The Linkage Role of LMX: A Mediating Effect of LMX on the Relationship between Transformational Leadership and Followers’ Performance and OCB

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Abstract

In this study, we developed a model that captured the mediating role of leader-member exchange (LMX) on the relationship between transformational leadership and followers’ performance and organizational citizenship behaviors (OCB). The results from a survey of 203 leader-follower dyads indicated that both transformational leadership behaviors and a multidimensional LMX construct have effects on the performance of followers and on their OCB. Most important, the four-dimension view of LMX mediated the relationship between transformational leadership behaviors and followers’ performance and OCB. Limitations and future research were discussed.
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Introduction

There is substantial evidence over several decades of research that leadership effectiveness is contingent upon the situation (Fielder, 1978; Hersy & Blanchard, 1977; House, 1971; Vroom & Yetton, 1973). The situation can be varied in relation to the task structure (Vroom & Yetton, 1973), the leader’s positional power (Fielder, 1978), the followers’ maturity (Hersey & Blanchard, 1977), and the subordinates’ dominant needs (House, 1971). This line of research reflects the logic that the effect of leadership on followers is contingent on or compatible with the situation in which the leader and subordinate interact with each other.

In this study, we focus on transformational leadership, one type of leadership behavior that has been attracting a lot of research interest. Although several researchers have argued that transformational leadership and leader-member exchange (LMX) should be integrated together (Graen & Uhl-Bien, 1995; Gerstner & Day, 1997), there are few empirical findings that document the relationship between transformational leadership and LMX (Howell & Hall-Merenda, 1999). Graen and Uhl-Bien (1995) noted that a contingency design and analysis is needed to examine how leader-focused variables interact with situational factors to affect outcomes and, especially, how a relationship-based approach would be useful to identify the proper mix of relational characteristics to promote desired outcomes. These relational characteristics should include trust, respect and mutual obligation between the leader and followers (Graen & Uhl-Bien, 1995).

However, we have found extremely few studies that examined the relationship among LMX, transformational leadership and job performance in the literature. Basu and Green (1997)
studied LMX and transformational leadership together as predictors of outcome variables. In their study, they treated transformational leadership and LMX as two independent predictor variables. In another large-scale attempt to test empirically the linkages between transformational leadership and LMX, Howell and Hall-Merenda (1999) emphasized how leaders should behave in order to elicit different levels of followers' performance and what leaders should do to encourage constructive leader-follower relationships. Although their results revealed that LMX was positively related to transformational leadership and LMX positively predicted the follower’s performance, Howell and Hall-Merenda (1999) did not show how transformational leadership and LMX interacted in affecting the job performance of the followers. Since both variables are critical factors leading to desired outcomes, we need to understand their interactions in order to explore the “black box” affecting the leader-follower relationship and job performance. To the best of our knowledge, our study may be the first in the literature that explicitly models and empirically tests the inter-relationship between transformational leadership and LMX in affecting job performance.

Based on role theory and social exchange theory, Dienesch and Liden (1986) proposed that LMX should be a multidimensional construct. The dimensional components of LMX include affect, loyalty, contribution and professional respect. Recent research emphasizes that this multidimensional conceptualization may help in our understanding of the development and maintenance of the leader-member relationship (Dienesch & Liden, 1986; Schrisheim, Neider, & Scandura, 1992; Liden & Maslyn, 1998). It is the purpose of this study to use this multidimensional view of LMX and to investigate its joint relationship with transformational leadership in affecting followers' job performance and organizational citizenship behaviors (OCB).
This study makes two unique contributions to the literature on leadership and LMX. First, as mentioned above, it is the first study that explicitly models and tests the inter-relationship between LMX and transformational leadership and consider how both affect job performance. Specifically, we argue that LMX would mediate the transformational leadership-job outcome relationship. Second, the mediating role of LMX is built on the multidimensional view of LMX (Dienesch and Liden, 1986; Liden and Maslyn, 1998), because this multidimensional view of LMX reflects the relational characteristics during the process of the leader-follower interaction. In this study, we retest the four-dimensional view of LMX proposed by Liden and Maslyn (1998) and further refine their measurement scale with a testing and validation sample.

This paper begins with a discussion of the theories related to LMX and transformational leadership and how the two interact to affect job performance. After discussing the theoretical background of the hypotheses, we describe the pilot sample used to pretest the multidimensional LMX scale along with the transformational leadership scale. We then explain the data collection process of our final sample and the cross-validation data of the scales used in this study. This is followed by an analysis of the mediating role of LMX in the link between the transformational leadership and the followers’ job performance. At the end of the paper, we offer a discussion of some possible limitations of our study and its future implications.

**Theory and Hypotheses**

**Leader-Member Exchange and Job Performance**

One's relationship with one's immediate supervisor or, more formally, the leader-member exchange (LMX), has been demonstrated to be an important component of an individual's organizational experience (see, e.g., Graen & Cashman, 1975; Graen & Uhl-Bien, 1995). The
social exchange theory (Blau, 1964) is one of the most important theories that explains the effect of LMX on its outcome variables. According to the social exchange theory, there are two forms of exchange relationships in an organization. The first is economic exchange, which is characterized by a careful definition of the obligations of parties involved in the exchange, by a specific time span and exchange terms, as well as by enforceable terms of exchange. On the other hand, social exchange is characterized by implicit obligations between the parties involved, by a non-specific time span or terms for exchange, by a lack of absolute certainty for fulfillment of the exchange obligation by the other party, and by a lack of institutional enforcement for such exchange obligations. Social exchange based on trust and implicit obligations facilitates the development of high quality of LMX.

