Leader-Member Exchange and Employee Creativity: The Role of Positive Emotion

Mahfooz A. Ansari

University of Lethbridge Lethbridge, Alberta, T1K 3M4, Canada Tel: 403-329-2069; E-Mail: mahfooz.ansari@uleth.ca

Tan Siew Len

Intel Products (M) Sdn. Bhd.
Kulim, Kedah, Malaysia
Tel: 604-433-2112; E-Mail: mailto:siew.len.tan@intel.com

Rehana Aafagi

University of Lethbridge, Lethbridge, Alberta, T1K 3M4, Canada Tel: 403-388-4157; E-Mail: rehana_mahfooz@yahoo.com

This paper was prepared, in part, while Mahfooz Ansari and Rehana Aafaqi held visiting appointments at the School of Management, University Science Malaysia. An earlier version of this paper was presented at the 29th annual meeting of the Society for Industrial & Organizational Psychology (SIOP), Hilton Hawaiian Village, Honolulu, Hawaii, May 15-17, 2014.

Correspondence concerning this article should be addressed to Mahfooz A. Ansari, Faculty of Management, University of Lethbridge, 4401 University Drive W, Lethbridge, Alberta T1K 3M4, Canada; E-mail: mahfooz.ansari@uleth.ca; Web: http://mahfoozaansari.blogspot.com.

Abstract

Drawing upon Affective Events (Weiss & Cropanzano, 1996) and Social Exchange theories (Blau, 1964), we examined the meditational role of positive emotion in the leader-member exchange (LMX)-employee creativity relationship. Data were obtained by means of questionnaire from 146 employees and their 36 supervisors representing manufacturing organizations located in northern Malaysia. We studied LMX from both subordinate and supervisor perspectives. Controlling for supervisor and subordinate gender and the duration of their work relationships, results indicated a significant positive effect of LMX (reported by both subordinates and supervisors) on creativity, but the effect was fully mediated by positive emotion of the employees. We describe an explanation of the meditational role of positive affective reactions. Implications for practice include the development of high-quality exchange relationship between supervisors and their subordinates.

Keywords: Leader-member exchange, positive emotion, creativity

Leader-Member Exchange and Employee Creativity: The Role of Positive Emotion

"Creativity is thinking up new things."

Innovation is doing new things."

— Theodore Levitt

Employee creativity is considered critical to the survival and overall success of organizations in today's fast-paced dynamic work environment (Atwater & Carmeli, 2009; Lovelace & Hunter, 2013; Mumford, Hunter, Eubanks, Bedell, & Murphy, 2007; Pan, Sun, & Chow, 2012; Shalley & Gilson, 2004; Tierney, Farmer, & Graen, 1999). As a consequence, how to capitalize on the creative potential of the workforce necessary for innovation (Tierney et al., 1999) is emerging as the key workforce management challenges. Since individual creativity is the building block for organizational innovation (Amabile, 1988, 1996), leaders are an important facet of the work context for fostering creativity. An innovative organization engages everyone including top management and frontline workers throughout the organization in the task of developing and implementing new ways to reach organization's goals (Behn, 1995). Though leadership is critical to employee creativity, our knowledge of the role of leadership, especially leader-member relations, in the creative process remains limited. We need to understand the mechanism with which leaders become instrumental to bringing out the innovative ideas within employees (Behn, 1995). We fill this research void by examining the role of positive affective reaction (i.e., positive emotion) as a mechanism of the relationship between leader-member relations and employee creativity.

The present study contributes to the existing leadership literature in three important ways. First, it has been found that leader-member exchange (LMX) can create events or interactions within organizations that trigger emotional reactions in employees (Saavedra & Kwun, 2000; Tierney et al., 1999). Thus we examine how the extent of employees' emotions experienced in the workplace mediates the relationships between LMX and creative

performance. Second, most researchers in the past have employed only a single perspective (subordinate or supervisor) of LMX to examine its antecedent and/or consequences. We employ both supervisor and subordinate perspectives in examining the relationship between LMX and creative performance. Having different sources of data has been strongly recommended in leadership research (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), as it is likely to minimize the variance that is attributable to common method. Third, most studies that examined the relationship between LMX and work outcomes were conducted in the West. Thus, our study contributes to the leadership, especially LMX, literature by testing the meditational role of positive emotion in the LMX-employee creativity relationship in a slightly different milieu--the Malaysian context.

Theoretical Background and Hypotheses¹

Earlier, innovative or creative behavior was considered "extra-role" behavior (Katz, 1964). But, now this behavior is considered a required behavior. Today's organizations are making every attempt to promote creative activities among employees, as they attempt to deal with increasing complex environment. The terms "creativity" and "innovation" have been distinguished with respect to the settings and/or levels in which they occur. Creativity is more a characteristic of individuals, whereas innovation is the successful implementation of creative ideas (Lovelace & Hunter, 2013; West, 2002); implementation tends to be accomplished by groups, organizations or societies. That means "to achieve innovative products organizations must produce creative ideas which they must transition into innovative output (Lovelace & Hunter, 2013, p. 60).

