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Where Do I Stand? Examining the Effects of Leader–Member Exchange Social Comparison on Employee Work Behaviors

Prajya R. Vidyarthi
Indiana University Kokomo

Robert C. Liden and Smriti Anand
University of Illinois at Chicago

Berrin Erdogan
Portland State University

Samiran Ghosh
Indiana University–Purdue University at Indianapolis

Taking an approach integrating principles of leader–member exchange (LMX) differentiation with social comparison theory, we contend that subjective ratings by individuals of their LMX compared to the LMXs of coworkers (labeled LMX social comparison, or LMXSC) explain unique and meaningful variance in outcomes beyond LMX and the actual standing of those individuals in the LMX distribution, referred to as relative LMX, or RLMX. Our findings demonstrate that employees' perceptions of LMXSC are positively related beyond the effects of LMX and RLMX to job performance and citizenship behaviors. Further, we argue that LMXSC mediates the RLMX→outcomes relationships. Analyses showed that, in a sample of 254 employees nested in 50 work groups, a significant part of the effects of RLMX on job performance and citizenship behaviors was mediated through LMXSC after controlling for LMX.

Keywords: leader–member exchange, leader–member exchange differentiation, social comparison, job performance, citizenship behaviors

Leader–member exchange (LMX) theory is based on the premise that leaders form differentiated relationships with employees, such that leaders form low-quality transactional relationships with some and establish high-quality relationships entailing socioemotional exchanges with others (Dansereau, Graen, & Haga, 1975). Over the years, researchers have amassed an impressive body of empirical research showing a relationship between employees' LMX perceptions and employees' attitudinal and behavioral outcomes (Gerstner & Day, 1997). LMX has been shown to be positively associated with work attitudes (Anand, Hu, Liden, & Vidyarthi, in press; Erdogan & Liden, 2002; Gerstner & Day, 1997; Liden, Sparrowe, & Wayne, 1997), job performance (Gerstner & Day, 1997), and citizenship behaviors (Ilies, Nahrgang, & Morgeson, 2007). The existing body of research suggests that LMX plays an important role in understanding how employees become fully contributing and engaged organizational members.

Although LMX theory has increased our understanding of the nature of a leader's role in contributing to employee attitudes and behaviors, the theory's treatment of leader–member dyads in isolation (Sparrowe & Liden, 1997) has been an important limitation. Because employees are typically nested within work groups, the traditional approach to LMX research overlooks the surrounding social context of a given LMX relationship. That is, the partial interdependence of LMX relationships, due to individuals residing in work groups with a common leader, has largely remained unaccounted for in LMX research. This theoretical and analytical misspecification is not trivial, given that LMX theory is based on the founding assumption of differentiation in relationships within work groups (Dansereau et al., 1975). Indeed, differentiation in within-group LMX has been found to be present in the vast majority of work groups (Henderson, Liden, Glibkowski, & Chaudhry, 2009; Liden & Graen, 1980). When leaders differentiate, the varied levels of LMX quality within the group are likely to trigger social comparison processes within focal individuals that are designed to obtain information about their own standing (Festinger, 1954). Wood (1996) defined social comparison as "the process of thinking about information about one or more other people in relation to the self" (pp. 520–521). Buunk and Gibbons (2007) defined social comparison as "a central feature of human social life" (p. 3), suggesting that comparison processes are central in employees' evaluation of work environments (Greenberg, Ashton-James, & Ashkanasy, 2007). A rich body of literature based on social comparisons suggests that one's standing relative to referents influences attitudes, aspirations, and behaviors (Wood, 1989). Thus, when leaders develop differentiated exchanges with their followers, the magnitude of the difference between one's own LMX and others' LMXs likely drives one's evaluation of the relationship with the leader as well as subsequent attitudinal and behavioral responses.

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Prajya R. Vidyarthi, School of Business, Indiana University Kokomo; Robert C. Liden and Smriti Anand, Department of Managerial Studies, University of Illinois at Chicago; Berrin Erdogan, School of Business Administration, Portland State University; Samiran Ghosh, Department of Mathematical Sciences, Indiana University–Purdue University at Indianapolis.

Correspondence concerning this article should be addressed to Prajya R. Vidyarthi, School of Business, Indiana University Kokomo, 2300 South Washington Street, Kokomo, IN 46904. E-mail: pvidyart@iuk.edu

Initial research has shown that the degree of difference between one's own LMX and the LMXs of coworkers, termed relative LMX (RLMX) by Henderson, Wayne, Shore, Bommer, and Tetrick (2008) and operationalized as LMX minus the work group mean for LMX, is positively related to psychological contract fulfillment and subsequent organizational citizenship behaviors (OCBs). Earlier, using the same operationalization but not labeling it RLMX, Graen, Liden, and Hoel (1982) demonstrated that group members low in relative LMX standing were more likely to leave the organization. Although these earlier assessments were informative, these studies did not actually capture an employee's perceived standing in the LMX distribution within a work group. Because employees observe and may be influenced by the leader's treatment of other members in the work group (Duchon, Green, & Taber, 1986; Graen & Cashman, 1975; Lau & Liden, 2008; Sherony & Green, 2002), it is likely that they form assessments of whether they or their coworkers are closer to or more distant from the leader. We refer to the comparison between one's own LMX and that of coworkers as LMX social comparison, or LMXSC. Because perceptions of the environment are typically more influential than reality on attitudes and behaviors (e.g., Kristof-Brown, Zimmerman, & Johnson, 2005), potentially meaningful variance that resides in subjective or perceptual ratings by focal employees of their relative LMX standing (LMXSC) may be especially salient. Thus, LMXSC may be distinguished from LMX in that LMXSC is based on within-group social comparison with work group members as the reference point, whereas LMX involves no comparative judgment or reference point. We also distinguish LMXSC from RLMX (Henderson et al., 2008), such that the former represents employees' subjective assessment and is obtained directly from focal employees, and the latter represents the actual degree to which the focal individual's LMX differs from the average leader–subordinate LMX in the work group (Graen et al., 1982).

Our purpose in the current investigation was to examine how perceptions of relative LMX standing within the work group provide impetus for reciprocal behaviors. By integrating social comparison theory (Festinger, 1954) with social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960), we elucidate that within-group LMX social comparisons shape employee behaviors. Further, following social comparison theory we explore the relationships between RLMX and job behaviors, as mediated by LMXSC. In particular, we argue that actual differences in LMX between a focal individual and coworkers (RLMX) influence focal employees' subjective perceptions of these differences in LMX (LMXSC), which in turn influence employee performance and OCBs. The current article serves to enhance LMX theory in several ways. We build on the existing perspectives on LMX differentiation and develop theory that integrates it with social comparison theory (Festinger, 1954) and the extant LMX research. Having directly measured the subjective perceptions of employee's relative standing in LMX relationships in the work group, we argue that this perception is influenced by actual differences between focal LMX and coworker LMXs (RLMX). We further contend that LMXSC mediates relationships between RLMX and focal individual behaviors. We do not refute or question the established theoretical arguments behind LMX theory. Rather, we revisit the roots of LMX theory by exploring the social context of LMX differentiation. Studying perceptual evaluations of social comparison represents an important extension to the assessments of actual LMX differentiation (i.e., RLMX). Through this study we propose to contribute to a broadening of LMX theory from a purely dyadic relationship to a view that explicitly takes into account the social context of employees' work groups.