LMX theory posits that the central premise behind LMX is that within a work unit different types of relationships are developed between a leader and his/her followers (Graen, 1976). Physical or mental effort, material resources, information and emotional support are the main components of the exchange process. Low-quality LMX relationships, originally labeled as out-group exchanges, are defined as relationships that are limited to the exchanges following the rules of employment contracts (Liden, Sparrowe & Wayne, 1997). Low quality leader-member relationships have been characterized in terms of economic or contractual exchanges that do not progress beyond what is specified in the employment agreement (Liden & Graen, 1980; Liden, Wayne & Stilwell, 1993; Sparrowe & Liden, 1997). Graen and Uhl-Bien (1995) suggested that leaders who develop low quality LMX with followers make requests based on their organizational position. Followers perform routine tasks and comply with what is needed based on their reporting relationship to the leader and the leader’s control of rewards.
In contrast, high-quality LMX is characterized by behaviors that extend beyond the employment contract. The parties develop mutual trust, respect, influence, and obligation in their relationship (Graen & Uhl-Bien, 1995). Leaders with such relationship will encourage followers to undertake more responsibilities on the task in the organizational setting and provide necessary support for followers to fulfill what they are required to do. Followers in high-quality LMX take on duties beyond the requirements of their organizational positions, demonstrate higher levels of performance beyond contractual expectation, and exhibit more extra-role behaviors than expected. Therefore, followers with high quality LMX are expected by leaders not only to display high level of task performance, but also to make more contributions to the organization beyond their “formal job duties” such as displaying high organizational commitment and organizational citizenship behaviors. To put it simply, leaders who have high-quality LMX with followers would also have social exchanges with them in terms of trust, loyalty and mutual obligations.

Empirical researches from field and experiment settings have also indicated that LMX is positively related to followers’ performance and organizational citizenship behaviors (OCB). The relationship between LMX and the followers’ performance, either measured subjectively or objectively, has been repeatedly demonstrated. Although little or no relationship was found in some studies (LaGrace, 1990; Vecchio & Gobdel, 1984), most studies found positive relationships between LMX and followers’ performance (Duarte, Goodson and Klich 1994; Scandura & Graen, 1984; Dunegans, Duchon and Uhl-Blen, 1992; Wayne, Shore & Liden; 1997; Masterson, Lewis, Goldman & Taylor, 2000).

Several studies examined the relationship between LMX and OCB. The results were consistent with the prediction that followers with high-quality LMX relationships contributed
extra time and effort to their organizations than did followers who had low-quality LMX with their leaders (Liden & Graen, 1980). Additional findings have indicated that LMX is positively related to organizational citizenship behaviors (Anderson & Williams, 1996, Liden & Graen, 1980; Setton, Bennett & Liden, 1996; Wayne, Shore & Liden; 1997; Masterson, Lewis, Goldman & Taylor, 2000).

The multidimensional view of LMX

Most of the studies on LMX in the past assumed that LMX is a unidimensional construct. However, using the technique of critical incidents, Dienesch and Liden (1986) argued that LMX is a four-dimensional construct based on the social exchange theory and past research findings (Liden, Sparrowe & Wyane, 1997, p.104). Dienesch and Liden (1986) and Liden and Maslyn (1998, p.50) defined these four dimensions of LMX as follows:

1. **Affect**, which refers to the mutual affection members of the dyad have for each other based primarily on interpersonal attraction rather than work or professional values;
2. **Loyalty**, which refers to the expression of public support for the goals and personal character of the other member of the LMX dyad,
3. **Contribution**, which is defined as the perception of the amount, direction, and quality of work-oriented activity each member puts forth toward the mutual goals (explicit or implicit) of the dyad, and
4. **Professional respect**, which is the perception of the degree to which each member of the dyad has built a reputation, within or outside the organization for excelling in his or her line of work.

Compared with the traditional unidimensional view of LMX, Dienesch and Liden (1986) use social exchange theory as the theoretical foundation of this new four-dimensional view of
LMX. This multidimensional view of LMX has enriched the construct domain of LMX extensively. To understand the effect of this refreshed view of LMX on related outcome variables, Liden and Maslyn (1998) have shown that the four dimensions of LMX correlate significantly with organizational commitment, job satisfaction, turnover intention and supervisory ratings of followers' performance. However, the effect of Liden and Maslyn's (1998) four-dimensional LMX on outcome variables has not yet been extensively investigated empirically. We therefore develop our first set of hypotheses following Liden and Maslyn's (1998) results and further extend them to the domain of organizational citizenship behaviors as derived from the unidimensional view of LMX and the social exchange theory.

**Hypothesis 1a:** The four dimensions of leader-member exchange will be positively related to followers’ performance.

**Hypothesis 1b:** The four dimensions of leader-member exchange will be positively related to followers’ organizational citizenship behaviors.

**Transformational Leadership and Job Performance**

Burns (1978) first made a clear distinction between transactional and transformational leaders. According to Burns, transactional leaders motivate followers by providing them with contingent rewards and punishments. In contrast, transformational leaders recognize the needs of their followers and go further to satisfy their higher-order needs in Maslow's (1954) need hierarchy model. Burns (1978) defined transformational leadership as the process of pursuing collective goals through tapping of leaders’ and followers’ motive bases toward the achievement of the intended changes.

The behaviors of transformational leaders may be classified into six major categories: articulating a vision, intellectual stimulation, expecting high performance of followers,
providing an appropriate model, fostering collaboration, and providing individual support (Podsakoff, MacKenzie, Moorman & Fetter, 1990). By having these six types of behaviors, transformational leaders have positive effects on followers’ performance and OCB through encouraging followers to generate new ideas, set high levels of performance, develop their capabilities, provide specific support and lead through modeling. Just as Yukl argued “followers feel trust and respect toward the leader and they are motivated to do more than they are expected to do” (Yukl, 1989, pp. 272).


In fact, the most important effects of transformational leaders should be on extra-role behavior (Graham, 1988), because transformational leaders should motivate followers to perform at a level “over and above mechanical compliance with the routine directives of the organization” (Katz & Kahn, 1978, pp518). Transformational leaders could cause followers to “do more than they expected to do” (Yukl, 1989, pp272) and “perform beyond the level of expectations” (Bass, 1985, pp22). Some researchers also found empirically that transformational leadership behaviors are positively related to OCB (Bryman, 1992; Podsakoff et al, 1990; Podsakoff, MacKenzie & Bommer, 1996). In a recent study conducted by Chen and Farh (1999), the relationship between transformational leadership, individual performance and OCB were theoretically analyzed in the Chinese organizational context. Their research demonstrated
that some dimensions of transformational leadership were positively associated with performance and OCB. Based on the argument above and prior research results, we develop the following set of hypotheses,

**Hypothesis 2a:** Transformational leadership behaviors are positively related to followers’ performance.

**Hypothesis 2b:** Transformational leadership behaviors are positively related to followers’ organizational citizenship behaviors.

