University of Groningen

Leader-member exchange and follower creativity

Qu, Rujie; Janssen, Onne; Shi, Kan

Published in:
International Journal of Human Resource Management

DOI:
[10.1080/09585192.2015.1105843](https://doi.org/10.1080/09585192.2015.1105843)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2017

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Qu, R., Janssen, O., & Shi, K. (2017). Leader-member exchange and follower creativity: the moderating roles of leader and follower expectations for creativity. *International Journal of Human Resource Management*, 28(4), 603-626. <https://doi.org/10.1080/09585192.2015.1105843>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

The International Journal of Human Resource Management

ISSN: 0958-5192 (Print) 1466-4399 (Online) Journal homepage: <http://www.tandfonline.com/loi/rijh20>

Leader-member exchange and follower creativity: the moderating roles of leader and follower expectations for creativity

Rujie Qu, Onne Janssen & Kan Shi

To cite this article: Rujie Qu, Onne Janssen & Kan Shi (2017) Leader-member exchange and follower creativity: the moderating roles of leader and follower expectations for creativity, The International Journal of Human Resource Management, 28:4, 603-626, DOI: 10.1080/09585192.2015.1105843

To link to this article: <http://dx.doi.org/10.1080/09585192.2015.1105843>

Published online: 29 Nov 2015.

Submit your article to this journal [↗](#)

Article views: 324

View related articles [↗](#)

View Crossmark data [↗](#)

Leader–member exchange and follower creativity: the moderating roles of leader and follower expectations for creativity

Rujie Qu^{a,1}, Onne Janssen^b and Kan Shi^a

^aSchool of Management, University of Chinese Academy of Sciences, Beijing, China; ^bFaculty of Economics and Business, University of Groningen, Groningen, The Netherlands

ABSTRACT

We examined leader and follower expectations for creativity as moderators in the relationship between leader–member exchange (LMX) and follower creativity. The results of a survey among 193 leader–follower dyads from two high-tech companies in mainland China show that LMX positively relates to follower creativity, and that leader and follower expectations for creativity moderate this relationship. Specifically, the relationship between LMX and follower creativity is positive and significant when either leaders or followers, or both leaders and followers, set high rather than low expectations for creativity, with the highest level of follower creativity observed when leaders and followers congruently hold high creativity expectations. In contrast, the LMX–follower creativity relationship is blurred when leaders and followers congruently hold low expectations for creativity. We discuss the relevance of these results from theoretical and professional perspectives.

KEYWORDS

Follower creativity; follower self-expectations for creativity; leader creativity expectations; leader–member exchange

Introduction

Increasing global competition and fast developing technologies highlight the central role of employee creativity in the long-term survival of organizations. Employees who are creative at work develop new ideas that are potentially useful for improving or renewing products, services, processes, and procedures by which organizations can adapt to internal and external changes (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Oldham & Cummings, 1996; Shalley, Zhou, & Oldham, 2004; Shin & Zhou, 2003). Hence, stimulating and utilizing employee creativity has become a key goal of many organizations (Mumford, Scott, Gaddis, & Strange, 2002). This importance of creativity in contemporary organizations arouses a continuing interest in research to examine and identify personal and

CONTACT Rujie Qu qurjivy@163.com

¹Current address: School of Public Administration, East China Normal University, Shanghai, China.

situational factors that foster or hinder employees to engage in creative acts in the workplace (Shalley & Gilson, 2004).

Amabile, Schatzel, Moneta, and Kramer (2004) emphasized that supportive leadership can substantially enhance followers' willingness to become involved in creative work. Leader-member exchange (LMX) (Gerstner & Day, 1997; Graen & Scandura, 1987) is a prominent example of the relational aspect of supportive leadership that can facilitate employees to perform creatively. LMX theory is unique among leadership theories in its focus on the dyadic relationship between leaders and followers (Gerstner & Day, 1997). The basic principle is that leaders do not treat all followers in the same way, but rather develop and maintain interpersonal relationships with followers that differ in quality (Dansereau, Graen, & Haga, 1975; Graen & Scandura, 1987). High-quality exchange relationships are characterized by mutual trust, respect, and obligation that generate reciprocal influence between leaders and followers (Wilson, Sin, & Conlon, 2010), whereas the exchanges in low-quality relationships are based on the formal employment contract resulting in downward influence and distance between the parties. As a consequence, followers in high-quality LMX relationships have more opportunities and use more communication channels to exchange information and discuss work-related issues and ideas with their supervisor. Abundant research has proven that the quality of LMX is predictive of beneficial follower attitudes and performance-related job outcomes (e.g. for reviews, see Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007; Yukl, 2012). That is, a favorable exchange relationship was found to promote role clarity, job satisfaction, organizational commitment, interpersonal trust, citizenship and voice behavior, and overall job performance and to inhibit turnover intentions (e.g. Botero & Van Dyne, 2009; Buch, 2015; Dirks & Ferrin, 2002; Kassing, 2000; Kim, Liu, & Diefendorff, 2015; Loi, Chan, & Lam, 2014; Rockstuhl, Dulebohn, Ang, & Shore, 2012; Sekiguchi, Burton, & Sablinski, 2008; Sun, Chow, Chiu, & Pan, 2013).

There are, however, only a few studies that have tested follower creativity as an outcome variable of LMX (e.g. Atwater & Carmeli, 2009; Tierney, Farmer, & Graen, 1999). Although these studies have provided some initial evidence for a positive LMX – follower creativity relationship, the link between LMX and creativity is complex and may not be uniform across different conditions (Elkins & Keller, 2003). We argue that the relationship-focused construct of LMX in itself does not implicate a priori role expectations that directly and explicitly guide followers to engage in creative courses of actions. Even when they maintain a high-quality exchange relationship, it is not self-evident that leaders and followers set and hold high role expectations for follower creativity. Consequently, explicit role expectations for creativity may operate as boundary conditions that can strengthen the influence that LMX exerts in relation to creative behaviors performed by followers. We build and test the hypothesis predicting that the relationship between LMX and follower creativity will be more positive when either leaders or followers, or both leaders and followers, have high creativity expectations, and less positive

Figure 1. Research model in which leader and follower creativity expectations moderate the relationship between LMX and follower creativity.

when both leader and follower expectations for creativity are low. Figure 1 presents this model.

The current research was designed to make two main contributions. First, it contributes to the LMX literature in examining the moderating influence of specific role expectations in the LMX process in relation to follower creativity, thus filling a main research gap in the current literature (Ozer, 2008). As such, we respond to the call to study the LMX process from a multidomain perspective (Graen & Uhl-Bien, 1995) by examining the influence of role expectations that both leaders and followers hold in the LMX process. Second, because this research combines literature on LMX, role expectations, and employee creativity, it provides an important integrative theoretical contribution.

