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# Leader-member exchange, work engagement, and job performance

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## Abstract

**Purpose** – The purpose of this paper is to examine the process through which leader-member exchange (LMX) is related to followers' job performance. Integrating the literature on LMX theory and resource theories, the authors hypothesized that the positive relationship between LMX and employee job performance is sequentially mediated by job resources (autonomy, developmental opportunities, and social support) and employee work engagement.

**Design/methodology/approach** – In total, 847 Dutch police officers filled out an online questionnaire. Multilevel structural equation modeling was used to test the hypothesized relationships and to account for the nesting of employees in teams.

**Findings** – Employees in high-quality LMX relationships work in a more resourceful work environment (i.e. report more developmental opportunities and social support, but not more autonomy). This resourceful work environment, in turn, facilitates work engagement and job performance.

**Research limitations/implications** – Because of the research design, it is difficult to draw conclusions about causality. Future research may test the newly proposed relationship using a longitudinal or daily diary design.

**Practical implications** – This study emphasizes the value of high-LMX relationships for building a resourceful environment. In turn, this resourceful environment has important implications for employees' work engagement and job performance.

**Originality/value** – This study examines LMX as a more distal predictor of employee job performance and examines a sequential underlying mechanism to explain this relationship. Furthermore, this paper explicitly examined job resources as a mediator in the relationship between LMX and employee job performance.

**Keywords** Leadership, Leader-member exchange, Job demands-resources theory, Employee engagement, Job resources

**Paper type** Research paper



Leader-member exchange theory (LMX theory; Graen and Cashman, 1975; Graen and Uhl-Bien, 1995) is unique in its focus on the dyadic relationship between leader and follower. Rooted in role making and social exchange theories (Blau, 1964; Graen, 1976; Kahn *et al.*, 1964), LMX theory states that followers develop unique exchange relationships with their leader. In turn, the quality of this relationship influences followers'

work attitudes and behaviors. Consistent with these ideas, meta-analytic studies show that the quality of the LMX relationship is related to a range of positive follower outcomes, like job satisfaction, task performance, organizational citizenship behavior (OCB), commitment, and role clarity (e.g. Dulebohn *et al.*, 2012; Ilies *et al.*, 2007; Volmer *et al.*, 2011). However, although there is a wealth of literature on the proximal effects of LMX on follower outcomes (e.g. Dulebohn *et al.*, 2012; Gerstner and Day, 1997), little is known about the process through which LMX influences follower outcomes.

The current study contributes to the LMX literature by examining LMX as a distal predictor of followers' job performance. We are among the first to study the process underlying the relationship between LMX and followers' job performance and to our knowledge, the first to examine the relationship between LMX and work engagement. Based on conservation of resources (COR) theory (Hobfoll, 1989, 2001) and job demands-resources (JD-R) theory (Bakker and Demerouti, 2014; Demerouti *et al.*, 2001), we argue that LMX is positively related to followers' job performance, because followers have access to more job resources when they have a high-quality relationship with their leader and are therefore more engaged in their work. We examine these relationships within the hierarchical structure of the Dutch police force, where leadership plays a pronounced role.

### **LMX and follower job performance**

LMX theory proposes that leaders have unique social exchange relationships with their followers and that the quality of these relationships (ranging from low to high) differs between employees with the same leader (Graen and Uhl-Bien, 1995; Liden *et al.*, 1997). Low-quality LMX relationships are based on economic exchanges, i.e., exchanges based on the formal requirements of the employment contract in which employees do what they are expected to do and get paid accordingly. In contrast, high-quality exchanges go beyond the formal contract and are based on trust, mutual obligation, and mutual respect and result in affective attachment. The type of LMX relationship that develops depends on the result of a series of role making episodes in which leaders express their expectations and employees show the degree to which they are able and willing to live up to these expectations.

The quality of the LMX relationship determines the degree to which leaders reciprocate meeting certain job demands by employees with additional resources like autonomy, information, and the opportunity to participate in the decision-making process. Graen and Cashman (1975) argue that these additional resources explain why the quality of the LMX relationship contributes to employees' job performance. Put differently, high LMX relationships are characterized by high expectations regarding employees' performance, in return for the investments made by the leader. Research confirms that members in high-quality LMX relationships perform better. In their meta-analyses, Gerstner and Day (1997) and Dulebohn *et al.* (2012) showed that LMX is positively related to both subjective and objective performance. The question that we will answer with this study is why this is the case.