**LMX, Transformational Leadership and Job Performance**

Transformational leadership behaviors refer to those behaviors exhibited by the leader that make followers more aware of the importance and values of task outcomes, activate their higher-order needs, and induce them to transcend self-interest for the sake of the organization (Burns, 1978, Bass, 1985). Transformational leaders aim at developing close relationships with subordinates based on trust and commitment rather than on contractual agreements. Their influence on subordinates is not limited in the scope of task activities.

While transactional leaders would use contingent punishment and rewards as motivators, transformational leaders motivate followers to do more than they are originally expected to do (Bass, 1985). Such a transformation is achieved through three steps:

1. By raising the followers' level of awareness, their levels of consciousness about the importance and value of designated outcomes, and the ways of attaining such outcomes.
2. By getting followers to transcend their own self-interest for the sake of the team or organization.
3. By altering their need level on Maslow's hierarchy or expanding their portfolio of needs and wants (p.20).
It is clear from Bass' arguments that transactional leaders will focus mainly on contingent rewards and contingent punishments, while transformational leaders direct their followers through higher order exchange processes. In fact, transformational leaders take a jump from pure "economic exchanges" of reward and punishment with their followers to "social exchanges" of interpersonal needs fulfillment. Since economic exchange is the main exchange style between leaders and followers when they have low-quality LMX, and social exchange is the dominant exchange style when they have high-quality LMX, the above discussion leads to the conclusion that transformational leaders would have high-quality LMX while transactional leaders have low-quality LMX with their followers.

In their model on the charismatic/transformational leadership, Boal and Bryson (1988) theorized that charismatic/transformational leadership would take effect through the mediating factor of “commitment to leader”. “Commitment to leader” includes trust in leader, loyalty to leader, unquestioning acceptance of leader, and obedience to leader. Yulk (1989) also proposed that the key reason for followers to be motivated by transformational leaders to perform beyond expectations is that followers trust and respect the leader. Bennis and Nanus (1997) suggested that only the leaders who had earned the trust from their followers would have an effect on followers’ performance. When dealing with how and why leaders become effective in influencing their followers with their model of charismatic/transformational leadership, Conger and Kanungo (1998) explained by using social exchange theory (Blau, 1964) that social exchange or transactions over time that existed between leader and followers are among the mechanisms to understand the link between a leader’s role behavior and the followers’ compliance and commitment to achieving group or organizational objectives. Therefore, the relationship characteristics during social exchange process between leader and followers such as
trust, loyalty, and respect may be a mediating factor between transformational leadership and followers’ behaviors. When we view the social exchange process between leader and follower with LMX theory, especially if we follow Liden and Maslyn's (1998) four-dimensional view of LMX, the mediating effect will be much clearer.

Bass (1985) has argued that "charismatic leaders are transformational in that they, themselves, have much to do with the further arousal and articulation of such feelings of higher order need among followers … they have the ability to both conceive and articulate goals that lift people out of their petty preoccupations" (p.46, words in *italics* added). In other words, transformational leaders have the ability to increase followers' "affection" and "loyalty" to them.

Transformational leaders will also "motivate followers to do more than they are originally expected" (Bass, 1985, p.20). According to Liden and Maslyn (1998), "contribution" means that followers will complete their tasks that extend beyond the job description and/or employment contract. In other words, transformational leaders can motivate their followers to contribute to their jobs over and beyond what is minimally required.

Finally, Bass (1985) highlighted that "inspirational leadership" is also an important component of transformational leadership. Inspirational leaders provide intellectual stimulation to their followers in order to help them to be better performers. But on top of that, they also generate emotional stimulation among their followers. Liden and Maslyn (1998) defined the last component of LMX, "professional respect", as the leader’s ability to build a reputation, within and/or outside the organization, of excelling in his or her line of work. Therefore, it is likely that transformational leaders would also enjoy professional respect from their followers.

As Graen and Uhl-Bien (1995) argued, an effective leadership process occurs when leaders and followers develop and maintain high-quality social exchange relationships. Effective
leadership can produce a mature leader-member relationship, which results in more effective leadership outcomes (Uhl-Bien & Graen, 1993). In these high-quality exchange relationships, the partners no longer emphasize the formalized hierarchical relationships between the leaders and the subordinates. The relationship becomes more like a peer relationship rather than a leader-follower relationship. This special partnership makes it possible for partners to have the resources and support to allow them to take on additional responsibilities within organizations. In particular, followers would make extra effort to engage in activities that are not specifically prescribed by the job position. For example, they may take personal initiative to achieve to high level of performance, take career risks to accomplish assignments, and perform more organizational citizenship behaviors (Graen, 1989).

The discussion above and the previous theoretical argument lead to the conclusion that transformational leaders motivate their followers to higher performance through a mechanism that basically coincides with the LMX exchange process. We therefore argue that LMX is a mediating variable affecting the transformational leadership and job performance link. Given this mediating role, we postulate our third hypothesis,

**Hypothesis 3a:** LMX will mediate the effect between transformational leadership and followers’ performance.

**Hypothesis 3a:** LMX will mediate the effect between transformational leadership and followers’ organizational citizenship behaviors.

**Method**

**Pretesting of Scales Used in This Study**

(1) Multidimensional scale of LMX
Since Liden and Maslyn's (1998) multidimensional scale of LMX was developed in the West and has not been used extensively, we needed to be cautious before using it in the PRC. We first started with a translation and back-translation procedure (Brislin, 1980) to ensure that the Chinese version of the scale had equivalent meaning with the English version. While the Liden and Maslyn (1998) scale consisted of only 12 items, we added 8 items in our pilot-testing sample (making a total of 5 items for each dimension) for two reasons. First, Liden and Maslyn's scale includes only three items for each dimension. We consider that this might be inadequate because the presence of huge random error in one item would have serious effects on the corresponding dimension as well as on the whole scale. Second, this is the first time the scale is used in the PRC. If any item were not useful because of cross-cultural factors, we would have a number of dimensions with fewer items. The eight newly added items were constructed by the first two authors through paraphrasing similar meanings as the original items. Next, in order to ensure that this new four-dimensional LMX scale would work in China, we first tested it on a pilot sample.

