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LMX and Subordinate Performance: The Moderating Effects of Task Characteristics

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Abstract

Role conflict, role ambiguity, and intrinsic task satisfaction are found to moderate the relationship between leader–member exchange (LMX) and subordinate performance. Data from a field study of 146 supervisor–subordinate dyads indicate low conflict, high ambiguity, and high intrinsic satisfaction enhance the link between LMX and performance. Neutralizing effects are found when ambiguity and intrinsic satisfaction are low. High conflict appears to have a constraining effect, whereby the connection between LMX and performance is reduced but not neutralized. Results from the study call attention to the theoretical and practical benefits of examining the LMX/performance link from a contingency perspective, and offer a viable, albeit tentative, explanation for inconsistent findings reported in earlier studies.

Keywords: leader–member exchange, task characteristics, subordinate performance

In research spanning more than two decades, Graen's dyadic theory of Leader-Member Exchange (LMX) has been linked to a variety of organizationally relevant variables (see Liden, Sparrowe & Wayne, 1997). However, at least two lines of LMX investigation have produced inconsistent findings. As pointed out by Vecchio and Norris (1996), the relationship between

LMX and turnover has been statistically weak and unstable. Similarly, studies linking LMX with subordinate performance have not produced uniformly positive results (Gerstner & Day, 1995; Jensen, Olberding, & Rodgers, 1997).

This research focuses on the second of these two inconsistencies. Our objective is to help clarify the LMX/performance link by assessing how that link may be influenced by three factors frequently cited as potential moderators of leadership. Specifically, we look at role conflict, role ambiguity, and intrinsic task satisfaction to determine if they moderate the relationship between LMX and subordinate performance.

Background

Despite considerable support for Graen's theory of Leader-Member Exchange (for reviews see Graen & Uhl-Bien, 1995, and Liden *et al.*, 1997), there are also inconsistencies, especially in studies linking LMX with turnover (Vecchio & Norris, 1996) and subordinate performance (Gerstner & Day, 1995; Jensen *et al.*, 1997). Numerous studies report higher performance from subordinates in higher quality exchanges (e.g., Dansereau, Graen, & Haga, 1975; Deluga & Perry, 1994; Dockery & Steiner, 1990). Others report LMX/performance relationships that are weak (Rosse & Kraut, 1983), mixed (Vecchio & Gobdel, 1984; Wayne & Ferris, 1990), or not significant (Liden, Wayne, & Stilwell, 1993; Vecchio, 1982).

These inconsistent relationships with performance may be the result of (at least) two factors. First, most studies reporting significant relationships use subjective measures of performance; most studies reporting weak or nonsignificant relationships use objective measures (Jensen *et al.*, 1997; Liden *et al.*, 1997). Second, few investigations examine the possibility that moderating variables could be affecting the link between LMX and performance (Vecchio & Gobdel, 1984), but those adopting a contingency approach often find significant interactions (Dunegan, Duchon, & Uhl-Bien, 1992; Graen, Novak, & Sommerkamp, 1982; Klein & Kim, 1998).

More importantly, given the widely held belief that situational factors moderate leadership influences, a contingency-based examination of the LMX/performance link not only makes sense but may provide an explanation for previously reported inconsistencies. To test this possibility, we decided to study the potential moderating effects of three factors; namely, role conflict, role ambiguity, and intrinsic task satisfaction. These factors were chosen for a number of reasons. First, all three have been prominently examined in organizational research and shown to be important situational variables (Bedeian & Armenakis, 1981; Deci & Ryan, 1985; Rizzo, House & Lirtz-

man, 1970). Second, like LMX itself, all three have a theoretical grounding in role theory, and have demonstrated an empirical connection with LMX (Dansereau *et al.*, 1975; Dobbins, Cardy, & Platz-Vieno, 1990; Graen *et al.*, 1982; Kozlowski & Doherty, 1989). Third, all three have been discussed as factors that may enhance *or* inhibit a leader's influence (Kerr & Jermier, 1978; Howell & Dorfman, 1981; Howell, Dorfman, & Kerr, 1986).

Rizzo *et al.* (1970) describe role conflict as arising from inconsistent or contradictory assignments or obligations, while role ambiguity involves uncertainty about job duties and responsibilities. Intrinsic task satisfaction deals with a person's sense of connection and compatibility with a task, and the extent to which s/he derives pleasure from performing the task itself (Deci & Ryan, 1985). Based on these descriptions, high role conflict, high role ambiguity, and low intrinsic task satisfaction could be portrayed as situational constraints; that is, "features of a work environment that act as obstacles to performance by preventing employees from fully translating their ability and motivation into performance" (Klein & Kim, 1998: 88). Indeed, role conflict and role ambiguity can divert time and energy away from accomplishing objectives and, if excessive, result in negative behavioral outcomes (Bedeian & Armenakis, 1981).