Theory and Hypotheses

An extension of the LMX differentiation concept (Dansereau et al., 1975; Liden & Graen, 1980) suggests that comparison of one's own LMX with the LMXs of others in the work group provides incremental knowledge for assessing one's work situation. Greenberg et al. (2007, p. 34) observed that "the prospects for understanding LMX relationships in terms of social comparison processes make this an area worthy of future research and theory development." Although Greenberg et al. focused on comparisons that leaders make between followers and that followers make between themselves and their leaders, we feel that their arguments can easily be extended to explain the process through which employees judge their LMXs relative to their perceptions of LMX relationships that other members of the work group form with the leader.

Given the natural inclination for human beings to evaluate their relative social stature (Wood, 1996), employees constantly scan their environments seeking information to help them form comparative judgments. They may do this through the observation of conversations or interactions in meetings between the leader and peers, gossip, or active information seeking (Wood, 1996). Research suggests that other individuals in one's social group provide the reference point and the context for social comparison (e.g., Brown, Novick, Lord, & Richards, 1992; Gilbert, Giesler, & Morris, 1995; Ho, 2005; Tajfel & Turner, 1979). Work group members gather information about coworkers utilizing both conscious (controlled) and unconscious (automatic) processes (Lord & Maher, 1991). Both controlled and automatic processes involve seeking information designed to detect differences and similarities between oneself and another person or persons for the purpose of assessing one's relative standing on some attribute (Wood, 1996). Controlled processing may be manifested in many ways, such as accessing pay information about each coworker. More subtle forms of controlled processing may involve noticing the frequency of coworkers' communication with the leader as compared to one's own communication with the leader. Focal individuals may also evaluate the relative quality of communications between coworkers and the leader.

Observation of nonverbal behavior, such as smiles and paralanguage, may influence focal member assessments of relationships between coworkers and the leader (Sias, 1996). Observations of coworker nonverbal behaviors, such as when a focal individual notices a coworker smiling at or touching the supervisor, are likely processed automatically. In essence, through automatic and controlled processes, individuals become cognizant of the quality of relationships between the leader and each coworker. For example, a qualitative study utilizing direct observations showed that leaders use different communication styles with different members (Fairhurst & Chandler, 1989). Leaders rely on mutual influence and persuasion with team members with whom they have a higher quality exchange, are quicker to invoke their authority with those with whom they have a lower quality exchange, and even ignore or

instruct those with whom they have the lowest quality exchanges. Similarly, Yrle, Hartman, and Galle (2002) showed that leaders were more likely to ask for suggestions and praise a good job when communicating with high-LMX members and that high-LMX members questioned the manager when the manager was wrong. Sias (1996) and Sias and Jablin (1995) have demonstrated that coworkers actively observe these communications and interactions and use the information gathered to assess the degree of LMX differentiation in the work group. By paying attention to communication cues in their environment regarding how the leader interacts with different team members, individuals may get a sense of how their standing with the leader compares with that of others.

Effects of LMXSC on Job Performance and Citizenship Behaviors

We contend that, because perceptions of coworkers' LMXs constitute the lens for evaluative judgments by focal employees of their own relative standing in the work group (Menon, Kyung, & Agrawal, 2009), one's perceived LMX standing within the work group may provide the impetus for reciprocal attitudes and behaviors. In an integration of social comparison theory (Festinger, 1954) with social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960), we posit that subjective assessments by employees of the quality of their LMX relationships, compared with those of others in the work group, explain unique variance in their behaviors beyond that explained by individual-level LMX.

Over the past 15 years, LMX theory has relied heavily on social exchange theory (Blau, 1964). Leaders, it is argued, form distinct interpersonal relationships with subordinates, creating feelings of obligation among employees who receive favorable treatment from their leaders. Based on the norm of reciprocity (Gouldner, 1960), subordinates receiving emotional and tangible support feel obliged to reciprocate with commensurate attitudes and behaviors valued by their leaders, such as job performance and organizational citizenship. OCBs may be salient because, unlike job performance, which is expected of all employees, OCBs are discretionary work behaviors that are beneficial to the organization but are not a part of the standard job description (Organ, 1988). Although the argument behind a positive relationship between individual-level LMX and job performance and citizenship behaviors is generally valid (Settoon, Bennett, & Liden, 1996), it does not consider the social context within which employees form perceptions of their relationships with the leader. By comparing their own treatment by their leaders with that of others in the work group, employees may adjust their job performance and citizenship behaviors. Indeed, extensive research, in a variety of settings, has demonstrated that self-evaluation derived from social comparison acts as a motivational force guiding individuals' attitudes and behaviors (e.g., Mussweiler, 2003; Stapel & Blanton, 2004; Wood, 1989).

Our argument that employees' perceptions of relative standing in the work group may account for employees' behaviors beyond those explained by individual-level LMX is also consistent with the view that LMX is a limited resource (Liden et al., 1997). Leaders lack the time, socioemotional, and tangible resources with which to form high-quality relationships with all subordinates, especially as group sizes become larger (Dansereau et al., 1975; Dienesch & Liden, 1986). Because organizational resources and growth opportunities are limited, intragroup competition for these resources is quite likely and concomitantly increases the salience of one's relative LMX standing in the work group. Employees may even compete with their coworkers to obtain a greater share of leaders' favorable treatment (cf. Wayne & Ferris, 1990). Therefore, we argue that employees' level of reciprocation is likely to be proportional to employees' perceived share of the LMX resources, in comparison to that of other group members. As a consequence, LMXSC may emerge as a unique motivational force, beyond individual-level LMX, in affecting employees' job performance and citizenship behaviors.

> *Hypothesis 1:* Employees' LMX social comparison (LMXSC) perceptions explain unique variance in job performance beyond individual-level LMX.

> *Hypothesis 2:* Employees' LMX social comparison (LMXSC) perceptions explain unique variance in citizenship behaviors beyond individual-level LMX.

RLMX as an Antecedent of LMXSC

LMX theory recognizes that the relationships between leaders and subordinates are not uniform and thus leader–subordinate dyads should be the unit of analysis (Dansereau et al., 1975). Extending this argument, LMX differentiation researchers have demonstrated that the actual difference in LMX (RLMX) manifests in a range of outcomes, including organizational citizenship behaviors and employee turnover (Graen et al., 1982; Henderson et al., 2008). We contend that because social comparison in a work group entails observation and evaluation of verbal as well as nonverbal communication, the quality and quantity of which vary with differences in quality of LMX, the degree of subjective LMX standing is likely based on the conscious and subconscious assessment of actual LMX standing. Consequently, we posit a positive relationship between RLMX and LMXSC, based on the perspective that the higher the amount of actual difference in the quality of relationship, the more likely it is to characterize the perceptions of within-group relative LMX standing.

> *Hypothesis 3:* Employees' perceptions of RLMX are positively related to employees' LMX social comparison (LMXSC) perceptions.