Since the foundation of innovation is creative ideas, it is the people who "...develop, carry, react to, and modify ideas" (Van de Ven, 1986), the study of what makes individual employees creative or innovative is critical. Innovative organizations do not miraculously come into existence; rather, they are created by managers and/or leaders who establish the conditions necessary to bring out the innovative ideas within everyone (Behn, 1995). Research

examining climate issues has focused on two questions: (a) what aspects of the organizational environment can influence innovation and (b) what role leaders have in this relationship (Elkins & Keller, 2003)? Past research (e.g., Ekvall & Ryhammar, 1999) indicates that leaders influence innovation by creating an innovative climate. A review of the leadership literature (Bass & Bass, 2008; Barling, Christie, & Hoption, 2011; Pearce, Sims, Cox, Ball, Schnell, Smith, & Trevino, 2003; Yukl, 2013) suggests that, over the past 60 years, many different leadership theoretical perspectives have been advanced. One such recent perspective that has been found to have great promise is LMX (Dansereau, Graen, & Haga, 1975). We next turn to LMX and its relationship with various outcomes, including creativity and innovation.

LMX and Employee Creativity

The LMX theory (Dansereau et al., 1975) focuses on the two-way, reciprocal exchange relationship between supervisors and each of their subordinates (Graen & Scandura, 1987). The theory states that leaders have unique relationships with members within work groups due to varying quality of social exchanges between them (Allinson, Armstrong, & Hayes, 2001). It employs a transactional framework for leadership where leaders treat each of their individual subordinates differently (Duchon, Green, & Taber, 1986), and which results in the development of relatively stable dyads (Liden, Wayne, & Stilwell, 1993) that range on a scale from lower to higher quality exchanges (Dienesch & Liden, 1986; Graen & Cashman, 1975; Liden & Graen, 1980; Liden et al., 1993). High-quality exchanges are friendly working relationships characterized by mutual trust, respect, liking, high level of interaction, and interpersonal attraction (Dansereau et al., 1975; Graen & Cashman, 1975; Graen & Scandura, 1987). The members are committed, competent, and conscientious subordinates (Dansereau et al., 1975; Liden & Graen, 1980) who not only perform their duties in accordance with the job description but also can be counted on to perform unforeseen or unstructured tasks, to volunteer for extra work, and to take on additional responsibilities (Bhal & Ansari, 1996; Truckenbrodt, 2000). These subordinates, who

might eventually serve as assistants or advisors to the leader (Dienesch & Liden, 1986), in return receive favorable performance appraisals, valued promotions, satisfying positions, and career development support (Dienesch & Liden, 1986; Graen, Wakabayashi, Graen, & Graen, 1990; Liden & Graen, 1980), greater access to information, influence, opportunities for professional growth, decision-making latitude, supervisory support, more freedom, better job assignments, and increased opportunities to work with their leaders (Ashkanasy & O'Connor, 1997) as compared to low-quality LMX members (Graen & Scandura, 1987).

Research on LMX carried out for almost four decades clearly demonstrates the increasing need for organizations to learn how to build mutual subordinates-supervisor interpersonal trust and support relations in order to achieve maximum business results (Bhal & Ansari, 1996; Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Martin, Epitropaki, Thomas, & Topakas, 2010). In examining LMX across a variety of contexts, Gerstner and Day found that LMX is related to a wide range of behavioral and attitudinal outcomes. Other studies reiterated the metaanalysis results by Gerstner and Day. In subsequent studies, LMX has been found to be positively associated with various important outcomes such as organizational commitment (Hackett & Lapeirre, 2004; Lee, 2004), organization citizenship behavior (Hackett & Lapeirre, 2004; Liang, Ling, & Hsieh, 2007), satisfaction with supervision (Liden & Graen, 1980), and employee job satisfaction (Green, Anderson, & Shivers, 1996; Hackett & Lapeirre, 2004; Masterson, Lewis, Goldman, & Taylor, 2000).

The positive impact of LMX does not end with the above list of work outcomes, but a couple of studies have also reported a positive relationship between LMX and employees' feeling of energy and creativity (Atwater & Carmeli, 2009). Managers can create an innovative climate by providing employees with operational autonomy, providing personalized recognition, emphasizing group cohesiveness, and maintaining a continuity of slack resources (Judge, Gryxell, & Dooley, 1997). A clear

positive relationship has been reported between LMX and creativity or innovative behavior for associative and bisociative problem-solvers (Scott & Bruce, 1998), for adaptors (Tierney et al., 1999), for R&D professionals (Lee, 2007), for bank professional staff (Akinlade, Liden, & Akremi, 2011), and for manufacturing sector managers (Pan et al., 2012).