Similarly, low intrinsic task satisfaction can detract from what might otherwise be positive leadership influences (Howell & Dorfman, 1981). For example, low intrinsic satisfaction has been found to neutralize the link between transformational leadership and general satisfaction (Podsakoff, MacKenzie, & Bommer, 1996).

Therefore, it seems reasonable and intuitively appealing to predict that:

H1: Role conflict will moderate the relationship between LMX and performance such that a stronger relationship will be found when role conflict is low.

H2: Role ambiguity will moderate the relationship between LMX and performance such that a stronger relationship will be found when role ambiguity is low.

H3: Intrinsic task satisfaction will moderate the relationship between LMX and performance such that a stronger relationship will be found when intrinsic task satisfaction is high.

However, even though hypotheses H1, H2, and H3 have an intuitive appeal and fit nicely with a portion of the existing literature, work by other researchers, particularly work in the area of substitutes for leadership (Kerr & Jermier, 1978), suggest a different moderating effect. To illustrate, consider two contrasting situations—one where role conflict is low and one where role

conflict is high. In both situations, high-LMX subordinates can expect to receive more attention, nurturing, and support than their low-LMX counterparts. Yet, according to the rational arguments upon which the substitutes for leadership model is based, the high-conflict situation is the one that offers the greatest opportunity for a leader's intervention to have the most profound effect. In other words, the additional benefits of high LMX would be more significant for those subordinates experiencing higher conflict. All things being equal, subordinates experiencing lower conflict are faced with fewer situational obstacles and would, therefore, not have to rely as much on the leader to navigate through those obstacles. Thus, higher role conflict may actually create a situation where differences in LMX have a greater opportunity to explain variance in performance outcomes. This isn't to say that overall performance will be higher when role conflict is high, but rather that conditions are more favorable for a link to emerge between variations in LMX and variations in performance.

A similar argument could be made that role ambiguity will have a moderating influence opposite of that stated in H2. For example, unlike role conflict where employees can receive incompatible requests from role sets outside the leader's control, role ambiguity represents a situational factor that is within a leader's sphere of influence. When role ambiguity is high there is greater dependence on information and feedback which can clarify the appropriateness of one's actions (Dobbins *et al.*, 1990). Therefore, as role ambiguity increases, the leader becomes more instrumental because the role-clarifying information and feedback available from the leader becomes more relevant (Kerr & Jermier, 1978; Howell *et al.*, 1986). Conversely, as role ambiguity decreases, role-clarifying information from the leader becomes less instrumental. Thus, one could argue that the link between leadership and measures like performance would be strongest when role ambiguity is high and weaker when role ambiguity is low.

Hypothesis H3 could also be defended from a competing perspective. Subordinates whose tasks are intrinsically satisfying take pleasure in performing the task for its own sake (Deci & Ryan, 1985), and are self-motivated to improve. Thus, an intrinsically satisfying task could act as a substitute for supportive leadership behaviors, making such leader behaviors unnecessary. If true, one could logically argue that the link between LMX and performance would have the strongest likelihood of emerging when intrinsic task satisfaction is low.

In other words, if the moderating effects of high role conflict, high role ambiguity, and low intrinsic task satisfaction hinder employees from translating ability and motivation into performance, then hypotheses H1, H2, and H3 make sense. However, if these same conditions actually provide *greater* opportunity for leader influence, then it makes sense to hypothesize:

H1x: Role conflict will moderate the relationship between LMX and performance such that a stronger relationship will be found when role conflict is high.

H2x: Role ambiguity will moderate the relationship between LMX and performance such that a stronger relationship will be found when role ambiguity is high.

H3x: Intrinsic task satisfaction will moderate the relationship between LMX and performance such that a stronger relationship will be found when intrinsic task satisfaction is low.

Quite frankly, both sets of hypotheses have merit. Under such circumstances, Platt (1964) warns against becoming too "method-oriented" (i.e., simply choosing one position over the other). Instead he recommends a more "problem-oriented" posture; that is, testing the competing hypotheses to see which is (is not) supported. We elected to follow his recommendation and subject both sets of hypotheses to empirical examination.

Methods

Subjects and Setting

As part of a larger research project on workplace dynamics, data were obtained from 146 lab workers at a large Midwestern hospital. Of the respondents who provided demographic information, 120 were female and 24 were male (mean age 31.35, mean tenure 5.01 yrs.).

