

LEADER-MEMBER EXCHANGE AS A MEDIATOR OF THE RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND FOLLOWERS' PERFORMANCE AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR

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We developed a model in which leader-member exchange mediated between perceived transformational leadership behaviors and followers' task performance and organizational citizenship behaviors. Our sample comprised 162 leader-follower dyads within organizations situated throughout the People's Republic of China. We showed that leader-member exchange fully mediated between transformational leadership and task performance as well as organizational citizenship behaviors. Implications for the theory and practice of leadership are discussed, and future research directions offered.

Two contrasting perspectives on leadership in organizations are prevalent in the academic and applied literatures. The first is leader-focused and attempts to explain individual, group, and organizational performance outcomes by identifying and examining specific leader *behaviors* directly related to them. This viewpoint is exemplified by theories of transformational leadership (e.g., Bass, 1985). The second perspective is more relationship-based, focusing explicitly on how one-on-one reciprocal social exchanges between leader and follower evolve, nurture, and sustain the dyadic relationship. This approach is best exemplified by leader-member-exchange (LMX) theory (Graen & Uhl-Bien, 1995). Although transformational leadership approaches concentrate predominantly on leader behaviors unilaterally directed toward subordinates, the mainstay of LMX research has been studying two-way, reciprocal exchanges between leader and follower.

There have been several calls for a theoretical integration of the transformational leadership and LMX literatures (Avolio, Sosik, Jung, & Berson, 2003; Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Howell & Hall-Merenda, 1999). In this study, we attempted such integration. Howell and Hall-Merenda (1999) contended that in leadership research, a relationship of some sort between leader and follower is assumed, and it is further assumed that the nature and quality of that relationship are fundamental to linking leader behavior to follower response. Stated alternatively, the assumption has been that it is the quality of the leader-follower relationship through which transformational leadership behaviors influence follower performance. Consistently with this reasoning, we developed and tested a structural model in which LMX mediates between perceived transformational leadership behavior and follower performance (task performance and reported organizational citizenship behavior).

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THEORY AND HYPOTHESES

Transformational Leadership

The behaviors most commonly associated with transformational leadership include articulating a

compelling vision of the future of an organization; offering a model consistent with that vision; fostering the acceptance of group goals; and providing individualized support, intellectual stimulation, and high performance expectations. Positive relationships have been consistently reported between individual, group, and organizational performance and the ratings followers give their leaders on these transformational leadership behaviors. Typically, these findings have been explained as showing that leader behaviors cause basic values, beliefs, and attitudes of followers to align with organizational collective interests (Podsakoff, MacKenzie, Moorman, & Fetter, 1990).

Transformational leadership and task performance. One theoretical basis for expecting positive associations between transformational leadership and task performance is Kelman's (1958) typology of social influence processes. *Personal identification* and *internalization* are two of them. Specifically, when followers attribute exceptionally strong positive qualities, such as the ability to articulate visions, to a transformational leader, personal identification has occurred. They internalize their leader's values and beliefs and behave consistently with them, including putting collective interests over self-interests. In so doing, they receive leader praise and recognition. These in turn nourish the follower's sense of self-worth and felt obligation to reciprocate, thereby motivating behaviors that serve this obligation (e.g., Bass, 1985; Yukl, 2002). An alternative, but closely related, reason to expect positive associations between transformational leadership and task performance is the process of social identification. By means of social identification, which derives from followers taking pride in being part of a group or organization, followers come to view their individual efforts and work roles as contributing to a larger collective cause. This perspective enhances the personal meaningfulness and importance of their work. By emphasizing the ideological importance of an inspirational and unifying vision, and by linking the followers' self-concepts to this vision, transformational leaders build the social identification and self-concepts of their followers.

Internalization of the beliefs and values of a leader in such an instance is driven less by a desire to emulate the leader and more by the desire to identify with a collective cause (Shamir, House, & Arthur, 1993). Behaving in ways that express the values and beliefs of this social entity enhances a follower's self-concept. The self-efficacy of followers is strengthened when transformational leaders express confidence in their abilities and celebrate their accomplishments. A positive association be-

tween transformational leadership and followers' task performance has received considerable empirical support (cf. Lowe, Kroeck, & Sivasubramaniam, 1996).

Transformational leadership and OCB. Organizational citizenship behavior (OCB) is behavior, largely discretionary, and seldom included in formal job descriptions, that supports task performance by enhancing a social and psychological work environment. Transformational leaders motivate followers by getting them to internalize and prioritize a larger collective cause over individual interests. Individuals who are intrinsically motivated to fulfill a collective vision without expecting immediate personal and tangible gains may be inclined to contribute toward achieving the shared workplace goal in ways that their roles do not prescribe. These individuals make these contributions because their senses of self-worth and/or self-concepts are enhanced in making these contributions. Individuals for whom this link between the interests of self and others has not been established are less likely to make largely discretionary, nontangibly rewarded contributions. A positive association between transformational leadership and OCB is expected and has been supported empirically (e.g., Podsakoff et al., 1990).

