

One size does not fit all – Leader-member exchange and innovativeness.

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Abstract

Individual-level innovativeness is widely acknowledged to be critical to the success of an organization's innovation, and understanding the related nuances is therefore important. The goal of this study is to add to existing knowledge on how managerial characteristics influence employee innovativeness. Specifically, we address the role of leader-member exchange (LMX) in predicting the three components of employee innovative work behaviour (IWB) – idea generation, idea promotion, and idea implementation.

LMX denotes the quality of the relationship between an employee and his/her immediate supervisor and is a significant predictor of many employee attitudes and behaviours. Studies examining the direct and joint effects of LMX and other organizational characteristics on employee creativity and employee IWB have

shown the LMX construct has a significant effect on employee innovativeness. However, a more nuanced view on the effects of LMX on the various components of IWB – idea generation, idea promotion, and idea implementation – is missing. Moreover, most research to date on LMX and innovation has focused on the potential linear connections between LMX and employee innovation-related outcomes, leaving the possible opportunities associated with low-quality LMX under-explored. This is a shortcoming, as a growing body of literature demonstrates that, under specific conditions, not only high but also low-quality LMX can be conducive for various employee outcomes.

Analysing survey data collected from 93 employees of a knowledge-intensive service company, our study shows U-shaped and linear relationships between LMX and varying components of IWB. We further test for an earlier presented assumption that perceived organizational support for innovation may emerge as a powerful contextual condition in relationships between employee innovativeness and its antecedents. We find that LMX and organizational support for innovation have a joint positive effect on the components of employee IWB. These findings extend innovation management theorizing and provide advice for managers.

Keywords: Innovative work behaviour, leader-member exchange, organizational support, innovation management

1 Introduction

Employee innovative work behaviour (IWB) has been identified as an important asset in dynamic environments where organizations face a constant need for change and to generate novel ideas (Afsar et al., 2018; Shanker et al., 2017). IWB has three components that reflect three stages of the innovation process – idea generation, promotion, and implementation –

and it can be targeted towards new or improved ways of working, products, and services (De Jong & Den Hartog, 2010; Janssen, 2001; Scott and Bruce, 1994). This multifaceted nature of IWB means that managerial aspects need to be considered from varying points of view.

Innovation scholars have explored a broad array of individual characteristics and organizational mechanisms that have the potential to promote employee IWB (Anderson et al. 2014, Woods et al., 2018). Among others, the relationship quality between an employee and his/her immediate supervisor, conceptualized as leader-member exchange (LMX), has been addressed when examining how leaders can support employees and encourage them to innovate (e.g., Basu & Green, 1997; Scott & Bruce, 1994). A review of the extant literature shows that most LMX studies have either scrutinized IWB at the upper level of the construct (e.g., Agarwal et al., 2012, 2014; Scott & Bruce, 1994) or have focused on the effects of LMX on employee creativity (e.g., Pan et al, 2012; Tierney et al. 1999), which is seen as running in parallel with the first stage of IWB, that is, idea generation (Anderson et al., 2014).

These observations suggest, first, that to date, limited research attention has been directed at the possibility that LMX has distinct influences on the components of IWB. Existing literature indicates that individual and job-related characteristics play a bigger role in idea generation and that the broader organizational context influences idea implementation (Anderson et al. 2014; Clegg et al. 2002; Mumford et al. 2002), which may mean that the IWB components differ in terms of the response to LMX. We contend that a more nuanced understanding of *whether LMX has a predictive advantage over one or more of the components of IWB* has the potential to shed additional light on the constituents of LMX–IWB interrelations.

These considerations point towards a second, related issue. A review of prior research implies that specific organizational characteristics may emerge as important conditions in LMX–employee innovativeness relationships (e.g., Agarwal et al., 2012; Javed et al., 2018) and that therefore, the relationship between LMX and different employee outcomes is likely to be more complicated than previously assumed. In one of the earliest studies, Scott and Bruce (1994) theorized that LMX quality enhances employees' *perception of the organizational support for innovation* (henceforth referred to as POSI), thereby explaining the combined influence of managerial aspects and organizational characteristics on employee innovative behaviour. These insights, combined with other research that has demonstrated POSI is an important contextual characteristic, especially in non-linear associations between various facets of employee innovativeness and their organizational antecedents (e.g., Leung, 2011; Baer & Oldham, 2006), lead us to suggest that *including POSI in a theoretical model on the interrelations between LMX and the three components of IWB facilitates adding meaningful evidence* to the extant literature regarding how supervisors can facilitate subordinate innovativeness.

Third, an idea has emerged in recent literature that both high and low levels of LMX may have significant effects on specific employee attitudes and behaviours (Carnevale et al, 2019; Harris et al., 2005; Jian, 2014). That said, questions remain regarding *how, and under what circumstances, low-LMX quality connects to employee IWB*. We consider this a relevant issue given that the key premise of LMX theory is that a leader forms differentiated relationships with his/her subordinates and that only a few of these are of a high quality (Graen & Uhl-Bien, 1995). Identifying factors that lead to high IWB despite low LMX is relevant, and we believe that the abovementioned aspect of perceived organizational support for innovation is one of them.