Theoretical background

LMX and follower creativity

LMX theory and research suggest that the quality of the exchanges that develop between followers and their leaders can be conducive to follower creativity (Tierney et al., 1999). LMX theory assumes that leaders are limited in their resources and time, and allocate their personal and positional resources differently to their followers for obtaining job performance. Consequently, leaders tend to develop and maintain unique or particularistic exchange relationships with their followers that vary in quality from low to high (e.g. Graen & Uhl-Bien, 1995). That is, whereas low-quality relationships are based on contractual exchanges characterized by top-down influence, restricted support, and formal interactions, the high-quality relationships are characterized by mutual trust, respect, and obligation that generate high levels of information exchange, reciprocal influence, and greater decision latitude for followers (e.g. Dienesch & Liden, 1986; Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Gerstner & Day, 1997; Gu, Tang, & Jiang, 2015).

High-quality exchange relationships appear well matched with creativity-enhancing conditions in the workplace and may therefore pave the way for follower creativity in a number of ways (Tierney et al., 1999; Zhou & Hoever, 2014).

First, high-quality relationships are developed by mutually influencing transactions between leaders and followers. These transactions create greater opportunities for expanded information exchange where leaders and followers can voice their ideas freely (Buch, 2015; Pan, Sun, & Chow, 2012). Second, employees in high-quality relationships characterized by mutual trust are more likely to engage in challenging and risk-taking work behaviors without the fear of reproach (Graen & Cashman, 1975). Moreover, mutual trust can facilitate leader and followers to exchange knowledge, technical expertise, opinions, and suggestions (Shih, Chiang, & Chen, 2012; Wang, Fang, Qureshi, & Janssen, 2015), thereby enabling followers to engender more creative ideas (Gilson, Lim, Luciano, & Choi, 2013; Scully, Buttigieg, Fullard, Shaw, & Gregson, 2013). Third, high-quality relationships also cause leaders to provide special consideration to the unique needs of followers (Graen & Uhl-Bien, 1995), which could include offering helpful suggestions and constructive feedback for how to deal with challenging problems requiring a creative approach (Schermul, Meyer, & Dämmer, 2013). Leaders with high-quality relationships also offer support and advice when tension or conflict occurs among followers and display confidence in their work (Deci, Connell, & Ryan, 1989; Dienesch & Liden, 1986). Fourth, high LMX followers experience a strong sense of advocacy and liking from their leaders (Duchon, Green, & Taber, 1986), which can enhance their confidence to generate and realize new ideas within the work group (Wang et al., 2015). Taken together, factors such as trust, information, consideration, and developmental feedback that are core elements of a high LMX seem to create a supportive context that theory and research have highlighted to be conducive and facilitative for employee creativity (e.g. Amabile, 1988; Atwater & Carmeli, 2009; Ford, 1996; Isaksen & Lauer, 2002; Janssen & Van Yperen, 2004; Lee, 2008; Scott & Bruce, 1994; Tierney et al., 1999).

In contrast, low-quality exchanges with the leader are based on formal interactions and restricted support and will, therefore, mitigate follower creativity. Research has shown that leaders tend to attribute poor performance of low LMX followers to internal causes, whereas effective performance is attributed to external causes (Duarte, Goodson, & Klich, 1994). Thus, when members in low LMX relationships make mistakes or have difficulties in their work, the leader tends to blame them personally rather than identifying contextual causes for their poor performance (Yukl, 2010). Due to this attribution bias, followers with low LMX become afraid of failing and avoid engagement in risky creative acts. Moreover, followers with low-quality LMX are also less likely to be given job autonomy in managing their own work actions and time (Martinaityte & Sacramento, 2013). Under minimal autonomy conditions, followers usually have only predefined strategies and do not regard creative work engagement as an option to fulfill their job obligations (Langfred & Moye, 2004). Leaders are also less likely to provide developmental feedback to followers with low-quality LMX (Graen & Scandura, 1987). Without useful feedback, those followers can depend only on their own abilities and will take longer to select and develop ideas that may result in creative

performance, and they are more likely to be susceptible to errors. Thus, followers in low-quality LMX relationships are directed toward unpopular jobs usually with less creativity requirements and opportunities. Accordingly, our first hypothesis to test reads:

Hypothesis 1: Leader–member exchange quality is positively related to follower creativity.

Role expectations for follower creativity

A core feature of LMX theory is that leader–member relationships develop and establish through role-making and social exchanges, indicating that there exists active interactions between leaders and followers and role expectations are frequently negotiated (Dienesch & Liden, 1986; Graen & Scandura, 1987; Li & Liao, 2014; Wang, Law, Hackett, Wang, & Chen, 2005). Role expectations refer to one's beliefs about what a role entails, which are supposed to form role behaviors (e.g. Dierdorff & Morgeson, 2007; Ilgen & Hollenbeck, 1991). Research has revealed that leaders and followers in high-quality LMX relationships tend to expand the broadness of follower formal job roles and create perceptual congruence on the content of these expanded roles (Hsiung & Tsai, 2009). Accordingly, employees may tend to reciprocate high-quality relationships by engaging in creative behaviors that are going above and beyond the formally prescribed in-role requirements and can substantially benefit the leader, the work group, and the organization (cf. Liden, Wayne, & Bradway, 1997; Settoon, Bennett, & Liden, 1996; Wayne & Green, 1993). Thus, through high-quality role-making and social exchanges, leaders and followers may congruently construe strong role expectations for creativity that become an essential component for role enactment by followers.

However, we argue that high-quality LMX does not inevitably imply that leaders and followers always develop and hold high role expectations for follower creativity. Leaders may differ their expectations for creativity across followers depending on follower and job characteristics. Leaders may convey less creative expectations for such followers that have relatively low capacities for acting creatively (Natanovich & Eden, 2008), or whose jobs involve less creativity requirements, even when they maintain a high-quality exchange relationship.

Moreover, leaders and followers may differ in their creativity expectations. Leaders may view creativity as important for the effective functioning of certain followers and accordingly hold high creativity expectations for them. Such leader expectations, however, do not guarantee that those followers develop congruent self-expectancies (cf. Karakowsky, DeGama, & McBey, 2012). They may perceive themselves as lacking the ability to effectively engage in creative courses of action (Tierney & Farmer, 2002) and, accordingly, set lower self-expectations for creativity. In addition, creativity requires a lot of effort investments such as seeking, constructing, and defining problems and producing new ideas for problem

solution that must be promoted and discussed to significant others in the work environment (e.g. Amabile, 1996; Reiter-Palmon, Mumford, Boes, & Runco, 1997; Shalley et al., 2004). Such creative efforts may not always be sufficiently recognized and valued, which may lead employees to doubt their creative abilities and lower their self-expectations for creativity.

It is also possible that leaders and followers differ in their judgments of followers' creativity potential. Leaders' impression and assessment of followers' creative capabilities may not always be accurate. When leaders set low creativity expectations for particular followers, they might inaccurately judge that these followers lack the creative abilities and skills, or incorrectly think that their jobs have less requirement for creativity. Or it might be that the leaders put less emphasis on creativity because they tend to preserve the status quo in the work domain, a tendency which may be particularly profound when leaders have invested a lot of effort in establishing the current state of affairs (Dougherty & Heller, 1994; Frost & Egri, 1991). Followers, on their side, might disagree with their leader's negative judgments about their potential for creativity, leading them to not accept and conform to the low expectations for creativity set by the leader. Besides, regardless of leader expectations, followers may set self-expectations for creativity that are aroused by intrapsychic motivational resources (i.e. without any social intervention), such as high self-efficacy for creativity or a creative thinking style.