Leader-Member Exchange

LMX theory is premised on notions of role making (Graen, 1976), social exchange, reciprocity, and equity (Deluga, 1994). Leaders convey role expectations to their followers and provide tangible and intangible rewards to followers who satisfy these expectations. Likewise, followers hold role expectations of their leaders, with respect to how they are to be treated and the rewards they are to receive for meeting leader expectations. Followers are not passive "role recipients"; they may either reject, embrace, or renegotiate roles prescribed by their leaders. There is a reciprocal process in the dyadic exchanges between leader and follower, wherein each party brings to the relationship different kinds of resources for exchange. Role negotiation occurs over time, defining the quality and maturity of a leader-member exchange, and leaders develop relationships of varying quality with different followers over time (Graen, 1976; Graen & Uhl-Bien, 1995).

LMX and task performance. Leaders exercising formal authority and allocating standard benefits in return for standard job performance characterize low-quality exchanges. The exchanges underlying these relationships are predominantly quid pro quo and "contractual." In high-quality LMX relation-

ships, however, social exchange is moved to a higher level, nourished by *mutual trust*, *respect*, and *obligation* (Graen & Uhl-Bien, 1995). In return for exemplary performance contributions (e.g., consistently volunteering to work extra hours to meet project deadlines), followers receive special privileges (e.g., access to key personnel or information), career-enhancing opportunities (e.g., special work assignments), and increasing levels of discretion in doing their jobs. Accordingly, task performance is a form of currency in the social exchange between leader and follower, and a means of fulfilling obligations for reciprocity. Specifically, the positive affect, respect, loyalty, and felt obligation characteristic of high-quality LMX, according to Liden and Maslyn (1998), build as a result of favorable treatment by the leader, and are expressed by high task performance, which fulfills reciprocity expectations. Gerstner and Day (1997) reported meta-analytically derived correlations of .31 between LMX and supervisory ratings of performance and of .11 between LMX and objective measures of employee performance.

Leader-member exchange and organizational citizenship behavior. In high-quality LMX relationships, obligations are often diffuse and unspecified, and no standard or value against which gifts, favors, or contributions can be measured is present (Blau, 1964). A positive association between LMX and OCB is expected because OCB helps fulfill the reciprocity obligations of followers, and represents an exchange currency that is diffuse, unspecified, and weakly time-bound. Moreover, in high-quality exchange, leaders appeal to the higher-order social needs of followers by getting them to place collective interests over short-term personal gratification (Graen & Uhl-Bien, 1995). An individual's being a "good citizen" promotes the welfare of the larger collective. Accordingly, LMX is expected to correlate positively with OCB. Support for this relationship was provided by Hackett, Farh, Song, and Lapierre (2003), who reported a meta-analytic mean correlation of .32 between LMX and overall OCB, leading them to conclude that OCB plays a key role in the reciprocal social exchange process of LMX.

Studies of Both Transformational Leadership and Leader-Member Exchange

Only three published studies have included measures of both transformational leadership and LMX (see Basu & Green, 1997; Deluga, 1992; Howell & Hall-Merenda, 1999). Deluga (1992) argued that a transformational leader "catalyzes" conventional social exchanges, stimulating subordinates to sur-

pass initial performance goals and self-interests. More specifically, he provided empirical data suggesting that the heightened outcomes associated with transformational leadership *result from* the individualized dyadic relationship between a given subordinate and leader. Deluga noted that "transformational leaders may foster the formation of high quality relationships and a sense of a common fate with individual subordinates; while in a social-exchange process, subordinates strengthen and encourage the leader" (1992: 245). Reporting regression analyses of data from 145 U.S. Navy offices, Deluga (1992) wrote that individualized consideration and charisma were the only two transformational leadership factors that predicted LMX. These results suggest that it is a leader's charisma and individualized consideration—both of which have been considered dyad-level influences (Seltzer & Bass, 1990)—that cause subordinates to behave in ways (such as making extra efforts) that strengthen relational ties with the leader.

Basu and Green (1997) studied employees of a Fortune 500 manufacturing facility and factor-analyzed the employees' responses to an 8-item measure of LMX and a 28-item measure of transformational leadership. Their analysis failed to distinguish LMX from intellectual stimulation and individualized consideration, which they interpreted to be consistent with viewing these two dimensions as intangible rewards (currency) within a dyadic social exchange.

Howell and Hall-Merenda (1999) studied 109 community-banking managers. They collected subordinates' ratings of these managers on both transformational leadership and leader-member exchange. The managers provided performance measures of subordinates approximately six months after the LMX measures were taken. Partial least squares analysis showed that within a predictor set consisting of LMX, transformational leadership, and three transactional leadership dimension scores, LMX was a significant predictor of follower performance, whereas transformational leadership was not. Specifically, the path from transformational leadership to performance failed to reach statistical significance when other leader behaviors and LMX were included in the model. These authors also found that of a predictor set consisting of transformational leadership and the three transactional leadership dimension scores, all were significant predictors of LMX, but the strongest was transformational leadership, followed by contingent rewards. Together, these results suggested a temporal path from transformational leadership to LMX and from LMX to follower performance.