In this study, we aim to extend existing knowledge on LMX and employee innovativeness by examining *how leader-member exchange quality connects to the components of employee innovative work behaviour in the context of perceived organizational support for innovativeness*. By exploring a set of relationships between LMX and IWB components and POSI, the results of this study add to the leadership and innovation management literature. More specifically, the investigation of the role of LMX as an antecedent for idea generation, promotion, and implementation provides more nuanced information, and the investigation of POSI offers a more context-sensitive view of LMX–IWB interrelations. With these extensions to knowledge, our study responds to recent calls (e.g., Bogers et al., 2017) to reveal mechanisms promoting individual-level innovation. In particular, this study offers practitioners new insights into innovation management at the level of superior–subordinate relationships.

In the following sections, we first draw insights from existing literature to ground the empirical testing by developing hypotheses on the links between LMX and IWB, and POSI. The remainder of the study tests the hypotheses with survey data from 93 employees of a single company and discusses the findings, theoretical contribution, and managerial implications. A discussion of the study’s limitations and suggestions for future research close our study.

2 Development of Conceptual Model and Hypotheses

Existing research defines innovative work behaviour as employee behaviours that are directed towards the initiation and intentional implementation of new and useful ideas, processes, products, or procedures (De Jong & Den Hartog, 2010; Janssen, 2001; Scott and Bruce, 1994). As the first component of IWB, *idea generation*, employees recognize problems and formulate novel ideas to improve existing conditions (De Jong & Den

Hartog, 2010). *Idea promotion*, for its part, relates to seeking allies among other organizational members to support the new idea (Kanter, 1988). The innovation process is completed by *idea implementation* when the initial idea is institutionalized (Scott & Bruce, 1994).

According to Janssen et al. (2001), in most jobs, IWB is formed of extra-role behaviours. Therefore, drawing from social exchange theory (Blau, 1964), previous research has suggested that employee IWB is a form of the social exchange that an employee reciprocates back to the organization in return for the social exchange (s)he receives from the organization (Liden et al., 1993). This view has prompted innovation scholars to anticipate a positive relationship between high-quality LMX and IWB.

The theory around LMX maintains that a leader establishes differentiated relationships according to the exchanges between that leader and each subordinate (Graen & Uhl-Bien, 1995; Liden et al., 1993). To followers in high-quality relationships, social exchanges entail trust, support, greater resources, and job autonomy (Graen & Uhl-Bien, 1995, Liden et al., 1993). As a result, a high-quality LMX should generate a more innovation-encouraging work environment compared to lower-quality LMX relationships. Empirical evidence generally supports a positive association between LMX and IWB (Basu & Green, 1997; Scott & Bruce, 1994; Wang, 2016). However, such results are not uncontested; Lee (2008), for example, did not find support for a relationship between LMX and IWB.

Addressing the varied findings, Carnevale et al. (2019) point out that there are boundary conditions that have the potential to alter the benefits of high-quality relationships for employees' change-oriented attitudes and behaviours. Among the boundary conditions, *perceived organizational support for innovation (POSI)* has emerged as an important organizational quality (e.g., Scott & Bruce, 1994). A high level of POSI informs employees that being innovative is desirable and that trial-and-error experimentation is legitimate

(West & Wallace, 1991). This enables and encourages employees to initiate innovative ideas more actively (Zhou & George, 2001). At the same time, Axtell et al. (2000) and Clegg et al. (2002) have identified that individual and job-level factors are more important predictors of idea generation than the broader organizational context, especially regarding idea implementation. In combination these findings suggest that the joint effects of LMX and factors such as POSI may best be understood when looking at their effects on the different components of the employee innovation process separately.

2.1 Innovative Idea Generation – An Expression of Social Exchanges or Voice?

For the first component of IWB, idea generation, high-quality LMX relationships are intuitively likely to provide conducive conditions. Agarwal (2014) and Basu and Green (1997) theorized that leaders in high-quality supervisor–subordinate relationships are more willing to support trusted followers when they make innovative, routine-disrupting suggestions than they are to support other followers who have a lower-quality LMX. That rationale indicates supervisor support should encourage followers in high-quality LMX relationships to suggest novel innovative ideas more actively than others.

On the other hand, Burris (2012) and Carnevale et al. (2019) theorized that the fear of losing a good relationship with the supervisor, who might react negatively to initiatives challenging the status quo, may suppress such suggestions, especially in a high-quality LMX. In line with this, Han et al. (2020) found empirical evidence for a high-quality LMX being associated with affiliative, but not change-oriented employee organizational citizenship behaviours. It could also be that a good relationship is a result of like-mindedness, which produces varying ideas to only a limited extent. Consequently, the connection between the LMX and idea generation is likely to be contingent upon contextual qualities.