The pilot study sample consisted of 262 subordinates in a bank located in a city in Southeast PRC. The average age of the respondents was 29 and 45.6% of them were male. They had an average of 3 years of post-secondary education and their average organizational tenure was 8 years. After collecting the data, we did an exploratory factor analysis (EFA) with principal component analysis and Varimax rotation to identify the structure of the multidimensional LMX construct. Four factors were extracted but some items cross-loaded onto other factors. After deleting one item from each factor with heavy cross loading on other factors, we obtained a scale of LMX with 4 dimensions and each dimension with 4 items. Interestingly, all four items deleted were new items added by the authors. In other words, the final 16
items include all the original 12 items used by Liden and Maslyn (1998) along with four newly added items created by the authors. Table 1 presents the factor loading of each item on the four factors. The four newly added items in this study are marked with an asterisk. The coefficient alphas for the four dimensions of this 16-item LMX scale were .74, .85, .88, .81 for affect, loyalty, professional respect, and contribution, respectively.

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(2) **Transformational leadership scale**

Chen and Farh (1999) modified the measure of transformational leadership developed by Podsakoff et al. (1990) for the Chinese organizational context. We used Chen and Farh’s (1999) Chinese version of the 23-item transformational leadership scale in this study. To ensure that this transformational leadership scale worked in our study, we also pretested this 23-item scale on our pilot sample. Since the factorial structure of the 23-item scale was known, CFA was employed to evaluate the validity of the scale. The model Chi-square for this 23-item-6-factor structure was 412.09 (p<.01) with 215 degrees of freedom. The goodness-of-fit index (GFI) was .86; the comparative fit index (CFI) was .93; the Tucker-Lewis index (TLI) was .92; and the Root Mean Square Error of Approximation (RMSEA) was .065. These results indicated that the 23-item instrument was a reasonable scale to capture the leadership construct in terms of its factorial structure. The coefficient alphas of the six transformational leadership dimensions were .83, .84, .88, .72, .89, and .87 for fostering collaboration, intellectual stimulation, providing an appropriate model, high performance expectation, articulating a vision, and providing individual support, respectively. These 23 items are listed in Appendix I.
Sample

The hypotheses of this study were tested with a sample of managers taking MBA classes in a city located in Northeast PRC. A total of 119 managers participated in this study. Each manager was asked to evaluate the performance and organizational citizenship behaviors (OCB) of two of his/her immediate subordinates. In the instructions of the survey, these managers were asked to pick one good performing subordinate and one poor performing subordinate. The two subordinates evaluated by each supervisor filled out the subordinate questionnaires related to transformational leadership and LMX. To protect the confidentiality of the responses, respondents were asked to seal the completed questionnaires into provided envelopes and to return the sealed envelopes to the person who distributed the questionnaires. In no case did the seal show any sign of being broken or resealed. After deleting some useless and unmatched data, a total of 203 leader-follower dyads constituted the sample for this study.

The characteristics of the sample are as follows: For followers, 101 respondents (49.8%) were male and had an average of four years of post-secondary education. The average age of the respondents was 33 and their average organizational tenure was 8 years. The average time they had known their immediate supervisor was 4 years. For leaders, 86 respondents (72.3%) were male and they had average of five years of post-secondary education. The average age of the respondents was 36 and their average organizational tenure was 10 years.

Measures

LMX. All items used in the present study were measured by a 5-point Likert-scale (“1” = Strongly Disagree; “5” = Strongly Agree). LMX and OCB were measured with the subordinate's questionnaire. LMX was measured both as a unidimensional construct and a multidimensional construct. For the unidimensional measure of LMX, the 7-item LMX scale
(Scandura & Graen, 1984), which has been widely adopted in LMX research was used. This 7-item LMX scale had previously been translated into Chinese and used in the Chinese organizational context (Hui, Law & Chen, 1999). Therefore, we used the Chinese translation without any adjustment. The coefficient alpha of this scale in the present study was .86.

The 16-item scale used to capture the four factors of LMX developed by Liden and Maslyn (1998) developed in the pilot-testing sample was used as the instrument to measure multidimensional LMX in this final sample. The CFA results of the 16-item multidimensional scale of LMX in this final sample had a model Chi-square of 174.13 (p<.01) with 98 degrees of freedom. The GFI of the four-factor model was .90; the CFI was .96; the TLI was .95; and the RMSEA was .062. All the factor loadings for the measurement model were significant. These results suggest that the 16 items fit the 4-dimensional structure very well. The coefficient alpha for the four dimensions of this 16-item LMX scale were .87, .67, .89, and .86 for affect, loyalty, professional respect, and contribution, respectively.

**Transformational leadership** As explained, the Chen and Farh (1999) Chinese version of the 23-item transformational leadership scale was used in this study. We conducted another CFA on this 23-item scale using this final sample to test the 6-factor transformational leadership structure. The resulting model Chi-square was 394.37 with 215 degrees of freedom (p<0.01). The GFI of the model was .87; the CFI was .94; the TLI was .93; and the RMSEA was .062. Given the results of the confirmatory factor analysis, we concluded that the 23-item instrument from Chen and Farh (1999) captured the six dimensions of transformational leadership reasonably well. The coefficient alphas of the six transformational leadership dimensions were .88, .83, .83, .67, .86, and .80 for fostering collaboration, intellectual stimulation, providing
an appropriate model, high performance expectation, articulating a vision, and providing individual support, respectively.

**OCB** Organizational citizenship behaviors were measured by the supervisors in the matching sample. In this study, OCB was modified from a Chinese version translated by Lam, Hui and Law (1999) from the original scale developed by Podsakoff et al. (1990). The scale measures OCB in five dimensions: 1) altruism – discretionary behavior that has the effect of helping a specific other person with an organizationally relevant task or problem; 2) conscientiousness – discretionary behavior that goes well beyond the minimum role requirements of the organization; 3) sportsmanship – discretionary behavior that indicates the willingness of an employee to tolerate less-than-ideal circumstances without complaint; 4) civic virtue – discretionary behavior that indicates that the employee responsibly participates in, is involved in, or is concerned about the life of the organization; 5) courtesy – discretionary behavior that is aimed at preventing work-related problems with others from occurring. The final scale had 23 items with 5 items on altruism, 4 items on conscientiousness, 5 items on sportsmanship, 4 items on civic virtue, and 5 items on courtesy.

