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Leader's Human Capital as an Alternative for Relational Leadership

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The current research attempts to revitalize contingency leadership theory. Instead of focusing on subordinate attributes as a substitute for leadership theory, this study examines leader's human capital attributes as a leadership contingency variable. This paper offers a fresh perspective to contingency leadership literature by exploring a new set of variables. Addressing leader-member exchange (LMX) rather than the conventional focus on leader's behaviors, this study examines previously untested contingency variables. Using a matched sample of leaders and employees from Portuguese firms, this study examines leader's education and leader's organizational tenure as alternatives for LMX with assessed job performance and organizational citizenship as dependent variables. Testing new independent variables sheds additional light on contingency approaches to leadership; as a result, this paper improves the current state of research on contingency leadership. Results seem to indicate that leader's education is an alternative for LMX as well as suggesting that the leader's organizational tenure improves LMX. This paper proposes that research focusing on the substitute for leadership may need to examine a different set of variables to determine the viability of contingency approaches to leadership.

Keywords: contingency leadership, leader-member exchange (LMX), leadership substitutes, human capital

Introduction

Contingency approaches to leadership, such as the path-goal model (House, 1971) or substitutes for leadership (Kerr & Jermier, 1978), are commonly highlighted in organizational behavior textbooks. Lorsch's (2008) work presents the current importance of contingency theories of leadership. While contingency approaches to leadership vary suggesting that different types of work contexts or individual differences moderate relations between leadership style and subordinate performance (Villa, Howell, Dorfman, & Daniel, 2003). Moderation effects suggest that different leadership styles may prove to be more or less relevant in different work contexts. For example, Kerr and Jermier (1978) suggested that when jobs are relatively simple or

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when workers are highly skilled, task-oriented leadership becomes less critical to achieve high levels of performance. In such cases, it is possible that one may negatively view task-oriented leadership as micromanagement. However, in other more complicated circumstances, task-oriented leadership may be more supportive of task performance.

In spite of an intuitive appeal of contingency approaches to leadership, empirical validation of contingency approaches is limited (Podsakoff, MacKenzie, Ahearne, & Bommer, 1995) and the viability of leadership contingency approaches is increasingly being challenged (Dionne, Yammarino, Atwater, & James, 2002). A current debate among leadership scholars suggests several possibilities to consider revising leadership contingency theory (Dionne, Yammarino, Howell, & Villa, 2005). Following Dionne et al. (2002), we propose studying leadership behavior patterns that outreach task and relations orientation as initial work by Kerr and Jermier (1978).

Based on these proposals, the present research is designed to offer a fresh perspective to contingency leadership literature by exploring a new set of variables. First, this study focuses on subordinate's perceptions of leadership as represented by subordinate assessed leader-member exchange (LMX) rather than the conventional focus on leader's behaviors, following Dionne et al. (2002). The concern with the quality of leader-subordinate relations from the subordinate's perspective leads to the proposal that the subordinate's perspective of a high-quality relationship is likely to have a positive impact on subordinate performance, as this relationship is likely to increase communication, trust, and support that provides assistance for effective employee performance (Graen & Uhl-Bien, 1995).

Then, this study examines previously untested contingency variables. While previous research examined subordinate human capital (see Podsakoff, MacKenzie, & Bommer, 1996), no empirical research so far has examined leader's human capital as a leadership contingency variable. Inspired by Vecchio (1990) when proposing human capital as a possible source of leadership replacement, this study suggests that leader's human capital and social capital provide leadership skills that may become relevant when facing particular leadership styles. Testing new independent variables may shed additional light on contingency approaches to leadership.

This paper improves the current state of research on contingency leadership focusing on moderators of LMX, offering a basis for considering new leadership attributes to evaluate contingency approaches. In particular, it examines leader's human capital and social capital in the form of education and organizational tenure as a substitute for a quality relationship between leader and subordinate. This paper examines the moderation effects of these variables over appraised performance and organizational citizenship behavior (OCB) of 422 subordinates in Portuguese organizations.

Theory and Empirical Research

A contingency perspective to leadership emerged from research with the least preferred co-worker scale (Fiedler, 1967), followed by other contingency theories of leadership such as the path-goal theory (House, 1971) or substitutes for leadership (Kerr & Jermier, 1978). These theories asserted that characteristics of the organizational situation were important determinants of leadership style effectiveness. For example, when the subordinate is a highly-trained professional carrying considerable ability and job knowledge, the subordinate should be able to work autonomously with no direction from a hierarchical leader. In this case, having directive leaderships is critical, since the employee relies on the leadership alternatives of human capital to complete tasks in a competent manner. Kerr and Jermier (1978) also described leadership neutralizers that block the leader's

efforts to influence subordinates unintentionally. Howell, Dorfman, and Kerr (1986) later added leadership enhancers to the model which are situational factors that increase the impact of a leadership behavior pattern on subordinates, besides their will.