### *LMX, work engagement, and job performance*

We argue that LMX is positively related to followers' job performance, because high-quality LMX relationships enhance followers' work engagement. Work engagement is a positive, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli *et al.*, 2006). Thus, engaged employees have high levels of energy, are enthusiastic about, inspired by and proud of their work, and feel like time flies when they are working. In the current economic situation, having an engaged workforce may

provide a competitive advantage, because work engagement is an active state that is positively related to important outcomes such as job performance, commitment, and health (for meta-analyses see Christian *et al.*, 2011; Halbesleben, 2010).

According to COR theory (Hobfoll, 1989, 2001), people are motivated to obtain, retain, protect, and foster their resources (e.g. autonomy, developmental opportunities, social support). Leaders, in their inherent position of power, are an important source of support and research has shown that social support is positively related to work engagement (Halbesleben, 2010). According to the JD-R model, employees are especially engaged in their work when their resources are combined with challenging demands (Bakker and Demerouti, 2007, 2014; Demerouti *et al.*, 2001). Accordingly, it is likely that employees feel more engaged when they have a high-quality exchange relationship, because their leader facilitates their job performance, but also expects high job performance in return.

From a social exchange perspective, high-quality LMX relationships may contribute to employees' intrinsic motivation to do their job well, making it likely that employees in high-quality LMX relationships become engaged in their work. It has been shown that supervisors in high-quality LMX relationships give their followers more intrinsic (empowerment, praise) and extrinsic (salary raise) rewards, which result in more positive attitudes toward work (Epitropaki and Martin, 2005). Finally, followers in a high-quality relationship have been found to be optimistic and self-efficacious (Vasudevan, 1993), and such self-beliefs are important predictors of work engagement (Halbesleben, 2010). Therefore, we hypothesize:

*H1.* Work engagement mediates the relationship between LMX and job performance.

#### *LMX, job resources, work engagement, and job performance*

The assumption that LMX is related to follower outcomes because leaders form a resourceful work environment is in line with some findings that leaders in high-quality LMX relationships provide employees with decision-making latitude, empowerment, and social support (e.g. Keller and Dansereau, 1995; Scandura *et al.*, 1986; Sparrowe and Liden, 1997). However, when relating LMX to job-related outcome variables, the provision of job resources is often assumed, but not measured. Since the exchange of resources is a central feature of LMX theory, in the current study, we explicitly measure followers' job resources to examine whether they can explain the relationship between LMX and follower job outcomes. We focus on three of the most often studied job resources; autonomy, developmental opportunities, and social support from coworkers (Halbesleben, 2010).

Leaders' investment in high-quality LMX relationships creates positive expectations regarding employees' job performance. LMX theory posits that leaders' self-image are damaged when these expectations are not met and therefore these leaders often facilitate high performance. Research has indeed shown that leaders in high-quality LMX relationships reduce role conflict, role ambiguity, and role overload (e.g. Dunegan *et al.*, 2002; Lagace *et al.*, 1993). Besides, since employees in high-quality relationships are trusted by their leader, they are provided with more decision latitude (Townsend *et al.*, 2002) and empowerment (e.g. Keller and Dansereau, 1995). This provides employees in high-quality LMX relationships the freedom to decide for themselves which work assignments they will focus on, and how they will execute them. Based on these arguments, we expect LMX to be positively related to autonomy.