Since the OCB scale was an established scale, we used CFA to confirm the factorial structure of the scale. The five-factor structure model had a Chi-square of 430.32 with 242 degrees of freedom (p<0.01). The GFI of the model was .84; the CFI was .90; the TLI was .88; and the RMSEA was .064. The internal consistent coefficients for the five dimensions of OCB were .84, .81, .79, .82 and .71, receptively. These 23-OCB items are listed in Appendix II.

**Job performance.** Job performance was assessed by the supervisors in the present study using two scales. The first scale was adopted from Tsui, Pearce, Porter and Tripoli (1997). There were a total of 11 items in the scale to measure the core task performance of followers.
The coefficient alpha of these 11 items was .92. This variable is labeled as "core task performance" below.

We also used another measure of job performance in this study. This was a general performance measure used by Farh (1991). The scale consisted of three items, which are listed in Appendix III. The coefficient alpha of the three items was .89. This variable was labeled "general performance" below.

**Control variables.** Age, gender, educational level, organizational tenure, and duration of the leader-follower relationship were used as control variables in the present study. Age, education level, organizational tenure, and duration of the dyadic relationship were measured in years. The gender codes were 1 for female and 2 for male. These variables are relevant because they have been found to be related to performance and OCB (Gordon & Fitzgibbons, 1982; Kacmar & Ferris, 1989; McDaniel, Schmidt & Hunter, 1988).

**Results**

**Descriptive statistics**

The means, standard deviations, reliability coefficients, and correlations of all the variables used in the present study are presented in Table 2. Results in Table 2 indicate that the reliability coefficients for all scales were above .67. An examination of the zero-order correlations demonstrated that most of the correlations between the dimensions of transformational leadership, core task performance, general performance and the five dimensions of OCB are positively significant. Similar results were found between LMX (both unidimensional LMX and multidimensional LMX) and the outcome variables. The patterns of the zero-order correlations were generally consistent with the directions we predicted in the hypotheses.
Tests of Hypotheses

It should be noted that the constructs of transformational leadership and LMX have some degree of construct overlapping. The correlations between dimensions of transformational leadership and LMX range from .37 to .68. In order to show that transformational leadership and the four-dimensional view of LMX are distinct constructs, we conducted a series of CFAs and compared the results of several possible models. In Table 3, model 1 is the null model (independent model). Model 2 is the model with all the LMX and transformational leadership items loaded on one factor. In model 3, six dimensions of transformational leadership loaded on one factor and four dimensions of LMX load on another factor. In model 4, we specified six dimensions of transformational leadership with two-high order factors. According to Chen and Farh’s study (1999), with the results of a second-order CFA, three of the six dimensions, fostering collaboration, providing an appropriate model, and providing individual support could be grouped into a higher order factor named as relationship oriented transformational leadership behavior (ROTLB). The other three dimensions, intellectual stimulation, articulating a vision, and expectation of high performance, could be grouped into another factor named as task oriented transformational leadership behavior (TOTLB). We compared the Chi-squares and goodness of fit index with all the four models and found that model 4 fits the data best. The difference of the Chi-square between model 2 and model 4 is also very significant ($\chi^2 = 42.38$, $P<0.001$). It demonstrates that transformational leadership and LMX are different constructs and transformational leadership has two second-order factors.
In order to test the three hypotheses: 1) LMX has a positive effect on followers’ performance and OCB, 2) transformational leadership has positive effect on followers’ performance and OCB, 3) LMX will mediate the effect between transformational leadership and follower’s performance and OCB, we employed two sets of hierarchical regression models to analyze the data. In the first analysis, we entered all the control variables in the first step, followed by the six dimensions of transformational leadership, and then the four dimensions of multidimensional LMX. In the second analysis, all the control variables were entered first, followed by transformational leadership, and then the unidimensional measure of LMX. Following the logic of hierarchical regression, if LMX could explain additional variance of the outcome variables above and beyond that of transformational leadership, LMX would be a mediator of the transformational leadership-outcomes link (Baron & Kenny, 1986). The first analysis tested if the multidimensional view of LMX would mediate the transformational leadership-performance link; the second analysis tested if the unidimensional view of LMX would mediate the transformational leadership-performance link.

Results of the two sets of analysis are shown in Table 4 and Table 5. Table 4 shows that the "high performance expectation" dimension of transformational leadership is positively related to core task performance (β=.31, P<.01) and significantly related to general performance (β=.26, P<.05). In addition, the dimension of "providing individual support" is significantly related to general performance (β=.24, P<.05). It should be noted that the regression weights of some dimensions of transformational leadership on performance are not significant or even negative. We interpreted this phenomenon as a suppression effect due to high multicollinearity among the predictor variables. Since the six dimensions of transformational leadership are
highly correlated (Neter, Kutner, Nachtshein & Wasserman, 1996; their correlations ranged from .49 to .74 in our final sample), it is very likely that some of the regression weights would be nonsignificant or even negative given the high degree of multicollinearity. Given the significant change in the model R-square after the introduction of the transformational leadership dimensions, we conclude that the results support hypothesis 2a.

In step two of the hierarchical analysis, the dimensions of "loyalty" and "contribution" in the multidimensional LMX construct are significantly related to core task performance ($\beta=.20$, $p<.05$; $\beta=.19$, $p<.10$ respectively) even after controlling for transformational leadership. The dimensions of "respect" and "contribution" are significantly related to general performance ($\beta=.19$, $p<.05$; $\beta=.22$, $p<.05$ respectively). Hypothesis 1a is therefore partially supported.

Regarding the mediating effect of multidimensional LMX, the results in Table 4 indicate that after the LMX dimensions were entered into the regression model, the effect of transformational leadership on task performance and general performance disappear. The changes in model R-square after entering LMX were also significant. We conclude that hypothesis 3a is supported.