LMXSC as a Mediator Between RLMX and Behavioral Outcomes

A central premise of LMX theory is that differentiated social exchange relationships within a work unit act as the motive behind employees' reciprocal behaviors. Applying the norm of reciprocity, researchers have argued that employees with relatively higher quality exchange relationships with their leaders feel obligated to respond with behaviors that are valued by leaders (e.g., Henderson et al., 2009) and that their behavior is consistent with these felt obligations (Graen et al., 1982; Henderson et al., 2008).

We have argued that LMXSC is more powerful than LMX in driving reciprocal behaviors. For example, an LMX of moderate quality would be more likely to motivate a member to reciprocate to the leader if peers in the work group all have low-quality LMX relationships than if peers enjoy high-quality LMX relationships.

Because individuals are adept at assessing the LMX quality of each peer–leader relationship (Duchon et al., 1986; Graen & Cashman, 1975; Sherony & Green, 2002), there is reason to expect that LMXSC perceptions are influenced by actual differences in LMX quality (RLMX) across the work group. Thus, we expected that relationships between RLMX and member behaviors would be mediated by member LMXSC, in association with feelings of high relative standing in the work group. The more members perceive that they are receiving a relatively higher share of the leader's valued resources, information, and emotional support than other coworkers (e.g., higher LMXSC), the more members would be expected to engage in high-quality work behaviors resulting in high job performance as well as in behaviors that exceed what is prescribed by their job descriptions (OCBs).

Our mediating argument is also informed by the view in social exchange theory that an exchange relationship is related to and affected by other social exchange relationships (Sparrowe & Liden, 1997). Because RLMX depicts one's amount of valued resources and support exchanged with the leader versus that exchanged by coworkers, perceptions of this differentiation captured in LMXSC act as a mechanism through which RLMX influences employee behaviors. Furthermore, individuals have been shown to prefer social comparison as the basis for resource allocation when the resource in question is limited (McLean Parks, Conlon, Ang, & Bontempo, 1999). Thus, given that employees view LMX as a desirable but limited resource, they are likely to include their actual share of LMX resources in their subjective evaluation of relative LMX standing and adjust their reciprocal behaviors accordingly.

Combining the logic presented in our rationale for Hypothesis 3 that RLMX is positively related to LMXSC with arguments for LMXSC motivating reciprocal behaviors, we argue that employees' subjective evaluations of their own relative standing (i.e., LMXSC) mediate the relationship between RLMX and both job performance and citizenship behaviors. Given that behavior is driven more by perceptions than reality, we anticipated that LMXSC would fully mediate the relationships between RLMX and both performance and citizenship behaviors.

Hypothesis 4: The positive relationship between relative LMX (RLMX) and job performance is mediated by employees' LMX social comparison (LMXSC) perceptions.

Hypothesis 5: The positive relationship between relative LMX (RLMX) and citizenship behavior is mediated by employees' LMX social comparison (LMXSC) perceptions.

Method

Participants and Procedures

We collected data from a large manufacturing organization in India. One of us visited the organization to administer surveys during regular work hours. Employee and supervisor surveys were administered in two different rooms, so that both sets of respondents were assured of complete confidentiality. Eighty-eight supervisors and 391 employees were invited to participate in the survey. The supervisor survey was designed to facilitate obtaining behavioral ratings of all employees who directly reported to the supervisors. Of those invited, 82 supervisors and 380 employees chose to participate in the survey. We retained all legible data for complete supervisor–employee dyads.

Because the assessment of the perceptions of within-group social comparison was the principal intent of our research, we eliminated those work groups in which the level of employee participation was lower than two thirds of the total number of members in the work group. We also excluded all work groups that had fewer than four participants, including the manager. This rule on group size allowed us to exclude small work groups that otherwise might have led to inflated results due to response bias. Our final usable sample consisted of 254 (response rate = 65%) employees nested in 50 supervisor groups (response rate = 57%).

Work groups consisted of four to 14 employees, and the average group size was 6.08 (*SD* = 2.20). All of the employees and managers were male. The managers had at least some college education, and approximately half of them had a college degree. Approximately half of the employees were college graduates, and the rest had completed high school. Average employee age was 43.86 years, and average manager age was 45.44 years. Average employee's organizational tenure was 21.69 years, and average manager's organizational tenure was 23.19 years.

Measures

We collected LMX and within-group LMXSC data from employees. We derived RLMX from the divergence between individual-level LMX and group-mean LMX. The approach and the rationale are described in the Analytical Strategy section. Employee job performance and OCB data were gathered from managers. Demographic variables were collected from both employees and managers. The respondents' mother tongue was Hindi; therefore, the survey questionnaires were translated from English to Hindi. We followed the standard back-translation procedure (Brislin, 1980). Responses to survey questions were measured on 5-point scales (1 = *strongly disagree*, 5 = *strongly agree*). For each measure we averaged scores of all included items to create a composite score, with higher scores indicating higher value for the underlying construct.

LMXSC. Employees' perceptions of LMXSC were estimated with a six-item measure developed by Liden and Erdogan and used in Erdogan (2002). Originally, eight items were written to capture the degree to which the professional respect, loyalty, affect, contribution, and overall exchange quality were perceived to be higher than those in the same team. The items were written to parallel the dimensions of Liden and Maslyn's (1998) LMX–MDM scale. It was necessary to establish the discriminant validity of the scale to demonstrate that LMXSC was distinct from the related concepts of LMX and leader fairness (interactional justice). In order to pilot test the data, Erdogan (2002) gathered data from 261 undergraduate students at two midwestern universities. A principal-components analysis with oblique rotation was performed on the newly written LMXSC items, LMX items from the LMX–MDM scale (Liden & Maslyn, 1998), and interactional justice items developed by Niehoff and Moorman (1993). Two items of the LMXSC scale had high cross-loadings with LMX and therefore were dropped. The analyses revealed separate factors for LMX, LMXSC, and interactional justice that explained 71.93% of the variance. The six items had no cross-loadings on LMX or inter-

actional justice greater than .20 and had high reliability ($\alpha = .86$). LMXSC was correlated with LMX ($r = .32$, $p < .01$) and interactional justice ($r = .31$, $p < .01$). The retained six items were "I have a better relationship with my manager than most others in my work group," "When my manager cannot make it to an important meeting, it is likely that s/he will ask me to fill in," "Relative to the others in my work group, I receive more support from my manager," "The working relationship I have with my manager is more effective than the relationships most members of my group have with my manager," "My manager is more loyal to me compared to my coworkers," and "My manager enjoys my company more than he/she enjoys the company of other group members."

The items were further validated in a field study. Data were collected from 205 employees of a manufacturing company located in the midwestern United States. The six items had high reliability ($\alpha = .84$). A confirmatory factor analysis of LMXSC and LMX quality items was performed, with separate factors specified for LMX quality and LMXSC. The data fit the model well, $\chi^2(131) = 313.12$, comparative fit index (CFI) = .93, root mean square error of approximation (RMSEA) = .08. An alternative model where the correlation between LMX and LMXSC was set to 1 had significantly worse fit to data, $\Delta\chi^2(1) = 48.53$, $p < .01$. LMX and LMXSC were positively but moderately correlated ($r = .39$, $p < .01$). Moreover, in a random coefficient regression, LMXSC was significantly related to interactional justice perceptions while controlling for LMX ($\gamma = .12$, $SE = .06$, $p < .05$). In the current study, the scale showed high reliability ($\alpha = .86$).