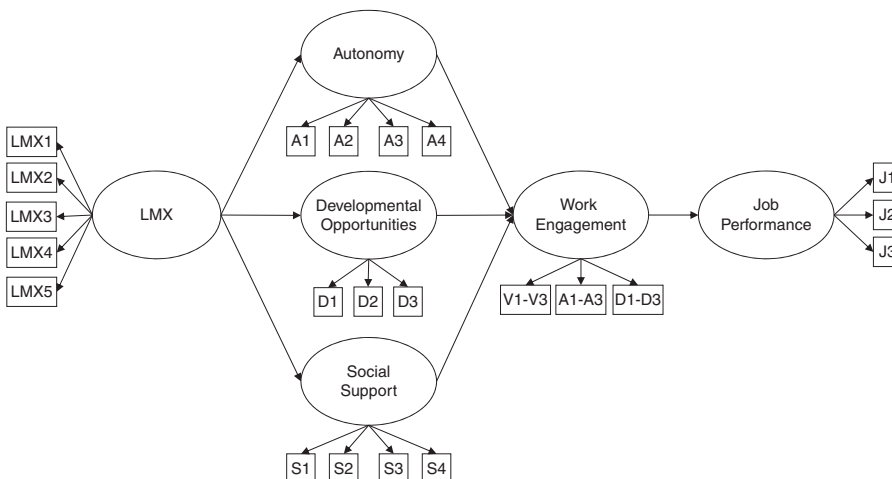
Next, we expect employees in high-quality LMX relationships to have more developmental opportunities compared to their counterparts. For example, employees in

high-quality LMX relationships have a privileged way of communicating with the leader and are provided with desirable work assignments, while employees in low-quality relationships rarely meet with their supervisors and are often provided with undesirable monotonous assignments (Dulebohn *et al.*, 2012). This means that particularly employees in high-quality LMX relationships are able to work on their self-growth. These employees thereby become even more valuable to the leader and maintain the quality of the relationship with their leader. This relationship has also been described as a mentoring relationship (Scandura and Williams, 2004), in which the leader acts as a coach and invests in the career success of the employee (Sosik and Godshalk, 2000).

Finally, we expect LMX to be positively related to social support from coworkers, since relationships in one part of the organization may influence relationships in other parts of the organization (Graen and Uhl-Bien, 1995). Research indeed shows that the quality of the LMX relationship with the leader influences the relationships between coworkers (Sherony and Green, 2002). More specifically, employees in a high-quality LMX relationship with their supervisor had significantly higher quality exchange relationships with coworkers who were also in a high-quality LMX relationship with the same supervisor. In this case, both coworkers share the same positive experiences, so they are in a similar situation (Heider, 1958; Sherony and Green, 2002). Also, Ilies *et al.* (2007) showed in their meta-analysis that LMX quality is positively related to OCB. This means that employees in high-quality LMX relationships engage in behavior that is not defined in their role description, like helping colleagues with a high workload or helping employees who have been absent. These helping behaviors may create a work environment in which colleagues help and support each other. Based on these arguments and earlier research on the relationship between job resources and work engagement (Xanthopoulou *et al.*, 2008, 2009), we hypothesize:

H2. The relationship between LMX and job performance is sequentially mediated by job resources (autonomy, developmental opportunities, social support), and work engagement (all relationships are positive).

Figure 1 provides an overview of all hypothesized relationships.



**Figure 1.**  
Graphical representation of the hypothesized model

## Method

### *Participants and procedure*

Participants were Dutch police officers working within one district of the Dutch police force. After general communications about the research, the invitation to participate in an online survey was sent out to all 1,780 employees via e-mail. A total of 950 police officers completed the survey (response rate = 53 percent). The questionnaires were filled in anonymously, but participants were asked to indicate to which team they belonged by selecting their team from a list. Employees were asked to fill out the LMX questions while keeping in mind one specific leader. Finally, this resulted in 847 participating employees from 58 teams. Participants could request a personalized feedback report on their responses.

The sample consisted of 527 male employees (62.2 percent) and 320 female employees (37.8 percent). The mean age of the participants was 41.9 years ( $SD = 10.5$ ) and mean organizational tenure was 16.3 years ( $SD = 11.41$ ). The majority of the participants was either married, cohabiting or had a steady relationship (89.3 percent) and 72.2 percent worked 36 hours or more per week. The mean number of team members in each team was 25.8, meaning that teams had 26 members on average.

### *Measures*

*Control variables.* We measured and included several demographic (i.e. gender, age, education, and marital status) and work-related (i.e. working hours and tenure) background variables.

*LMX* was measured using the Dutch version (see LeBlanc, 1994) of the LMX scale (Graen and Uhl-Bien, 1995). This scale consists of five items rated on a five-point scale (1 = never, 5 = often). An example item is: "My supervisor uses his/her influence to help me with problems at work." The internal consistency of this scale was high (Cronbach's  $\alpha = 0.91$ ).