Positive Emotion as a Mediator

We now turn to the mechanism through which LMX has positive effect on employee creativity. In essence, LMX affects employees' feelings about work and subsequently influences their level of performance (Hackett & Lapierre, 2004). Such a call for the search for mediators was strongly emphasized by Tierney (2011). In other words, LMX promotes positive feelings of empowerment which enhances employee creativity.

According to Diener, Smith, and Fujita (1995), positive and negative emotions are related yet separable dimensions. Positive and negative emotions have been found to explain a significant amount of unique variance in measures of job satisfaction (Fisher, 2000). Affective Events Theory (AET, Weiss & Cropanzano, 1996) proposes both causes and consequences of momentary mood and emotions at work. Moods and emotions are considered to be a mediating mechanism by which stable features of the work environment (such as job design) impact job attitudes and behavior. Weiss and Cropanzano (1996) suggest that affective experiences may lead to spontaneous affectively-driven behavior such as acts of good or bad behavior. In the aggregate, affective experiences contribute to the affective component of attitudes such as job satisfaction, and eventually to judgment-driven behaviors such as a decision to quit a job.

Echoing AET's prediction, subsequent studies have reported on the significance of affect, moods and emotions in the workplace, often highlighting their importance in mediating the relationship between organizational conditions and job attitudes (Brief & Weiss, 2002; Fox & Spector, 2002). Weiss and Cropanzano consider employees' affective reactions to be the

mediating mechanism (such as positive emotion) by which workplace events influence job-related outcomes.

As mentioned before, in a high-quality LMX, employees perceive themselves as engaging in meaningful work and therefore they have a sense of purpose and a feeling of attachment (positive feeling) to their work. In return, they benefit their supervisor by being more creative. An employee with a manager who shows concern, provide necessary information and latitude, is more likely to continue feeling valued (positive emotion), which in turn directs him or her to engaging in creative behavior. In view of this, we expect that positive emotions will mediate the LMX-employee creativity relationship. Higher-LMX employees will experience more positive emotions, and ultimately engage in more creative behavior, than lower-LMX employees. In summary, we offered the following two hypotheses:

Hypothesis 1. LMX (reported by both subordinates and supervisors) is positively related to employee creativity, in that higher-LMX employees will indulge into more creative behavior than lower-LMX employees.

Hypothesis 2. Positive emotion fully mediates the effect of LMX (reported by both subordinates and supervisors) on employee creativity such that the positive effect of LMX becomes non-significant after the effect of positive emotion is controlled for.

Method

Research Site, Participants, and Procedure²

We included in our research site both semiconductors (47.9%) and electronic (52.1%) organizations located in northern Malaysia. We distributed our survey questionnaires to 250 fulltime subordinate-immediate supervisor dyads. We received usable questionnaires from 146 dyads (146 employees and their 36 supervisors), yielding a response rate of 58%. In the process of distributing the questionnaires, supervisors were asked to prepare a code list with the corresponding name of each subordinate, and the subordinate questionnaire was numbered based on the code list before the questionnaires were distributed to the subordinates. The survey was coded so that the supervisor and subordinate responses were matched for statistical analysis. In order to protect the confidentiality of the respondents, completed questionnaires were returned directly to the researchers in sealed envelopes. The demographic profile of the respondents is as follows:

Subordinates were mostly in the age range of 25 to 40 years. There were 98 female participants (about 67.1%). In terms of reported ethnicity, 66 participants were Chinese (45.2%), followed by 65 Malay (38.4%), and 42 Indian (16.4%). About half of them were diploma and high school graduates (46.6%), and the remaining were degree holders. The average tenure with the current organization was 6.21 years (SD =3.92) and the average tenure with the current immediate supervisor (i.e., LMX tenure) was 3.93 years (SD = 3.05). With 36.9% representing the middle and upper levels of management, majority of them were in clerical (13.7%), operator, (6.8%), or lower (42.5%) management position.

On the other hand, supervisors were mostly in the age range of 30 to 50 years. Over half of them were female (54.1%). Their racial composition was as follows: Malay = 34.9%; Chinese = 45.9%; and Indian = 19.2%. Over 80% of the supervisors were degree holders (bachelor's and above). Their average tenure with the present organization was 10.01 years (SD = 5.65) and nearly 70% of them held middle and top echelons of management.

In summary, supervisors were significantly older (p < .01) and better educated (p < .01) than their subordinates. As expected, their organizational tenure was significantly longer (p < .01) than their subordinates. However, the supervisors and subordinates were not significantly (p > .05) different in terms of gender and ethnicity.

Measures

We collected data by means of two survey questionnaires. The subordinate survey included, in addition to demographic items, LMX-M and

positive emotion scales. The supervisor survey consisted of demographic, LMX-L, and employee creativity scale items. Obtaining two sources of data was a deliberate attempt to minimize any common method bias (Podsakoff et al., 2003, Podsakoff, MacKenzie, & Podsakoff, 2012). Except for personal-demographics, all other scale items were rated on a 7-point scale. The item scores in each scale were summed up and then averaged to arrive at an overall score for the scale. Higher scores represented higher levels of each of the constructs.