Procedures and Measures

Participation in the study was voluntary. Data were collected via questionnaires administered at the hospital during normal working hours. Information about contingency variables (i.e., role conflict, role ambiguity, intrinsic satisfaction) and leader-member exchange (LMX) were obtained from subordinates. Performance data were obtained from supervisors. Three items taken from (or base upon) previously developed scales were used to measure each of the three contingency variables.[1] Sample items from each scale were: "My job is one of conflicting demands and obligations" (role conflict), "It is very clear to me what is required to perform successfully on my job" (role ambigu-

[1] Ideally we would have used complete versions of previously established instruments. However, field studies often require the use of abbreviated measures. To allay concerns about the psychometric properties of our abbreviated measures, we did factor analyze all items. We also found our abbreviated measures had correlations similar to those reported in studies using instruments containing more items. Details are available from the first author.

Table 1 Means, Standard Deviations, Correlations, and Reliabilities[a]

Variables	Means	s.d.	1.	2.	3.	4.	5.
1. Performance	32.24	6.15	(.95)				
2. LMX	18.92	3.67	.36***	(.79)			
3. Conflict	7.23	2.84	-.13	-.24**	(.71)		
4. Ambiguity	6.73	2.79	.00	-.47***	.33***	(.74)	
5. Intrinsic Satisfaction	13.16	2.11	.29***	.41***	-.21**	-.28***	(.79)

N =146. *** p <.001, ** p <.01.

[a] Coefficient alphas are in parentheses on the diagonal.

ity), and "I feel a great sense of satisfaction when I do my job well" (intrinsic satisfaction). All three measures had acceptable reliability coefficients (Cronbach α of .71, .74, and .79, for conflict, ambiguity, and intrinsic satisfaction, respectively).

Leader-member exchange (LMX) was assessed with a five-item measure (Dunegan *et al.*, 1992) including items such as "Can you count on your supervisor to help you out when you need it?" and "Is your supervisor willing to use his/her authority to help you solve problems?"[2] Our LMX measure had a Cronbach α of .79.

Subordinate performance was measured by summing supervisor ratings of six subordinate attributes: dependability, alertness, planning, know-how and judgment, overall present performance, and expected future performance (Phillips & Bedeian, 1994). This measure had a Cronbach α of .95.

Results

Descriptive statistics in Table 1 show correlations between LMX and the contingency variables comparable to earlier studies (Dobbins *et al.*, 1990; Graen *et al.*, 1982; Kozlowski & Doherty, 1989). Specifically, correlations are positive between LMX and intrinsic satisfaction (r =.41, p < .001), and negative with conflict and ambiguity (r = –.24, p <.01, and r = –.47, p <.001, respectively).

Table 1 also shows that mean scores for some variables are skewed, raising concern about distribution normality. To reduce the threat of non-normal distributions producing spurious results, all measures were submitted to log-

[2] Although the seven-item LMX is common, other versions of LMX are not unusual (see Liden *et al.*, 1997).

Table 2 Results from the Hierarchical Regression Where Performance Is Regressed on LMX (Step 1), LMX and the Moderators (Step 2), and LMX, Moderators, and LMX*Moderator Interactions (Step 3)

Predictor Variables	*F*	*df*	R^2	ΔR^2
Step 1: LMX	26.36***	1,144	.15***	
Step 2: LMX + Moderators	9.66***	4,141	.21***	.06**
Step 3: LMX + Moderators + Interaction Terms	9.63***	7,138	.33***	.12***

$N = 146$. *** $p < .001$, ** $p < .01$.

arithmic transformations. The resulting values were used in the hierarchical regression to test our hypotheses.[3]

In keeping with hierarchical procedures, the regression analysis was performed in steps (see Table 2). The first step regressed performance on LMX. Results were significant, with LMX predicting 15 percent of the variance. This increased by 6 percent when the three contingency variables were added as main effects in Step 2. Finally, the interactions between LMX and the three contingency measures were added in step 3. The change in R^2 was 12 percent, raising the total for the full model to 33 percent. Results also show the three interaction terms made significant and unique contributions to the overall model.

To determine the nature of the interactions, the three contingency measures were divided into low/high groups based on mean scores. Correlations between LMX and performance were then calculated in the low/high groups, converted to *z*-scores, and tested to see if between-group correlations were significantly different. In all three cases the correlations were significant in a manner supporting hypotheses H1, H2x, and H3 (see Table 3). Specifically, results indicate a significantly stronger LMX/performance relationship when role conflict is low (H1), although the correlation between LMX and performance is also significant in the high conflict group. In addition, results show evidence of enhancing effects when role ambiguity is high (H2x) and when intrinsic satisfaction is high (H3).