None of the three cited studies showed how

transformational leadership and LMX are related to each other and to work performance. Transformational leadership theories are still at early stages of specifying the developmental mediating processes between leader behavior and performance (Dvir, Eden, Avolio, & Shamir, 2002). Our contribution in this study lies in explicitly testing a structural model that positions LMX as a *mediator* between transformational leadership and task performance/organizational citizenship behavior. Although transformational leadership and LMX appear to overlap conceptually, we contend that transformational leadership comprises a set of leader behaviors that directly influence the development and maintenance of leader-member exchange relationships.

The Mediating Role of Leader-Member Exchange

The mediating role of LMX in the relationship between transformational leadership and task performance/OCB is premised on the notion that a high-quality LMX relationship reflects an affective bonding accompanied by largely unstated mutual expectations of reciprocity. Such a relationship evolves from a predominantly transactional exchange into a social exchange as mutual trust, respect, and loyalty are earned (Graen & Uhl-Bien, 1995). We argue that transformational leadership builds and nourishes high-quality LMX. Findings by Dvir and coauthors (2002) suggest that follower development and the accompanying social bonding mediate the effects of transformational leadership behaviors on follower performance. They suggested this: "Perhaps a critical level of interaction with a transformational leader is indispensable for the impact of follower development to emerge" (Dvir et al., 2002: 742). Deluga (1992) argued that the heightened outcomes associated with transformational leadership result from the individualized dyadic relationship between a given subordinate and leader.

LMX is said to develop through three sequential stages, "stranger," "acquaintance," and "partner," each of which relies successively less on instrumental transactional exchange and more on social exchanges of a "transformational" kind (Graen & Uhl-Bien, 1995). In the stranger stage, the leader "offers" modestly expanded role responsibilities and assesses whether the follower successfully fulfills them. Greater responsibilities, discretion, and benefits are given as the follower meets these successively expanded role responsibilities. The transformation characteristic of mature LMX relationships occurs when there is a shift in the motivation of followers from a desire to satisfy immediate self-

interests via a quid pro quo transactional exchange to a desire to satisfy longer-term and broader collective interests of the work unit.

Moreover, transformational leaders, because of their charismatic appeal, are more effective than their purely transactional counterparts in enhancing follower receptivity to social exchange offers and thereby building higher-quality LMX. Transformational leaders are particularly effective in eliciting personal identification from their followers and getting them to accept offers of expanded role responsibilities. Followers with strong personal identification with their leaders enhance their sense of self-worth by internalizing their leaders' values and beliefs and by behaving in accordance with them. In so doing, followers garner praise, recognition, and enriched role responsibilities, and these result in a higher quality of social exchange with their leaders. This process is consistent with the finding that transformational leadership encompasses an element of higher-order transactional leadership, reflecting leaders' and followers' internalized expectations of mutual trust and their reciprocal exchange obligations (Goodwin, Wofford, & Whittington, 2001). Most successful leaders effectively use transformational behaviors to create long-term loyalty and organizational commitment (Graen & Uhl-Bien, 1995).

We also believe that transformational leadership is "personalized" through LMX. Graen (1976) noted the importance of leadership behaviors in the role-making process of LMX, emphasizing the need for leaders to convey compelling and unifying organizational missions to get followers to identify their vocations within the ideologies of their organizations. It is through establishing high-quality relationships that leaders, by example and by treatment, convince followers that an organization deserves their commitment (Graen, 1976). Accordingly, transformational leaders may provide the broader cultural framework and facilitating conditions within which leader-member relationships are personalized in the LMX relationship-building process. As Avolio and his coauthors noted, "To 'make sense' of each follower's future requires the leader to develop a relationship, whereby followers come to identify with the leader's vision" (2003: 280). The leader-member exchange process provides for this relationship building.

The preceding text suggests the following:

Hypothesis 1. Transformational leadership is positively related to the task performance and organizational citizenship behaviors of followers.

Hypothesis 2. Leader-member exchange relates positively to the task performance and organizational citizenship behaviors of followers.

We hypothesized that OCB is also related to task performance. OCB is largely discretionary and typically not compensated. Individuals performing OCB tend also to show altruism, organizational commitment, and conscientiousness (LePine, Erez, & Johnson, 2002), variables positively related to task performance. Accordingly, it is reasonable to expect a positive correlation between OCB and task performance. OCB appears to have a significant influence on the in-role performance of employees, especially managers' ratings of employee performance (Allen & Rush, 1998; Werner, 1994). Therefore, following an approach similar to that of Wayne, Shore, Bommer, and Tetrick (2002), we added a structural path from OCB to task performance to our model.

Hypothesis 3. Leader-member exchange mediates the relationship between transformational leadership and followers' task performance and organizational citizenship behavior.