RLMX. RLMX scores were derived with LMX scores. LMX was measured with a seven-item measure (LMX-7) developed by Graen and Uhl-Bien (1995). An example item is "My working relationship with my manager is effective" ($\alpha = .84$). Because of problems associated with the use of difference scores (Edwards, 1994; Edwards & Parry, 1993), rather than operationalizing RLMX as LMX minus the group mean for LMX (as did Henderson et al., 2008), we included the group mean for LMX (labeled GLMX) as a group-level variable in our analyses, consistent with the recommendations of Edwards and colleagues.

Job performance. We used a four-item measure of subordinate in-role performance that was completed by leaders. This scale consisted of two items developed by Tsui (1984) and two items developed by Wayne, Shore, and Liden (1997). An example item is "This employee has been performing his/her job the way I would like it to be performed" ($\alpha = .80$).

OCBs. We used 10 items from the scale developed by Moorman and Blakely (1995) to assess individual subordinate's interpersonal helping and organizationally directed citizenship behaviors (labeled loyal boosterism by Moorman and Blakely, 1995), as reported by leaders. Example items are "This employee goes out of his/her way to help co-workers with work-related problems" and "This employee defends the organization when other employees criticize it" ($\alpha = .86$).

Control variables. Among the many contextual factors influencing employees' subjective assessments of LMXSC, employees' individual-level ratings of LMX are likely to be consistently present across different situations and samples. Indeed, LMX serves as the baseline or point of comparison on which LMXSC judgments are based. Given the rarity of work groups that are homogeneous on LMX (i.e., all LMX relationships being of the same quality within a work group; Liden & Graen, 1980), it is likely that the more positive individuals perceive their LMXs to be, the higher they will perceive their relative standing on LMX to be in the work group. Thus, we controlled LMX in order to examine the unique contribution of LMXSC beyond perceptions by individuals of their own LMX.

We also included variance in LMX (labeled VLMX) as a group-level control variable, because previous research has shown that LMX variance can affect the strength of relationships between RLMX and outcomes (e.g., Henderson et al., 2008). On the basis of OCB literature (e.g., Podsakoff, MacKenzie, Paine, & Bachrach, 2000), we chose to control for employee age and organizational tenure. Finally, due to the differences in group sizes, we also controlled size.

Analytical Strategy

Past researchers have computed individual members' relative LMX (RLMX) by subtracting GLMX scores from individuals' LMX scores (Graen et al., 1982; Henderson et al., 2008). However, Edwards and Parry (1993) and Edwards (1994) have shown that using an algebraic difference score as a predictor of an outcome suffers from numerous theoretical and conceptual problems. In extant research, the effects of RLMX on outcomes, beyond the effects of individual-level LMX, have been examined using the following regression equation:

$$Y = b_0 + b_1 LMX + b_2 (LMX - GLMX) + error. \quad (1)$$

In this equation, Y represents an outcome variable, *LMX* represents the individual-level LMX score, and *GLMX* represents the mean value of all group members' individual LMX scores. A significant b_2 coefficient has been used to indicate the effect of RLMX on outcome variance, beyond the effects of LMX. However, expansion and rearrangement of Equation 1 terms yields the following equation:

$$Y = b_0 + (b_1 + b_2) LMX - b_2 GLMX + error. \quad (2)$$

Equation 2 shows that b_2 is not the effect of (LMX–GLMX) but instead is the negative of the effect of GLMX, while controlling for the effects of LMX. In the above regression equation, LMX and GLMX are constrained, and their effect on the outcome is confounded. Furthermore, because GLMX was derived by aggregating individual members' LMX scores, GLMX is nonindependent and is a group-level variable. To overcome the aforementioned problems, we developed a regression equation where LMX and GLMX coefficients were unconstrained and allowed to take values that may maximize the variance explained in Y. We also retained the variables at their appropriate levels (i.e., LMX at individual level and GLMX at group level) by developing a multilevel regression equation as specified below:

$$\text{Level 1 equation: } Y_{ij} = \beta_{0j} + \beta_1 LMX_{ij} + r_{ij}$$

$$\text{Level 2 equation: } \beta_{0j} = \gamma_{00} + \gamma_{01} GLMX_j + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}. \quad (3)$$

The relationship between LMX, GLMX, and outcome variable Y can be viewed in three dimensions such that LMX and GLMX constitute the two horizontal axes and Y is indicated along the

vertical axis.[1] Following Edwards and Parry (1993) and Edwards (1994), we treated RLMX as the divergence or incongruence between LMX and GLMX. The parameter estimate of the effect of RLMX on the outcome can be computed by subtracting estimated parameter coefficients of LMX and GLMX (Edwards & Parry, 1993), and their statistical significance can be tested using multilevel bootstrap (e.g., Jansen & Kristof-Brown, 2005).

Because the same manager rated job performance and citizenship behaviors for multiple employees within each work group, these ratings were not independent. Hierarchical linear modeling was required to account for this nonindependence. We developed null models prior to hypothesis testing to examine whether there was meaningful between-group variance in the dependent variables: job performance and citizenship behaviors. Then we created multilevel models that included all control variables and GLMX. In the next models we introduced LMXSC to examine its relationship with the outcome variables.

The relationship between RLMX and LMXSC was examined with polynomial regression, such that RLMX was operationalized as the divergence between individual-level LMX (Level 1) and group-mean LMX values, GLMX (Level 2). The estimate of LMXSC slope along the LMX–GLMX line provided a test for the relationship between RLMX and LMXSC.

The mediation hypotheses stated that the effects of RLMX on job performance and OCB are transmitted through LMXSC. The hypothesized relationship is diagrammatically represented in Figure 1. As shown in the figure, the effect of RLMX on LMXSC is designated a_j, the effect of LMXSC on outcomes is designated b_j, and the direct effect of RLMX on outcomes is designated c'_j. The product of the paths labeled a_j and b_j represents the indirect effect of RLMX on outcomes, and the total effect of RLMX on outcomes, c_j, is given by the sum of indirect and direct effects, such that $c_j = a_j b_j + c'_j$. Drawing from Baron and Kenny (1986) and James and Brett (1984), contemporary researchers recommend a two-step procedure to examine mediation (e.g., James, Mulaik, & Brett, 2006). That is, the test of mediation required analyses using two regression equations, one that regressed the mediator on the independent variable and another that regressed the outcome variables on the mediator and independent variable. This procedure, along with the operationalization of RLMX as a polynomial regression between LMX (at Level 1) and GLMX (at Level 2), was adopted to examine the mediating role of LMXSC in the relationship between RLMX and job performance and OCB.

Because of the hierarchical data structure as well as potential group effects in the outcome variables, the two aforementioned regression equations constituted multilevel modeling. Furthermore, computation of the indirect effect (i.e., product of a_j and b_j) required simultaneous estimation of the two regression equations, rendering the effect multivariate in nature. Thus, multivariate multilevel regression was required for testing mediation effects.