*Job resources* were measured with items developed by Bakker *et al.* (2003). All items were measured on a five-point scale (1 = never, 5 = often). An example item of each job resource is "I am able to decide myself how to execute my work" (autonomy), "My work offers me the opportunity to learn new things" (developmental opportunities), and "When it is necessary, I can ask my colleagues for help" (social support). Resources were measured with four items each, except for developmental opportunities, which was measured with three items. Internal consistencies of the scales were 0.81 for autonomy, 0.87 for social support, and 0.89 for developmental opportunities.

*Work engagement* was measured using the nine-item version of the Utrecht Work Engagement Scale (UWES) (Schaufeli *et al.*, 2006). Work engagement consists of three dimensions that were measured with three items each. Example items are: "At work, I feel bursting with energy" (vigor), "I am enthusiastic about my work" (dedication), and "I am immersed in my work" (absorption), which had to be answered on a six-point scale (0 = never, 6 = always). The internal consistency of this scale was high ( $\alpha = 0.95$ ).

*Job performance* was measured with three items from Goodman and Svyantek (1999) to measure task performance. The validity of the selected items was supported by Xanthopoulou *et al.* (2008). An example item is: "I perform well on the core aspects of my work." The items were answered on a six-point scale (1 = totally disagree, 6 = totally agree). The internal consistency of this scale was good ( $\alpha = 0.86$ ).



*Strategy of analysis*

The individuals in our sample were nested within teams, thereby violating the independence assumption underlying many statistical techniques. To account for the nested structure of the data, we used multilevel structural equation modeling (MSEM) using Mplus (Muthén and Muthén, 1998-2010). We have a two-level model with individuals at the first level (Level 1;  $n = 527$ ), and teams at the second level (Level 2;  $n = 58$ ). We followed Maas and Hox's (2005) rule of thumb for power in multilevel modeling. This rule states that a minimum of 30 cases at the highest level is required for robust estimations.

The use of multilevel analyses is justified when there is sufficient variability at both levels of analysis. The ICC's indicated that the variance explained by the team level ranged from 2.7 percent for job performance to 17.6 percent in autonomy. When multilevel data are analyzed on a single level, parameter estimates can be affected which may result in inaccurate statistical inferences. Since we were only interested in the first (individual) level, we used multilevel analyses to control for the possible confounding influence of variance at the second (team) on our results. As alluded to above, we used multilevel analyses because regular structural equation modeling analyses would violate the independence assumption underlying this technique (Hox, 2010).

**Results***Descriptive statistics*

Table I shows the means, standard deviations, inter-correlations, and internal consistencies of the study variables.

*Measurement model*

First, we tested the measurement model to examine the construct validity of our variables. The measurement model consisted of the study variables with scale items reflecting their respective latent construct. Specifically, the measurement model consisted of six factors, including LMX (five items), autonomy (four items), developmental opportunities (three items), social support (four items), work engagement (nine items), and job performance (three items) with scale items tapping the latent construct. This measurement model showed good fit to the data (CFI = 0.93; TLI = 0.92; RMSEA = 0.06; SRMR = 0.04), and all items had significant loadings on the intended latent factors (0.56-0.89,  $p < 0.001$ ). Next, we compared this measurement model to a one-factor, four-factor (i.e. all job resources combined into one-factor) and a five-factor (LMX and social support as one-factor) model (see Table II) and found that the proposed measurement model fitted best to the data.

*Structural and alternative models*

Next, we tested our structural models using MSEM (see Table III). In all analyses, we controlled for gender, age, marital status, education, working hours per week, and tenure, because they were related to our study variables. To test the significance of the mediation effects, we used the online interactive tool developed by Selig and Preacher (2008). This tool uses the parametric bootstrap method to create confidence intervals without making any assumptions about the distribution of the indirect effect. *H1* states that the relationship between LMX and job performance is mediated by work engagement. The path from LMX to work engagement was 0.46 ( $p < 0.001$ , 95 percent CI (0.41, 0.51)) and the path from work engagement to job performance was 0.34 ( $p < 0.001$ , 95 percent CI (0.26, 0.41)). Furthermore, there was a significant mediation effect (0.15,  $p < 0.001$ , 95 percent CI (0.12, 0.20)). This model fitted well to the data (CFI = 0.91, RMSEA = 0.07, SRMR = 0.03).