Taken together, even though high-quality social exchanges may facilitate leaders and followers to develop high and congruent role expectations for follower creativity, the above reasoning suggests that leaders and followers can differ in their creativity expectations. As role expectations influence role enactment, we propose that the expectations leaders and followers each hold for follower creativity may operate as boundary conditions that moderate the effects of LMX on follower creativity.

Role expectations for follower creativity as a moderator

We first elaborate on how leader–follower congruence of high expectations for follower creativity may enhance the positive relationship between LMX and follower creativity. When leader and follower role expectations for follower creativity are high and congruent, followers are more likely to take advantage of a high-quality LMX to be creative. That is, congruence of high expectations promote the establishment of a common frame for approaching, interpreting, and evaluating creativity-related efforts, conditions, and outcomes. This common frame facilitates the exchange of creativity-relevant information and support, and reduces the likelihood of misunderstandings (Erdogan, Kraimer, & Liden, 2004; Kalliath, Bluedorn, & Strube, 1999). In addition, congruent high role expectations for follower creativity will promote harmony and cooperation between leaders and followers, and increase the likelihood that they set and share creative goals, thereby avoiding destructive conflict that could undermine positive interpersonal relationships

(Jehn, Chadwick, & Thatcher, 1997; Jehn, Northcraft, & Neale, 1999) and enhancing follower creative self-efficacy (Tierney & Farmer, 2011). The combination of these reasons suggest that congruent high role expectations for follower creativity are conducive to utilize and direct the resources and support, which are provided by high-quality LMX relationship, more effectively and efficiently towards facilitating followers to actually engage in creative courses of action. In other words, when leaders and followers congruently hold high expectations for follower creativity, high-quality LMX relationships would increase follower creativity. Followers working in high LMX, especially with leader–follower congruence of high role expectations for follower creativity, have a perfect creativity-enhancing combination of individual and contextual factors.

We further expect that followers with high LMX and high leader role expectations for creativity will still make efforts to be creative even when their self-expectations for creativity are lower. Leaders have power over important resources and information, and control the provision of rewards and promotion (Tierney & Farmer, 2004). Given the power that leaders have over their followers, leader expectations for creativity will be regarded by followers as a kind of role requirement mandated by the leader. Thus, even when followers have lower self-expectations for creativity, they will still try to fulfill the expectations for creativity set by the leader in order to avoid disappointing the leader and being able to sustain their high-quality exchange relationship.

Also, individuals with high LMX and high self-expectations for creativity will seek out opportunities to act creatively even when they are not expected by their leaders to do so. In this situation, high LMX can substitute for the lack of leader expectations for creativity. Followers' self-expectations for creativity provide some internal, sustaining force that may drive them to engage in creative courses of action (Robinson-Morral, Reiter-Palmon, & Kaufman, 2013; Yuan & Woodman, 2010), and push them to exchange and discuss their creative acts with their leader. A high-quality LMX is likely to facilitate followers with high self-expectation for creativity to actually engage in creative acts because they feel a supportive exchange context characterized by mutual trust, consideration, and developmental feedback that is conducive and critical for creativity success.

In contrast, when both leaders and followers have low expectations for follower creativity, we would expect that followers can take less advantage of and may not appreciate the high quality of LMX to perform creatively, with the effect that the relationship between LMX and follower creativity may be mitigated. When leader and self-expectations for creativity are low, followers lack both external and internal drivers for being creative, and thus feel low motivation to invest in creative efforts. Consequently, in this situation of low expectations for creativity, high-quality LMX will not result in high follower creativity because followers will not utilize the facilitative potential of high LMX for creativity.

Followers who maintain low-quality exchanges with their supervisors can be expected to engage in relatively lower levels of creative activities for reasons

provided above to underpin the first hypothesis. However, even in low-quality LMX relationships, leaders can set high creativity expectations for followers if, for example, the jobs that followers carry out require creative action. In addition, low LMX followers can also develop self-expectations for creativity in response to such job requirements, or internal motivational sources might trigger followers' creativity expectations. Therefore, despite the fact that a low-quality LMX relationship may not be very conducive and facilitative for creativity, congruence between high leader creativity expectations and high follower creativity expectations (FCE) should enforce and motivate followers to perform creatively to a certain extent, albeit that the creativity levels would be lower than they would be in high LMX relationships. Likewise, given their power position, leaders may even enforce some creative performance among low LMX followers who do not set high self-expectations for creativity. However, when low LMX goes together with low leader creativity expectations (LCE), we expect low levels of follower creativity because, under these conditions, creative acts by followers will simply not be supported and backed up by their leaders. Moreover, such low-quality exchanges may induce negative emotions such as sadness, jealousy, and anger in these specific followers, which may decline follower creativity and work performance (Zineldin & Hytter, 2012). Hence, even when they may hold high self-expectations for creativity, those followers do not feel able and encouraged to go beyond their formal job descriptions in their low-quality exchange relationship with the leader.

In sum, we expect that followers in low-quality LMX relationships will display relatively low levels of creativity, albeit that follower creativity may reach a modest level when leaders, or both leaders and followers, set high expectations for creativity. Followers in high-quality LMX relationships are expected to perform more creatively in particular when either leaders or followers, or both leaders and followers, have high expectations for creativity. However, in case leaders and followers congruently hold low expectations for creativity, the LMX–follower creativity relationship will be blurred. Accordingly, we predict:

Hypothesis 2: Leader and follower expectations for follower creativity moderate the relationship between LMX and follower creativity, such that this relationship will be more positive when either the leader or the follower, or both, have high expectations for creativity, and less positive when both the leader and the follower have low expectations for creativity.

Methods

Sample and procedure

R&D employees and their supervisors from two high-tech enterprises in mainland China participated in the present study. We collected data from two different sources to avoid potential common method variance. Specifically, followers filled out a questionnaire that provided self-report responses for the independent

variable of perceived LMX and the moderating variable of self-expectations for creativity. On a separate rating form, the moderating variable of leader expectations for creativity and the dependent variable of follower creativity were rated by employees' immediate supervisors.

The first author and associates visited all of the respondents (supervisors and groups of employees separately) to introduce the aims and procedures for implementing the survey. Participation was voluntary and strict confidentiality was guaranteed. In order to match employee responses with supervisor evaluations and to identify the work teams of the participating employees, we first coded each questionnaire with an identification number, and then assigned questionnaires and return envelopes to participants. We instructed respondents to seal completed questionnaires in the envelopes and return them directly to the researchers. Prior to the administration of the survey, all questionnaire items used in the current analysis, which were originally composed in English, were translated in Chinese by a bilingual academic, and then back-translated in English by another bilingual expert. The back-translated English version and the original English version was compared to ensure a high degree of equivalency and accuracy (Brislin, Lonner, & Thorndike, 1973). The questionnaires were initially distributed to 212 employees and 61 supervisors. We eliminated the questionnaires with incomplete responses (19 employees). Finally, we had 193 pairs of matched responses including 193 employees who were supervised by 61 supervisors and nested in 61 teams, resulting in an effective response rate of 91.0%. For the employee sample, 57% were males, the average age was 30.68 (SD = 9.23) years, and the average organizational tenure and the average tenure they have been working together with their supervisor were 4.51 (SD = 5.59) and 2.72 (SD = 2.24) years, respectively. Furthermore, all of employee respondents had received a technical secondary school education or more, with the most frequently reported education level being a bachelor's degree.