Bauer, Preacher, and Gil (2006) developed a method to estimate multivariate multilevel models using univariate multilevel modeling software. Following Bauer et al.'s recommendation, we formulated a combined equation with a new outcome variable, labeled *Z*, by stacking the mediator and the outcome variables together. To distinguish the stacked variables, we created two selection variables (S_{LMXSC} and S_Y), such that when *Z* referred to LMXSC, $S_{LMXSC} = 1$ and $S_Y = 0$, and when *Z* referred to an outcome variable, $S_{LMXSC} = 0$ and $S_Y = 1$. The final regression equations were

$$\text{Level 1 equation: } Z_{ij} = S_{(LMXSC)ij}[d_{(LMXSC)j} + p_j \times LMX_{ij}] + S_{(Y)ij}[d_{(Y)j} + q_j \times LMXSC_{ij} + r_j \times LMX_{ij}] + e_{(Z)ij}$$

$$\text{Level 2 equations: } d_{(LMXSC)j} = \gamma_{(dLMXSC)0} + \gamma_{(dLMXSC)1} \times GLMX_j + e_{(dLMXSC)j}$$

$$d_{Yj} = \gamma_{(dY)0} + \gamma_{(dY)1} \times GLMX_j + e_{(dY)j}$$

$$p_j = \gamma_{p0} + e_{pj}$$

$$q_j = \gamma_{q0} + e_{qj}$$

$$r_j = \gamma_{r0} + e_{rj}. \quad (4)$$

The residual variance $\text{Var}(e_{(Z)ij})$ differed depending on $S_{(LMXSC)}$ (or, equivalently, $S_{(Y)}$), representing a form of heteroscedasticity such that the residual variance for *Z* was conditional on $S_{(LMXSC)}$ or $S_{(Y)}$ (Bauer et al., 2006). The mediation parameter estimates, a_j, b_j, and c'_j, can be estimated using the following equations.

$$a_j = p_j - \gamma_{(dLMXSC)1}$$

$$b_j = q_j$$

$$c'_j = r_j - \gamma_{(dY)1}. \quad (5)$$

Further, the covariance matrix of random effects, asymptotic covariance matrix of fixed and random effects, and the variance components could be used to calculate the average indirect and total effects as well as their confidence intervals (for the derivation of formulas and technical details, see Bauer et al., 2006, pp. 146–148).

The data analyses were run in HLM 6.06 (Bryk & Raudenbush, 1992) and SAS 9.1.3 Proc Mixed. All predictor variables were scale-centered before analyses were run (Edwards & Parry, 1993) to reduce multicollinearity and to facilitate interpretation. Scale centering involved subtracting the mean value of the scale from the measured value of LMX and LMXSC.

Results

Prior to hypothesis testing we performed confirmatory factor analyses using LISREL 8.7 (Jöreskog & Sörbom, 2004) to test the

[1] Because our theory did not suggest a nonlinear effect of LMX and GLMX on outcomes, we did not envision significant effects for higher order terms (i.e., LMX × LMX, LMX × GLMX, and GLMX × GLMX) on job performance and OCB. However, to rule out the possibility of the effects of higher order terms (Edwards, 1994) we ran additional analyses including higher order terms (i.e., LMX × LMX, LMX × GLMX, and GLMX × GLMX) along with linear terms (i.e., LMX and GLMX) in the regression equation. Comparison of the results revealed that inclusion of higher order terms did not explain any additional variance in job performance or OCB. Furthermore, the Akaike information criterion values affirmed that the fit statistics of the model with higher order terms were not superior to those of the model with only the linear terms. Finally, the three-dimensional plot of the regression equation with higher order terms did not show any noticeable curvilinear effects. Given these results, regression equations that included only the linear terms were appropriate for our analyses.

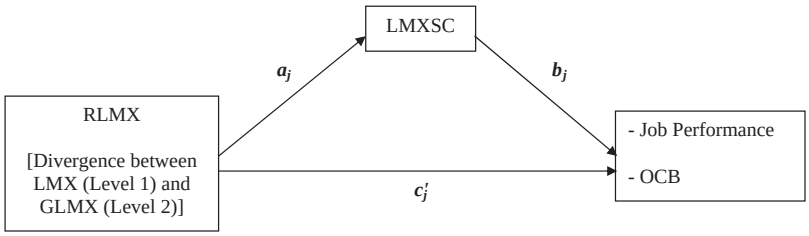

Figure 1. Mediation model. LMX = leader–member exchange; LMXSC = LMX social comparison; RLMX = relative LMX; GLMX = group mean for LMX; OCB = organizational citizenship behavior.

discriminant validity of LMXSC from the measures of all other study variables: LMX, job performance, and OCB. We constrained each item to fall under a single factor and allowed the factors to correlate. The four-factor model showed acceptable fit statistics, $\chi^2(318) = 960.61$, RMSEA = .08, CFI = .92, Tucker–Lewis Index = .91, standardized root mean square residual = .07. To make comparisons, we ran alternate models with fewer factors such that LMXSC was combined with other variables. The confirmatory factor analysis results showed that the hypothesized four-factor model had superior fit with the data compared to a three-factor model where LMX and LMXSC were combined, $\Delta\chi^2(3) = 468.37$, $p < .01$, and all other alternate models.

Means, standard deviations, Cronbach alpha reliabilities, and correlations among study variables are presented in Table 1. We calculated intraclass correlation coefficients, ICC(1), to examine the extent of between-group variance in the outcome variables: job performance and citizenship behaviors. For job performance, ICC(1) was .51, $\chi^2(49) = 288.65$, $p < .01$, and for citizenship behaviors, ICC(1) was .61, $\chi^2(49) = 538.72$, $p < .01$. These ICC(1) values suggested that there was significant between-group variance in both of the outcome variables and that hierarchical linear modeling was appropriate for hypothesis testing (Bliese, 2000).

To determine whether individual-level LMX scores could be meaningfully aggregated to the group level as GLMX, we calculated between-group variance in LMX. The individual-level LMX score showed significant between-group variability, $\chi^2(49) = 121.87$, $p < .01$. Given significant between-group variability, we aggregated individual-level LMX responses to create group-mean LMX (i.e., GLMX score) for the work groups (e.g., Chen & Bliese, 2002).

In order to test Hypothesis 1 and 2, we created preliminary models consisting of control variables (employee age and organizational tenure at individual level; size, VLMX, and GLMX at group level) and LMX. The hypothesized models included LMXSC in the Level 1 regression equation. Comparison of preliminary and hypothesized models allowed us to estimate incremental variance explained by LMXSC. As shown in Table 2, LMXSC was related to employees' job performance ($\gamma_{40} = .15$, $p < .01$) and OCBs ($\gamma_{40} = .08$, $p < .05$), thus providing support for Hypothesis 1 and 2. Further, LMXSC explained 9.09% of the variance in job performance and 8.92% in citizenship behaviors beyond that explained by LMX and the control variables employee age, organizational tenure, group size, within-group LMX variance, and GLMX.

Hypothesis 3 was tested with the polynomial regression method (Edwards, 1994). The preliminary model consisted of employee age, organizational tenure, group size, and VLMX. In the hypothesized model, LMX was introduced in the Level 1 regression equation and GLMX was included in the Level 2 regression equation. As shown in Table 3, RLMX was related to LMXSC ($\gamma_{30} - \gamma_{03} = 0.79$, $p < .01$), thus providing support for Hypothesis 3. Comparison of residual variance showed that 18.13% of variance in LMXSC was attributable to RLMX. We plotted the effect of RLMX (i.e., divergence between LMX and GLMX) on LMXSC in Figure 2.