Research on leadership substitutes has been relatively active (Howell & Dorfman, 1981; Howell et al., 1986) generating enough studies to produce a meta-analysis of 73 published articles on the topic by Podsakoff et al. (1996). The authors noted that there are many flaws in these studies, such as poor reliabilities and inappropriate moderated regression analyses. Furthermore, they noted that the statistically significant outcomes in their meta-analysis occurred at chance levels. Dionne et al. (2005) later pointed out problems with one source data collection efforts that contain common method variance. These researchers concluded with serious concerns about the viability of that line of research, consequently the research efforts diminished.

In contrast to Podsakoff et al. (1996), Villa et al. (2003) reported significant improvements towards alternatives for leadership as long as hypotheses are clearly specified and data are correctly analyzed rather than using a "kitchen sink" strategy. Nonetheless, even in this case, results are only sustained by theory-based hypotheses on 21% of cases, which is better than chance levels.

A study of Dionne et al. (2002) makes systematic efforts to reduce common method variance by gathering data from three sources. The study examines five alternatives for leadership that included traditional variables such as subordinate attributes, task variability, organizational formalization/flexibility, and LMX to represent a relational leadership style. Moderation effects received minimal corroboration, concluding that "leadership, and generally not substitutes, makes a difference" (Dionne et al., 2002, p. 463). However, main effects that include both situational variables and leadership style contribute to subordinate performance as a dependent variable.

When summarizing the state of the literature, Dionne et al. (2005) invited more work and suggested that revisions to research methods as well as theory development could provide more appropriate tests of alternatives for leadership theory before categorically rejecting it. In particular, the extant literature largely uses scales developed by Kerr and Jermier (1978) or task characteristics from the job design literature (see Podsakoff et al., 1996). As long as similar methodological procedures are used, then similar results are expected.

Research does continue to find contingency effects with measures for different leadership styles and different situation circumstances. For example, Hui, Chiu, Yu, Cheng, and Tse (2007) reported that low-quality service climate could be considered as a hard situation to be a leader, and in such kind of environment, effective leadership played a compensatory role in relation to external customer service. Bezuijen, van Dam, van den Berg, and Thierry (2010) reported that LMX holds employee's engagement in learning activities when under goal difficulty conditions. In a similar way, Loi, Ngo, Zhang, and Lau (2011) reported that LMX has a stronger influence on organizational citizenship behavior when employees perceive less job security environment.

In sum, recent research would suggest that the contingency leadership literature could benefit by examining different sets of variables beyond the Kerr and Jermier (1978) scales and the traditional indicators. In particular, two of these studies examined LMX as a leadership style suggesting that LMX could be a fruitful variable to consider in the contingency leadership literature research.

Current Research

Based on recent research and extant summaries of previous research, this study examines subordinate assessed LMX, as this seems to provide a successful way for examining contingency leadership. LMX is

concerned with the quality of relationship between subordinate and supervisor (Graen & Uhl-Bien, 1995), a high-quality relationship can be linked to attributes such as trust, consideration, communication, and support (Kirkpatrick & Locke, 1996; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Shamir & Lapidot, 2003). Subordinate LMX is concerned with such attributes from the subordinate's perspective. A subordinate who perceives a quality relationship with the supervisor is likely to be committed to the leader.

Since organizations seek to delegate and empower employees, studying subordinate issues and perspectives has become increasingly popular (Howell & Mendez, 2008). Several programs of leadership research have addressed subordinate roles, including servant leadership (Greenleaf, 1977; Liden, Wayne, Zhao, & Henderson, 2008), self-leadership (Manz & Sims, 1987), transformational leadership (Bass, 1985), and relational leadership (Brower, Schoorman, & Tan, 2000). Each of these research programs implies that achieving effective leadership requires dedicated subordinates.

When examining subordinate roles, Howell and Mendez (2008) described an interactional model wherein the leader and the subordinate jointly enact a relationship. This study uses subordinate LMX to represent such relationship for two reasons: (1) The subordinates' perceptions of their LMX will likely determine their degree of commitment and dedication needed for effective job performance and OCB. As a result, both of subordinate performance dimensions suggest that LMX is an important leadership dimension to use when considering alternatives for leadership; and (2) Subordinate assessed LMX avoids common source problems often found in earlier research on contingency leadership.

Contingency leadership theory hypothesizes that numerous factors may moderate the relationship between leadership style and subordinate's outcome. Consistently, Howell and Mendez (2008) assumed that the quality of a relationship may be moderated by both leadership attributes and organizational characteristics; therefore, it examines how subordinate LMX interacts with leader and organizational characteristics looking for moderation effects that uncover alternatives, neutralizers, or enhancers for LMX.

