years***)