According to Hypotheses 4 and 5, LMXSC mediates the relationships between RLMX and both job performance and OCB.

Table 1
Descriptive Statistics, Intercorrelations, and Reliabilities for the Individual- and Group-Level Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Age (years)	43.86	8.93									
2. Organizational tenure (years)	21.69	9.13	.89**								
3. Leader–member exchange (LMX)	4.12	0.68	.14*	.12	(.84)						
4. Within-group LMX social comparison (LMXSC)	3.46	0.92	.19**	.21**	.55**	(.86)					
5. Job performance	4.04	0.69	.01	.01	.15*	.27**	(.80)				
6. Organizational citizenship behaviors (OCBs)	3.98	0.58	.19**	.18**	.15*	.22**	.62**	(.86)			
Group-level variables											
7. Group size	6.08	2.20									
8. Group-mean LMX (GLMX)	4.15	0.46							−.15		
9. Variance in LMX (VLMX)	0.33	0.32							.18	−.57**	

Note. Individual level $n = 254$; group level $n = 50$; Cronbach's alpha reliabilities are reported along the diagonal.
* $p < .05$. ** $p < .01$.

Table 2
Hierarchical Linear Modeling Results for the Relationship Between Within-Group Leader–Member Exchange Social Comparison (LMXSC) and Job Performance and Organizational Citizenship Behaviors (OCBs)

	Job performance			OCBs		
	Preliminary model before testing Hypothesis 1			Preliminary model before testing Hypothesis 2		
Effect	Estimate	*SE*	*t*	Estimate	*SE*	*t*
Intercept, γ_{00}	4.11	0.28	14.66**	4.03	0.31	12.82**
Control variables						
Age, γ_{10}	−0.01	0.01	−1.09	0.00	0.01	0.33
Tenure, γ_{20}	0.01	0.01	1.01	0.00	0.01	−0.31
Group size, γ_{01}	−0.02	0.03	−0.60	−0.01	0.03	−0.52
VLMX, γ_{02}	0.00	0.25	0.01	0.02	0.23	0.08
LMX, γ_{30}	0.22	0.06	4.01**	0.16	0.04	4.39**
GLMX, γ_{03}	−0.19	0.19	−1.02	−0.13	0.19	−0.71
Sigma square		0.227			0.107	
AIC		456.240			294.899	
	Model to test Hypothesis 1			Model to test Hypothesis 2		
Intercept, γ_{00}	4.21	0.26	16.14**	4.07	0.31	13.09**
Control variables						
Age, γ_{10}	−0.01	0.01	−1.11	0.00	0.01	0.37
Tenure, γ_{20}	0.01	0.01	1.00	0.00	0.01	−0.33
Group size, γ_{01}	−0.01	0.03	−0.48	−0.01	0.03	−0.31
VLMX, γ_{02}	−0.03	0.25	−0.10	0.04	0.22	0.20
LMX, γ_{30}	0.12	0.05	2.48*	0.11	0.03	3.17**
GLMX, γ_{03}	−0.18	0.18	−1.02	−0.14	0.18	−0.77
LMXSC, γ_{40}	0.15	0.04	3.83**	0.08	0.03	2.57*
Sigma square		0.206			0.098	
AIC		440.692			284.492	

Note. Individual level $n = 254$; group level $n = 50$. VLMX = variance in LMX; LMX = leader–member exchange; GLMX = group mean for LMX; LMXSC = LMX social comparison; AIC = Akaike information criterion.
* $p < .05$. ** $p < .01$.

Given the significant extent of group-level variance in the outcome variables (i.e., job performance and OCB) and the need to treat GLMX as a group-level variable, the procedure to examine the mediating effect required evaluating direct, indirect, and total effects in multilevel regression modeling. Following the approach outlined in the Analytical Strategy section, we formulated a combined multilevel regression equation by stacking outcome variable *Y* (i.e., job performance or OCB) and mediating variable (i.e., LMXSC) into a new outcome variable, *Z*, through the use of selection variables (i.e., S_{LMXSC} and S_Y). Because the results of Hypotheses 1, 2, and 3 (shown in Tables 2 and 3) did not show consistent significant effects of demographic control variables, we ran the mediation test without the demographic controls in order to enhance statistical power (e.g., Bauer et al., 2006).

We estimated the model with restricted maximum likelihood. The results, reported in Table 4, provided values with which to estimate the mediation paths using Equations 4 and 5 (outlined in the Analytical Strategy section). When Hypothesis 4 was tested, the three causal paths, a_j, b_j, and c_j', were positive and significant for job performance (0.74, $p < .01$; 1.04, $p < .01$; and 0.72, $p < .01$, respectively). To understand the pattern of mediation, we estimated the expected value and variance of the random indirect effect (i.e., $a_j b_j$) and total effect (i.e., $a_j b_j + c_j'$). Following recommendation of and formulation provided by Bauer et al. (2006), we estimated the covariance matrix of the fixed effects using Kackar and Harville's (1984) method and 95% confidence interval using the Monte Carlo method (MacKinnon, Lockwood, & Williams, 2004). We found the average indirect effect to be .76 and significantly different from zero (*SE* = .03), 95% CI [.07, .83] and the estimated average total effect to be 1.48 and significantly different from zero (*SE* = .02), 95% CI [.36, .43], along with a significant direct effect; thus, partial support was provided for Hypothesis 4. Study results indicated that about 51% (calculated from the ratio of indirect effect to total effect) of the effect of RLMX on job performance was mediated by LMXSC. Next, in testing Hypothesis 5, we adopted a similar procedure to estimate the mediation effects of LMXSC in the RLMX–OCB relationship. The results, reported in Table 4, showed that the causal paths a_j and b_j were positive and significant (.71, $p < .01$; .29, $p < .01$, respectively) but the causal path c_j' was not significant (.03, $p = .29$). The significant indirect effect (via LMXSC) and nonsignificant direct effect (residual value) provided support for Hypothesis 5. Using Bauer et al.'s (2006) formulation and Kackar and Harville's (1984) method, we found the average indirect effect to be .20 and significantly different from zero (*SE* = .01), 95% CI [.19, .22], and the average total effect to be .23 and significantly different from zero (*SE* = .15), 95% CI [.01, .52]. Thus, the study results indicated full mediation, with LMXSC transmitting 87% of the effect of RLMX on OCB.