For the unidimensional measure of LMX, although it is significantly related to core task performance ($r=.17$, $p<.05$) and general performance ($r=.17$, $p<.05$), it did not have an effect on task performance and general performance after controlling for the transformational leadership dimensions. The changes in model R-square are also not significant for both core task performance and general performance. These results indicate that the unidimensional measure of LMX did not mediate the relationship between transformational leadership and followers' performance.
Table 5 shows the regression results of OCB on transformational leadership and LMX. The "fostering collaboration among group" dimension of transformational leadership had significant effects on the OCB dimension of altruism ($\beta=.21$, $P<.10$). "Intellectual stimulation" is significantly related to the sportsmanship dimension of OCB ($\beta=-.27$, $P<.01$). "High performance expectation" is significantly related to the courtesy dimension of OCB ($\beta=.23$, $P<.10$). It seems that the problem of high multicollinearity among the transformational leadership dimensions also exist here. In general, the results indicate that hypothesis 2b is partially supported.

For multidimensional LMX, the dimension of "affect," "respect," and "contribution" are significantly related to the altruism dimension of OCB ($\beta=-.21$, $p<.10$; $\beta=.15$, $p<.10$, $\beta=.35$, $p<.01$, respectively). Similarly, "affect", "respect", and "contribution" are significantly related to the conscientiousness dimension of OCB ($\beta=-.20$, $p<.10$; $\beta=.22$, $p<.05$, $\beta=.28$, $p<.05$, respectively). We conclude that Hypothesis 1b is partially supported.

Regarding the mediating effect, after the four dimensions of LMX were entered into the regression model, the effect of transformational leadership on OCB dimensions was reduced or it disappeared. In addition, changes in the R-square were significant for the dimension of altruism and conscientiousness (.09 and .11, respectively). These results indicate that hypothesis 3b is partially supported.

When OCB is used as the dependent variable, we have similar results for job performance when comparing unidimensional LMX and multidimensional LMX. The multidimensional LMX construct is more relevant in understand the mediating effect of transformational leadership on OCB.
By integrating social exchange theory and the theoretical basis of transformational leadership and LMX, we propose a model with LMX as a mediator of the transformational leadership – followers’ performance link. Based on our analyses, we demonstrate that transformational leadership has direct effects on followers’ performance and OCB. Similar to the unidimensional measure of LMX, the multidimensional measure of LMX also is associated with followers’ performance and organizational citizenship behavior. These results are consistent with previous studies on transformational leadership, LMX, performance and OCB (Podsakoff et al. 1996; Chen & Farh, 1999; Dunegans et al., 1992; Wayne et al., 1997; Howel et al., 1999; Masterson et al., 2000).

There are, however, two new findings in this study. First, LMX was shown to be the mediator between the transformational leadership-performance link. In other words, transformational leaders motivate followers to achieve higher performance through building high-quality LMX with them. These results tested empirically the theoretical arguments related to transformational leadership and LMX (Graen & Uhl-Bien, 1995; Uhl-Bien & Graen, 1993). Second and interestingly, this mediating effect occurred only when the multidimensional view of LMX was used. The traditional unidimensional view of LMX did not mediate the transformational leadership-performance link. This provides some supporting evidence for the emerging idea that relationship characteristics between leader-member exchange reflected in multidimensional LMX should play an important role to understand leadership behavior and desired outcomes (Graen & Uhl-Bien, 1995; Sparrowe & Liden, 1997).
Our interpretation of the result that only the multidimensional view of LMX mediates the transformational leadership-performance link is that the meaning of the LMX construct is substantially extended with the multidimensional view. In the traditional unidimensional view of LMX, the leader-member exchange is viewed as the actual interaction between the leader and the follower. That is why the traditional 7-item measure of LMX uses statements such as "my supervisor knows my potential," or "I have a good working relationship with my supervisor." However, if we really view LMX under the social exchange model and role theory, the interaction between the supervisor and subordinate with high-quality LMX might go far beyond the working relationship. As a result, Liden and Maslyn's view that LMX consists of affect, loyalty, contribution and professional respect would be a more comprehensive representation of the true nature of the social interaction between the leader and followers. With this expanded multidimensional view of LMX, the content domain of LMX should capture many more relational characteristics during the interaction between leaders and followers. As a result, transformational leadership can be basically explained through this mechanism of building up high social exchange between leaders and followers. As we have explained in the theory section of this study, the mechanism through which transformational leadership operates basically follows Liden and Maslyn's four-dimensional view of LMX. It is therefore very understandable that LMX under the multidimensional view of LMX would mediate the transformational leadership-performance link.

However, LMX has effects only on two of the OCB dimensions – altruism and conscientiousness. These results are very interesting. Williams and Anderson (1991) showed empirically that OCB can be categorized into two types. One is OCBI, which refers to behaviors that immediately benefit specific individuals and through this means contribute to the
organization (e.g., helping others who have been absent). The other type is OCBO, which refers to behaviors that benefit the organization in general (e.g., adhering to informal rules devised to maintain order). The dimensions of altruism and conscientiousness are more related to OCBI, while civic virtue and sportsmanship are more related to the OCBO. In other words, LMX mediates the transformational leadership-OCBI link. These results are consistent with Masterson et al.’s (2000) research in which LMX is positively related to supervisor-directed OCB (altruism, conscientiousness, and courtesy), while perceived organizational support (POS) is associated with organization-directed OCB (civic virtue and sportsmanship).

There are at least three limitations in this study. First, the sample size of this study was only 203. With such a sample size, it is very difficult to test the mediating role of LMX using more powerful analysis techniques such as structural equation modeling. Future studies should use a larger sample size and more rigorous research methodologies to test this mediating model of transformational leadership.

Second, both LMX and transformational leadership are measured through the followers’ perceptions. While one can argue that LMX mediates the transformational leadership – performance link, it may also be possible to reverse the argument and posit that transformational leadership mediates the LMX – performance link. However, we find that such a reverse argument is neither logically justified nor empirically sustained.

The first reason for why LMX should be the mediator is that transformational leadership is a more static variable because leadership style is more related to the personality and charisma of the leaders. In contrast, LMX is more dynamic and may change continuously according to the role making process (Graen & Scandura, 1987). Therefore, it is more logical to theorize that transformational leadership behaviors are antecedents of LMX instead of vice versa. In fact, we
actually ran the analyses again by putting LMX first in the regression model, followed by transformational leadership. In none of the cases did transformational leadership explain incremental variances of the outcome variables on top of LMX. The same result applies to both the unidimensional and multidimensional views of LMX. A final piece of evidence is that nearly all of the LMX dimensions have higher correlations with the outcome variables than with the transformational leadership variables. This implies that LMX is closer to followers’ performance and OCB than transformational leadership is.