Leader-member exchange (LMX). We used a 12-item LMX-MDM scale (Liden & Maslyn, 1998) to assess the quality of exchange between subordinates and their immediate supervisors. Since the scale items were rated on a 7-point sale (1 = strongly disagree; 7 = strongly agree) by the subordinates, this measure was labeled LMX-M. The LMX-MDM scale measured the exchange dimensions of Contribution (e.g., "I am willing to apply extra efforts beyond those normally required, to meet my supervisor's work goals), Professional Respect (e.g., "I am impressed with my supervisor's knowledge of his/her job"), Affect (e.g., "I like my supervisor very much as a person"), and Loyalty (e.g., "My supervisor would defend me to others in the organization if I make an honest mistake"). According to Liden and Maslyn (1998), the four dimensions fall under a second-order factor that make the scale suitable to measure overall LMX and/or LMX dimensions (Erdogan, Kraimer, & Liden, 2004).

Immediate supervisors responded to a parallel scale (LMX-L), which was developed by replacing suitable words in LMX-M. Sample items are: "This employee is willing to apply extra efforts beyond those normally required, to meet my work goals" (Contribution); "I am impressed with this employee's knowledge of his/her job" (Professional Respect); "I like this employee very much as a person" (Affect); "This employee would defend me to others in the organization if I make an honest mistake" (Loyalty).

Positive emotion. Positive emotion was measured with seven items taken from the Job Emotions Scale (Fisher, 2000). Positive affective reactions consisted of the following items: enthusiastic, animated, courageous, inspired, satisfied, calm, and energetic. Participants (subordinates) rated the frequency (1 = never; 7 = always) with which they experienced each item in the workplace.

Employee creativity. Employee creativity was assessed with nine items (Ettlie & O'Keefe, 1982; Tierney et al., 1999). Supervisors were asked to rate the frequency (1 = never; 7 = always) with which their subordinate involved in the behavior described by the scale items during the past six months. Sample items are: "... demonstrated originality in his/her work" and "...tried out new ideas and approached to problems."

Demographic control variables.

Subordinates provided information about their age, gender, ethnicity, level of education, organizational level, organizational tenure, duration of the relationship between supervisor and subordinate (LMX tenure), and the type of industry described in the questionnaire. Supervisors also provided demographic data similar to those collected from the subordinates. Certain demographic variables such as subordinate gender, supervisor gender, and supervisor-subordinate dyadic tenure were statistically controlled for in all hierarchical multiple regression analyses because of their potential effects on the quality of the relationship between supervisors and subordinates (Erdogan & Liden, 2002; Graen & Scandura, 1987; Liden & Maslyn, 1998; Seers, 1989; Stajkovic & Luthans, 1998). Previous research (e.g., Carmeli & Schaubroeck, 2007) suggests that gender differences may also account for differences in creative work involvement. Doing so (i.e., controlling for the mentioned variables) also ruled out any alternative explanations for the findings.

Results

Psychometric Properties of the Measures

Prior to testing the major mediation hypothesis, we performed a series of confirmatory factor analyses (CFA) to examine the psychometric properties (i.e., dimensionality, construct validity, and distinctiveness) of the measures employed in the study and to gather empirical evidence against common method variance (CMV). We conducted a CFA using covariance matrix and maximum likelihood estimation to assess the discriminant validity of the substantive constructs measured in this study. We used four indices to assess the fit of the measurement models: Chi-squared statistic divided by degrees of freedom (χ^2/df), the incremental fit index (IFI), the comparative fit index (CFI) (Bentler, 1990), and the root mean square error of approximation (RMSEA) (Browne & Cudeck, 1993). Results of the proposed four-factor structure (LMXM, LMX-L. Positive Emotion, and Creative Performance) demonstrated good fit indices with the data, $\chi^2(89) = 222.87, p < .01, RMSEA = .09, IFI =$.90, CFI = .90. To test for the discriminant validity of the constructs, we compared the fourfactor model with a three-factor model that combined LMX-M and LMX-L and with another three-factor model that combined positive emotion and employee creativity. Nested model comparisons demonstrated that the four-factor model was superior to the alternative models; results showed a significantly worse fit for the first three-factor model, $\gamma^2(101) = 226.48$, p < .01, RMSEA = .10, IFI = .89, and CFI = .89 and for the second three-factor model, $\chi^2(101) = 297.91, p < .01$, RMSEA = .12, IFI = .84, and CFI = .83. Taken together, the fit indices of the nested models showed that LMX-M, LMX-L, positive emotion, and employee creativity were distinct constructs.