Leaders may be more or less likely to respond positively depending on the organization-level approach to innovation. It is argued that when employees perceive the organization is pro-innovation (i.e., it has a high level of POSI), they expect their supervisor, who can be seen to represent the organizational values, to be motivated to support and reward innovative initiatives (Agarwal, 2014), which lowers the threshold to expressing innovative ideas. In sum, it is anticipated that a high-quality LMX is related to high levels of idea generation when POSI is high. At the same time, a low-quality LMX is, in general, expected to lead to undesired employee behaviours and attitudes, such as reduced job satisfaction (e.g., Green et al., 1996). Existing research suggests, however, that under specific circumstances, negative employee attitudes are not necessarily detrimental but can lead to constructive behaviours, specifically to voicing (Zhou & George, 2001), which refers to employees expressing ideas for improvement (Liang et al., 2012) and can be understood to belong within the same nomological network as creativity and IWB (Carnevale et al., 2017). Drawing from this line of theorizing, we acknowledge the previous findings associating not high, but low LMX quality with voicing (Van Dyne et al., 2008), and suggest that a low-quality LMX can, under specific circumstances, trigger idea generation as an expression of voice.

Specifically, we consider that in the presence of high levels of POSI, the scales are likely to turn in favour of idea generation. Liu et al. (2013) reported that employees with a low-quality LMX expressed more voice despite the poor relationship with the immediate supervisor when they had a good relationship with the supervisor's boss. The perception of the organization's support for innovation can make employees feel safe (Yuan & Woodman, 2010). This implies that when employees trust they will be supported in the broader organizational context, they are encouraged to make suggestions for improvements even if they are in low-quality LMX relationships.

While both high and low-quality LMX can activate employees' innovative idea generation when POSI is high, there is also empirical evidence showing why high-level POSI might *not* lead to high idea generation at intermediate levels of LMX. Harris et al. (2005, p. 367) found that employees in medium-level LMX relationships have the lowest intention to switch jobs when compared to followers in low and high-level LMX relationships. They maintained that "...subordinates in moderate-level LMX relationships establish a state of equilibrium..." where thoughts of leaving the workplace were subdued by the realization of having, first, better prospects in the organization than their peers in lower-level LMX relationships and, second, a less stressful workload than their fellow-subordinates in higher-level LMX relationships (Harris et al., 2005). A similar situation of relative satisfaction with the existing circumstances in medium-quality LMX relationships was observed by Jian (2014), who reported that role conflict and role overload, respectively, were at their lowest levels in medium-quality LMX relationships. These findings suggest that employees in medium-quality LMX relationships may not have a strong motivation to either express voice or exhibit social exchange behaviours that would disrupt the existing relatively satisfying conditions and involve extra work effort. Given the above, we hypothesize the following:

H1: When POSI is high, there is a non-linear (U-shaped) relationship between LMX and idea generation; idea generation is higher when LMX is at low and high levels and idea generation is lower when LMX is at an intermediate level.

2.2 Promoting and Implementing Innovative Ideas as a Social Endeavor

We argue that the effect of LMX on idea promotion and idea implementation differs from idea generation because advocating and instituting changes is more inherently social

(Axtell et al., 2000). Idea promotion as a component of IWB refers to selling an innovative idea to other organizational members to obtain their support (De Jong & Den Hartog, 2010). Other members are, however, often likely to resist changes to the status quo (Janssen, 2001). The supervisor trust, support, and resources characteristic of high-quality LMX relationships are therefore likely to constitute an important factor in employees' attempts to convince opposing organizational members to favour their innovative ideas.

Similarly, regarding the third component of IWB, idea implementation, a high-quality LMX can be an important factor connecting employees to the information, resources, and supporters they need (Basu & Green, 1997; Scott & Bruce, 1994). Prior research indicates that the innovative ideas of employees with a high-quality LMX are more often implemented than the ideas of their peers in lower-quality relationships (Skerlavaj et al., 2014). Accordingly, it can be anticipated that a high-quality LMX relationship is needed for an employee to invest substantial efforts in promoting and implementing his/her innovative ideas.

However, previous studies report that getting novel ideas implemented typically requires resources and support across organizational boundaries, suggesting that the immediate supervisor's backing may not be sufficient to ensure the novel ideas of individual employees are accepted and implemented (Axtell et al., 2000). The organization's structure and policies may constrain a supervisor despite his/her willingness to implement the subordinate's ideas (Shalley & Gilson, 2004). Consequently, the extent to which the organization generally supports innovativeness is likely to play an integral role both in encouraging employees to promote and implement their suggestions and in enabling the supervisor to better support his/her subordinates' navigation towards the realization of a novel idea (Axtell et al., 2000). Clegg et al. (2002) found a positive relationship between employees' trust that the organization will listen to them and

implementation of innovations in practice. Agarwal (2014) reported that LMX moderated the relationship between employees' general perceptions of organizational support and their innovative behaviour. Furthermore, Yang et al. (2020) reported that co-worker support moderated the effect of supervisor support on affective commitment which fully mediated the positive relationship between supervisor support and idea implementation. Therefore, the theoretical underpinnings and previous empirical evidence suggest that a high level of POSI serves as a necessary signal for employees with high-quality LMX relationships, indicating that the supervisor has the necessary resources and the motivation to support the employee in the substantial efforts essential for idea promotion and implementation.