**Table I.**  
Means, standard deviations, inter-correlations, and internal consistencies (Conbrach's  $\alpha$  on the diagonal) between the study variables

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Gender	1.36	0.48	—									
2. Age	42.68	10.34	-0.29***	—								
3. Education	3.16	1.06	0.04	-0.05	—							
4. Working hours	35.38	7.31	-0.43***	-0.07*	0.10***	—						
5. LMX	3.03	0.89	0.07*	0.05	0.03	-0.01	(0.92)					
6. Developmental opportunities	3.46	0.81	0.09*	0.08*	0.04	0.14***	0.51***	(0.87)				
7. Social support	3.88	0.77	0.003	-0.20***	-0.04	-0.02	0.38***	0.24***	(0.89)			
8. Autonomy	3.27	0.76	0.02	0.17***	0.20***	0.11***	0.40***	0.51***	0.19***	(0.81)		
9. Work engagement	3.95	0.95	0.06	0.02	-0.06	0.13***	0.46***	0.55***	0.41***	0.36***	(0.95)	
10. Job performance	5.02	0.50	0.10*	0.11***	0.05	0.12**	0.17***	0.19***	0.10**	0.20***	0.34***	(0.86)

Notes:  $n = 58$  teams,  $n = 847$  employees, \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

We compared our hypothesized model to the partially mediated model (i.e. including the direct effect from LMX to job performance), but there was no significant decrease in  $\chi^2$  ( $\Delta\chi^2(1) = 0.01$ , ns). Therefore, we prefer our hypothesized, more parsimonious model. Next, we compared our model to the direct effects only model, including paths from LMX and work engagement to job performance. We compared the fit of our hypothesized model to the fit of the direct effects only model, which showed a significant increase in  $\chi^2$  ( $\Delta\chi^2(5) = 31.11$ ,  $p < 0.001$ ), meaning that our hypothesized model fits better to the data.

*H2* states that the relationship between LMX and job performance is sequentially mediated by job resources (autonomy, developmental opportunities, and social support) and work engagement. The results show that LMX was positively related to autonomy (0.40,  $p < 0.001$ , 95 percent CI (0.35, 0.45)), social support (0.39,  $p < 0.001$ , 95 percent CI (0.34, 0.45)), and developmental opportunities (0.51,  $p < 0.001$ , 95 percent CI (0.47, 0.56)). In turn, autonomy (0.12,  $p < 0.05$ , 95 percent CI (0.03, 0.20)), social support (0.29,  $p < 0.001$ , 95 percent CI (0.24, 0.34)), and developmental opportunities (0.41,  $p < 0.001$ , 95 percent CI (0.33, 0.49)) were positively related to work engagement. Finally, work engagement was positively related to job performance (0.34,  $p < 0.001$ , 95 percent CI (0.26, 0.41)). The results of the structural model supported *H2* for autonomy (0.01,  $p < 0.05$ , 95 percent CI

Models	CFI	Fit indices		SRMR
		RMSEA		
1. One-factor model	0.51	0.16		0.14
2. Four-factor model	0.78	0.11		0.09
3. Five-factor model	0.84	0.09		0.08
4. Six-factor model	0.93	0.06		0.04

**Notes:** In model 2 all job resources were combined into a single factor. In model 3 LMX and social support were combined into a single factor

**Table II.**  
Fit of the  
measurement models

	Unstandardized			95% CI	
	Est.	SE	<i>p</i>	Lower	Upper
<i>Indirect effects</i>					
1. LMX→autonomy→WE	0.03	0.02	ns	-0.001	0.06
2. LMX→developmental opportunities→WE	0.20	0.03	$p < 0.001$	0.16	0.25
3. LMX→social support→WE	0.10	0.02	$p < 0.001$	0.07	0.14
<i>Contrast effects</i>					
Indirect effect 1-indirect effect 2	-0.18	0.03	$p < 0.001$	-0.25	-0.10
Indirect effect 1-indirect effect 3	-0.07	0.02	$p < 0.05$	-0.12	-0.03
Indirect effect 2-indirect effect 3	-0.10	0.03	$p < 0.001$	-0.16	-0.04