Descriptive statistics, zero-order correlations, and Cronbach's coefficients alpha for all the variables are presented in Table 1. As can be seen, the constructs were all reliable (Hair, Black, Babin, & Anderson, 2010) and that they were as correlated as one would expect on theoretical grounds. In conclusion, results of the CFA, reliability analysis, and measurement model analysis indicate that the measures have sound psychometric properties in terms of reliability and construct validity and that there is

no serious threat of common method bias in this research.

Test of Hypotheses

We hypothesized that positive emotion mediates the relationship between LMX (both leader and member perspectives) and employee creativity. According to Baron and Kenny (1986), four conditions are necessary to establish mediation: (a) the independent and mediating variables (LMX and positive emotion) must be significantly related; (b) the independent and dependent variables (LMX and employee creativity) must be significantly related; (c) the mediating and dependent variables (positive emotion and employee creativity) must be significantly related; and (d) the relationship between the independent variable and dependent variable (LMX and employee creativity) should be non-significant (full mediation) or weaker (partial mediation) when the mediator (positive emotion) is added. Results of regression analysis and graphical representation for testing mediation hypothesis are, respectively, reported in Table 2 and Figure 1.

The regression analysis indicates that, after controlling for member gender, leader gender, and LMX tenure, both LMX-M and LMX-L were positively related (β = .81, p < .01 and β = .44, p < .01, respectively) to positive emotion. Thus, Condition 1 was supported. Second, LMX-M and LMX-L (β = .50, p < .01 and β = .23, p < .01, respectively) were significantly related to employee creativity--thus supporting Condition 2 for mediation. Third, positive emotion was positively related to employee creativity ($\beta = .68$, p < .01)--thus supporting Condition 3. Finally, after positive emotion was taken into account, the effects of LMX-M ($\beta = -$.10, p < .05) and LMX-L ($\beta = -.08$, p < .05) became non-significant, thereby suggesting complete mediation.

To further assess the significance of the mediation, we applied Sobel's (1982) test for indirect effects (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Results show that the intervening effect of positive emotion between the LMX-L and employee creativity (p < .05), and the LMX-L and employee creativity

(p < .01) was significant. Taken together, mediation hypothesis received full support from the data.³

Discussion

Major Findings

The chief purpose of the present study was to examine the meditational role of positive emotion in the relationship of LMX with employee creativity. The quality of LMX was examined from both supervisor and subordinate perspectives. The regression analysis indicated that LMX (reported by both supervisors and subordinates) had significant positive effect on employee creativity. However, as hypothesized, affective positive reaction (positive emotion) turned out to be a full mediator of the above relationship. That is, LMX leads to positive emotion which in turn leads to employee creativity.

Implications for Theory

Drawing on Affective Events (Weiss & Cropanzano, 1996) and Social Exchange theories (Blau, 1964), we extend previous research by examining the affective processes that may account for the positive relationship between LMX and creative activities. We found that high quality relationships between supervisors and subordinates (perceived by each other) are related to positive emotion and employee creativity.

Implications for Practice

Our findings suggest that LMX (from both supervisor and subordinate perspectives) plays a key role in stimulating a high level of creativity through affective positive reaction. Since LMX makes a significant difference in fostering employee creativity, managers should be aware of the fact that relationship quality does matter. They should understand that LMX may not necessarily have strong positive effect on creativity. What they should understand is that LMX cultivates affective reactions (for example, positive emotion), which in turn results in creative behavior. In order for employees to be creative, managers need to make their employees feel good (positive emotion). They can do so by providing enough opportunity and

latitude to perform their jobs and providing contractual and personalized relationships.

Limitations and Directions for Future Research

Despite substantive theoretical and practical contributions, our study has some potential limitations. First, we considered just one mediator variable. Future research should also focus on other specific emotions and selfefficacy as potential mediators of the LMXemployee creativity relationship. Second, as our data were limited to only two types of high-tech companies, it is recommended that future researchers compare data from other different manufacturing and service organizations. A comparative study would help shed some light on the model of this study. Third, though our study revealed some interesting findings, it is certainly limited to small sample size. Future studies should consider conducting large surveys to search for the mechanisms of LMX effectiveness. Fourth, given that LMX has positive influence on various indicators of behavioral and attitudinal outcomes (Barling, Christie, & Hoption, 2011), future studies should consider employing other behavioral (such as citizenship behavior and employee engagement) and attitudinal outcomes (such as satisfaction and commitment) in examining the potential meditating role of affective reactions. Finally, based on cross-sectional data, we do not make a tall claim about causality. One possibility is that positive emotions might lead to high-quality exchange relationship between supervisors and subordinates. Thus reverse causality cannot be discounted.

Conclusion

The present study has clearly demonstrated the key role of LMX (reported by both subordinates and supervisors) in fostering creativity among the subordinates. However, the positive impact of LMX is fully transmitted through the positive affective reaction of the employees in the Malaysian business context. While knitting the thread, the study calls for a development of the quality of exchange between supervisors and their subordinates.