PILOT STUDY

We conducted a pilot study to assess the psychometric characteristics of our translated LMX and transformational leadership measures on a Chinese sample. The sample for our pilot study consisted of 262 employees in a bank located in a major city in South China. The mean age of the respondents was 29 years; 46 percent were male; mean organizational tenure was 8 years; and mean postsecondary education was 3 years.

We used the 12-item LMX-MDM (Liden & Maslyn, 1998), a *multidimensional* scale, rather than a unidimensional measure of *leader-member exchange* such as LMX-7 (Scandura & Graen, 1984). LMX-MDM has broader domain coverage and better reflects a subordinate's evaluation of the relational characteristics and qualities of the leader-subordinate relationship than do unidimensional measures of LMX.

Liden and Maslyn (1998) recommended use of the LMX-MDM in structural equation modeling in which LMX is a key variable, with each dimension serving as an indicator of global LMX. Since our data were collected from the People's Republic of China (PRC), the LMX-MDM was translated from English into Chinese and then back-translated into English to ensure equivalency of meaning (Brislin, 1980). For all items the response format was 1,

“strongly disagree,” to 5, “strongly agree.” We conducted a confirmatory factor analysis (CFA) with LISREL 8.50 (Jöreskog & Sörbom, 2001) to test the four-dimensional structure of LMX-MDM. A four-factor model, with an overall second-order factor, fitted our data reasonably well ($\chi^2 = 74.92$, $df = 50$; RMSEA = .05; CFI = .98; TLI = .97). The competing one-factor measurement model did not fit our data ($\chi^2 = 310.39$, $df = 54$; RMSEA = .15; CFI = .80; TLI = .75). Coefficient alpha was calculated for each of the four LMX dimensions (affect, loyalty, professional respect, and contribution); values were .82, .63, .86, and .80, respectively. Sample items in the dimensions are, “I like my supervisor very much” (affect), “My supervisor would defend me to others in the organization if I made an honest mistake” (loyalty), “I admire my supervisor's professional skills” (professional respect), and “I do not mind working my hardest for my supervisor” (contribution).

A 23-item scale developed by Podsakoff and his colleagues (1990), modified and translated into Chinese by Chen and Farh (1999), was used to measure perceived *transformational leadership* behaviors. The response scale (1, “strongly disagree,” to 5, “strongly agree”) was the same as that used for the LMX items. In contrast to the LMX-MDM's focus on relational qualities of the leader-subordinate relationship, the Podsakoff et al. (1990) transformational leadership scale focuses on subordinates' perceptions of their leaders' behavior. Items included “My supervisor encourages subordinates to be team players” (fostering collaboration); “My supervisor behaves in a manner thoughtful of my personal needs” (providing individual support); “My supervisor leads by example” (providing an appropriate role model); “My supervisor challenges me to set high goals for myself” (high performance expectations); “My supervisor inspires others with his/her plans for the future” (articulating a vision); and “My supervisor challenges me to think about old problems in new ways” (intellectual stimulation).

We performed a CFA to test whether the six-factor model plus an overall second-order factor fitted our data. The results showed that the fit indexes fell within an acceptable range ($\chi^2 = 477.18$, $df = 224$; RMSEA = .08; CFI = .91; TLI = .90), suggesting that the model fitted the data reasonably well. The coefficients alpha of the six dimensions of transformational leadership were as follows: fostering collaboration (.85), intellectual stimulation (.84), providing an appropriate model (.87), high performance expectations (.73), articulating a vision (.90), and providing individual support (.87).

MAIN STUDY: METHODS

Sample and Procedure

Respondents for the main study used for testing our hypotheses were employees of multiple organizations in a major city located in northern China. Separate questionnaires were developed and administered to supervisors and subordinates. The supervisor questionnaires were first distributed to 119 supervisors/managers enrolled in several MBA classes offered by a premier Chinese university located in that city. The questionnaires for subordinates were distributed to 238 immediate subordinates of these supervisors. Each supervisor rated task performance and organizational citizenship behavior for two of his/her immediate subordinates, one who was performing well, and one who was performing poorly. Each subordinate completed the questionnaire with the transformational leadership and LMX-MDM scales. Respondents were assured of the confidentiality of responses.

Completed surveys were returned directly to us in sealed and preaddressed envelopes. Because each subordinate provided ratings of both transformational leadership and LMX, common method variance in measuring leadership was a concern. To minimize this potential influence (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), we calculated the transformational leadership score of each supervisor as the mean of the ratings provided by each of the two subordinates. Accordingly, our data analyses were restricted to the supervisors for whom we had two independent subordinate ratings of transformational leadership (84 of 119 supervisors). After deleting the records of unmatched supervisor-subordinate pairs, we were left with 162 supervisor-subordinate dyads (81 supervisors, each with two ratings of transformational leadership). In addition to addressing, in part, our concern over common source variance in measuring our two key leadership constructs (such as common rater effects [Podsakoff et al., 2003]), taking the average cross-subordinate rating of transformational leadership was also consistent with how transformational leadership is typically viewed and measured: as a generalized behavioral approach of a leader to subordinates (House & Aditya, 1997; Yukl, 2002). Theoretically, a transformational leader applies his/her transformational leader behaviors to all followers.

