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Revisiting the Association of LMX Quality With Perceived Role Stressors: Evidence for Inverted U Relationships Among Immigrant Employees

Guowei Jian¹

Abstract

Although earlier research on leader-member exchange (LMX) theory supported a negative linear relationship between LMX quality and role stressors, recent studies suggest that a more complex, nonlinear relationship may exist between LMX quality and variables traditionally associated with it. Based on communication research of LMX and social exchange theory, the aim of this article is to revisit the relationship between LMX quality and role stressors by reconceptualizing their associations and testing the hypotheses of an inverted U relationship. A survey study among immigrant employees revealed differential effects of LMX quality on role stressors. In particular, with role conflict and role overload LMX quality was found to have an inverted U relationship, but a negative linear relationship with role ambiguity. These findings challenge the prevailing assumptions and carry significant theoretical and practical implications.

Keywords

leader-member exchange, LMX, leadership communication, leadership, stress, stressor, role

Job-related stress has become a common experience for employees in today's workplace and its devastating toll on the human body is becoming ever more clear as it has been linked to serious health problems, such as coronary heart disease (Aboa-Eboulé et al., 2007; De Bacquer et al., 2005; Landsbergis, Schnall, Pickering, Warren, & Schwartz, 2003; National

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Institute for Occupational Safety and Health, 1999). Some significant stressors in the work environment are related to work roles, including role ambiguity, role conflict, and role overload (Kahn, Wolfe, Quinn, & Snoek, 1964). As leaders, especially direct supervisors or managers, play a significant and integral part in shaping the role of their employees (Graen & Uhl-Bien, 1995), leader-member relationship has drawn scholarly attention to its association with role stressors.

Studies in the past have supported the theory that leader-member exchange (LMX) quality is negatively related to the perceived level of role stressors (Gerstner & Day, 1997; Nelson, Basu, & Purdie, 1998; Tanner, Dunn, & Chonko, 1993; Tordera, González-Romá, & Peiró, 2008). This pattern has been conceptually attributed to the varied levels of communication in LMXs. However, empirical findings from communication research of LMX (e.g., Fairhurst, 1993; Mueller & Lee, 2002; Waldron, 1991) provide evidence that challenges this conventional logic. Moreover, insights from social exchange theory (Blau, 1964; Cropanzano & Mitchell, 2005) suggest a more complex association between LMX and role stressors. Additionally, recent studies have found curvilinear relationships between LMX and several outcome variables, such as stress (Harris & Kacmar, 2006), job tension (Hochwarter & Byrne, 2005), intent to turnover (Harris, Kacmar, & Witt, 2005; Kim, Lee, & Carlson, 2010), and actual turnover (Morrow, Suzuki, Crum, & Pautsch, 2005). These findings indicate the possibility of rather complex associations of LMX with role stressors. Inspired by these developments, the purpose of this study is to revisit the association between LMX quality and role stressors by reconceptualizing the connection and testing the hypotheses of a curvilinear relationship.

The present study makes several contributions to the literature. First, the findings further the theory of LMX and role stressors and help reconceptualize the role that communication plays in linking the two constructs. The study paves the ground for future finer-grained theorizing and analysis of communication in role definition and negotiation in relation to each of the three role stressors. At the practical level, managers may find the results useful in assessing employee perception regarding their stressors and taking mindful communicative actions.

The remainder of the article will proceed in the following order. First, I will review the literature with regard to LMX and role stressors and advance several hypotheses. The methods section will follow with information on sampling, data collection, measurement, and data analysis. The final section will discuss the theoretical and practical implications of the statistical results, reflect on the limitations of the study, and offer suggestions for future research.