Third, both results of transformational leadership and LMX in this study were rated by followers. Common method bias should exist between the link of transformational leadership and LMX. It may result in the mediate effect of LMX. However, when we substitute LMX rated by followers with LMX rated by leaders in the mediating model, we still find the similar results that LMX mediates the relationship between transformational leadership and performance. The only difference is that the LMX in the alternative model have more significant effects on performance than in the original model.

In sum, this study provides direct empirical support to the theoretical arguments about the linkage role of relationship characteristics between transformational leadership and followers’ performance. And it also provides incremental support for the multidimensional view of LMX. By using the multidimensional view of LMX, we have shown that transformational leadership actually operates through LMX as a mediator. This result has opened a new arena for research related to transformational leadership and LMX. With this new content domain of LMX, researchers should be able to gain a new view of the relationship building mechanism between leaders and followers.
References


Podsakoff, P. M., MacKenzie, S. N., & Bommer, W. H. 1996. Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction,


Appendix I

Transformational leadership items used in the present study.

**Fostering collaboration**
1. fosters collaboration among work group
2. gets the group to work together for the same goal
3. encourages subordinates to be “team players”
4. develops a team attitude and spirit among subordinates

**Providing individual support**
1. acts with considering my feelings
2. behaves in a manner thoughtful of my personal needs
3. shows respect for my personal feelings
4. treats me with considering my personal feelings

**Providing an appropriate model**
1. leads by “doing”, rather than simply by “telling”
2. provides a good model for me to follow
3. leads by example

**High performance expectation**
1. shows me that he/she expects a lot from me
2. insists on only the best performance
3. challenges me to set high goals for myself

**Articulating a vision**
1. inspires others with his/her plans for the future
2. paints an interesting picture of the future for our group
3. has a clear understanding of where we are going
4. is able to get others committed to his/her dream
5. is always seeking new opportunities for our group

**Intellectual stimulation**
1. challenges me to think about old problems in new ways
2. has ideas that have challenged me to reexamine some of basic assumptions about my work
3. asks questions that prompt me to think
4. has stimulated me to rethink the way I do things
Appendix II

OCB items used in the present study.

Altruism
1. Helps orient new employees even though it is not required as part of his/her job.
2. Is always ready to help or to lend a helping hand to those around him/her.
3. Willingly gives of his/her time to help others who have work-related problems.
4. Helps others with heavy workloads.
5. Helps fill in for others who are sick or absent.

Conscientiousness
1. Is one of my most conscientious employees.
2. Believes in giving an honest day’s work for an honest day’s pay.
3. Never takes long lunches or breaks.
4. Takes fewer breaks at work than other employees

Civic Virtue
1. Attends training information sessions that employees are encouraged but not required to attend (e.g., first aid, Red Cross).
2. Actively participates in department/company meetings.
3. Provides constructive suggestions regarding changes that might be made in his/her department/company.
4. Is willing to risk disapproval in order to express his/her beliefs about what is best for the department/company.

Sportsmanship
1. Consumes a lot time complaining about trivial matters
2. Always finds fault with what the company is doing.
3. Is the classic “squeaky wheel” that always needs greasing.
4. Tends to make “mountains out of molehills” (makes problems bigger than they are).
5. Always focuses on what’s wrong with his/her situation, rather than the opposite.

Courtesy
1. Considers the impact of his/her actions on others
2. Tries to avoid creating problems for coworkers.
3. Returns phone calls and responds to other messages and requests for information promptly.
4. “Touches base” with other workers before initiating actions that might affect them.
5. Takes steps to try to prevent problems with coworkers.
Appendix III

General performance items used in the present study.

1. Overall, the performance of the subordinate satisfied the requirement.
2. Compared with other employees in the same position, the subordinate achieved a better performance.
3. The subordinate contributed more to the department than most of employees did.
Table 1: Results of factor analysis of multidimensional LMX

<table>
<thead>
<tr>
<th>Items</th>
<th>Affect</th>
<th>Loyalty</th>
<th>Contribution</th>
<th>Respect</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like my supervisor very much as a person</td>
<td>.70</td>
<td>-.09</td>
<td>.37</td>
<td>.11</td>
</tr>
<tr>
<td>My supervisor is a lot of fun to work with</td>
<td>.68</td>
<td>.29</td>
<td>.37</td>
<td>.08</td>
</tr>
<tr>
<td>My supervisor is a the kind of person one would like to have as a friend</td>
<td>.52</td>
<td>.36</td>
<td>.09</td>
<td>.08</td>
</tr>
<tr>
<td>*I like to work with my supervisor</td>
<td>.66</td>
<td>.08</td>
<td>-.16</td>
<td>.42</td>
</tr>
<tr>
<td>My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question</td>
<td>.24</td>
<td>.63</td>
<td>.36</td>
<td>.27</td>
</tr>
<tr>
<td>My supervisor would come to my defense if I were “attacked” by others</td>
<td>.17</td>
<td>.65</td>
<td>.36</td>
<td>.33</td>
</tr>
<tr>
<td>My supervisor would defend me to others in the organization if I made an honest mistake</td>
<td>.08</td>
<td>.80</td>
<td>.26</td>
<td>.18</td>
</tr>
<tr>
<td>*My supervisor would stand by my side if I had a confrontation with others</td>
<td>.13</td>
<td>.76</td>
<td>.30</td>
<td>.21</td>
</tr>
<tr>
<td>I do not mind working my hardest for my supervisor</td>
<td>.13</td>
<td>.30</td>
<td>.82</td>
<td>.12</td>
</tr>
<tr>
<td>I do work for my supervisor that goes beyond what is specified in my job description</td>
<td>.10</td>
<td>.23</td>
<td>.75</td>
<td>.26</td>
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<tr>
<td>I am willing to apply extra effort beyond those normally required to meet my supervisor’s work goal</td>
<td>.15</td>
<td>.33</td>
<td>.80</td>
<td>.16</td>
</tr>
<tr>
<td>*I would like to do my best to finish the work within or beyond my job description for my supervisor</td>
<td>.27</td>
<td>.34</td>
<td>.68</td>
<td>.20</td>
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<tr>
<td>I respect my supervisor’s knowledge of and competence on the job</td>
<td>.01</td>
<td>.42</td>
<td>.38</td>
<td>.63</td>
</tr>
<tr>
<td>I admire my supervisor’s professional skills</td>
<td>.26</td>
<td>.13</td>
<td>.08</td>
<td>.77</td>
</tr>
<tr>
<td>*It is well known that my supervisor has professional knowledge and skills</td>
<td>.15</td>
<td>.18</td>
<td>.18</td>
<td>.84</td>
</tr>
<tr>
<td>I am impressed with my supervisor’s knowledge of his/ her job</td>
<td>.11</td>
<td>.35</td>
<td>.37</td>
<td>.67</td>
</tr>
</tbody>
</table>