This approach of using the average ratings of individuals to represent a group-level construct and then applying the same average score to all individuals within the same group is common in cross-level studies. For example, Campion (1988) and Wong and Campion (1991) averaged job characteristics ratings by different participants and ap-

plied this average to all individuals doing the same job when predicting their job satisfaction.

In our sample of 162 subordinates, 50 percent were male, the mean age was 32 years, and the mean organizational tenure was 8 years. The subordinates had a mean of 6 years of postsecondary education and had known their immediate supervisors for a mean of 4 years. Among the supervisors, 74 percent were male, the mean age was 36 years, and the mean organizational tenure was 10 years. They had a mean of 8 years of postsecondary education.

Measures

The following measures consisted of items with response options ranging from 1, "strongly disagree," to 5, "strongly agree."

Leader-member exchange. We used the LMX-MDM (Liden & Maslyn, 1998), which had been validated in our pilot study, to measure leader-member exchange. We conducted another CFA using the main sample to further assess this measure. The fit indexes for four first-order factors plus one second-order factor fell within an acceptable range ($\chi^2 = 86.97$, $df = 50$; RMSEA = .08; CFI = .96; TLI = .95; for affect, loyalty, professional respect, and contribution, α 's = .85, .68, .88, and .83, respectively).

Transformational leadership. We used the Chinese version of the 23-item transformational leadership scale (Chen & Farh, 1999), which had been validated in our pilot study. The results of a CFA conducted with the main sample to further assess the validity of this measure again confirmed the six-factor plus one second-order factor structure for this measure found in our pilot study ($\chi^2 = 428.42$, $df = 224$; RMSEA = .07; CFI = .90; TLI = .90; α 's = .89, .81, .83, .65, .85, and .83, respectively, for the dimensions of fostering collaboration, intellectual stimulation, providing an appropriate model, high performance expectations, articulating a vision, and providing individual support).

Organizational citizenship behavior. A Chinese version of the OCB scale originally developed by Podsakoff et al. (1990) was used (Lam, Hui, & Law, 1999). The scale measures the five OCB dimensions: altruism (five items; $\alpha = .85$), conscientiousness (four items, $\alpha = .79$), sportsmanship (five items, $\alpha = .82$), civic virtue (four items, $\alpha = .68$), and courtesy (five items, $\alpha = .79$). Fit indexes fell within an acceptable range ($\chi^2 = 415.67$, $df = 225$; RMSEA = .07; CFI = .89; TLI = .87).

Task performance. Seven items ($\alpha = .89$) adopted from Tsui, Pearce, Porter, and Tripoli (1997) were used to measure task performance. A

sample item is, “The quality of work is much higher than average.”

Data Analysis

A two-step process of analysis (Anderson & Gerbing, 1988; Medsker, Williams, & Holahan, 1994) with LISREL 8.50 (Jöreskog & Sörbom, 2001) was employed to test our hypotheses. In the first step, we used three tests to verify the distinctiveness of the two core variables in this study—transformational leadership and leader-member exchange (as assessed via the LMX-MDM scale). In the second step, we used a model comparison procedure to evaluate our structural models.

To show that transformational leadership was distinct from leader-member exchange, we first conducted a dimension-level CFA including all the variables used in the study. For LMX, we treated the four dimensions of LMX-MDM as its indicators. Similarly, we used six dimensions of transformational leadership as its indicators, and the five OCB dimensions as its indicators. For task performance, we randomly averaged the seven items of this measure to form three indicators.

The second test of the distinctiveness of transformational leadership and LMX involved comparing the correlations between each of these variables with task performance. Evidence for discriminant validity would be established if the two correlations were unequal. Cohen and Cohen (1983: 56–57) described a test of the difference between two correlations calculated from a single sample. The test statistic is a *t* with degrees of freedom of three less the sample size ($n - 3$). Finally, in a third test of the distinctiveness of transformational leadership and LMX, we entered transformational leader-

ship into a regression model as predicting task performance and OCB. We then entered LMX in a second step, looking for a significant change in the variance explained. If the change in R^2 of the model after entering LMX were significant, it would imply that LMX explained additional variance in the dependent variables, beyond what transformational leadership explained.

MAIN STUDY: RESULTS

Confirmatory Factor Analyses

Table 1 presents the CFA results. As shown, the baseline four-factor model fitted the data well ($\chi^2 = 258.99$; $df = 129$; RMSEA = .07; CFI = .92; TLI = .91). Against this baseline four-factor model, we tested three alternative models: model 1 was a three-factor model with LMX merged with transformational leadership to form a single factor; model 2 was another three-factor model with task performance merged with OCB to form a single factor; and model 3 was a two-factor model, with transformational leadership merged with LMX to form a single factor, while task performance and OCB were merged into another factor. As Table 1 shows, the fit indexes supported the hypothesized four-factor model, providing evidence of the construct distinctiveness of transformational leadership, LMX, OCB, and task performance.