The LMX Framework

The theory of LMX has attracted significant scholarly attention in its over three-decade long history (Dulebohn et al., 2011; Gerstner & Day, 1997; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997; Schriesheim, Castro, & Coglisier, 1999; Van Breukelen, Schyns, & Le Blanc, 2006). Taking a focus on the dyadic relationship, LMX theory proposes that leaders develop differential relationships with their subordi-

nates, forming in-groups and out-groups. Leaders form high quality LMX relationships with in-group members characterized by social exchange of mutual respect and influence, formal and informal support, feedback discretion latitude, and so on, whereas, with out-group members, leaders develop low quality relationships characterized by contractual and economic exchange of pay and performance (Graen & Uhl-Bien, 1995; Dulebohn, Bommer, Liden, Brouer, & Ferris, 2011). As Graen and Uhl-Bien (1995) described, low quality LMX exchange resembles transactional leadership practices (Bass, 1990), which focus on economic and material transactions, whereas high quality LMX exchange aligns closely with transformational leadership. By far, scholars have produced overwhelming empirical evidence demonstrating the significant association of LMX with a broad range of perceptual and behavioral outcomes, such as turnover, job satisfaction, organizational commitment, organizational citizenship behavior, and role stressors (for review, see Gerstner & Day, 1997; Dulebohn et al., 2011).

Lead-member interaction is a communicative process that undergirds the association between LMX and many of its correlates including role stressors. Hence, a sophisticated understanding of communication in LMX takes on special importance. On one hand, this line of research offers evidence supporting various aspects of LMX theory. For example, Mueller and Lee (2002) found that subordinates within higher quality LMXs tend to report higher levels of communication satisfaction. Fairhurst (1993) reported that aligning and accommodating conversational forms characterize high quality LMXs while polarizing forms mark low quality LMXs. On the other hand, however, communication research helps challenge conventional understandings about LMX, especially, the linear association between LMX and its correlates. For example, it is commonly believed that formal contractual exchanges decrease as LMX quality increases (Graen & Scandura, 1987). Waldron's (1991) study on maintenance communication revealed that, contrary to this conventional expectation, the use of contractual and obligatory maintenance tactics, together with informal and personal tactics, increases in medium and high quality LMXs. In a longitudinal study of the adjustment of job transferees, Kramer (1995) found that, unlike what a linear pattern predicted, medium LMX quality is, in fact, associated with the most positive adjustment. Fairhurst is one of the most notable critics on the potential linear bias in LMX theorizing. Citing dialectical theories in relational development (Baxter, 1990), Fairhurst (1993) argues that, like other interpersonal relationships, relational contradictions may exist in LMX and it is plausible that relational development follows a circular and dialectical movement instead of a linear progression. Taken together, this growing body of communication research paints a rather complex look of LMX development and challenges the conventional linear conception with regard to LMX development and its relationship with other behavioral and perceptual correlates.

Additionally, as noted earlier, several recent studies have begun to reveal rather complex relationships between LMX and several outcome variables including stress (Harris & Kacmar, 2006; Hochwarter & Byrne, 2005), intent to turnover (Harris et al., 2005; Kim et al., 2010), and actual turnover (Morrow et al., 2005). For example, Harris and Kacmar (2006) found a U-shaped curvilinear relationship between LMX quality and stress. A similar relationship between LMX quality and voluntary turnover was also identified by Morrow et al.

(2005). Joining this emerging stream of investigations, the present study focuses on the association between LMX quality and role stressors. The next two sections first review existing research on role stressors and its association with LMX quality and then develop hypotheses.

Role Stressors and LMX in the Workplace

Role stressors and their related antecedents and outcomes in the workplace have received strong scholarly attention in the past few decades (e.g., Fisher & Gitelson, 1983; Glazer & Beehr, 2005; Jackson & Schuler, 1985; Jex, 1998; Kahn & Byosiére, 1990; Kahn et al., 1964; Miller, Ellis, Zook, & Lyles, 1990; Peterson et al., 1995; Sonnentag & Frese, 2003). Much of this line of research has originated from the role dynamic theory (Kahn et al., 1964). According to the theory, organizational members can be defined and studied from the perspective of roles—the prescriptions and expectations they receive from other members. Role stressors, including role ambiguity, role conflict, and role overload, emerge as organizational members perceive certain psychological forces as they experience and interpret role-related information in the form of influence attempts by others (Kahn et al., 1964).