Measures

Leader-member exchange

LMX was assessed using the seven-item measurement developed by Graen and Uhl-Bien (1995). The items were measured on a five-point Likert-type scale. Sample items are 'How well does your leader understand your job problems and needs?' (1, 'not a bit' to 5, 'a great deal') and 'How would you characterize your working relationship with your leader?' (1, 'extremely ineffective' to 5, 'extremely effective'). Cronbach's alpha for this scale was .86.

Follower creativity expectations (FCE)

Followers' self-expectations for creativity were measured using the three-item measurement developed by Carmeli and Schaubroeck (2007). Sample items are 'I expect myself to be creative at work' and 'Creativity at work is very important to me.' The followers were asked to indicate whether they agreed or disagreed with

the three statements on a seven-point scale ranging from 1, 'strongly disagree,' to 7, 'strongly agree.' This measure had a reliability of .78.

Leader creativity expectations (LCE)

We adapted the four-item measurement developed by Carmeli and Schaubroeck (2007) to assess leader expectations for follower creativity. The immediate supervisors of the followers were asked to rate their expectations for follower creativity on a seven-point scale ranging from 1, 'strongly disagree,' to 7, 'strongly agree.' Sample items are 'I expect this employee to be creative at work' and 'Creativity is a role requirement for this employee.' This measure had a reliability of .81.

Follower creativity

We measured follower creativity using George and Zhou's (2001) 13-item scale by asking supervisors to rate their followers' creativity. Sample items are 'The subordinate comes up with new and practical ideas to improve performance' and 'The subordinate suggests new ways to increase quality.' The response format was a seven-point scale ranging from 1, 'not at all characteristic,' to 7, 'very characteristic.' Cronbach's alpha was .97.

Covariates

On the demographic page of the questionnaire, the participants provided information about their sex (0, 'male,' 1, 'female'), age (in years), education (1, 'technical secondary school,' 2, 'associate degree,' 3, 'bachelor's degree,' 4, 'master's degree,' 5, 'doctor's degree'), organizational tenure (in years), the tenure they have been working together with their supervisor (in years), company (0, 'first company,' 1, 'second company'). We entered these socio-demographics as control variables in the statistical analyses reported below because they were more or less correlated with any of the LMX, creative expectations, or creativity variables.

Analysis

Because the 193 employees in our sample were nested in 61 teams, and team supervisors provided creativity ratings across employees, the data had potential for bias due to team influences that employees share and response tendencies of supervisors in ratings of follower creativity. Given this nested data structure, we used multilevel modeling employing linear mixed models in SPSS with fixed and random effects. Specifically, we included the control variables, LMX, and LCE and FCE as individual-level variables to test fixed effects on follower creativity, whereas supervisor was included as a random variable to account for the nesting effect by allowing a random intercept. To reduce any potential multicollinearity when testing interaction effects, we standardized all of the predictor variables.

Before testing the hypotheses, we compared the intercept-only model for one level with the intercept-only model for two levels to decide whether multilevel

analysis is needed. The expected two-level model ($-2 \log \text{likelihood} = 647.44$) yielded a significantly better fit ($\Delta - 2 \log \text{likelihood} = 11.93$, $\Delta df = 1$, $p < .001$) than the one-level model ($-2 \log \text{likelihood} = 659.37$). Thus, the two-level analysis was needed to test the hypotheses.

Results

Confirmatory factor analyses

Before testing our hypotheses, confirmatory factor analyses (CFA) were conducted to check the measures' convergent and discriminant validity of employees' self-reports of LMX and FCE for creativity, and supervisor rated LCE and follower creativity. The expected four-factor model ($CFI = .92$, $TLI = .91$, $IFI = .92$, $RMSEA = .07$, $\chi^2 = 609.3$, $df = 318$) yielded a significantly better fit than a two-factor model distinguishing between predictor variables (LMX, LCE, and FCE) and outcome variable (follower creativity) ($CFI = .80$, $TLI = .78$, $IFI = .80$, $RMSEA = .11$; $\Delta\chi^2 = 441.4$, $\Delta df = 5$, $p < .001$), or another two-factor model distinguishing between employee self-reported variables (LMX and FCE) and supervisor-rated variables (LCE and follower creativity) ($CFI = .82$, $TLI = .80$, $IFI = .82$, $RMSEA = .10$; $\Delta\chi^2 = 372.8$, $\Delta df = 5$, $p < .001$), or a single-factor model ($CFI = .72$, $TLI = .69$, $IFI = .72$, $RMSEA = .13$; $\Delta\chi^2 = 754.8$, $\Delta df = 6$, $p < .001$). Therefore, the four-factor model was justified.

Descriptive statistics and correlations

Table 1 presents the means, standard deviations, and zero-order Pearson correlations among all variables in this study. LMX was positively correlated with FCE and follower creative behavior. Both LCE and FCE were also positively associated with follower creativity. The correlation between LCE and FCE was not significant, which is in accordance with our claim that leaders and followers may differ in their expectations for follower creativity.

Tests of hypotheses

To test Hypothesis 1, we used a linear mixed model and tested the fixed effects of the control variables and LMX on follower creativity, whereas supervisor was included as a random variable to account for the nesting effect by allowing a random intercept. As Table 2 (model 2) shows, after controlling for the control variables, LMX was found to be positively and significantly related to follower creativity. This result provides support for Hypothesis 1. Besides LMX, we also found both LCE and FCE to be positively related to follower creativity (see Table 2, model 2).

Table 1. Univariate statistics and correlations among the variables.

	M	SD	1	2	3	4	5	6	7	8	9
1. LMX	3.47	.94									
2. FCE	5.59	1.05	.27***								
3. LCE	6.01	.86	.08	.00							
4. Follower creativity	4.64	1.34	.43***	.24**	.38***						
<i>Control variables</i>											
5. Sex	.43	.50	.07	.02	-.14*	.01					
6. Age	30.68	9.23	.13	.13	.04	.11	-.29***				
7. Education	3.22	.80	.03	-.08	.07	-.07	-.22**	.06			
8. Organizational tenure	4.51	5.59	.20**	.13	.03	.21**	-.26***	.55***	.14*		
9. Tenure with leader	2.72	2.24	.16*	-.04	-.13	.08	-.02	.39***	.18*	.59***	
10. Company	.46	.50	.03	.01	-.20**	.13	.51***	-.20**	-.45***	-.31***	-.06

Note: $N = 193$
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2. Results of multilevel analyses testing hypotheses.