Table 3
Hierarchical Linear Modeling Results for the Relationship Between Relative Leader–Member Exchange (RLMX) and Leader–Member Exchange Social Comparison (LMXSC)

	Preliminary model before testing Hypothesis 3		
Efffect	Estimate	*SE*	*t*
Intercept	3.14	0.39	7.90**
Control variables			
Age, γ_{10}	−0.00	0.01	−0.05
Tenure, γ_{20}	0.02	0.01	1.55
Group size, γ_{01}	0.02	0.02	0.81
VLMX, γ_{02}	−0.61	0.21	−2.88**
Sigma square		0.695	
AIC		684.40	
	Model to test Hypothesis 3		
Intercept	2.42	0.37	6.52**
Control variables			
Age, γ_{10}	−0.01	0.01	−0.42
Tenure, γ_{20}	0.02	0.01	1.67
Group size, γ_{01}	0.02	0.02	1.24
VLMX, γ_{02}	−0.14	0.18	−0.08
GLMX, γ_{03}	−0.05	0.16	−0.31
LMX, γ_{30}	0.74	0.08	8.56**
RLMX, $\gamma_{30-}\gamma_{03}$	0.79	0.22	7.03**
Sigma square		0.569	
AIC		621.30	

Note. Individual level $n = 254$; group level $n = 50$. LMX = leader–member exchange; VLMX = variance in LMX; GLMX = group mean for LMX; AIC = Akaike information criterion.
** $p < .01$.

Discussion

LMX researchers have frequently suggested that one of the critical steps for future research is the investigation of the implications of LMX differentiation (Henderson et al., 2009; House & Aditya, 1997; Sparrowe & Liden, 1997; Yukl & Van Fleet, 1992). Our study makes an important contribution to the literature by capturing employee perceptions of one's standing in the LMX distribution and examining its effects. Our findings demonstrated that individuals pay attention to within-group social comparisons regarding how LMX is distributed in the work group and that these comparisons are related to employee behaviors. LMXSC completely mediated the relationship between RLMX and OCB and partially mediated the relationship between RLMX and job performance. These findings define the position of LMXSC in the conceptual space of LMX and outcomes. Our results contribute to LMX theory by shedding light on the black box of LMX (Rousseau, 1998), by revealing part of the process through which LMX differentiation relates to outcomes.

Our findings contribute to LMX theory by suggesting that examination of the focal leader–employee exchanges concurrent with the LMXs of coworkers in the work group offers unique perspectives on how employees evaluate the way they are treated by the leader. Although each LMX relationship is embedded within a larger constellation of relationships (Sparrowe & Liden, 1997), most studies treat LMX dyadic relationships as if each exists in isolation (Henderson et al., 2009). In essence, although researchers have long argued that the social context is critical for understanding the relationship between leaders and employees, few leadership studies actually integrate contextual variables (Liden & Antonakis, 2009). So, we made a contribution to the literature by demonstrating that the social environment and comparison with other members in the work group act as a frame of reference for evaluating one's relationship with the leader. The current investigation offers a contribution to LMX theory by providing empirical evidence to suggest that within-group comparisons have significant implications for an individual employee's behavior. Our findings suggest that a subjective assessment of one's LMX compared to those of others in the work group (i.e., LMXSC) is a meaningful construct. We also addressed the issue of how LMXSC compares to LMX in explaining work behaviors. Our results clearly showed that LMXSC explains unique variance in employees' behavioral outcomes, suggesting that members place a high value on their relative status within their work group's influence hierarchy. The relationship quality of the individual relative to that of coworkers seems to have motivational properties for employees above and beyond the overall quality of the LMX relationship.

LMXSC acted as a full mediator of the relationship between RLMX and OCBs but only partially mediated the relationship between RLMX and job performance. This suggests that the mechanisms linking RLMX to performance and citizenship may differ slightly. Those members who are closer to the leader feel that they are the leader's special, trusted assistants, which in turn leads to a sense of obligation and a desire to reciprocate, resulting in greater engagement in citizenship behaviors. At the same time, RLMX may also relate to performance, because RLMX may give employees higher levels of actual job-related support from the leader and the organization, leading to higher performance.

Drawing from social comparison theory, we focused on focal employees' immediate work groups as the reference frame for LMX differentiation. This approach is consistent with group engagement theory and reference group research (Hyman, 1968) in that the immediate work group acts as the referent from which individuals draw meaning to their relative standing. That is, employees are more likely to perceive similarity in work contexts as well as face competition for available resources with other members in their own work group, rather than with employees in distant work groups. The results of this study affirm the principles of

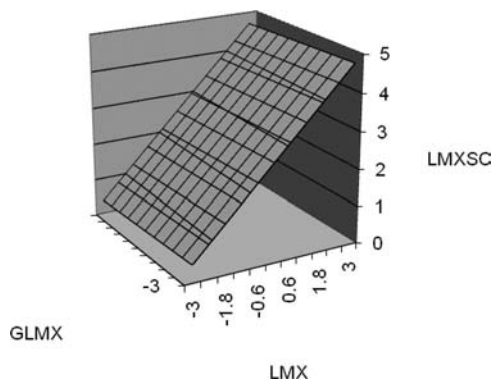

Figure 2. Relationship between RLMX (i.e., divergence between LMX and GLMX) and LMXSC. LMX = leader–member exchange; LMXSC = LMX social comparison; GLMX = group mean for LMX.

Table 4
Hierarchical Linear Modeling Results for LMXSC Mediating the Relationship Between RLMX and Job Performance and Organizational Citizenship Behavior (OCB)

Effect	Job performance model testing Hypothesis 4			OCB model testing Hypothesis 5		
	Estimate	*SE*	*t*	Estimate	*SE*	*t*
S_{LMXSC}	2.661	0.134	19.83**	2.617	0.133	19.58**
S_Y	1.259	0.219	5.73**	3.130	0.161	19.39**
Sy × GLMX	−0.173	0.175	−0.99	−0.078	0.110	−0.71
S_{LMXSC} × GLMX	−0.009	0.144	−0.07	0.024	0.143	0.17
S_{LMXSC} × LMX	0.727	0.086	8.43**	0.731	0.085	8.51**
Sy × LMX	0.543	0.114	4.74**	−0.047	0.075	−0.63
Sy × LMXSC	1.036	0.054	19.02**	0.287	0.046	6.17**
Sigma square		0.5342			0.3196	
AIC		1,130.6			1,055.6	

	1	2	3	4	5	6	7
Covariance matrix of fixed and random effects for job performance[a]							
1. S_{LMXSC}	.018	−.016	.012	−.014	.000	.000	.000
2. S_Y	−.016	.048	−.021	.012	.000	.005	−.007
3. Sy × GLMX	.012	−.021	.030	−.017	.006	−.011	.000
4. S_{LMXSC} × GLMX	−.014	.012	−.017	.020	−.007	.006	.000
5. S_{LMXSC} × LMX	.000	.000	.006	−.007	.007	−.006	.000
6. Sy × LMX	.000	.005	−.011	.006	−.006	.013	−.002
7. Sy × LMXSC	.000	−.007	.000	.000	.000	−.002	.003
Covariance matrix of fixed and random effects for OCB[a]							
1. S_{LMXSC}	.017	−.002	.002	−.014	.000	−.000	.000
2. S_Y	−.002	.026	−.008	.002	−.000	.004	−.005
3. Sy × GLMX	.002	−.008	.012	−.003	.001	−.004	.000
4. S_{LMXSC} × GLMX	−.014	.002	−.003	.020	−.007	.001	.000
5. S_{LMXSC} × LMX	.000	−.000	.001	−.007	.007	−.001	.000
6. Sy × LMX	−.000	.004	−.004	.001	−.001	.005	−.001
7. Sy × LMXSC	.000	−.005	.000	.000	.000	−.001	.002

Note. S_{LMXSC} and S_Y are selection variables such that the model equation refers to LMXSC when $S_{LMXSC} = 1$ and $S_Y = 0$ and the equation refers to an outcome variable when $S_{LMXSC} = 0$ and $S_Y = 1$. Individual level $n = 254$; group level $n = 50$. LMX = leader–member exchange; GLMX = group mean for LMX; LMXSC = LMX social comparison; AIC = Akaike information criterion.
[a] The variances of the random effects are shown on the diagonal; the covariances of the random effects are shown elsewhere.
** $p < .01$.