Role ambiguity refers to the extent to which an organizational member perceives as unclear about responsibilities, expectations, and evaluations related to his or her role in a position (Kahn et al., 1964; Rizzo, House, & Lirtzman, 1970). Role ambiguity, Kahn et al. (1964) argue, could result from the lack of information one needs to accomplish his or her tasks. It also can stem from one's perceived uncertainty or unpredictability regarding the expectations or evaluations others hold toward his or her behavior. Role conflict is defined as the experience of inconsistent and contradictory assignments and obligations received from others (Kahn et al., 1964; Rizzo et al., 1970). Although role conflict can stem from conflict between work and extrawork roles such as work-family conflict and from interorganizational relationships, this study focuses on work-related roles within members' employing organization. Finally, role overload refers to the extent to which one perceives that the amount of assigned work, quantitatively and/or qualitatively, exceeds what he or she can handle with the given resources without compromising quality (Peterson et al., 1995; Tordera et al., 2008). Although Kahn et al.'s conceptualization categorized role overload as a sub-dimension of role conflict, later research suggests that role overload, like the other two dimensions, constitute a separate construct (Glazer & Beehr, 2005; Kahn & Byosiére, 1990; Tordera et al., 2008).

The importance of understanding these work-related role stressors can be found in evidence that links their negative impact on various outcomes in work settings, such as organizational commitment, job satisfaction, and job performance (Addae, Parboteeah, & Velinor, 2008; Antón, 2009; Gilboa, Shirom, Fried, & Cooper, 2008; Jackson & Schuler, 1985; Jaskyte & Lee, 2009; Shirom, Gilboa, Fried, & Cooper, 2008; Tubre & Collins, 2000). To prevent or alleviate these negative outcomes, it is necessary to further probe into the sources and mechanisms that underlie work related role stressors. Of interest to the present study is the contributing effect of LMX quality.

The logic of associating LMX with role stressors becomes apparent when considering the role development process of a subordinate to which a leader contributes considerably. As Graen and Uhl-Bien (1995) demonstrated, moving from role finding to role making, and eventually to role implementation, subordinates interactively construct their relationship with leaders as strangers, acquaintances, and partners. In this process, role expectations and evaluations as given by leaders and perceived by members evolve. It seems reasonable to argue that various levels of LMX quality are associated with differentiated levels of reported role stressors by members. Most of empirical LMX research by far lends support to a negative linear association of LMX with role ambiguity, role conflict, and role overload (Gerstner & Day, 1997; Snyder & Brunning, 1985; Tanner et al., 1993; Tordera et al., 2008). That is, higher levels of LMX quality tend to be associated with lower levels of perceived role stressors. The prevailing rationale for the negative linear association centers on communication and the quality and quantity of resources exchanged. For instance, it is argued that low LMX quality relationship may have less communication in both quality and frequency (Tanner & Castleberry, 1990; Tanner et al., 1993), which would mean less feedback, information flow, coordination, and support between the two parties. A lower level of communication, therefore, results in perceived role conflict and ambiguity on the part of subordinates. Additional to communication, other kinds of resources have been mentioned as well, such as time, energy, and desirable work assignments. As a consequence of obtaining more resources, it is argued, employees in higher LMX quality relationships experience lower levels of role stressors (Nelson et al., 1998; Tordera et al., 2008).

Recently, however, this prevailing view regarding the negative linear association was put into question by Harris and Kacmar (2006) and Hochwarter and Byrne (2005). Harris and Kacmar (2006) examined the correlation between LMX quality and job stress and found empirical support for a U-shaped curvilinear relationship. Contrary to Harris and Kacmar (2006), Hochwarter and Byrne using the same measure of job stress found an inverted U relationship between the two constructs among individuals who have a personality of high negative affectivity. It is important to note that it was job stress or strain that both studies investigated, which refers to the perceived job-related physical and emotional strain, such as emotional exhaustion and nervousness, a concept different from role stressors (Miller et al., 1990). Strain results from role stressors although their relationship is complex and beyond the scope of the present study (Richardson, Yang, Vandenberg, DeJoy, & Wilson, 2008; Stetz, Stetz, & Bliese, 2006). In spite of the difference between stress and stressors, the curvilinear relationship in LMX-stress as suggested by Harris and Kacmar (2006) and Hochwarter and Byrne (2005) is provocative enough for scholars to reconsider the LMX-role stressor relationship.