Predictor	Follower creativity			
	1	2	3	4
Intercept	4.64***	4.64***	4.62***	4.64***
Sex	-.06	-.08	-.09	-.11
Age	.01	-.04	-.06	-.06
Education	.02	.00	.03	.02
Tenure with organization	.36*	.27*	.25*	.25*
Tenure with leader	-.08	-.02	.03	.04
Company	.32*	.38***	.41***	.42***
LMX		.44***	.45***	.46***
FCE		.17*	.15	.13
LCE		.53***	.53***	.57***
LMX * FCE			.07	.09
LMX * LCE			.04	.00
FCE * LCE			.20*	.14
LMX * FCE * LCE				-.16*
-2 log likelihood	636.20	560.29	553.71	547.96
$\Delta - 2$ log likelihood		75.91***	6.58	5.75*
Pseudo R^2	.09	.40	.42	.44

Conditional relationship between LMX and follower creativity at low and high values of LCE and FCE

FCE	LCE	Follower creativity	
		B	T
Low	Low	.21	1.76
High	Low	.71	4.55***
Low	High	.54	3.82***
High	High	.38	2.33*

Note: $N = 193$ * $p < .05$; ** $p < .01$; *** $p < .001$.

To test Hypothesis 2, we included supervisor as a random variable and the control variables and the main, two-way interaction, and three-way interaction effects of LMX, LCE, and FCE as fixed effects in a linear mixed model to predict follower creativity. Table 2 (model 4) shows that none of the two-way interactions between LMX and LCE and FCE reached a significant level. However, the three-way interaction term was found to be significant. To further analyze this interaction effect, we used the procedure outlined by Aiken and West (1991) and rearranged the regression equation into simple regressions of follower creativity on LMX, under the conditions of high ($M + 1SD$) and low ($M - 1SD$) FCE and high ($M + 1SD$) and low ($M - 1SD$) LCE. As Table 2 (model 4) and Figure 2 show, LMX was significantly and positively related to follower creativity when either leaders or followers, or both leaders and followers, set high expectations for follower creativity; the highest level of follower creativity was observed when LMX, FCE, and LCE were all high. The relationship between LMX and follower creativity did not reach significance when both LCE and FCE were low. Thus, Hypothesis 2 was supported.

Discussion

To advance understanding of the relationship between LMX and follower creativity was the goal of the current study. The results of the survey study among

Figure 2. Three-way interaction effects of LMX by FCE by LCE on follower creativity.

R&D employees and their supervisors show that employees' perceptions of the quality of LMX are positively related to supervisor ratings of employees' creative performance. This outcome replicates previous research findings suggesting that high-quality exchanges between leaders and followers may create a supportive and facilitative context for follower creativity (e.g. Atwater & Carmeli, 2009; Janssen & Van Yperen, 2004; Scott & Bruce, 1994; Tierney et al., 1999). However, we argued and hypothesized that leaders and followers may differ in the role expectations they hold for follower creativity, and that these creativity expectations may operate as boundary conditions that moderate the LMX–follower creativity relationship. The results of a survey among 193 leader–follower dyads from two high-tech companies in mainland China indeed show that leader and follower expectations for creativity moderate this relationship. Specifically, we found the relationship between LMX and follower creativity to be positive and significant when either leaders or followers, or both leaders and followers, set high rather than low expectations for creativity, with the highest level of creativity observed when followers and leaders in a high-quality LMX congruently hold high expectations for creativity. In contrast, the relationship between LMX and follower creativity was blurred when both leader and follower expectations for creativity are low.

Theoretical implications

Our study has several theoretical implications. First, the current results indicate that LMX plays an important role in follower creativity. As there are only a few studies that have examined LMX in relation to follower creativity (e.g. Atwater & Carmeli, 2009; Tierney et al., 1999), our results contribute to the empirical foundation of the notion that LMX can facilitate employees to engage in creative

courses of action. This is because high LMX leaders provide employees with supportive resources such as trust, encouragement, autonomy, information, energy, and social backing, and have more knowledge and opinions exchange with follower, while high LMX employees reciprocate the leader for the beneficial and supportive treatment with extra-role behaviors such as creativity (e.g. Atwater & Carmeli, 2009; Buch, 2015; Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995; Tierney et al., 1999).

Second, to further advance understanding of the role of LMX in follower creativity, we combined LMX theory (Dienesch & Liden, 1986; Graen & Scandura, 1987) with theoretical notions on role expectations (e.g. Dierdorff & Morgeson, 2007; Ilgen & Hollenbeck, 1991) to propose that the LMX–follower creativity relationship is contingent upon the role expectations that both leaders and followers develop and hold for follower creativity. Previous research has been inconclusive on the LMX–follower creativity relationship. A number of studies reported direct or mediated effects of LMX on follower creativity (e.g. Atwater & Carmeli, 2009; Tierney et al., 1999), whereas a study by Clegg, Unsworth, Epitropaki, and Parker (2002) found LMX to be unrelated to the generation of creative ideas, albeit that it was positively associated with idea implementation. To take the complex nature of the LMX–creativity relationship into account, other researchers focused on identifying moderators and found follower autonomy (Mathisen, 2011; Volmer, Spurk, & Niessen, 2012) and follower cognitive style (Tierney et al., 1999) to operate as boundary conditions. Contributing to this line of research on contingency factors, we reasoned that, even though LMX as a relationship-focused construct may create a facilitative context for follower creativity, high-quality and individualized relationships in and of themselves do not necessarily include a specific creativity driver that urges and guides followers to engage in creative courses of action. Based on theoretical notions from role expectation theory, we therefore suggested that a high-quality LMX needs inclusion of specific role expectations that explicitly foster follower creativity. The current findings confirm this notion by identifying how follower self-expectations and leader expectations interact in moderating the LMX–follower creativity relationship. Specifically, either leader expectations, or follower self-expectations, or both, could enhance the relationship between LMX and follower creativity, with the highest level of follower creativity observed when high LMX leaders and followers congruently hold high creativity expectations. Prior research work already showed that creative expectations from supervisors can promote followers' creative performance through enhancing their sense of capacity for creative work (Tierney & Farmer, 2011). Our study extends this research by suggesting that individuals are especially susceptible to engaging in creative courses of actions when such leader expectations combine with self-expectations for creativity in high-quality LMX relationships. Thus, transferring creativity expectations by leaders seems to be especially effective when they are expressed in a high-quality LMX relationship and affirm followers' self-expectations for creativity.

Previous research indicated that high-quality LMX relationships can facilitate leaders and followers to generate congruence in role expectations (Hsiung & Tsai, 2009) and values (e.g. Zhang, Jia, & Gu, 2012). Based on this, one could suggest that high-quality social exchanges would cause leaders and followers to congruently construe strong role expectations for follower creativity, which in turn would enhance followers' actual engagement in creativity. However, we argued that high-quality LMX does not inevitably imply that leaders and followers always hold high and congruent role expectations for follower creativity. Leaders can vary their expectations for creativity from follower to follower. Moreover, as emphasized by Karakowsky et al. (2012), expectations set by leaders may not always be sufficient in themselves to boost target followers' self-expectations. Rather than being 'always-willing' recipients of leader expectations (Karakowsky et al., 2012, p. 579), followers may have good reasons to set their own self-expectations for creativity that deviate from those set by their leader.