LMX differentiation in that social exchange relationships go beyond the leader–member dyad and arise from social comparison within the work group.

We found variance in individual-level LMX within the work group, as consistent with the extant research. We also found evidence for within-group variance in LMXSC ratings. However, as evidenced from the results of this study, these variances are distinct, suggesting that each carries a potentially meaningful and unique aspect of employees' cognitions of leadership. Results of the study showed that RLMX only partially explained LMXSC variance. Modeling RLMX as divergence between LMX and GLMX showed LMX to be the primary driver for the relationship between RLMX and LMXSC, which is not obvious when RLMX is modeled as LMX minus GLMX. Although LMXSC is based on perceptions of one's own LMX and perceptions of coworkers' LMXs, one's own LMX seems to play a dominant role. This suggests the presence of other antecedents that may influence subjective evaluations by employees of their relative within-group standing. Examining other indicators of coworkers' LMX may extend our knowledge of the underlying social comparison process.

Our results provide evidence supporting Goodman and Haisley's (2007) and Greenberg et al.'s (2007) calls for greater integration of social comparison processes in the study of work organizations. Although these scholars identified multiple areas of organizational behavior that could benefit from a social comparison perspective, we see special relevance to the study of work relationships. In addition to research linking social comparison to LMX, other relationships, such as exchanges between coworkers (Sherony & Green, 2002) or team member exchange (Seers, 1989), are in need of similar exploration. Furthermore, research across topics should address the specific processes through which social comparisons are made (Wood, 1996). In the current investigation, we assessed only the final outcome of social comparison processes, the perceptions of LMXSC. Although we speculated as to how these judgments are formed, we did not directly explore the processes involved.

Strengths, Limitations, and Future Directions

One of the strengths of our study was data collection from both managers and employees. This aspect of the research design elim-

inated potential common method bias explanation for the reported results. Employing hierarchical linear modeling for analyses enabled us to partial out between-group variance in job performance and citizenship behavior attributable to the nested data structure. A second strength of our study was appropriate specification of study variables in regression models. To account for the effects of RLMX, we adopted a more accurate procedure based on polynomial regression methods (Edwards, 1994), and in so doing, we developed multilevel models matching our data structure. We also used recent advances in mediation tests to effectively estimate the effects and their significance. Another strength of our study concerned the use of a blue-collar sample in a non-Western country. Because leaders at the lowest level of the organization tend to be constrained by fixed work rules and procedures, they tend to have fewer resources to use in differentiating between subordinates. Thus, our study provided a conservative test of LMX differentiation and resulting LMX social comparisons relative to results that might be found at higher organizational levels where leaders have more discretion over the distribution of resources, information, and support. Because the majority of empirical work in organizational research involves white-collar samples in Western countries, a strength of our study was the demonstrated generalizability of LMX theory.

Despite these strengths, there are several potential limitations of the present study. The first main limitation is that we gathered data from employees and managers at one time, limiting our ability to claim causality between the study variables. It is possible that manager perceptions of performance may have influenced one's LMX standing. A longitudinal design could have helped answer the question of directionality. The second limitation was the lack of demographic variance in our sample. The sample was exclusively male, concealing information about how the pattern of relationships could have differed for women. It is possible for sex effects to exist on LMXSC, because research has shown that women prefer collaboration to competition with peers in the work group (e.g., Smythe & Huddleston, 1992). Our sample did not allow us to test this possibility. Finally, the high ICC values observed for employees' job performance and citizenship behavior ratings raise the concern that the collectivistic context may have led managers to avoid fully distinguishing between their group members. In collectivistic societies such as India, group harmony is prized and uniform treatment of group members is encouraged (Hofstede, 2001; Triandis, 1995). Hierarchical linear modeling allowed us to account for this rater bias; however, our hypotheses should be tested in other setting to enhance the generalizability of our findings.

Future research would benefit from investigating antecedents of LMXSC other than RLMX. In addition, we focused on only two behavioral outcomes, job performance and citizenship behavior, both rated by managers. Even though this allowed us to eliminate common method explanations for our results, it is not clear if the pattern of results would change when attitudinal variables, generally rated by employees, are studied. Future research should examine whether employee-rated outcomes are more or less strongly related with LMX than with LMXSC. Future research should also consider if the relationships between RLMX and LMXSC and between LMXSC and outcomes are moderated by individual characteristics. For example, it is possible that personal disposition toward equity sensitivity may strengthen the relationship examined in this study. It is also likely that work context (e.g., within-group task interdependence) may alter the magnitude or direction of the relationships. For example, Liden, Erdogan, Wayne, and Sparrowe (2006) found that LMX differentiation positively influenced group performance in high task interdependence groups but not in low task interdependence groups. These researchers explained this result on the basis of arguments made earlier by Stogdill (1959) by suggesting that when tasks require close collaboration, team members may be more inclined to accept role differentiation. Similarly, in high task interdependence groups, members may be less inclined to gauge their behavior on equity perceptions on the basis of social comparisons, such as LMXSC. Thus, we might expect LMXSC to demonstrate stronger mediating power in low task interdependence groups than in high task interdependence groups. Another potentially salient moderating variable is individualism/collectivism. Because collectivists are more concerned than individualists about the welfare of the group as opposed to their own self-interest (Hofstede, 1980), it is plausible to expect that effects for LMXSC would be weaker for collectivists than individualists. Therefore, researchers should explore the moderating influence of individual-level as well as group-level variables. Finally, future research with longitudinal designs is required to establish causality among the study variables.

Practical Implications

Our study has important implications for the management of employees. Leaders should note that employees evaluate their own relationship with the leader in the context of the relationships coworkers have with the leader. Treating everyone similarly and creating the impression that all team members have a similar type of relationship with the leader may actually be counterproductive (Sias, 1996). Employees seem to be motivated by having a "closer" relationship with the leader than that experienced by coworkers. This suggests that leaders need to pay attention to the social comparisons each employee makes. Employee perceptions may not necessarily reflect reality, so leaders may be able to motivate trusted subordinates by letting them know of their high standing with the leader. Ensuring that the key employees in a team feel that they enjoy a closer relationship with the leader may maximize the performance and citizenship potential of these most trusted employees.

Conclusion

LMX theory is grounded in the central argument that leaders form differentiated relationships with followers. However, extant research has neglected the social comparisons with other group members that employees make in order to derive the meaning of LMX. We integrated social exchange theory with social comparison theory to explore the mechanism behind LMX–outcomes relationships. In this study, we directly tested the basic premise of LMX differentiation theory by showing that employees' ratings of LMXSC explain unique variance in employee behaviors. We suggest future research to incorporate measures of social context when studying the influence of leader–member relationships on employee outcomes.

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