Following the suggestions of Fornell and Larcker (1981) and Netemeyer, Johnston, and Burton (1990), we further tested the discriminant validity of transformational leadership and leader-member exchange, as measured by the multidimensional LMX-MDM scale, by comparing the variance shared by each construct and its measures with the

TABLE 1
Comparison of Measurement Models

Model	Factors	χ^2	<i>df</i>	$\Delta\chi^2$	RMSEA	CFI	TLI
Null model		1,877.41	153				
Baseline model	Four factors.	258.99	129		.07	.92	.91
Model 1	Three factors: Transformational leadership and leader-member exchange were combined into one factor.	324.75	132	65.76**	.09	.89	.87
Model 2	Three factors: Task performance and organizational citizenship behavior were combined into one factor.	298.73	132	39.74**	.09	.90	.89
Model 3	Two factors: Transformational leadership and leader-member exchange were combined into one factor; task performance and organizational citizenship behavior were combined into another factor.	362.40	134	103.41**	.10	.87	.85

** $p < .01$

variance shared by both constructs (latent variables). To meet the requirements of the first test, the variance captured by transformational leadership and LMX needed to be larger than .50 and smaller than the squared correlation between these two latent constructs. The variance-extracted estimates for transformational leadership and multidimensional LMX were .68 and .55, respectively (both exceeding the benchmark of .50). The former exceeded the square of the correlation between the latent constructs of transformational leadership and LMX-MDM ($\phi^2 = .64$), while the latter did not. The phi coefficient was also significantly less than 1 ($p < .05$, $s.e. = .04$). These statistics, together with the CFA results, support the notion that transformational leadership and multidimensional LMX are distinguishable constructs. The composite reliabilities of transformational leadership, LMX, task performance, and OCB were .93, .82, .86 and .81, respectively.

As for Cohen and Cohen's (1983) test of the differences between two Pearson correlations from the same sample, the t -statistic for the difference between the transformational leadership–task performance correlation and the LMX–task performance correlation was 3.19 ($df = 159$, $p < .01$). When OCB was used as the criterion, t was 1.98 ($df = 159$, $p <$

.05). In the hierarchical regression analysis, the change in variance explained (ΔR^2) when LMX was entered after transformational leadership in predicting task performance was .11 ($p < .01$). When OCB was used as the criterion, the change in R^2 was .06 ($p < .05$). Hence, the tests on both task performance and OCB as dependent variables led to the same conclusion, that transformational leadership was distinct from leader-member exchange, as measured by the LMX-MDM scale.

Descriptive Statistics

Table 3 presents the means, standard deviations, reliability coefficients, and zero-order correlations of all the studied variables. Transformational leadership correlated significantly ($p < .05$) with task performance and OCB ($r = .20$ and $.18$, respectively), and LMX correlated significantly ($p < .01$) with these same two variables ($r = .38$ and $.29$, respectively).

Hypothesis Tests

The univariate correlations between transformational leadership and task performance ($r = .20$, $p < .01$) and OCB ($r = .18$, $p < .01$) provided

TABLE 2
Measurement Properties

Construct and Indicator	Standardized Loadings	Reliability	Variance-Extracted Estimate
Transformational leadership		.93 ^a	.68
Fostering collaboration	0.43	0.18	
Intellectual stimulation	0.42	0.18	
Providing an appropriate model	0.43	0.18	
High performance expectation	0.43	0.18	
Articulating a vision	0.46	0.21	
Providing individual support	0.41	0.17	
Leader-member exchange		.82 ^a	.55
Affect	0.63	0.40	
Loyalty	0.36	0.13	
Professional respect	0.54	0.29	
Contribution	0.57	0.32	
Task performance		.86 ^a	.68
Indicator 1	0.77	0.59	
Indicator 2	0.72	0.52	
Indicator 3	0.67	0.45	
Organizational citizenship behavior		.81 ^a	.46
Altruism	0.47	0.22	
Consciousness	0.63	0.40	
Sportsmanship	0.33	0.11	
Civic virtue	0.43	0.18	
Courtesy	0.46	0.21	

^a Composite reliability.

TABLE 3
Means, Standard Deviations, and Correlations^a

Variables	Mean	s.d.	1	2	3	4
1. Transformational leadership	3.86	0.45	(.93)			
2. Leader-member exchange ^b	3.81	0.58	.71**	(.81)		
3. Task performance	3.55	0.79	.20*	.38**	(.89)	
4. Organizational citizenship behavior	3.47	0.52	.18*	.29**	.68**	(.80)

^a $n = 162$; reliability coefficients for the scales are in parentheses along the diagonal.

^b LMX-MDM was the measure.

* $p < .05$

** $p < .01$

preliminary evidence to support Hypothesis 1, which states that transformational leadership has positive relationships with task performance and OCB. Supporting Hypothesis 2, LMX had positive correlations with those variables as well (task performance, $r = .38$, $p < .01$; OCB, $r = .29$, $p < .01$).

Hypothesis 3, which predicts that LMX mediates the relationship between transformational leadership and followers' performance and citizenship behavior, was tested through a series of nested model comparisons. Table 4 shows results.