Discussion

In early discussions of the dyadic concept of leadership, Graen and Cushman (1975) suggested that a likely benefit of a high quality dyadic exchange

[3] The hierarchical analysis was also run using non-transformed data with only a slight change in results.

Table 3 Comparison of Correlations Between LMX and Performance Within Low/High Moderator Groups

	Moderator Groups		
Moderator	Low	High	*z*-Score Comparisons
Conflict	.61***	.28**	2.48**
Ambiguity	.20	.64***	3.26***
Intrinsic Satisfaction	.16	.49***	2.04*

$N = 146$. *** $p < .001$, ** $p < .01$, * $p < .05$.

would be higher subordinate performance. Intuitively, this link between LMX and performance makes sense. Compared to dyads with low exchange quality, subordinates in high quality LMX relationships are in a better position to receive additional information, support, and attention that could contribute to improved performance (Graen & Cushman, 1975). In spite of the intuitive connection, however, studies linking LMX and subordinate performance often report mixed and sometimes inconsistent results (Gerstner & Day, 1995; Liden *et al.*, 1997).

In an effort to understand these inconsistencies, the current study examines the LMX/performance link from a contingency perspective. Our results support a moderated-effects model, in that all three contingency variables are found to influence the correlation between LMX and performance. Specifically, our findings indicate that low levels of intrinsic satisfaction and ambiguity *neutralize* the relationship between LMX and performance. Under these conditions, LMX quality appears unrelated to differences in performance. Conversely, high intrinsic satisfaction and high ambiguity are conditions that *enhance* the LMX/performance relationship. Under these conditions, differences in LMX quality are associated with differences in performance, with higher LMX scores correlated with higher subordinate performance. For role conflict, even though there is a significant difference in the strength of LMX/performance correlations in low versus high conflict groups, the link remains statistically significant even when conflict is high. Thus, although low role conflict enhances the LMX/performance link, high conflict does not act as a total neutralizer. Rather, high levels of role conflict seem to act as a *constraint* whereby the strength of the connection is diminished but not negated.

These results contribute to the research on leader-member exchange in several ways. For example, they replicate findings from previous studies linking LMX with performance—nothing especially novel in this. However, by approaching the relationship from a contingency perspective, we were able to

replicate the *inconsistent* findings of previous research within a *single* study. On one hand, we found a significant *direct* relationship between LMX and performance. When examined more closely, however, analyses revealed this relationship was not always significant and, in fact, varied with differences in situational factors. Had we concluded our investigation by only looking at the direct relationship, we would have omitted important moderating effects and, borrowing from the interpretative caveats of Podsakoff *et al.* (1996, p. 121), would have reported biased estimates and misspecified the model. Instead, by including moderating variables and adopting a contingency perspective, our study found support for multiple conclusions: 1. LMX *is* related to performance, and 2. LMX *is not* related to performance. Which conclusion is true depends on situational moderators. Thus, our study highlights the importance of considering potential moderating effects to avoid drawing false conclusions from an under-specified model.

A second contribution of the study is that it provides a gauge by which the benefits of a contingency perspective can be assessed. Specifically, by adopting a contingency approach and examining the relationship between LMX and performance within a moderated-effects model, we more than double the predicted variance over what would have been predicted by a more traditional, non-contingency approach (see Table 2: Step 1 *vs*. Step 3).

Notwithstanding the encouraging results of the study, there are limitations that should be noted. First, we used abbreviated measures for assessing our variables and this may have had an impact on the findings. Second, because our design was cross-sectional, directional causality (*e.g.,* cause and effect relationships) cannot be inferred.

Nevertheless, our study does illustrate the benefit of examining the LMX/performance link from a contingency perspective. The inclusion of role conflict, role ambiguity, and intrinsic task satisfaction as situational moderators of LMX produced a pattern of "inconsistent" results identical to those reported in previous studies. That is, evidence of LMX having positive, weak, *and* non-significant connections with performance were all found in these data, depending on whether the moderator had an enhancing, neutralizing, or constraining effect. Also not to be overlooked is the extent to which a contingency perspective more accurately depicts the relationship between LMX and performance. Compared with the more customary non-contingency approach, we found that the moderated effects model more than doubled the R^2 predicted in the hierarchical regression analysis. Therefore, it would seem there is considerable merit in adopting a contingency perspective in studies of leader-member exchange, not only as a means of explaining previous results, but also for designing future investigations and expanding the scope of the theory's underlying framework.

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