H2: When POSI is high, LMX is positively related to idea promotion. When POSI is low, there is no relationship between LMX and idea promotion.

H3: When POSI is high, LMX is positively related to idea implementation. When POSI is low, there is no relationship between LMX and idea promotion.

Figure 1 below illustrates the hypothesized connections. These were examined empirically as described below.

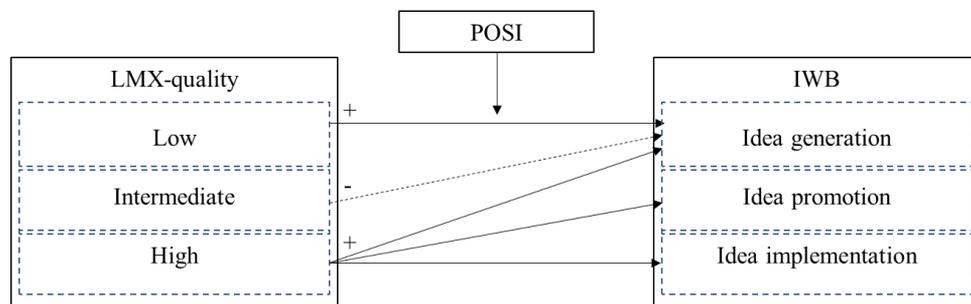


Figure 1 Hypothesized relationships between LMX, IBW components, and POSI:

A dotted arrow denotes a negative relationship.

3 Methods

3.1 Sample and data collection

The hypotheses were tested with a sample of employees from an innovation-generating division of a company in Finland. Considering that LMX, IWB, and POSI are individual-level elements and could easily be affected by variation in the study context, we chose to limit our examination to a context where the organizing and structures were initially as similar as possible for all potential respondents. The company chosen for our study serves B2B customers in a knowledge-intensive business field and operates both internationally and locally. Therefore, we could be sure that employee innovativeness is generally appreciated and that all phases of innovation processes are represented in the company in general, and the studied division in particular. The data were collected in 2020 as part of a survey of innovation-related individual and organizational characteristics. The organization's human resources department sent a link to a quantitative online survey to 131 employees that were divided into six teams. In all, 93 employees completed the survey (a response rate of 71%). With this coverage, we could acquire a holistic view of the organization in question, and a relatively unbiased, realistic view of the situation in terms of LMX, IWB, and POSI. The respondents comprised 50% females and 50% males. Of the respondents, 2% were under 25 years old, 20 % were aged 25–35, 20 % were aged 35–44, 29% were aged 45–54, and 29 % were aged between 55 and 64. The organizational tenure of the participants ranged from less than 1 year to 36 years ($M=12$, $SD=10$).

3.2 Measures

The measures used in the study were all adapted from previously validated scales. We used a back-translation procedure to ensure coherence when we translated the original (English) versions of the measurement instruments into Finnish.

Employees' innovative work behaviour was measured using a scale developed and validated by Janssen (2001). Each IWB dimension – *idea generation*, *idea promotion*, and *idea realization* – comprised three items. The respondents were asked, using a 7-point Likert scale, to respond to questions such as “How often do you pay attention to issues that are not part of your daily work?”; “How often do you enlist support for innovative ideas?” and “How often do you transform innovative ideas into useful applications?” The Cronbach’s alpha was 0.78 for idea generation, 0.73 for idea promotion, and 0.82 for idea implementation.

Leader-member exchange (LMX) quality was measured with the LMX-7 scale that captures followers’ perceptions of the quality of the relationship with their immediate supervisors (Graen & Uhl-Bien, 1995). The LMX-7 is one the most frequently used and most recommended of the LMX scales (Dulebohn et al., 2012). The respondents were asked to evaluate on 5-point Likert scale statements such as: “I know where I stand with my supervisor”; “I usually know how satisfied my supervisor is with what I do”, and “I would characterize my working relationship with my supervisor as very effective.” The Cronbach’s alpha was 0.89.