Before moving on to reconceptualize the LMX-role stressor relationship, let us first look at the curvilinear LMX-stress relationship as found in Harris and Kacmar (2006). According to their study, at low and moderate levels of LMX quality, lower stress is increasingly associated with higher LMX quality; however, after LMX quality is beyond a critical point, the higher LMX quality becomes, the higher the perceived level of stress. Harris and Kacmar (2006) reasoned that although subordinates in higher LMX quality relationships benefit from increased resources, along with the benefits are higher expectations from, and obligations

to, the leader and, at some point, the obligations could become so overwhelming as to produce greater stress. “Essentially,” they stated, “for the subordinate there will be a point of diminishing return, where the aggregation of felt obligations (Gouldner, 1960) is no longer counteracted by the increased support and communication from the supervisor” (Harris & Kacmar, 2006, p. 69). Therefore, Harris and Kacmar (2006) argued that the LMX-stress relationship emerges in a quadratic pattern.

Based on Harris and Kacmar’s (2006) findings, could it be simply hypothesized that, like the LMX-stress relationship, the LMX-role stressors association is a curvilinear U-shaped relationship? The answer to this question may not be so straightforward because role stressors do not necessarily lead to stress or burnout and moderate levels of perceived role stressors may generate motivating or stimulating effects. A recent study by Onyemah (2009) particularly shows empirical evidence that an inverted U relationship exists between role stressors and employee job performance. The study found that low and moderate levels of perceived role ambiguity and conflict have positive effects on job performance while high levels of these stressors reduce levels of performance. If role stressors do not directly lead to stress (Richardson et al., 2008; Stetz et al., 2006), the LMX-role stressors relationship may not like LMX-stress. Based on social exchange theory and communication research, the following section will reconceptualize the relationship of LMX with role stressors and propose hypotheses accordingly.

Hypotheses

As reviewed earlier, existing research shows a negative linear relationship between LMX quality and all three role stressors. The logic rests on the assumption that leader-member in low quality relationships may communicate less than do those in high quality relationships, leaders in low quality relationships have fewer opportunities to convey role expectations to their members, and members, as a consequence, perceive more role ambiguity, conflict and overload. By contrast to this prevailing argument of a negative linear relationship, I would like to propose an alternative conceptualization. That is, LMX quality and role stressors have an inverted U relationship. This proposition is largely based on insights from social exchange theory (Cropanzano & Mitchell, 2005) and on findings about communication in LMX relationship development.

Social exchange theory states that human relationship emerges from, and contributes to, social exchange of economic and socioemotional resources by means of reciprocity, negotiation, rationality, and altruism among other rules and norms (Cropanzano & Mitchell, 2005). Based on the type of exchanged resources and rules involved, it is argued that work relationships could be differentiated by economic exchange relationships and social exchange relationships. The latter differs from the former in that social exchange “involves favors that create diffuse future obligations . . . and the nature of the return cannot be bargained” (p. 93) and “only social exchange tends to engender feelings of personal obligations, gratitude and trust; purely economic exchange as such does not” (p. 94). Low LMX relationships resemble an economic exchange relationship marked by a largely economic exchange of time and skill for monetary return and promotion as specified in a hiring

contract. Because members in low LMXs simply follow the role expectations as defined by contractual terms, with everything else being equal, it is reasoned that they tend to perceive a fairly low degree of role stressors. This reasoning contradicts the conventional reasoning that members in low LMXs tend to have higher perception of stressors. This conventional reasoning rests on the argument that the lack of communication between leaders and members in low LMXs is the source of role stressors. However, research findings on communication in low LMXs undermine the conversational logic. For example, findings from Kacmar, Witt, Zivnuska, and Gully (2003) show that in low LMXs, members reporting most frequent communication with their leaders received the most unfavorable job performance ratings. An investigation of communication patterns in low LMXs by Fairhurst (1993) revealed that the discourse between leaders and members is characterized by polarizing behaviors such as power play. These findings suggest that more communication does not logically lead to better outcomes and may, in fact, lead to increased perception of stressors in low LMXs.