Notwithstanding that leaders and followers can differ in their creativity expectations, our results suggest that leader expectations for creativity might be more important to follower creativity than follower self-expectations (see Table 2 and Figure 2). We would highlight power difference and a Pygmalion effect as potential clarifications for this finding. Leaders have power and control over resources that are highly important to followers (information, rewards, punishments, task assignments, career opportunities, etc.). Given leaders' power position, followers tend to regard leader expectations for creativity as role requirements mandated by the leader. Accordingly, followers will try to fulfill these creativity requirements in order to secure rewards and avoid punishments from the leader, even when they do not hold high self-expectations for creativity and perceive a suboptimal exchange relationship with the leader. In addition, according to Pygmalion theory (Livingston, 1969), the expectations that leaders hold for each of their followers determine their leadership behaviors towards followers. Thus, once a leader sets high creativity expectations for particular followers, such creativity expectations will activate congruent creativity-enhancing leader behaviors towards those followers, which in turn guide followers to think and perform in the expected direction. Those leader behaviors may include creative goal setting, assigning more challenging jobs, and more supportive behaviors and creativity-enhancing feedback (Bezuijen, van den Berg, van Dam, & Thierry, 2009; McCauley, Ruderman, Ohlott, & Morrow, 1994).

On the other hand, the results show that follower self-expectations for creativity can also promote follower creativity, in particular in high-quality exchange relationships with leaders who also hold high creativity expectations. However, without strong leader expectations for creativity, it may be more challenging for followers to express their own creativity expectations into actual creative performance. Lacking leader support and sufficient resources (because of low leader expectations for creativity), followers face a less facilitative work environment that may inhibit them from engaging in high levels of creativity. Therefore, on

average, follower self-expectations for creativity may have less impact on follower creativity than the expectations for creativity that leaders set.

Third, by combining literature on LMX, role expectations, and employee creativity, our research also contributes to the interactionist perspective on creativity. Scholars in the creativity domain (Amabile, 1996; Shalley et al., 2004; Woodman, Sawyer, & Griffin, 1993) have emphasized that to more fully understand employee creativity, it is necessary to examine how personal and contextual characteristics interact with one another in promoting creativity. This interactionist perspective is based on the argument ‘that certain contexts match individuals’ personal characteristics and that this match results in high levels of employee creativity’ (Shalley et al., 2004, p. 935). We responded to this research call by examining how expectations for follower creativity set by the leader (contextual factor) interacts with follower self-expectations for creativity (personal factor) in moderating the influence of LMX (another socio-contextual factor) in relation to follower creativity. Previous research has focused on examining the direct or mediated effects of leader expectations (e.g. Tierney & Farmer, 2011) and follower self-expectations (e.g. Tierney & Farmer, 2004) on follower creativity, or the predictive effect of leader expectations on follower self-expectations (e.g. Carmeli & Schaubroeck, 2007). Our study extends this prior research by examining how leader and follower expectations interact in moderating the relationship between LMX and follower creativity. Specifically, employees were found to exhibit higher creativity when the person–context interaction between follower and leader expectations for creativity augmented the creativity-facilitative effect of the socio-contextual construct of LMX.

Potential limitations and future research

The present study also has potential shortcomings related to the design of the study. Given the study’s cross-sectional design, we cannot clearly establish the causality among the variables. The results might be vulnerable to opposite or bi-directional relationships because of the possibility that leaders and followers might seek to enhance their exchange relationship by engaging in creative behavior. A strong argument against this possibility of reversed causality is that LMX theory and research results suggest that mutual trust, support, and information sharing based on high quality of exchange relationship increase an employee’s motivation to engage in discretionary extra-role and group-serving behaviors (e.g. Atwater & Carmeli, 2009; Tierney et al., 1999). In addition, the literature on the function and benefits of LMX suggests that low LMX followers lack the trust, support, and valuable feedback to be expected to address challenges in the work group (e.g. Martinaityte & Sacramento, 2013). Moreover, in the case of reversed causality, in which employees engage in creative behavior to gain high LMX, lower rather than higher LMX in combination with higher leader and follower expectations for creativity should have exhibited the highest levels of creative behavior.

However, we did not find support for such an interaction effect. Nonetheless, other study designs like a longitudinal study and the analysis of daily diary entries of leaders and employees may be warranted in future research to provide firm evidence of causation or directional inferences.

Another limitation of the present study may arise from the sampling approach used, which involved R&D employees from a specific industry in a single geographic area. This might have produced findings that are contextually and culturally specific, thereby limiting the study's generalizability. As our model was tested among Chinese leader–follower dyads, the high power distance and strong relationalism (Siebers, Kamoche, & Li, 2015), deeply rooted in the Confucian value system of Chinese people (Chen, Tsui, & Farh, 2002; Farh & Cheng, 2000), might have made LMX processes and leader expectations for creativity highly salient for followers. However, to reduce generalizability concerns, previous LMX and creativity research conducted in different work contexts and cultures has shown patterns of results that are similar to those found in the present study (Atwater & Carmeli, 2009; Tierney et al., 1999). Nevertheless, the direct impact of LMX and the moderating effect of leader and FCE on follower creativity may be various from different occupations, industry type, and cultural context. Therefore, a potential avenue for future research is to replicate our findings across occupations, educational levels, and countries or cultures.

Additionally, even though potential team effects were taken into account in this study, we proposed and tested a research model about the influence of LMX and creativity expectations in relation to follower creativity that was confined to the individual level. In future studies, cross-level models might be developed and tested implicating factors that operate at the team level in order to broaden understanding of the role of LMX in follower creativity in team contexts. A supportive climate and expectations/requirements for creativity at the team level might moderate the LMX–follower creativity relationship in addition to or in interaction with the moderator roles of leader and FCE.

In addition, we encourage future research to investigate other moderators that might affect the relationship between LMX and follower creativity, such as follower self-concepts and values. For example, individuals with different levels of creative self-efficacy or role identity as a creative employee may act as boundary conditions. Context factors, such as supervisor characteristics and behaviors, team creativity climate, organizational values to follower creativity, might also be important moderators for the influence of leadership on follower creativity.

Another interesting avenue for future research could be the examination of mediating mechanisms through which LMX can affect follower creativity. The potential mediators for the relationship may include variables such as justice perceptions, identification, and affect. As teams become more and more prevalent in the workplace, investigating the impact of LMX on team-level creativity and innovation is also an important direction for future research.

The last recommendation for future research is to explore possible moderators that enhance or weaken the effect of follower creativity on various work and personal outcomes. For example, LMX may not only operate as an antecedent of follower creativity but also as a boundary condition that moderates the extent to which followers' creative ideas are actually implemented and enhance follower overall job performance.