Three items adapted from Zhou and George (2001) were averaged to create a measure of *perceived organizational support for innovation*¹. Zhou and George (2001), used

¹ Zhou & George (2001) also had fourth item (‘Company publicly recognizes those who are innovative’) in their measure (adapted from earlier research). However, we excluded that based on CFA, where the standardized factor loading for this item remained below .50.

employee creativity as the dependent variable in their study and labelled their measure *perceived organizational support for creativity*. We replaced the wording *creativity/creatively* in the items adapted from Zhou and George (2016) with *innovativeness/innovatively*. The items used were “Innovativeness is encouraged at [Company]”; “Our ability to function innovatively is respected by the leadership”; and “The reward system here encourages innovation” and they were evaluated on a 5-point Likert scale. The Cronbach’s alpha for the measure was 0.80.

Finally, *gender* (female, male), *age* (categorical in years), and *organizational tenure* (in years) were entered as control variables in the analyses as they have each been identified as individual variables that have significant impacts on IWB (e.g., Janssen, 2005). In addition, as our data were nested in six teams, we included *team* as a control variable to test for the effects of the immediate workgroup on IWB.

3.3 Data analysis and results

Prior to testing the hypotheses, we conducted a confirmatory factor analysis (CFA) using Lisrel 10.3. Measurement model 1 consisted of idea generation, LMX, and POSI; measurement model 2 consisted of idea promotion, LMX, and POSI; and measurement model 3 consisted of idea implementation, LMX, and POSI. For all three models, the CFA results indicated the best fit was obtained with the proposed three-factor model as compared to a two-factor and a one-factor model. Accordingly, the three-factor models were retained for further analysis. The standardized factor loadings of all included constructs exceeded 0.50 ($p < 0.01$), satisfying tests for convergent validity. To check for discriminant validity, we compared the proportion of average variance extracted (AVE) in each latent variable to the square of the coefficients, which represent its correlation with other latent variables (Fornell and Larcker, 1981). According to this assessment, we

concluded there was satisfactory discriminant validity. The fit indices for the final model for idea generation/ promotion/ implementation were $\chi^2= 113.986/132.918/113.986$, $df = 62/62/62$, $p < 0.001$, $GFI = 0.848/0.834/0.848$, $CFI = 0.915/0.899/0.915$, $RMSEA = 0.095/0.111/0.095$.

Table 1 presents the means, standard deviations, and correlations for the variables investigated in this study. An issue to note is that the data in our sample are nested. The 93 employees from six teams evaluated LMX quality with six different supervisors. Accordingly, a breach of an assumption of the observations' independence may occur. Therefore, we carried out an intra-class correlation (ICC) test to analyse whether the systematic between-group variance in the components of employee IWB was present. The ICC (1) values 0.03 for idea generation, 0.02 for idea promotion and 0.04 for idea implementation indicate no systematic supervisor effects in employee IWB and supports the further analyses to be carried out at the individual level alone.

Table 1 Correlations and descriptive statistics

<i>Variable</i>	<i>Mean (S.D.)</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
1. Age									
2. Gender		-.109							
3. Tenure		.699**	-.021						
4. Team		-.022	.254*	-.024					
5. LMX	3.71 (0.74)	-.006	-.158	.016	-.115				
6. POSI	3.13 (0.86)	.007	-.181	0.14	-.086	.493**			
7. Idea gen.	4.08 (1.01)	-.092	.312*	-.183	.174	-.325**	-.419**		
8. Idea prom.	3.73 (1.11)	.073	.255*	-.085	.144	-.166	-.289**	.797**	
9. Idea imp.	3.71 (1.07)	-.024	.332**	-.122	.166	-.155	-.246*	.799**	.855**

Notes: * $p < .05$; ** $p < .01$.

LMX = leader-member exchange, POSI = perceived organizational support for innovation, Idea gen. = idea generation, Idea prom. = idea promotion, Idea imp. = idea implementation.

Next, we proceeded to test the hypotheses. Following Aiken and West (1991), the independent variables LMX and POSI were mean-centred before forming the cross-products to test the interaction effects. To test the hypothesized moderated curvilinear relationship between LMX and idea generation (H1), we conducted hierarchical regression analysis in three steps. In the first step, the control variables – gender, age, company tenure, and team – were entered. In the second step, LMX, POSI, and their interaction term were included. In the third step, LMX squared and its interaction term with POSI was included. Multicollinearity was tested between all the study variables. All the VIF values lay between 1.0 and 5.0, indicating no presence of multicollinearity.

Table 2 presents the results of the hierarchical regression analysis for idea generation. Consistent with Hypothesis 1, the interaction between LMX squared and POSI was significant in the final model. Figure 2 presents the plots of the interaction effects. When POSI was high (set at 1 SD above the mean), a U-shaped relationship between LMX and idea generation was evident, suggesting that both low and high levels of LMX quality were positively related to idea generation.