As Villa et al. (2003) suggested, baseline work examines the main effects for LMX. LMX is commonly associated with constructs such as trust, loyalty, and communication. Existing research suggests that LMX is tied to subordinate job performance (Golden & Veiga, 2008; Gerstner & Day, 1997) and OCB (Hsiung & Tsai, 2009). Each of these is likely to contribute to both appraised performance and OCB in different ways, since subordinate LMX creates a reciprocal relationship with a leader (Uhl-Bien & Maslyn, 2003; Brower et al., 2000). We then propose the following hypothesis:

H1: There is a positive relationship between subordinate LMX and appraised job performance.

There is an intertwining of the leader and the subordinate, as the quality of the relationship improves. Outcomes of this reciprocal relationship should be manifested in both subordinate job performance and OCB creating a subordinate's commitment to underwriting the goals and initiatives of the leader. Following previous research, it is also proposed that there is a relationship between LMX and employee performance. Extending previous research, scholars have identified differences between OCB-O and OCB-I (Coleman & Borman, 2000). The former addresses cooperative behaviors that demonstrate organizational loyalty, whereas the latter addresses cooperative behaviors that demonstrate support of peers. We then propose the following hypothesis:

H2: There is a positive relationship between subordinate LMX and OCB-O.

Lavelle, Brockner, Konovsky, Price, Henlyey, Taneja, and Vinekar (2009) found evidence to suggest that when addressing OCB, it should be considered OCB target similarity, since mixed pressures occur; organizational dynamics are more likely to influence OCB-O, while interpersonal and work group dynamics are

more likely to influence OCB-I. Comparable research by Shin and Choi (2010) associates person group fit to OCB-I. Given that leaders are more likely to embody attitudes towards the organization than towards subordinates, as a consequence, LMX is suggested to be more closely tied to OCB-O than OCB-I. Thus, we proposed our next hypothesis:

H3: Subordinate LMX is more strongly tied to OCB-O than to OCB-I.

The major thrust of this paper focuses on possible contingency leadership effects that would replace subordinate assessed LMX. As stated in the first three hypotheses, this study anticipates that leaders who engage in relational building efforts and have a high-quality relationship with subordinates are likely to develop dedicated subordinates as represented by both task performance and OCB. However, there are alternative ways to achieve these results. In particular, leader's human capital (e.g., leader's education) and leader's social capital (e.g., leader's organizational tenure) may be effective replacements for subordinate LMX.

Human capital is defined as the knowledge that each individual has and generates (Petrasch, 1996) encompassing all individual capabilities, knowledge, skill, and experience of an organization's employees and managers (Edvinsson & Malone, 1997). It includes employee know-how, education, work-related knowledge, and work-related experience, and it is also influenced by time-related characteristics such as average age, tenure, and turnover (Bozzolan, Favotto, & Ricceri, 2003). Human capital provides the leaders with assets that enable them to work more effectively with subordinates (Boeker, 1997; Smith, Collins, & Clark, 2005). Individuals with higher levels of such assets may be able to use them in lieu of LMX. Those with lower levels of human capital assets may need a stronger LMX to compensate for these shortages. There are trade-offs in managing resource exchange within relationships (e.g., trust, recognition). One may be able to build up numerous safeguards to minimize employee opportunism; however, there are transaction costs in terms of monitoring others (Werbel & Henriques, 2009). Similar to trust, education may foster the reciprocity of relationships (Wells & Kipnis, 2001; Hopkins & Weathington, 2006), which could replace LMX. Leader's education may be an alternative to LMX, as it is likely to supply the knowledge base needed to provide enough expertise to manage subordinates.

Social capital entails elements such as leader's tenure, since it involves experience, know-how, competence, and personal retention (Curado, Henriques, & Bontis, 2011; Bozzolan et al., 2003) and since the longer the leaders stay in an organization, the greater their breadth and depth of social networks within the organization are (Tsai, 2001).

The leader's need to establish effective relationships with subordinates diminishes when using such alternatives. In contrast, leaders who are short on such knowledge are likely to benefit by having effective interpersonal relationships with their subordinates in order to enhance subordinate job performance and OCB. This argument parallels a similar one by Kerr and Jermier (1978) for subordinate education and suggests the following hypotheses:

H4: Leader's education will substitute for the effects of subordinate LMX on job performance.

H5: Leader's education will substitute for the effects of subordinate LMX on OCB-O.

Leader's tenure may be an alternative to LMX, since it is likely to stimulate long interpersonal relationships critical to manage subordinates (Henriques & Curado, 2009; Nonaka, 1994). The leader's need to establish effective relationships with subordinates diminishes when using such alternatives. In contrast, leaders who are short on such long interpersonal relationships are likely to benefit by having effective interpersonal relationships with their subordinates in order to enhance subordinate job performance and OCB.