Model 1, our baseline model, represents a fully mediating model. We specified paths from transformational leadership to LMX, and from LMX to task performance and OCB. This model does not have direct paths from transformational leadership to followers' task performance or OCB. As Table 4 shows, all fit indexes showed a good fit ($\chi^2 = 263.11$, $df = 131$; RMSEA = .07; CFI = .92; TLI = .91).

Against our baseline model, we tested three nested models. In model 2, we added to a direct path from transformational leadership to OCB.

Model 3 was also identical to model 1, except for the addition of a direct path from transformational leadership to task performance. In our third nested model, model 4, we added to two direct paths from transformational leadership to both OCB and task performance. Model 1 is therefore nested within models 2, 3, and 4. As Table 4 shows, the differences between chi-squares were not significant for model 1 compared with models 2, 3, or 4. Under the principle of model parsimony, therefore, these results suggested that model 1 best fitted our data. We concluded that leader-member exchange fully mediated the relationship between transformational leadership and task performance.

Models 5–8 are alternative models that are not nested within the above four models. We included the alternative models to assess the effects of changing construct ordering. We modeled the influence of LMX on task performance and OCB as mediated by transformational leadership in model 5, which had good fit ($\chi^2 = 274.40$, $df = 131$; RMSEA = .08; CFI = .92; TLI = .91). However, the paths from transformational leadership to task per-

TABLE 4
Comparison of Structural Equation Models^a

Model and Structure	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
1: TFL → LMX → OCB + task performance ^b	263.11	131		.07	.92	.91
2: TFL → LMX → OCB + task performance and TFL → OCB	261.16	130	1.95	.07	.92	.91
3: TFL → LMX → OCB + task performance and TFL → task performance	260.30	130	2.81	.07	.92	.91
4: TFL → LMX → OCB + task performance and TFL → OCB + task performance	258.99	129	4.12	.07	.92	.91
5: LMX → TFL → OCB + task performance	274.40	131		.08	.92	.91
6: OCB + task performance → LMX → TFL	500.87	132		.14	.79	.75
7: OCB + task performance → TFL → LMX	512.18	132		.14	.78	.74
8: TFL + LMX → OCB + task performance	295.58	130		.14	.90	.89

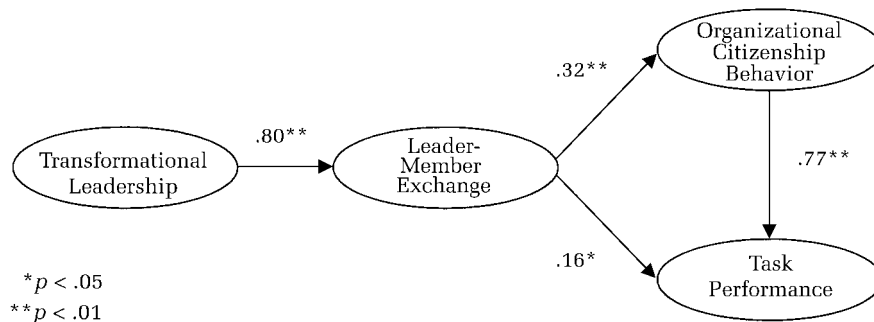
^a TFL = transformational leadership; LMX = leader-member exchange; OCB = organizational citizenship behavior.

^b Baseline.

* $p < .05$

** $p < .01$

FIGURE 1
Results of Structural Equation Modeling on the Mediating Effect of LMX



* $p < .05$

** $p < .01$

formance and OCB were not significant. Model 6 captured the influence of OCB and task performance on transformational leadership as mediated by LMX. Model 7 captured the influence of OCB and task performance on LMX as mediated by transformational leadership. Neither model 6 ($\chi^2 = 500.87$, $df = 132$; RMSEA = .14; CFI = .79; TLI = .75) nor model 7 ($\chi^2 = 512.18$, $df = 132$; RMSEA = .14; CFI = .78; TLI = .74) fitted our data well. With model 8 we tested a model in which transformational leadership and LMX directly influenced followers' task performance and OCB. The fit indexes for this model ($\chi^2 = 295.58$, $df = 130$; RMSEA = .14; CFI = .90; TLI = .89) were marginal and poorer than the baseline model's.

In summary, the results shown in Table 4 support Hypothesis 3: leader-member exchange mediates the relationship between transformational leadership and performance (task performance and OCB). Figure 1 shows that the coefficient of the path from transformational leadership to LMX was significant ($\beta = .80$, $p < .01$), as were the coefficients of the paths from LMX to task performance ($\beta = .16$, $p < .05$) and OCB ($\beta = .32$, $p < .01$).

In support of Hypothesis 2, we found statistically significant and positive coefficients for the paths from LMX to both task performance and OCB. Finally, the substantial path between OCB and task performance ($\beta = .77$) suggested that OCB influences supervisory ratings of employee task performance.