Table 2 Regression analysis – Idea generation

Variables	Dependent variable: Idea generation		
	Model 1	Model 2	Model 3
1. Gender	.296*** (.207)	.257*** (.187)	.229** (.181)
2. Age	.125 (.122)	.161 (.107)	.150 (.104)
3. Tenure	-.261* (.014)	-.265** (.012)	-.268** (.011)
4. Team	.096 (.064)	.086 (.056)	.116 (.055)
5. LMX		.009 (.146)	-.044 (.156)
6. POSI		-.336*** (.131)	-.452*** (.141)
7. LMX x POSI		.286*** (.116)	.188 (.189)
8. LMX x LMX			.402** (.184)
9. LMX x LMX x POSI			.422** (.097)
F	3.739***	7.156***	6.928***
R ²	.145	.371	.429
R ² Adj.	.106	.319	.367

Notes: * p < .10; ** p < .05; *** p < .01; St. Errors in parentheses; LMX = leader-member exchange, POSI = perceived organizational support for innovation

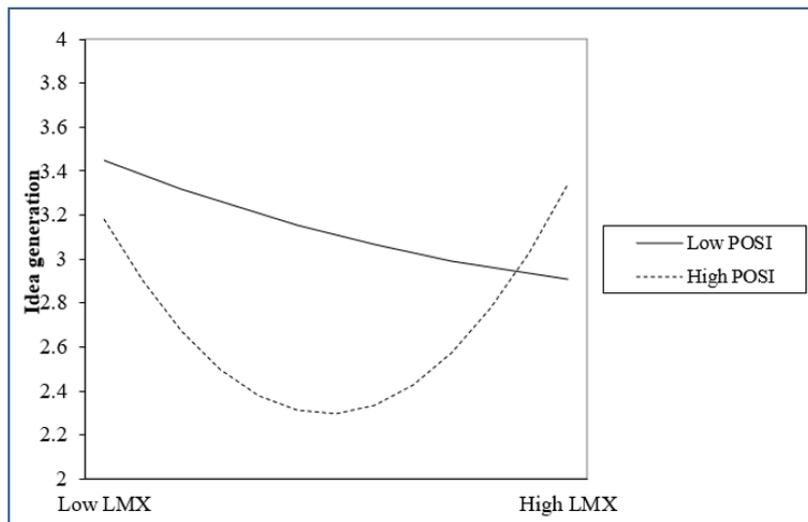


Figure 2 Effects of the Interaction of LMX and POSI on idea generation.

To test for the moderated linear relationship between LMX and idea promotion (H2), and idea implementation (H3), respectively, we conducted hierarchical regression analyses in two steps. Table 3 presents the results for idea promotion and Table 4 for idea

implementation. Figures 3 and 4 present the plots of the interaction effects. Consistent with Hypothesis 2, the interaction between LMX and POSI was significant. Likewise, the model for idea implementation indicated support for Hypothesis 3, suggesting a significant positive interaction between LMX and POSI. Specifically, for both idea promotion and idea implementation, there was a positive linear relationship with LMX when POSI was high (calculated simple slopes verified this). We also ran the third step of the analysis to test whether a curvilinear moderated association between LMX and idea promotion and idea implementation, respectively, would show in a way similar to that for idea generation. As expected, those relationships were not significant for either idea promotion or for idea implementation indicating that even at a high level of POSI, low LMX quality does not produce a high level of idea promotion or implementation.

Table 3 Regression analysis – Idea promotion

Variables	Dependent Variable	
	Idea Promotion	
	Model 1	Model 2
1. Gender	.263** (.230)	.260** (.223)
2. Age	.308** (.135)	.356*** (.128)
3. Tenure	-.293** (.015)	-.308** (.014)
4. Team	.078 (.071)	.080 (.067)
5. LMX		.124 (.174)
6. POSI		-.241** (.156)
7. LMX x POSI		.300*** (.138)
F	3.154**	4.231***
R ²	.125	.258
R ² Adj.	.086	.197

Notes: * p < .10; ** p < .05; *** p < .01; St. Errors in parentheses;
 LMX = leader-member exchange, POSI = perceived organizational support for innovation.

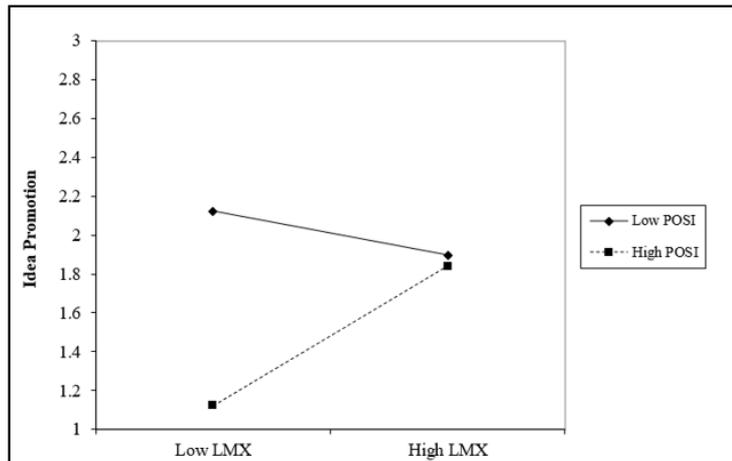


Figure 3 Effects of the Interaction of LMX and POSI on idea promotion.