<i>Indirect effects</i>					
1. LMX→developmental opportunities→WE→performance	0.04	0.01	$p < 0.001$	0.02	0.05
2. LMX→social support→WE→performance	0.02	0.00	$p < 0.001$	0.01	0.03

<i>Contrast effect</i>					
Indirect effect 1-indirect effect 2	0.02	0.01	$p < 0.001$	0.01	0.03

**Notes:**  $n = 58$  teams,  $n = 847$  employees

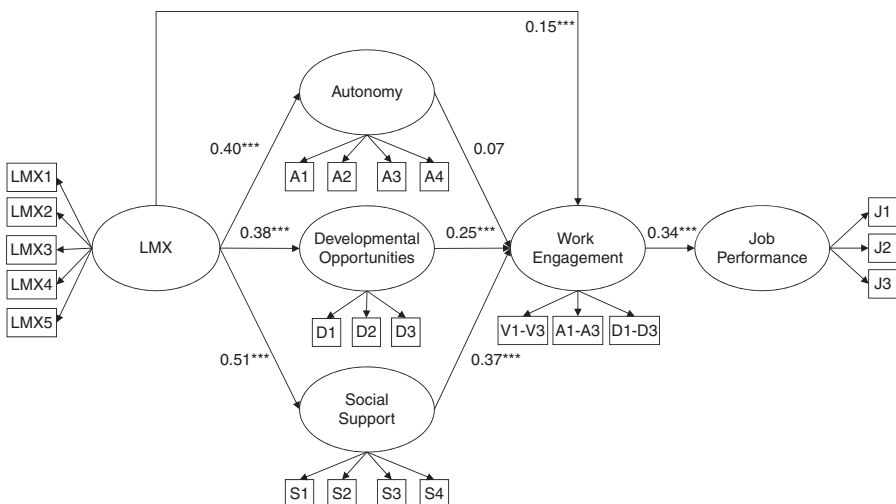
**Table III.**  
Maximum likelihood  
estimates, standard  
errors, and  
confidence intervals  
for the direct,  
indirect and  
contrast effects

(0.002, 0.02)), developmental opportunities (0.04,  $p < 0.001$ , 95 percent CI (0.02, 0.05)) and social support (0.02,  $p < 0.001$ , 95 percent CI (0.01, 0.03)). This model showed a satisfactory fit to the data (CFI = 0.92, RMSEA = 0.06, SRMR = 0.04; Hoyle, 1995, Kline, 2005; MacCallum *et al.*, 1996). We compared our hypothesized model to a model including the direct paths from LMX to work engagement. There was a significant decrease in  $\chi^2$  ( $\Delta\chi^2(1) = 17.49$ ,  $p < 0.001$ ) and therefore we prefer the partially mediated model. Next, we added the direct paths from all job resources to job performance, but this did not result in a better model fit ( $\Delta\chi^2(3) = 1.5$ , ns). Finally, we compared our hypothesized model to the direct effects only model, including paths from LMX, job resources and work engagement to job performance. This comparison showed a significant increase in  $\chi^2$  ( $\Delta\chi^2(5) = 15.52$ ,  $p < 0.01$ ), indicating that our hypothesized model fits better to the data.

We used contrast effects to test the relative importance of the job resources. The contrasts indicated that there was a significant difference between developmental opportunities and social support as mediators ( $-0.01$ ,  $p < 0.01$ , 95 percent CI ( $-0.02$ ,  $-0.003$ )). That is, developmental opportunities is a more important mediator compared to social support. Taken together, these results provide partial support for *H2*. The final model as displayed in Figure 2 explains 25.6 percent of the variance in autonomy, 28.8 percent of the variance in developmental opportunities, 20.1 percent in social support, 39.8 percent in work engagement, and 13.3 percent in job performance. The figure shows the standardized estimates of all the paths in the final model. All estimates are significant at  $p < 0.001$ , except the estimate of the autonomy-work engagement relationship, which became non-significant after including the direct effect between LMX and work engagement.