References

- Akinlade, D., Liden, R. C., & Akremi, A. E. (2011, August). Leader-member exchange and creativity: The role of creative self-efficacy and power distance. Paper presented at the annual meeting of the Academy of Management, San Antonio, TX.
- Allinson, C. W., Armstrong, S. J., & Hayes, J. (2001). The effects of cognitive style on leader-member exchange: A study of manager-subordinate dyads. *Journal of Occupational and Organizational Psychology*, 74, 201-220.
- Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (pp. 123-167). Greenwich, CT: JAI Press.
- Amabile, T. M. (1996). *Creativity in context: Update to the social psychology of creativity.* Boulder, CO: Westview.
- Ashkanasy, N. M., & O'Connor, C. (1997). Value congruence in leader-member exchange. *Journal of Social Psychology*, 137, 647-662.
- Atwater, L., & Carmeli, A. (2009). Leader—member exchange, feelings of energy, and involvement in creative work. *Leadership Quarterly*, 20, 264–275.
- Barling, J., Christie, A., & Hoption, C. (2011). Leadership. In S. Zedeck (Ed.,) *APA* handbook of industrial and organizational psychology (pp. 183-240), Washington, DC: American Psychological Association.
- Baron, R. M., & Kenny, D. A. (1986). Moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality* and Social Psychology, 6, 1173-1182.
- Bass, B. M., & Bass, R. (2008). The Bass handbook of leadership: Theory, research, and managerial applications. New York: Free Press.
- Behn, R. D. (1995). Creating an innovative organization: Ten hints for involving frontline workers. *State and Local Government Review*, 27(3), 221-234.

- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- Bhal, K. T., & Ansari, M. A. (1996). Measuring the quality of interaction between leaders and members. *Journal of Applied Social Psychology*, 26, 945-972.
- Blau, P. (1964). Exchange and power in social life. New York, NY: Wiley.
- Brief, A. P., & Weiss, H. M. (2002). Organizational behavior: Affect in the workplace. *Annual Review of Psychology*, 53, 279-307.
- Browne, M. W., & Cudeck, R. (1993).

 Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models*. Beverly Hills, CA: Sage.
- Carmeli, A., & Schaubroeck, J. (2007). The influence of leaders' and other referents' normative expectations on individual involvement in creative work. *The Leadership Quarterly*, 18, 35-48.
- Dansereau, F., Jr., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process.

 Organizational Behavior and Human Performance, 13, 46-78.
- Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology*, 69, 130-141.
- Dienesch, R. M., & Liden, R. C. (1986). Leadermember exchange model of leadership: A critique and further development. Academy of Management Review, 11, 618-634.
- Duchon, D., Green, S. G., & Taber, T. D. (1986). Vertical dyad linkage: A longitudinal assessment of attitudes, measures, and consequences. *Journal of Applied Psychology*, 71, 56-60.
- Ekvall, G., & Ryhammar, L. (1999). The creative climate: Its determinants and effects at a Swedish university. *Creativity Research Journal*, 12, 303-310.
- Elkins, T., & Keller, R. T. (2003). Leadership in research and development organizations:

- A literature review and conceptual framework. *The Leadership Quarterly*, 14, 587-606.
- Erdogan, B., Kraimer, M. L., & Liden, R. C. (2004). Work value congruence and intrinsic career success: The compensatory roles of leader-member exchange and perceived organizational support. *Personnel Psychology*, *57*, 305-332.
- Erdogan, B., & Liden, R. C. (2002). Social exchanges in the workplace: A review of recent developments and future research directions in leader-member exchange theory. In L. L. Neider & C. A. Schriesheim (Eds.), *Leadership* (pp. 65–114). Greenwich, CT: Information Age.
- Ettlie, J. E., & O'Keefe, R. D. (1982). Innovative attitudes, values, and intentions in organizations. *Journal of Management Studies*, 19, 163-182.
- Fisher, C. D. (2000). Mood and emotions while working: Missing pieces of job satisfaction? *Journal of Organizational Behavior*, 21, 185-202.
- Fox, S., & Spector, P. E. (2002). Emotions in the workplace: The neglected side of organizational life. *Human Resource Management Review*, *12*(2), 167-171.
- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18, 233–239.
- Gerstner, C. R., & Day, D. V. (1997). Metaanalytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, 82(6), 827-844.
- Graen, G. B., & Cashman, J. (1975). A role-making model of leadership in formal organizations: A developmental approach. In J. G. Hunt & L. Larson (Eds.), *Leadership frontiers* (pp. 143-165). Kent, OH: Comparative Administration Research Institute, Kent State University.
- Graen, G. B., & Scandura, T. A. (1987). Toward a psychology of dyadic organizing. Research in Organizational Behavior, 9, 175-208.
- Graen, G., & Uhl-Bien, M. (1995). Relationship-based approach to leadership:

- Development of leader-member-exchange (LMX) theory of leadership over 25 years-Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6, 219-247.
- Graen, G., Wakabayashi, M., Graen, M. R., & Graen, M. G. (1990). International generalizability of American hypotheses about Japanese management progress: A strong inference investigation. *The Leadership Quarterly*, *1*, 1-23.
- Green, S. G., Anderson, S. E., & Shivers, S. L. (1996). Demographic and organizational influences on leader-member exchange and related work attitudes. *Organizational Behavior and Human Decision Processes*, 66, 203-214.
- Hackett, R. D., & Lapierre, L. M., (2004, August). A meta-analytical explanation of the relationship between LMX and OCB. Paper presented at the annual Academy of Management meeting, New Orleans, LA.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.
- Judge, W., Gryxell, G. E., & Dooley, R. S. (1997). The new task of R&D management: Creating goal-directed communities for innovation. *California Management Review*, 39, 72-85.
- Katz, D. (1964). The motivational basis of organizational behavior. *Behavioral Science*, *9*, 131-146.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilberts, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 233-265). Boston, MA: Oxford University Press.
- Lee, J. (2004). Effects of leadership and leadermember exchange on commitment. Leadership and Organization Development Journal, 26, 655-672.
- Lee, J. (2007). Effects of leadership and leadermember exchange on innovativeness. *Journal of Managerial Psychology*, 23(6), 670-687.
- Liang, S. K., Ling, H. C., & Hsieh, S. Y. (2007). The mediating effects of leader-member exchange quality to influence the

- relationship between paternalistic leadership and organizational citizenship behavior. *Journal of American Academy of Business*, 10, 127-137.
- Liden, R. C., & Graen, G. (1980).

 Generalizability of the vertical dyad linkage model of leadership. *Academy of Management Journal*, 23, 451-465.
- Liden, R. C., & Maslyn, J. M. (1998).

 Multidimensionality of leader-member exchange: An empirical assessment through scale development. *Journal of Management*, 24, 43-72.
- Liden, R. C., Wayne, S. J., & Stilwell, D. (1993). A longitudinal study on the early development of leader-member exchanges. *Journal of Applied Psychology*, 78, 662-674.
- Lovelace, J. B., & Hunter, S. T. (2013).

 Charismatic, ideological, and pragmatic leaders' influence on subordinate creative performance across the creative process.

 Creativity Research Journal, 25(1), 59-74. doi: 10.1080/10400419.2013.752228
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods.

 *Multivariate Behavioral Research, 39, 99–128.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7, 83–104.
- Martin, R., Epitropaki, O., Thomas, G., & Topakas, A. (2010). A review of leader-member exchange: Future prospects and directions. *International Review of Industrial and Organizational Psychology*, 25, 36-88.
- Masterson, S., Lewis, K., Goldman, B. M., & Taylor, M. S. (2000). Integrating justice and social exchange: The differing effects of fair procedures and treatment on work relationships. *Academy of Management Journal*, 43, 738-748.
- Mumford, M. D., Hunter, S. T., Eubanks, D. L., Bedell, K. E., & Murphy, S. T. (2007). Developing leaders for creative efforts: A domain-based approach to leadership

- development. *Human Resource Management Review, 17*, 402–417.
- Pan, W., Sun, L., & Chow, I. H. S. (2012). Leader-member exchange and employee creativity: Test of a multilevel moderated mediation model. *Human Performance*, 25, 432-451.
- Pearce, C. L., Sims, H. P., Cox, J. F., Ball, G., Schnell, E., Smith, K. A., & Trevino, L. (2003). Transactors, transformers and beyond: A multi-method development of theoretical typology of leadership.

 Journal of Management Development, 22, 273-307.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method biase in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539-569.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- Preacher, K. J., & Hayes, A. F. (2008).

 Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879–891.
- Saavedra, R., & Kwun, S. K. (2000). Affective states in job characteristics theory. *Journal of Organizational Behavior*, 21, 131-146.
- Scott, S. G., & Bruce, R. A. (1998). Following the leader in R&D: The joint effect of subordinate problem-solving style and leader-member relations on innovative behavior. *IEEE Transactions on Engineering Management*, 45, 3-10.
- Seers, A. (1989). Team-member exchange quality: A new construct for role-making research. *Organizational Behavior and Human Decision Processes*, 43, 118–135.
- Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly, 15*, 33-53

- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), *Sociological methodology* (pp.290–312). San Francisco, CA: Jossey–Bass.
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124, 240–261.
- Tierney, P. (2011, August). *LMX relational* strength, embeddedness, and employee creativity. Paper presented at the annual meeting of the Academy of Management, San Antonio, TX.
- Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, *52*(*3*), 591-620.
- Truckenbrodt, Y. B. (2000). The relationship between leader-member exchange and commitment and organizational citizenship behavior. *Acquisition Review Quarterly*, 7, 233-244.
- Van de Ven, A. (1986). Central problems in the management of innovation. *Management Science*, *32*, 590-607.
- Weiss H. M., & Cropanzano, R. (1996).

 Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. Research in Organizational Behavior, 18, 1-74.
- West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology: An International Review, 51*(3), 355-424.
- Yukl, G. (2013). *Leadership in organizations*. Upper Saddle River, NJ: Prentice Hall.

Footnotes

¹We used the terms "employee creativity," "creative performance," and "innovative performance" interchangeably in this paper.

²We used the terms "employees," "members," and "subordinates" interchangeably. Similarly, we used the terms "leaders" and "supervisors" interchangeably.

³Tests of mediation are often guided by the multistep approach suggested by Kenny and colleagues (Baron & Kenny, 1986; Kenny, Kashy, & Bolger, 1998). Thus, given small sample size (N = 146), we also performed bootstrap analysis. One advantage of bootstrap analysis is that it does not assume that the

indirect effect is normally distributed and thus avoids problems introduced by asymmetric and non-normal sampling distributions (MacKinnon, Lockwood, & Williams, 2004). Another advantage is that this procedure bootstraps the sampling distribution of the indirect effect and empirically derives the confidence intervals (CIs) for the true population of that effect. We constructed bias-corrected CIs around the product coefficient of the indirect (mediated) effect using the SPSS macro (Preacher & Hayes, 2008). For the mediation analysis, we performed two separate bootstrap analyses (Fritz & MacKinnon, 2007)--one for LMX-M and one for LMX-L--and found the results almost identical to the ones obtained though the Baron-Kenny (1986) procedure.

Table 1
Descriptive Statistics, Coefficients Alpha, and Zero-order Correlations of Study Variables

Variable	M	SD	1	2	3	4	5	6	7
1. Leader gender	SIM ^a	SIM ^a	SIM ^a						
2. Subordinate gender	SIM ^a	SIM ^a	.45**	SIM ^a					
3. LMX Tenure (yrs.)	3.93	3.05	.10	.07	SIM ^b				
4. LMX-M	4.82	0.99	08	.01	.10	.96			
5. LMX-L	5.36	0.47	06	.03	03	.65**	.69		
6. Positive emotion	4.72	0.85	03	10	01	.79**	.43**	.91	
7. Employee creativity	4.26	0.98	.06	08	04	.47**	.22**	.67**	.92

Note. N = 146; Diagonal entries in boldface indicate Cronbach's coefficients alpha; LMX-L = Leader-member exchange reported by supervisors; LMX-M = Leader-member exchange reported by subordinates; LMX Tenure = Duration of the work relationship between supervisor and subordinate; SIM = Single-item measure; ^aCategorical variable (0 = Female; 1 = Male); ^bRatio variable. * p < .05. ** p < .01.

Table 2
Hierarchical Multiple Regression Results for Testing Mediation Hypothesis

		DV: Employee Creativity		DV: Employee Creativity		
Factor and Statistic	<i>Mediator:</i> Positive	Step 1	Step 2	Step 1	Step 2	
	Emotion					
Control Variables						
Member Gender	10	12		12		
Leader Gender	.02	.11		.11		
LMX Tenure	.00	02		02		
Predictors						
LMX-M	.81**	.50**	10			
LMX-L	.44**			.23**	08	
Mediator						
Positive Emotion			.75**		.70**	

Note. N = 146; Figures in boldface show standardized beta coefficients based on regression equation including the mediator; $DV = Dependent \ variable$; $LMX-L = Leader-member \ exchange \ reported \ by supervisors; <math>LMX-M = Leader-member \ exchange \ reported \ by \ subordinates$; $LMX \ Tenure = Duration \ of \ work \ relationship \ between \ supervisor \ and \ subordinate$.

^{*} *p* < .05. ** *p* < .01.

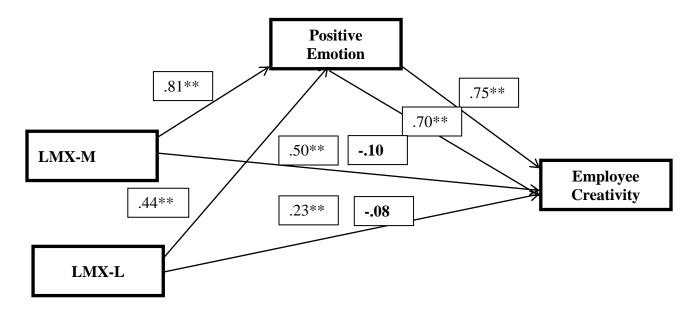


Figure 1. Graphical representation of mediation hypothesis (LMX-L = Leader-member exchange reported by supervisors; LMX-M = Leader-member exchange reported by subordinates; Figures in boldface show standardized beta coefficients based on regression equation including the mediator; ** p < .01).