Table 4 Regression analysis – Idea implementation

Variables	Dependent Variable	
	Idea implementation	
	Model 1	Model 2
1. Gender	.326*** (.220)	.340*** (.210)
2. Age	.180 (.129)	.240* (.121)
3. Tenure	-.239* (.014)	-.263*** (.121)
4. Team	.082 (.068)	.087 (.065)
5. LMX		.138 (.165)
6. POSI		-.188* (.148)
7. LMX x POSI		.353*** (.131)
F	3.770***	4.911***
R ²	.146	.288
R ² Adj.	.107	.229

Notes: * p < .10; ** p < .05; *** p < .01; St. Errors in parentheses;
 LMX = leader-member exchange, POSI = perceived organizational support for innovation.

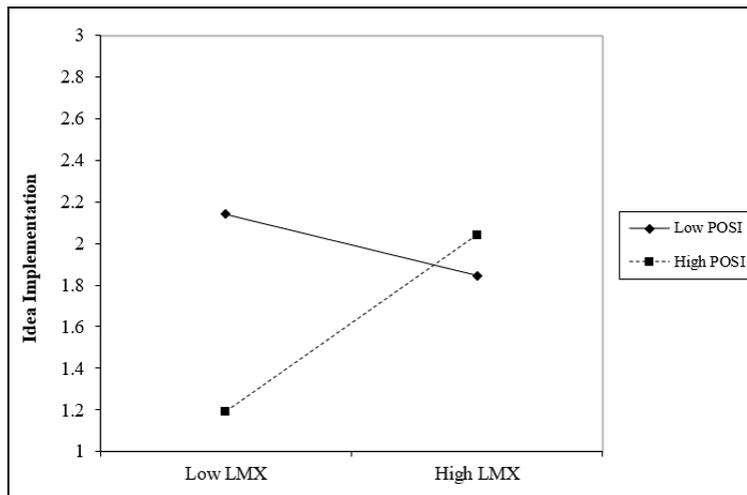


Figure 4 Effects of the interaction of LMX and POSI on idea implementation.

4 Discussion

The empirical results supported the expected U-shaped curvilinear relationship between LMX and the idea generation component of IWB, moderated by POSI. These findings resonate with social exchange theory (e.g., Blau 1964; Graen & Uhl-Bien 1995) and the literature on voice (e.g., Carnevale et al., 2017, Carnevale et al., 2019), and show how both low-quality and high-quality LMX relationships can exert positive influences over employee idea generation when POSI is high. The empirical findings of the current research align it with research that has demonstrated the joint positive effects of leadership and perceived organizational support on employee creativity (e.g., Tang et al., 2017). The findings further extend the observations of Liu et al. (2013), for example, who found the supervisor's relationship quality with his/her immediate supervisor positively moderates the relationship between LMX and employee voice.

Simultaneously, the test results also indicate that a U-shaped direct association between LMX and idea generation also exists. These findings are in line with those of Harris et al.

(2005) and Jian (2014) regarding medium levels of LMX and suggest that even irrespective of innovation-supportive features of the organizational culture, a mediocre LMX challenges employee innovativeness the most. Employees seem to be ready to take the risk of possible negative consequences of proposing disruptive ideas to the supervisor in high-quality relationships and also willing to contribute to the innovative change in lower-quality LMX relationships to obtain improvements (cf. Burris, 2012; Liu et al., 2013). In any case, according to our findings, POSI strengthened the effects of LMX on idea generation on both the low and high ends of LMX quality, which indicates that communicating wider organizational support for innovative ideas is a relevant managerial action.

We further tested the moderating effect of POSI on the linear positive relationships between LMX and idea promotion and idea implementation correspondingly. The results suggest that it takes both the support and trust of the immediate supervisor and a broader innovation-supportive organizational environment to help employees navigate through the demanding process of advancing and realizing proposed innovative ideas (see Agarwal 2014; Yang et al., 2020). Accordingly, the findings here align with the literature suggesting that the broader organizational context is a more important antecedent of the idea promotion and implementation stages of IWB than it is for idea generation (see, e.g., Mumford et al., 2002). The specific focus on the joint effects of LMX and POSI on idea promotion and idea implementation extends knowledge of the interplay between organizational support and the leadership approach on employee innovativeness. In this respect, our study complements research such as that of Qi et al. 2019) who found perceived organizational support partially mediates the relationship between inclusive leadership and employee innovative behaviour, and Le and Lei (2019), who showed

transformational leadership and perceived organizational support jointly predict employees' perceptions of the organization's product and process innovation.