### Discussion

This study is one of the first to examine LMX as a distal predictor of job performance and relatedly, one of the first to test a sequentially mediating mechanism that can account for the LMX-job performance relationship. In addition, this study is innovative in that it is one of the first to test a sequential mediation model using structural



**Figure 2.**  
The process model of leader-member exchange showing standardized estimates

equation modeling. Furthermore, to our knowledge, this is the first study that examines the relationship between LMX and work engagement. Finally, our sample consisted of a large number of police officers, for whom leadership is a very relevant part of everyday work life. The results largely confirm our hypotheses by showing that high-quality LMX relationships initiate a motivational process, whereby the relationship between LMX and subordinates' job performance is sequentially mediated by employees' job resources (developmental opportunities and social support) and work engagement.

#### *Job resources as mediators*

This study contributes to the literature on LMX theory by showing that leaders can foster the availability of job resources, which enhances employees' work engagement and job performance. In line with COR theory, LMX proved to be an important resource from which other resources can be build (i.e., autonomy, developmental opportunities, and social support). Although it has been shown that LMX is directly and positively related to job performance (e.g. Gerstner and Day, 1997) and to job resources (e.g. Sparrowe and Liden, 1997) not much is known about how LMX and job performance are related. Our study suggests that leaders can positively influence their followers' work engagement, both directly by the quality of their relationship and indirectly through their influence on the availability of job resources to their employees (mainly through developmental opportunities). The latter may be especially interesting when employees have difficulties creating their own resources, caused by very strict rules or the individuals' lack of proactive behavior.

In the past, LMX has been considered as a type of coaching from the leader within the JD-R model (e.g. Xanthopoulou *et al.*, 2009). Although LMX can be considered a job resource, post hoc analyses showed that the model with LMX as an antecedent of other job resources fitted the data better than the model with LMX as a job resource not preceding other resources. This underscores the role of the supervisor in creating resourceful work environments for their subordinates.

#### *Job resources and work engagement as sequential mediators*

Having a high-quality LMX relationship not only contributes to employees' work engagement, but indirectly also positively influences the organization at large. This is because the quality of the LMX relationship is positively related to employees' job performance and stimulates the initiation of a motivational process (i.e., the provision of job resources that are positively related to work engagement). This contributes to the LMX literature by showing that there are important intervening processes that account for the LMX-job performance relationship (Gerstner and Day, 1997) and by showing that LMX is also a proximal predictor of employee well-being. In this study, the relationship between LMX and job performance is even fully mediated by job resources and work engagement, suggesting that followers job performance is a more distal consequence of LMX.

Autonomy appeared to be the least important mediator compared to social support and developmental opportunities. An explanation could be that autonomy may be less important for employees within the police force than for other less "protocolized" occupational groups. This is in line with the JD-R model, which assumes that each profession has its own unique combination of job resources and job demands. In the police force, there are strict rules and protocols to be adhered to. Subordinates may be used to these rules, which could explain why their engagement is not dependent on the amount of autonomy they have within their job.

*Practical implications*

The above mentioned results emphasize the importance for subordinates to have a good relationship with their leader, since the quality of the LMX relationship is associated with the quality of the work environment. It also stresses the importance for leaders of having a good relationship with subordinates, since this is positively related to employees' work engagement and their appraisals of job performance. Research shows that engaged employees also have a better health and are absent less often (Demerouti *et al.*, 2001; Schaufeli *et al.*, 2009). Graen *et al.* (1982) showed that it is possible to train leaders in their active listening skills, spending time talking to each subordinate, and sharing expectations. Compared to the control groups, this training led to gains in LMX quality, job satisfaction, and productivity. We acknowledge that this may require smaller spans of control and more contact between leader and subordinates. Besides, it also requires organizations to support their leaders to invest in their relationship with their followers.

Considering the importance of job resources for improving job performance, it may be fruitful for organizations to invest in building job resources more formally into the organizational system. For example, leaders may set up a job enrichment program in which employees are empowered, while at the same time being supported by their leader, which may provide followers with opportunities to grow and develop. In addition, leaders may organize a meeting with each follower at least twice a year, in which followers can talk about the difficulties they face in their work and discuss with their leader how to solve this. In this way, employees can receive both opportunities for development and social support from the leader. This approach can also be used when leaders have a large span of control and having a high-quality relationship with each and every follower is challenging. In this case, all followers benefit from the provision of resources, because they are more formally built into the organizational system and therefore available to every employee.