To the extent that organizational tenure involves social capital, it is reasonable to suggest that organizational tenure is an enhancer for the quality of relationship as represented by subordinate LMX (Henriques & Curado, 2009; Nonaka, 1994). High-quality relationships between leaders and subordinates entail social capital with network connections (Sparrowe & Liden, 1997; Cross & Cummings, 2004). Consequently, a long-tenured leader is likely to enclose an extended social network. Since LMX provides a basis for the larger social network (Graen & Uhl-Bein, 1995), leader's tenure may therefore enhance the reciprocal dynamics between both LMX members. The inclusion of the subordinate leader's network is likely to provide resources to the subordinate that will improve subordinate task performance and OCB. Thus, we designed the following hypotheses:

H6: Leader's organizational tenure will enhance the effects of subordinate LMX on job performance.

H7: Leader's organizational tenure will enhance the effects of subordinate LMX on OCB-O.

Methods

Sample

The sample for this study was collected in 30 Portuguese public (five) and private (25) sector organizations, presenting an average size of 673.8 employees, from extractive (6%), industry (36%), and services (58%). For all but the largest organization (13,841 employees), the totality of supervisors was asked to participate in the survey. For the largest organization, an organizational representative selected supervisors from different divisions on a proportional basis.

Across all organizations, each supervisor was asked to identify up to six subordinates to participate in the survey. The supervisor then completed the supervisory survey for each subordinate and mailed the completed survey instrument directly to the research team, following that, the research team sent a subordinate survey to all identified subordinates. Subordinates then returned the surveys to the research team directly. A numbering system was used to match the supervisor and the subordinate survey instruments. The sample's unit of the analysis is the matched set of vertical dyads.

Of 153 supervisors invited to participate in the study, 124 supervisors completed the instrument focusing at least on one subordinate, accounting for 81% supervisory response rate. A total of 495 surveys to the subordinates were mailed, originating a 96% (475) response rate. Collected surveys included 121 mismatches and 51 incomplete ones. Useable matched surveys (303) originated a final 61% response rate, presenting 77% of first-line supervisors, 35% of whom are female and 42 years old on average. Supervisors were on average seven years in position and had 15.14 years tenure. The average year of education was 12.44 with 29.9% of the supervisors having a degree (16 years in the school). Regarding subordinates, 51% of them are female and 39 years old on average. Subordinates were on average 10.8 years in position and had 13.85 years tenure. The average year of education was 10.77 with 13.7% of the subordinates having a degree (16 years in the school). The average number of subordinates per supervisor responding to the survey was 3, with 4 being the highest and 1 being the lowest.

Measures

To avoid issues of common method variance, this study employs a two source data base with demographic variables. Supervisors provided appraised subordinate job performance. Subordinates assessed perceptions of relational quality. Leader's education, organizational tenure, and organizational size were provided by the

leader. Subordinates provided information about their education and organizational tenure. Thus, there is no shared common method variance of perceptual variables.

In this study, both appraised job performance and OCB served as measures of employee job performance, assuming that appropriate quality relationships between leaders and subordinates should lead to higher levels of performance. Appraised job performance was assessed by the supervisor and adopted from items by Viswesvaran, Ones, and Schmidt (1996). The scale consisted of eight items that assessed the behavioral aspects of job performance, such as quality of work, quantity of work, job knowledge, interpersonal skills, and dedication to the organization. A 5-point Likert scale (1967) was used. It was anchored by "worse than others" and "better than others" ($\alpha = 0.96$). Sample items in this measure include: "knows his/her job", "amount of his/her work", and "dedication to the organization".

OCB was measured using the scale by Podsakoff et al. (1990). Twenty items were used with a 7-point Likert scale anchored by "strongly disagree" and "strongly agree". OCB-O largely consisted of items related to conscientiousness. Sample items in this measure include: "helps orienting others, as well as new comers, even when that is not requested by his/her post", "is available to use his/her time helping the ones having problems at work", and "is one of the most conscientious workers". It consisted of 10 items that addressed the following organizational rules ($\alpha = 0.89$). OCB-I consisted of items largely related to altruism. Sample items in this measure include: "answers messages, phone calls, and information requests very quickly", "respects the others' rights to access shared resources (administrative, tools, materials, etc.)", and "participates in an active and organized way in the department/organization meetings". It consisted of 10 items that addressed helping others ($\alpha = 0.89$).

The independent variable is LMX. LMX 7 was used to assess LMX using a 5-point Likert scale developed by Graen, Liden, and Hoel (1982). Participants responded to this 7-item measure using a 7-point response scale. Sample items in this measure include: "How well does your supervisor understand your job problems and needs?" (Response options range from "not at all" to "always"), "I have enough confidence in my supervisor that I would defend and justify his/her decision if he/she were not present to do so." (Response options range from "never" to "always"), and "How would you characterize your working relationship with your supervisor?" (Response options range from "extremely poor" to "extremely good") ($\alpha = 0.86$).