Finally, an interesting finding in our study but outside the hypothesized setting is that when looking at direct effects of LMX and POSI, these counterintuitively seem to be negatively rather than positively associated with the components of IWB. After a closer look at the data, when excluding the cases with the lowest levels of LMX and POSI, respectively (one SD below mean), we noticed that the correlations turned positive (for LMX) or became non-significant (for POSI) when LMX and POSI reached intermediate levels. This suggests that the relationships between LMX and POSI, and IWB, may be contingent on contextual variables, which warrants future research. Suifan et al. (2018), for example, have argued that perceived organizational support may affect some dimensions of employee creativity but not all, and such logic may apply to LMX and IWB components. Furthermore, our empirical results suggest that an aspect worthy of subsequent study is how age and tenure function across the components of IWB and why team membership does not play a significant role.

5 Conclusions

This study started with the goal of acquiring a deeper, more nuanced, and context-sensitive, view of how leader-member exchange (LMX) quality and perceived organizational support for innovation interact with the three components of employee innovative work behaviour; idea generation, idea implementation, and idea promotion. Employee innovativeness is crucial for the innovation performance of organizations and more widely, but it also is considered a socio-political activity that involves a risk of failure and is often met with a lack of support or even resistance from other organizational members. Therefore, immediate supervisors are important in supporting employees' innovativeness (Basu &

Green, 1997, Carnevale et al., 2017; Mumford et al., 2002; Scott & Bruce, 1994) and it is crucial to understand how and under exactly what conditions LMX supports IWB.

5.1 Theoretical contributions

Our study makes two important contributions to the literature on employee innovativeness and supervisor–subordinate relationships. First, we extend prior research by revealing how LMX and POSI independently and jointly relate to the components of employee innovative behaviour. Specifically, we found that there is a U-shaped relationship between LMX and idea generation, and a U-shaped relationship between LMX and idea generation moderated by POSI. Furthermore, our results showed a moderated linear positive relationship between LMX and idea promotion, and idea implementation, respectively, when POSI was high. These findings add to the work of researchers such as Axtell et al. (2000) and Clegg et al. (2002) by showing that job-level characteristics and organizational qualities have a dissimilar influence in different stages of the innovation process. Showing the differences regarding the IWB components is a relevant extension to earlier evidence and theorizing.

Second, we add to earlier research on LMX by demonstrating that both high-quality LMX and low-quality LMX can be conducive for employee idea generation as a component of IWB. Looking at the IWB components separately allowed us to uncover findings that complement studies by Carnevale et al. (2019), Harris and Kacmar (2006), and Harris et al. (2005) by showing that a low-quality LMX does not always produce detrimental behavioural and attitudinal employee outcomes. Not having found the same result for the idea promotion and implementation components of IWB is equally important as it directs attention to the processual elements. Our study shows that there are relevant dynamics in play that connect the level of LMX with IWB in intricate ways.

5.2 Managerial implications

The results of this study carry important messages for top management, innovation managers, and human resource professionals. The joint positive effect of LMX and POSI on all three components of employee IWB shows that overall structures and organizing that promote a perception of having support for innovation are important. Therefore, one task of top management is to make sure that innovation management and human resource management have aligned goals. Human resource management has a special role in encouraging leaders to establish and maintain good relationships with their subordinates, and in absorbing knowledge and disseminating it further regarding practices and principles to facilitate and communicate a pro-innovative culture.

Importantly, our study reminds practitioners of the need to be aware that even employees in low-quality LMX relationships can make valuable suggestions for improvement and organizational benefit. Different types of leader–subordinate relationships are present in any case, and by considering this issue in the organization, it is possible to benefit from the improvement ideas of those exercising their voice. Managers and HR professionals must identify such signals and also generate such paths from employee idea generation to implementation that circumvent superior–subordinate relationships.

5.3 Limitations and future research

As with any study, it is important to factor in the limitations of the research when assessing the study's findings. First, the sample for testing the hypotheses was relatively small (n=93), emphasizing the exploratory nature of the present study. While this kind of research design makes it more likely that disturbance posed by notable variation in the context is diminished, wider samples would be needed to verify our findings. Second, this study

adopts a cross-sectional approach. A longitudinal study could provide different insights. In particular, the dynamism and processual nature of innovation would benefit from longitudinal case studies. Further, while our study adopted validated measurement, and while VIF values were calculated to check for issues with the data, the study is based on self-report measures and, thus, the scales remain susceptible to some common method bias. Data from multiple sources would help to avoid such a problem in future research. For instance, idea generation, idea promotion, and idea implementation could be assessed through observer ratings. It would also be interesting to take the study to a networked innovation context and see how leaders and their subordinates function in a setting where loyalties may lay with different actors within and between organizations (cf. Foss et al., 2010).

Nevertheless, regardless of its limitations, we believe that this study extends an important research agenda of examining the effect of LMX on employee innovativeness and opens new views on this phenomenon. Our findings and those coming later can provide insight into better ways for leaders to influence employee innovative work behaviours.

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