*Limitations of the study*

First of all, this is a cross-sectional study, which raises questions about causality. It is also conceivable that employees who are more engaged, have a better relationship with their leader; likewise, employees who perform better may become more engaged in their work. However, our results are in line with the motivational process of the JD-R model (Bakker and Demerouti, 2007, 2008), which has also been studied using longitudinal (Hakanen *et al.*, 2008) and daily diary designs (e.g. Simbula, 2010; Xanthopoulou *et al.*, 2009), suggesting causality. Addressing the causality issue using a longitudinal design to test the present study model would nevertheless be a fruitful avenue for future research.

A second limitation is the use of self-reports only, which raises the concern of common method variance (Podsakoff *et al.*, 2003). Although it is unlikely that common method bias invalidates our findings, because it is rarely strong enough (e.g. Doty and Glick, 1998; Spector, 2006), we did use Harman's single factor test and performed an exploratory factor analysis. Results show that there is no single factor accounting for the variance in the data ( $\chi^2 = 191.89$ ;  $df = 10$ ;  $CFI = 0.87$ ;  $RMSEA = 0.15$ ;  $SRMR = 0.10$ ), which makes the threat of common method bias unlikely. Furthermore, Conway and Lance (2010) argue that self-reports are appropriate or even the preferred choice in some situations. In the present study, we were interested in how followers experience their relationship with their leader (i.e., LMX) and how engaged they are, which are private experiences. Next, according to the JD-R model, each job and each individual has its own constellation of job resources and job demands. Therefore, followers/employees are the best rater of

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their job resources. Task performance may be best measured objectively or by other ratings. However, although far from perfect, self-reported and leader-rated task performance are moderately related (Bakker and Bal, 2010).

*Implications for future research and conclusion*

Despite the limitations, this study contributes to the literature by being one of the first to study the mechanism explaining the relationship between LMX and job performance and to explore the relationship between LMX and employee work engagement. COR theory and the JD-R model are useful frameworks for continuing this research. For example, having a high-quality relationship with one's leader may not only increase job resources, but also valued personal resources of the employees, like optimism (Tims *et al.*, 2011), as well as organization-based self-esteem and meaning-making (Van den Heuvel *et al.*, 2014). It would be interesting for future research to employ a stronger multi-source design by examining LMX as reported by the leader or to use leaders' ratings of employee performance to prevent common method variance that may influence the results. In a similar vein, colleague ratings of contextual performance may be used to reduce common method bias and to examine the process underlying the relationship between LMX and contextual performance. The same process that was examined in the present study may apply to the relationship between LMX and contextual performance, especially considering that both LMX and work engagement have been associated with higher contextual performance (Christian *et al.*, 2011; Dulebohn *et al.*, 2012).

According to the JD-R model, both job resources and job demands are important predictors of work engagement. In the present study, we only focussed on job resources, but future research may also examine whether having a high-quality relationship with the leader facilitates challenge demands and prevents hindrance demands. Challenge demands are also called "good" demands, i.e., demands that promote the personal growth and achievement of the employee (Podsakoff *et al.*, 2007), for example workload and time pressure. Hindrance demands are the "bad" demands that may initiate a health impairment process when they are not compensated with sufficient job resources. Examples are role conflict and role overload. Research has already shown that LMX is negatively related to hindrance demands (e.g. Dunegan *et al.*, 2002; Lagace *et al.*, 1993) since leaders in high-quality LMX relationships take away as many obstacles as possible preventing employees from not achieving high performance. However, there may be a dark side to challenge demands when the quality of the LMX relationship becomes higher. High-quality LMX relationships are characterized by mutual obligation, meaning that employees have to return the favors from their leader with exceptional performance. Eventually, these demands may become overwhelming and act as a source of stress when workload or time pressures are increasing. Harris and Kacmar (2006) have indeed shown that the relationship between LMX and stress is best described as curvilinear, whereby employees in high-quality relationship experience more stress than employees in moderate-quality relationships. This finding stresses the importance of job resources, since high challenge demands combined with high job resources are optimal work conditions for employees to thrive, i.e., being engaged in their work (Tuckey *et al.*, 2012) and thus prevent employees from experiencing stress. It would be interesting for future research to examine the nature of the relationship between quality of the LMX relationship and challenge demands and the possible moderating role of job resources in this relationship.

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