Eigenvalue (unrotated solution) 7.53 1.51 1.23 .86
Percent variance explained 47.08 9.41 7.71 5.34
Cumulative percent variance explained 47.08 56.49 64.20 69.54

Note: 1 Extraction Method: Principal Component Analysis.
   Rotation Method: Varimax with Kaiser Normalization.
   2 The items with asterisks are those added in with the present study.
| Variables                        | Mean  | SD   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
|---------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Control Variables               |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1. Age                          | 32.86 | 7.11 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2. Gender                       | 1.52  | .50  | .13  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3. Education                    | 4.02  | 1.81 | -.11 | .06  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4. Organizational Tenure        | 8.11  | 7.21 | .65  | .03  | -.12 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 5. Dyad duration                | 3.98  | 3.11 | .29  | -.12 | -.11 | .49  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Transformational leadership     |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 6. Collaboration                | 4.11  | .58  | .08  | -.02 | -.09 | .30  | .20  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 7. Intellectual simulation      | 3.85  | .59  | -.07 | -.04 | -.03 | .10  | .07  | .65  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 8. Model                        | 4.00  | .61  | .06  | -.12 | .23  | .15  | .74  | .67  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 9. Expectation                  | 3.80  | .59  | -.02 | -.06 | .04  | .11  | .04  | .74  | .70  | .66  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 10. Vision                      | 3.76  | .65  | .03  | -.08 | -.10 | .20  | .10  | .66  | .70  | .71  | .71  |      |      |      |      |      |      |      |      |      |      |      |      |
| 11. Individual support          | 3.59  | .71  | -.05 | -.07 | -.05 | .14  | .10  | .54  | .57  | .56  | .49  | .65  |      |      |      |      |      |      |      |      |      |      |      |
| Leader-member exchange          |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 12. Affect                      | 3.94  | .69  | .09  | -.04 | -.06 | .27  | .13  | .68  | .59  | .56  | .65  | .62  | .53  |      |      |      |      |      |      |      |      |      |      |
| 13. Loyalty                     | 3.74  | .53  | -.07 | -.04 | .11  | .06  | .08  | .44  | .48  | .37  | .54  | .46  | .40  | .48  |      |      |      |      |      |      |      |      |      |
| 14. Respect                     | 4.07  | .68  | .01  | -.09 | -.09 | .15  | .05  | .62  | .64  | .65  | .68  | .62  | .42  | .70  | .49  |      |      |      |      |      |      |      |      |
| 15. Contribution               | 3.57  | .78  | .06  | .00  | .01  | .18  | .21  | .52  | .56  | .47  | .55  | .56  | .44  | .65  | .51  | .58  |      |      |      |      |      |      |      |
| 16. LMX (unidimensional)        | 3.72  | .62  | .05  | -.06 | -.11 | .24  | .21  | .60  | .64  | .64  | .67  | .62  | .66  | .50  | .59  | .57  |      |      |      |      |      |      |      |
| Outcome Variables               |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 17. Core task perf.             | 3.52  | .76  | .01  | -.03 | .13  | .06  | -.07 | .15  | .20  | .12  | .23  | .13  | .15  | .22  | .31  | .23  | .25  | .17  | (.92)|      |      |      |
| 18. General perf.               | 3.65  | .88  | -.03 | -.07 | .11  | .04  | .01  | .16  | .17  | .16  | .20  | .13  | .22  | .22  | .31  | .24  | .26  | .17  | .82  |      |      |      |
| 19. Altruism                    | 3.51  | .68  | .01  | .05  | .06  | .03  | -.04 | .22  | .09  | .18  | .17  | .07  | .06  | .14  | .22  | .18  | .26  | .07  | .54  | .59  | (.84)|      |
| 20. Conscientiousness           | 3.52  | .78  | .03  | -.08 | .07  | .04  | .00  | .16  | .15  | .13  | .19  | .14  | .15  | .17  | .30  | .22  | .27  | .13  | .66  | .70  | .61  | (.81)|      |
| 21. Sportsmanship               | 2.48  | .73  | .03  | -.09 | -.10 | .14  | .15  | -.05 | -.08 | -.02 | -.04 | -.02 | -.16 | -.11 | -.08 | -.06 | -.12 | -.11 | -.38 | -.41 | -.34 | -.35 | (.79)|      |
| 22. Civic virtue                | 3.40  | .68  | .08  | -.05 | .06  | .02  | .05  | .16  | .18  | .21  | .21  | .13  | .12  | .23  | .15  | .20  | .13  | .48  | .43  | .47  | .55  | -.21 | (.82)|      |
| 23. Courtesy                    | 3.57  | .60  | -.08 | -.17 | .05  | -.01 | -.06 | .09  | .11  | .12  | .15  | .06  | .05  | .15  | .14  | .18  | .15  | .05  | .57  | .65  | .53  | .57  | -.42 | .51  | (.71)|      |

Note: 1 All correlation coefficients above .14 are significant at .05 level.
2 Reliability coefficients for scales are listed in parentheses along the diagonal.
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+ p<.10; * p<.05; ** p<.01

**Note:**

M₁: Control variables with transformational leadership as predictors
M₂: Controls with transformational leadership as predictors, followed by the four LMX dimensions
M₃: Controls with transformational leadership as predictors, followed by unidimensional LMX.
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+ p<.10; * p<.05; ** p<.01
Note: M₁, M₂, M₃, please see Table 4