Demographic data on the supervisors and subordinates' education (number of years in school), organizational tenure (number of years in the organization), gender (coded as zero for women and one for men), and organizational size (measured by the number of employees (means and standard deviations)) are reported in Table 1.

Control Variables

We used subordinate's education, organizational tenure, gender, and when appropriate, organizational size as control variables. Each of them could affect the criteria variables and may have shared variance with the alternative variables.

Analysis

Hierarchical linear modeling (HLM) was used to test hypotheses. H1, H2, and H3 address the main effects of LMX on assessed job performance and OCB. The substitution effects are tested with H4, H5, H6, and H7.

Results

Confirmatory factor analysis was run for each scale (OCB's scale: comparative fit index (CFI) = 0.928 and root mean square error approximation (RMSEA) = 0.079; LMX 7: CFI = 0.970 and RMSEA = 0.081; and appraised job performance: CFI = 0.954 and RMSEA = 0.084). Table 1 provides evidence on correlations among variables and presents Cronbach's alphas for each scale used (Subordinate LMX $\alpha = 0.86$; OCB-O $\alpha = 0.89$; OCB-I $\alpha = 0.89$; and appraised performance $\alpha = 0.96$). Subordinate education is significantly associated with leader's education ($r = 0.34$), subordinate LMX ($r = 0.09$), OCB-I ($r = 0.20$), and subordinate organizational tenure ($r = -0.28$). Subordinate organizational tenure is significantly associated with organizational size (number of employees) ($r = 0.46$), leader's organizational tenure ($r = 0.38$), and OCB-O ($r = 0.09$). Organizational size (number of employees) is also significantly associated with leader's education ($r = -0.22$) and leader's organizational tenure ($r = 0.54$). Other findings sustain the main effects of LMX with the dependent variables. Subordinate LMX is also associated with leader's assessed OCB-O ($r = 0.30$), OCB-I ($r = 0.18$), and appraised performance ($r = 0.24$).

Table 1

Descriptive Statistics and Zero-Order Correlations for All

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1. Subordinate's education	10.77	3.22											
2. Subordinate's organizational tenure	13.85	9.48	-0.28**										
3. Subordinate's gender	0.50	0.50	0.17	-0.02									
4. Organizational size	8,576.88	6,654.86	0.03	0.46**	0.00								
5. Leader's education	12.44	2.94	0.34**	-0.06	0.06	-0.22**							
6. Leader's organizational tenure	15.14	8.41	0.01	0.38**	-0.01	0.54**	-0.32						
7. Leader's gender	0.65	0.48	0.04	-0.01	0.16**	-0.03	0.30**	0.03					
8. Subordinate LMX	3.71	0.67	0.09*	-0.11	-0.07	0.08	-0.08	0.06	-0.01	(0.86)			
9. OCB-O	5.76	1.16	0.02	-0.09*	0.00	-0.08	-0.03	0.01	0.06	0.30**	(0.89)		
10. OCB-I	5.57	1.06	0.20**	-0.07	-0.03	0.04	0.01	0.10*	0.02	0.18**	0.59**	(0.89)	
11. Appraised performance	3.22	0.90	0.06	-0.04	0.05	-0.06	-0.12**	-0.01	0.04	0.24**	0.43**	0.55**	(0.96)

Notes. *: $p < 0.05$; **: $p < 0.01$; and α results are between parentheses.

HLM is used to test the hypotheses formulated. This statistical procedure facilitates analysis of multilevel data, recognizing that individuals are nested within groups; information about several subordinates is nested within supervisors and supervisors are nested within organizations. Consequently, the analysis simultaneously accounts for variances and covariances both within and between levels (Raudenbush & Bryk, 2002).

Table 2 presents a summary of HLM results testing H1 and H4 and the contingency effects considering leader's education (H3 and H4). Independent of control variables, there are effects for subordinate LMX on appraised performance ($\hat{\gamma} = 1.37$; $p < 0.001$). Thus, H1 is supported. Leader's education is also positively related to appraised performance ($\hat{\gamma} = 0.31$; $p < 0.001$). Regarding H4, the interaction term has a statistical

significance suggesting that a contingency effect occurs with leader's education ($\hat{\gamma} = -0.08$; $p < 0.001$). Thus, H4 is supported.