DISCUSSION

This study was a response to calls to investigate the conceptual and empirical links between transformational leadership and leader-member exchange and thereby theoretically integrate transformational and exchange models of leadership (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995). The literature on transformational leadership has

linked leader behaviors directly to performance outcomes, whereas the LMX literature has given only marginal attention to behaviors, focusing primarily on the quality of the social exchange relationship between dyadic partners. Our study suggests that LMX mediates between transformational leadership and performance (task and OCB).

These findings are consistent with the notions that: (1) transformational leadership behaviors are social currency, nourishing high-quality LMX; (2) transformational leadership is associated positively with task performance and OCB; (3) transformational leaders enhance follower receptivity to role-expanding offers and extrarole behaviors, through processes of personal and/or social identification; and (4) LMX makes transformational leadership more personally meaningful.

Our findings also suggest that the effect of transformational leadership on follower performance and OCB is based on how each follower personally experiences and interprets these behaviors (Dasborough & Ashkanasy, 2002). Social bonding between leader and follower is important, and a critical level of interaction with a transformational leader may be essential for follower development and social bonding to emerge (Dvir et al., 2002).

Generalizability of Results

Although our findings are based on samples drawn from mainland China, we have no reason to expect different results were the same study to be conducted in the West. Although some have questioned whether Western leadership models are applicable to "high-power-distance" (authoritarian), collectivist cultures such as mainland China, research has shown remarkably consistent results across cultures (cf. Chen & Farh, 1999; Hackett et al., 2003; Hui, Law, & Chen, 1999). Our study joins a growing body of literature that shows basic relationships between leadership and performance es-

tablished in the West hold up in China, thereby increasing the generalizability of previous findings from Western samples. Because this study is the first to have shown LMX as mediating between transformational leadership and performance, future research should attempt a replication of our results using samples from other national cultures.

Limitations

Followers rated both transformational leadership behaviors and LMX, and supervisors rated both the OCB and task performance of subordinates, giving rise to concern about possible common source bias in our results. We attempted to address this concern in part by averaging the subordinate ratings of transformational leadership. Support for the distinctiveness of transformational leadership and LMX came from three sources. The first was confirmatory factor analysis of our measurement model, and the second was the results of the Fornell and Larcker (1981) tests of discriminant validity between constructs. Third, in hierarchical regression analyses LMX explained unique variance in task performance and OCB that went beyond the contribution of transformational leadership to explained variance (whereas transformational leadership did not explain unique variance in task performance and OCB beyond the contribution of LMX). Moreover, we found that LMX correlated more highly with task performance and OCB than did transformational leadership, showing differential relationships despite their common measurement source.

Taken together, the above results present a fairly compelling case for the conceptual and empirical distinction between transformational leadership and LMX, though we acknowledge that common method bias remains a concern. Moreover, our findings are based on perceptual (not behavioral) data. Specifically, participants provided ratings of leadership and OCB based on their subjective perceptions, with no independent measures taken to substantiate these perceptions (e.g., recording of actual leadership behavior). Clearly, it would have been preferable had strategies for avoiding common method variance been incorporated into the study design. Podsakoff and his coauthors (2003) suggested several strategies, such as collecting transformational leadership and LMX ratings at two different times. Indeed, the cross-sectional design of our study prevented us from making causal statements of the nature that longitudinal studies would allow. Future research should engage longitudinal designs wherein both qualitative and quantitative data are collected over repeated observations. This

design would provide greater insights into the temporal dynamics by which leadership behaviors influence follower perceptions, attributions, behaviors, and the development of the LMX relationship. Future studies should also collect behavioral measures of transformational leadership and OCB, in addition to the perceptual measures.

Practical Implications

Overall, our findings suggest that effective leaders express their transformational behaviors within a personal, dynamic relational exchange context. They fulfill the psychological contract implicit in their social exchange relationships with followers. They are sensitive to follower contributions to the exchanges and reciprocate in ways that build follower self-worth and/or self-concept. Effective leaders link achievement of organizational goals to follower fulfillment of self-development goals, with the former advancing the latter. We are advocating a socially interactive and dynamic model of leadership, where the influence of transformational leadership on performance is through a social exchange between leader and follower.

LMX-enhancing transformational leadership strategies should be part of leadership development programs. Transformational leaders who are insensitive to the importance of followers' reciprocity expectations and the relational requirements of a high-quality relationship (e.g., reciprocity, personal development, and social bonding; Dvir et al., 2002) are likely to be less effective than they could be. It appears that it is through developing stronger dyadic social bonds that transformational leaders impact follower performance.

Additionally, our findings provide insights into how high-quality leader-member exchange relationships can be developed. The LMX literature focuses strongly on the outcomes of high-quality leader-member exchange, giving less attention to how leaders can build high-quality exchange relationships with their followers. The transformational leadership literature has a primary focus on performance-enhancing leader behaviors. Our findings suggest that transformational leadership behaviors are instrumental to developing high-quality LMX relationships. It follows that the effectiveness of leadership programs aimed at developing the quality of leader-follower dyadic relationships can be enhanced by incorporating training in transformational leadership skills.

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