Practical implications

Despite these limitations, our results do have some practical implications especially in terms of HRM practices. The present study found the quality of LMX to be positively associated with follower creativity. The practical implication of this finding for organizations is that strong support from supervisors (e.g. Oldham & Cummings, 1996) based on high exchange relationships enables and encourages followers to exert more creative efforts. Thus, organizations can train managers and employees to improve interpersonal skills and develop and maintain high-quality relationships, in order to enhance follower creative performance. Leaders should provide followers with useful information, encourage them to voice out their new ideas, show trust to dispel followers' worries for creativity failures, and offer followers constructive feedback for how to deal with challenging creativity problems. Such leader behaviors may not only motivate follower creativity but can also promote other positive outcomes such as follower satisfaction, organizational commitment, and citizenship behaviors.

The present results suggest that organizations can benefit from paying attention to role expectations among followers and their leaders for the specific activity of creativity. Thus, in order to secure high levels of follower creativity, leaders should focus not only on building high-quality exchange relationships but also on setting and communicating bold expectations for creative role behaviors to their followers. In addition, specific employee training and development programs can boost followers' capacities and self-confidence for creativity engagement, thereby encouraging them to set higher self-expectations for creativity. Moreover, creativity expectations can be embedded in human resource practices of job descriptions, high-performance work systems, and performance management systems.

Furthermore, our results suggest that when LMX is low, high leader and high follower expectations could still motivate followers to achieve modestly high creativity. This substituting role of high leader and follower expectations with respect to LMX suggests that it might be especially important for leaders to set high creativity expectations for low LMX followers who possess creativity potential. This finding also adds to the importance of taking into account creative role expectations when designing and implementing HR practices.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the National Natural Science Foundation of China [grant number 71102162], [grant number 71101148]; the National Social Science Foundation of China [grant number 13&ZD155].

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- 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.
- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39, 1154–1184.
- Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *The Leadership Quarterly*, 15, 5–32.
- Atwater, L., & Carmeli, A. (2009). Leader–member exchange, feelings of energy, and involvement in creative work. *Leadership Quarterly*, 20, 264–275.
- Bezuijzen, X. M., van den Berg, P. T., van Dam, K., & Thierry, H. (2009). Pygmalion and employee learning: The role of leader behaviors. *Journal of Management*, 35, 1248–1267.
- Botero, I. C., & Van Dyne, L. (2009). Employee voice behavior interactive effects of LMX and power distance in the United States and Colombia. *Management Communication Quarterly*, 23, 84–104.
- Brislin, R., Lonner, W. J., & Thorndike, R. (1973). *Cross-cultural research methods*. New York, NY: Wiley.
- Buch, R. (2015). Leader–member exchange as a moderator of the relationship between employee–organization exchange and affective commitment. *The International Journal of Human Resource Management*, 26, 59–79.
- 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.
- Chen, Z. X., Tsui, A. S., & Farh, J. L. (2002). Loyalty to supervisor vs. organizational commitment: Relationships to employee performance in China. *Journal of Occupational and Organizational Psychology*, 75, 339–356.
- Clegg, C., Unsworth, K., Epitropaki, O., & Parker, G. (2002). Implicating trust in the innovation process. *Journal of Occupational and Organizational Psychology*, 75, 409–422.
- Dansereau, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of role making process. *Organizational Behavior and Human Performance*, 13, 46–78.
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology*, 74, 580–590.

- Dienesch, R. M., & Liden, R. C. (1986). Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review*, 11, 618–634.
- Dierdorff, E. C., & Morgeson, F. P. (2007). Consensus in work role requirements: The influence of discrete occupational context on role expectations. *Journal of Applied Psychology*, 92, 1228–1241.
- Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87, 611–628.
- Dougherty, D., & Heller, T. (1994). The illegitimacy of successful product innovation in established firms. *Organization Science*, 5, 200–218.
- Duarte, N. T., Goodson, J. R., & Klich, N. R. (1994). Effects of dyadic quality and duration on performance appraisal. *Academy of Management Journal*, 37, 499–521.
- Duchon, D., Green, S. G., & Taber, T. D. (1986). Vertical dyad linkage: A longitudinal assessment of antecedents, measures, and consequences. *Journal of Applied Psychology*, 71, 56–60.
- Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management*, 38, 1715–1759.
- 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.
- Farh, J. L., & Cheng, B. S. (2000). A cultural analysis of paternalistic leadership in Chinese organizations. In J. T. Li, A. S. Tsui, & E. Weldon (Eds.), *Management and organizations in the Chinese context* (pp. 84–127). London: MacMillan.
- Ford, C. M. (1996). Theory of individual creative action in multiple social domains. *Academy of Management Review*, 21, 1112–1142.
- Frost, P. J., & Egri, C. P. (1991). The political-process of innovation. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (pp. 229–295). Greenwich, CT: JAI Press.
- George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *Journal of Applied Psychology*, 86, 513–524.
- Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, 82, 827–844.
- Gilson, L. L., Lim, H. S., Luciano, M. M., & Choi, J. N. (2013). Unpacking the cross-level effects of tenure diversity, explicit knowledge, and knowledge sharing on individual creativity. *Journal of Occupational and Organizational Psychology*, 86, 203–222.
- Graen, G. B., & Cashman, J. F. (1975). A role making model in formal organizations: A developmental approach. In J. G. Hunt & L. L. Larson (Eds.), *Leadership Frontiers* (pp. 143–165). Kent, OH: Kent State University Press.
- Graen, G. B., & Scandura, T. A. (1987). Toward a psychology of dyadic organizing. In B. M. Staw & L. L. Cumming (Eds.), *Research in organizational behavior* (pp. 175–208). Greenwich, CT: JAI Press.
- Graen, G. B., & 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.
- Gu, Q., Tang, T. L., & Jiang, W. (2015). Does moral leadership enhance employee creativity? Employee identification with leader and leader-member exchange (LMX) in the Chinese context. *Journal of Business Ethics*, 126, 513–529.