Table 2

HLM Results for Individual and Cross-Level Effects Testing Leader's Education as an LMX Substitute and Its Impacts on Appraised Performance

Leader's education	Model 1: Appraised performance	
	$\hat{\gamma}$	p
Intercept	-2.24	0.052
Control variables		
Subordinate's gender	0.00	0.998
Leader's gender	0.02	0.894
Organizational size	0.00	0.764
Subordinate's tenure	0.00	0.771
Subordinate's education	0.01	0.644
Main effects		
Leader's education	0.31	0.000
Subordinate LMX	1.37	0.000
Interaction term		
Interaction term	-0.08	0.001
Fit score	-2 Restricted log likelihood	9,831.164

Table 3

HLM Results for Individual and Cross-Level Effects Testing Leader's Education as an LMX Substitute and Its Impacts on OCB-O and OCB-I

Leader's education	Model 2: OCB-O		Model 3: OCB-I	
	$\hat{\gamma}$	p	$\hat{\gamma}$	p
Intercept	1.12	0.486	2.48	0.085
Control variables				
Subordinate's gender	0.02	0.847	-0.10	0.313
Leader's gender	0.21	0.137	0.12	0.454
Organizational size	0.00	0.095	0.00	0.534
Subordinate's tenure	0.00	0.580	0.00	0.464
Subordinate's education	0.00	0.814	0.04	0.042
Main effects				
Leader's education	0.21	0.078	0.11	0.312
Subordinate LMX	1.36	0.002	0.71	0.060
Interaction term				
Interaction term	-0.06	0.057	-0.03	0.351
Fit score	-2 Restricted log likelihood	1,259.113	1,156.105	

Table 3 presents a summary of HLM results testing H2, H3, and H5. Independent of control variables, there are effects for subordinate LMX on OCB-O ($\hat{\gamma} = 1.36$; $p < 0.002$), supporting H2. Regarding H3, subordinate LMX seems to be more tight to OCB-O ($\hat{\gamma} = 1.36$; $p < 0.002$) than to OCB-I ($\hat{\gamma} = 0.71$; $p < 0.060$), showing support to H3. Considering H5, the results of the interaction term ($\hat{\gamma} = -0.06$; $p < 0.057$) suggest that there is a weak relation. Nevertheless, we can consider at the limit of significance that leader's education moderates the effect of subordinate LMX on OCB-O.

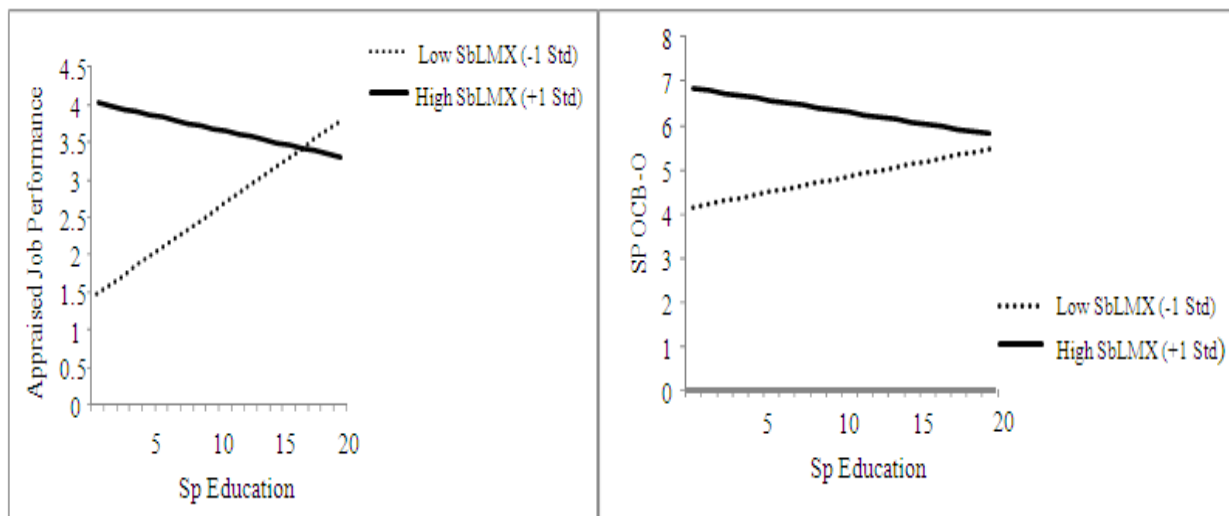


Figure 1. Interaction of leader's education and subordinate LMX on appraised performance and OCB-O.

Figure 1 shows the similar nature of the interaction effect between leader's education and subordinate LMX on appraised job performance and OCB-O. The interaction effect analysis seems to identify a substitution effect; when leader's education advances, the subordinate's performance with low LMX (mean -1 standard deviation) also increases, although the substitution effect is sharper on appraised performance than on OCB-O.

Table 4

HLM Results for Individual and Cross-Level Effects Testing Leader's Organizational Tenure as an LMX Substitute and Its Impact on Appraised Performance

Organizational tenure	Model 1: Appraised performance	
	$\hat{\gamma}$	p
Intercept	2.608	0.000
Control variables		
Subordinate's gender	0.000	0.999
Leader's gender	0.038	0.788
Organizational size	0.000	0.605
Subordinate's education	0.010	0.473
Subordinate's tenure	0.001	0.841
Main effects		
Leader's tenure	-0.057	0.027
Subordinate LMX	0.118	0.293
Interaction term		
Interaction term	0.016	0.013
Fit score	-2 Restricted log likelihood	9,946.691

Table 4 presents a summary of HLM results testing H6. Results on the effects of the interaction term ($\hat{\gamma} = 0.016$; $p < 0.013$) are within acceptance levels, leading to accepting H6. Independent of control variables, there are main effects for leader's tenure as a dependent variable for appraised performance ($\hat{\gamma} = -0.057$; $p < 0.027$).

Table 5
HLM Results for Individual and Cross-Level Effects Testing Leader's Organizational Tenure as an LMX Substitute and Its Impacts on OCB-O and OCB-I

Leader's education	Model 2: OCB-O		Model 3: OCB-I	
	\hat{y}	p	\hat{y}	p
Intercept	4.888	0.000	3.876	0.000
Control variables				
Subordinate's gender	0.029	0.798	-0.101	0.311
Leader's gender	0.163	0.231	0.127	0.421
Organizational size	0.000	0.083	0.000	0.286
Subordinate's education	-0.012	0.544	0.040	0.027
Subordinate's tenure	-0.007	0.322	0.004	0.530
Main effects				
Leader's tenure	-0.061	0.072	0.004	0.902
Subordinate LMX	0.283	0.075	0.335	0.017
Interaction term				
Interaction term	0.019	0.035	0.002	0.830
Fit score	-2 Restricted log likelihood 1,262.232		1,160.612	

Table 5 presents a summary of HLM results testing H7. Regarding the main effects for subordinate LMX as a dependent variable for OCB-O ($\hat{y} = 0.283; p < 0.075$) and for OCB-I ($\hat{y} = 0.335; p < 0.017$) and leader's tenure as a dependent variable for OCB-O ($\hat{y} = -0.061; p < 0.072$), results are significant. When addressing the interaction effects, they are statistically significant for OCB-O ($\hat{y} = 0.019; p < 0.035$), supporting H7.

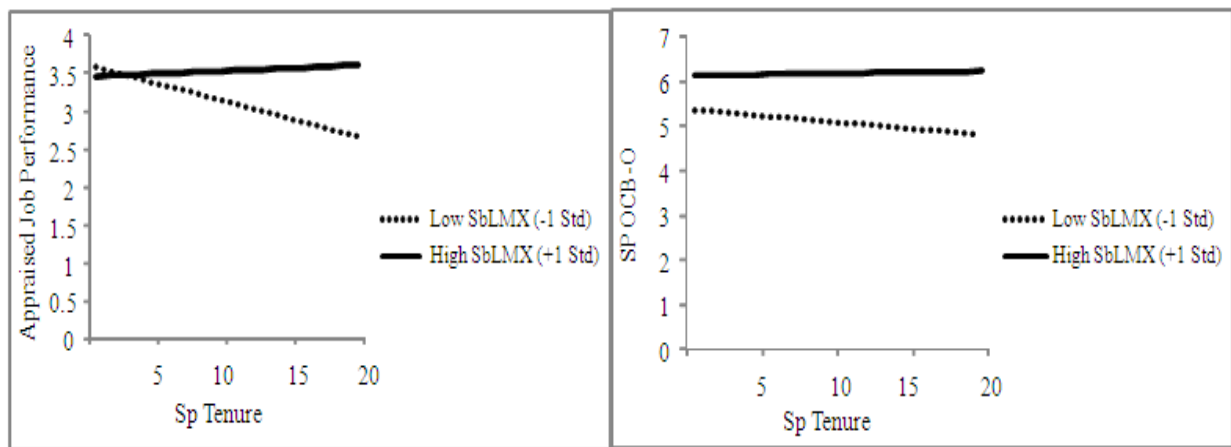


Figure 2. Interaction of leader's tenure and subordinate LMX on appraised performance and OCB-O.

Figure 2 provides a sample of the interaction effects on appraised job performance and OCB-O. For low subordinate LMX (mean -1 standard deviation), leader's organizational tenure does not enhance appraised job performance and OCB-O. For high subordinate LMX (mean +1 standard deviation), leader's organizational tenure enhances the effects on appraised performance and OCB-O (marginally). Thus, H6 and H7 are not rejected.

The most significant change in -2 Restricted log likelihood occurs with both models addressing appraised performance indicating more fitted models.