- Hsiung, H. H., & Tsai, W. C. (2009). Job definition discrepancy between supervisors and subordinates: The antecedent role of LMX and outcomes. *Journal of Occupational and Organizational Psychology*, 82, 89–112.
- Ilgel, D. R., & Hollenbeck, J. R. (1991). The structure of work: Job design and roles. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 165–207). Palo Alto, CA: Consulting Psychologists Press.
- Ilies, R., Nahrgang, J. D., & Morgeson, F. P. (2007). Leader–member exchange and citizenship behaviors: A meta-analysis. *Journal of Applied Psychology*, 92, 269–277.
- Isaksen, S. G., & Lauer, K. J. (2002). The climate for creativity and change in teams. *Creativity and Innovation Management*, 11, 74–86.
- Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader–member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal*, 47, 368–384.
- Jehn, K. A., Chadwick, C., & Thatcher, S. M. B. (1997). To agree or not to agree: The effects of value congruence, individual demographic dissimilarity, and conflict on workgroup outcomes. *International Journal of Conflict Management*, 8, 287–305.
- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly*, 44, 741–763.
- Kalliath, T. J., Bluedorn, A. C., & Strube, M. J. (1999). A test of value congruence effects. *Journal of Organizational Behavior*, 20, 1175–1198.
- Karakowsky, L., DeGama, N., & McBey, K. (2012). Facilitating the Pygmalion effect: The overlooked role of subordinate perceptions of the leader. *Journal of Occupational and Organizational Psychology*, 85, 579–599.
- Kassing, J. W. (2000). Investigating the relationship between superior–subordinate relationship quality and employee dissent. *Communication Research Reports*, 17, 58–69.
- Kim, T. Y., Liu, Z., & Diefendorff, J. M. (2015). Leader–member exchange and job performance: The effects of taking charge and organizational tenure. *Journal of Organizational Behavior*, 36, 216–231.
- Langfred, C. W., & Moye, N. A. (2004). Effects of task autonomy on performance: An extended model considering motivational, informational, and structural mechanisms. *Journal of Applied Psychology*, 89, 934–945.
- Lee, J. (2008). Effects of leadership and leader–member exchange on innovativeness. *Journal of Managerial Psychology*, 23, 670–687.
- Li, A. N., & Liao, H. (2014). 'How do leader–member exchange quality and differentiation affect performance in teams? An integrated multilevel dual process model. *Journal of Applied Psychology*, 99, 847–866.
- Liden, R. C., Wayne, S. J., & Bradway, L. K. (1997). Task interdependence as a moderator of the relation between group control and performance. *Human Relations*, 50, 169–181.
- Livingston, J. S. (1969). Pygmalion in management. *Harvard Business Review*, 47, 81–89.
- Loi, R., Chan, K. W., & Lam, L. W. (2014). 'Leader–member exchange, organizational identification, and job satisfaction: A social identity perspective. *Journal of Occupational and Organizational Psychology*, 87, 42–61.
- Martinaityte, I., & Sacramento, C. A. (2013). When creativity enhances sales effectiveness: The moderating role of leader–member exchange. *Journal of Organizational Behavior*, 34, 974–994.
- Mathisen, G. E. (2011). Organizational antecedents of creative self-efficacy. *Creativity and Innovation Management*, 20, 185–195.
- McCauley, C. D., Ruderman, M. N., Ohlott, P. J., & Morrow, J. E. (1994). Assessing the developmental components of managerial jobs. *Journal of Applied Psychology*, 79, 544–560.

- Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. (2002). Leading creative people: Orchestrating expertise and relationships. *The Leadership Quarterly*, 13, 705–750.
- Natanovich, G., & Eden, D. (2008). Pygmalion effects among outreach supervisors and tutors: Extending sex generalizability. *Journal of Applied Psychology*, 93, 1382–1389.
- Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39, 607–634.
- Ozer, M. (2008). Personal and task-related moderators of leader–member exchange among software developers. *Journal of Applied Psychology*, 93, 1174–1182.
- Pan, W., Sun, L.-Y., & Chow, I. H. S. (2012). Leader–member exchange and employee creativity: Test of a multilevel moderated mediation model. *Human Performance*, 25, 432–451.
- Reiter-Palmon, R., Mumford, M. D., Boes, J. O., & Runco, M. A. (1997). Problem construction and creativity: The role of ability, cue consistency, and active processing. *Creativity Research Journal*, 10, 9–23.
- Robinson-Morral, E. J., Reiter-Palmon, R., & Kaufman, J. C. (2013). The interactive effects of self-perceptions and job requirements on creative problem solving. *The Journal of Creative Behavior*, 47, 200–214.
- Rockstuhl, T., Dulebohn, J. H., Ang, S., & Shore, L. M. (2012). Leader–member exchange (LMX) and culture: A meta-analysis of correlates of LMX across 23 countries. *Journal of Applied Psychology*, 97, 1097–1130.
- Schermuly, C. C., Meyer, B., & Dämmer, L. (2013). Leader–member exchange and innovative behavior: The mediating role of psychological empowerment. *Journal of Personnel Psychology*, 12, 132–142.
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37, 580–607.
- Scully, J. W., Buttigieg, S. C., Fullard, A., Shaw, D., & Gregson, M. (2013). The role of SHRM in turning tacit knowledge into explicit knowledge: A cross-national study of the UK and Malta. *The International Journal of Human Resource Management*, 24, 2299–2320.
- Sekiguchi, T., Burton, J. P., & Sablinski, C. J. (2008). The role of job embeddedness on employee performance: The interactive effects with leader–member exchange and organization-based self-esteem. *Personnel Psychology*, 61, 761–792.
- Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader–member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81, 219–227.
- 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.
- Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management*, 30, 933–958.
- Shih, H., Chiang, Y., & Chen, T. (2012). Transformational leadership, trusting climate, and knowledge-exchange behaviors in Taiwan. *International Journal of Human Resource Management*, 23, 1057–1073.
- Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of Management Journal*, 46, 703–714.
- Siebers, L. Q., Kamoche, K., & Li, F. (2015). Transferring management practices to China: A Bourdieusian critique of ethnocentricity. *The International Journal of Human Resource Management*, 26, 551–573.
- Sun, L.-Y., Chow, I. H. S., Chiu, R. K., & Pan, W. (2013). Outcome favorability in the link between leader–member exchange and organizational citizenship behavior: Procedural fairness climate matters. *The Leadership Quarterly*, 24, 215–226.

- Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal*, 45, 1137–1148.
- Tierney, P., & Farmer, S. M. (2004). The Pygmalion process and employee creativity. *Journal of Management*, 30, 413–432.
- Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology*, 96, 277–293.
- 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, 591–620.
- Volmer, J., Spurk, D., & Niessen, C. (2012). Leader–member exchange (LMX), job autonomy, and creative work involvement. *Leadership Quarterly*, 23, 456–465.
- Wang, H., Law, K. S., Hackett, R. D., Wang, D. X., & Chen, Z. X. (2005). Leader–member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. *Academy of Management Journal*, 48, 420–432.
- Wang, X. H., Fang, Y., Qureshi, I., & Janssen, O. (2015). Understanding employee innovative behavior: Integrating the social network and leader–member exchange perspectives. *Journal of Organizational Behavior*, 36, 403–420.
- Wayne, S. J., & Green, S. A. (1993). The effects of leader–member exchange on employee citizenship and impression management behavior. *Human Relations*, 46, 1431–1440.
- Wilson, K. S., Sin, H.-P., & Conlon, D. E. (2010). What about the leader in leader–member exchange? The impact of resource exchanges and substitutability on the leader. *Academy of Management Review*, 35, 358–372.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, 18, 293–321.
- Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal*, 53, 323–342.
- Yukl, G. (2010). *Leadership in organizations* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Yukl, G. (2012). *Leadership in organizations* (8th ed.). Upper Saddle River, NJ: Prentice Hall.
- Zhang, Z., Jia, M., & Gu, L. (2012). Transformational leadership in crisis situations: Evidence from the People's Republic of China. *The International Journal of Human Resource Management*, 23, 4085–4109.
- Zhou, J., & Hoever, I. J. (2014). Research on workplace creativity: A review and redirection. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 333–359.
- Zineldin, M., & Hytter, A. (2012). Leaders' negative emotions and leadership styles influencing subordinates' well-being. *The International Journal of Human Resource Management*, 23, 748–758.