Discussion

This study tests seven hypotheses related to contingency variables for leadership. The first two hypotheses test the main effects of subordinate LMX on job performance and OCB-O. Empirical results support the hypotheses and largely confirm previous research showing that the greater the LMX, the greater the subordinate's job performance and OCB (Gerstner & Day, 1997; Golden & Veiga, 2008).

H3 tests the tightness of subordinate LMX on OCB-O behavior when compared to OCB-I behavior. Empirical results reveal that leaders in the study are more likely to embody attitudes towards the organization than towards subordinates, reassuring the accuracy of the sample to test the subsequent hypotheses. Such findings are consistent with the works of Lavelle et al. (2009) and Shin and Choi (2010).

This study addresses leader's human capital using leader's education and leader's tenure as moderators for leadership. Regarding H4 and H5, leader's education is likely to create more effective job performance for those leaders with low LMX than with high LMX, and a similar effect occurs for OCB-O levels. Results suggest that leader's education is likely to provide a set of leader's assets that can compensate for a lower-quality subordinate's LMX.

H6 and H7 examine leader's organizational tenure. Results suggest that organizational tenure marginally enhances the positive impact of high-quality subordinate's LMX on subordinate performance. High LMX has a stronger effect on performance when leader's tenure is longer. Accepting a subordinate into a leader's social network (Sparrowe & Liden, 1997) may be an important element in improving subordinate performance and OCB. However, this would be more appropriate for those with a more developed social network. Organizations can be viewed as a network of complimentary roles that include both leaders and subordinates (Biddle, 1979). This network of relationships is likely to facilitate effective performance (Flum, 2001). Those presenting higher subordinate LMX and organizational tenure are likely to have better established networks of social relationships and higher subordinate performance.

One of the thrusts of the present research is exploring a new set of variables offering a fresh perspective to contingency leadership literature and still avoiding common method variance. Another original contribution regards addressing substitution effects of leader's education and leader's organizational tenure with subordinate LMX using HLM analysis. Each of the interaction analyses consistently demonstrated statistically significant interaction effects in the hypothesized directions. Leader's education substituted for subordinate LMX, whereas leader's organizational tenure enhanced subordinate LMX.

Overall, these results offer alternatives for contingency approaches to leadership, exploring different categories of variables to assess the viability of the substitutes for the leadership construct. First, rather than focusing on traditional leader behaviors, the emphasis is on subordinates' perceptions of relational leadership. Using subordinate assessed LMX, it recognizes the relevancy of relational leadership and the quality of leader and subordinate relations from the subordinate's perspective. This research falls in line with other researches in a stronger way, given the method and measures used, which suggests that LMX may be an appropriate alternative variable for leadership. Second, this study examines leader's human capital variables as alternatives for relational leadership. While previous research examines subordinate's human capital (Villa et al., 2003), the present research attempts to refocus the viability of contingency approaches to leadership.

Comparing the results of this study with previous work on moderators for leadership research, one wonders whether the leader's human capital is more critical as a moderator for relational leadership than subordinate's human capital and social capital. More research is needed to address this question. Perhaps, the main effects of leader's human capital and social capital overwhelm any other contingency effects.

Limitations and Future Work

There are two important sampling limitations in this study. Firstly, it is the use of a Portuguese sample. Labor laws in Europe and Portugal, in particular, provide more job security for employees, than in the United States (US). In practice, this is likely to create more variability for job performance and for OCB, as it is relatively more difficult to terminate employees for unsatisfactory performance. The extent to which our findings will generalize to other countries, such as the US with different labor laws, is uncertain.

Secondly, there may also be an issue concerning sampling procedures. Each supervisor named 1-6 subordinates to participate in this study. One could expect supervisors to select more trustworthy subordinates. However, given the subordinate's appraised mean performance level of 3.22 and the subordinate's LMX mean level of 3.71, the selected sample does not appear to have inflated performance ratings or overly favorable LMX as shown in Table 1. Nonetheless, a truly random sample would have been more appropriate. The current sampling process was intended to get a higher response rate and appeared to be successful in achieving that goal.

Future research should try to identify which leader's assets are specifically related to education. Leader's communication skills, general intelligence, and/or problem-solving skills may all prove to be relevant substitutes for LMX. The current data set only allowed us to focus on leader's education. Similar questions arise when concerning leader's organizational tenure; the leader's rank in the organization, acting as a mentor, and/or the centrality in the organization's interpersonal net may all prove to be relevant substitutes for LMX.

In summary, findings support the validity of studying alternatives to contingency theories of leadership. Results reinforce the assertion by Lorsch (2008) that leadership scholars who focus on general leadership approaches for all leaders regardless of the situation may be misguided. The findings also suggest that leader's human capital as opposed to subordinate's human capital deserves more careful attention as a possible alternative for leadership.

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