By contrast to the economic exchange relationship in low LMXs, social exchange relationship characterizes higher levels of LMXs because extracontractual resources are exchanged, such as supervisory support in exchange for commitment (Cropanzano & Mitchell, 2005; Rhoades & Eisenberger, 2002). It is argued that the perceptions of role stressors increase in higher LMXs for two reasons. First, it has to do with the rule of reciprocity in social exchange. According to social exchange theory (Blau, 1964; Cropanzano & Mitchell, 2005), reciprocity as a major rule of social exchange engenders interdependence and obligations. Unlike economic exchange in which terms and conditions of exchange are relatively clear, rules for social exchange are less discrete and more contingent. As Cropanzano and Mitchell (2005) pointed out, social change is also culturally conditioned and individuals have varied degrees of reciprocity orientation. Because of these complexities, increased reciprocity could produce tension and ambiguity and has to be worked out dyadically over time. Second, the argument for increased perception of role stressors in higher LMXs also has to do with the nature of the exchanged resources. In economic exchange relationships, the resources like monetary pay and time are specified and concrete. In contrast to economic resources, socioemotional ones, such as loyalty and trust, are less concrete, more symbolic, and more dependent on the source that offers them (Cropanzano & Mitchell, 2005). Communication research on the process of LMX offers support to such social exchange relationships. For example, Waldron's (1991) study of relationship maintenance tactics in association with LMX levels found that members in high LMX employ more personal and informal relational maintenance tactics. Particularly, he suggested that, "the exchange of personal, affective, and extracontractual information previously attributed to leaders (Dienesch & Liden, 1986; Graen & Scandura, 1987; Graen & Schiemann, 1978) is reciprocated, perhaps initiated, by subordinates" (p. 301). Fairhurst's investigation of discourse patterns in LMX confirmed that members in high LMXs take on nonroutine task assignments, complex problems, and unstructured responsibilities. On one hand, such assignments are signs of trust. On the other hand, gaining high levels of trust engenders obligations and role expectations that are less specified than those in economic exchange relationships. Thus, it is argued that the perceptions of role stressors in higher LMXs could become higher than in low LMXs.

However, this is not the end of the reasoning yet. One key insight from Cropanzano and Mitchell (2005) suggests “relational benefits to be both a result and a resource for exchange” (p. 890). In other words, positive relational outcomes, such as perceived high LMX quality, can facilitate and enable greater socioemotional exchange. As LMX quality increases beyond a certain point, a relationship could become so mature that extra-contractual role expectations and obligations are now intimately understood and the symbolic meanings of socioemotional resources gain clarity. Consequently, the perception of role stressors decreases.

To sum up, the overall pattern of the LMX-role stressor relationship, as has been presented to this point, takes the shape of an inverted U. Therefore, I propose the following hypotheses:

Hypothesis 1 (H1): LMX has an inverted U relationship with role ambiguity.

Hypothesis 2 (H2): LMX has an inverted U relationship with role conflict.

Hypothesis 2 (H2): LMX has an inverted U relationship with role overload.

Method

Sample and Data Collection

The data used for this study was part of a larger dataset collected in a survey project on work socialization of immigrant employees. In order to reach a substantial number of immigrant employees, the study adopted a network sampling method (Granovetter, 1976). Students enrolled in several communication classes in the author’s university were recruited to assist in data collection. Each student identified through their own personal networks two first- or second-generation immigrants currently working in U.S. organizations for at least 6 months. In keeping with the existing literature (Husted, Nielson, Rosholm, & Smith, 2001; Ordovensky & Hagy, 1998), people born in one’s country of origin other than the United States were defined as *first generation* and those born in the United States but either parent was born in a country other than the United States were defined as *second generation*.

Students assisted data collection by delivering paper questionnaires to those they identified and collecting them upon completion and were rewarded with extra credits. For the purpose of participation verification, students were asked to collect survey participants’ phone numbers. In order to ensure participants’ anonymity, their phone numbers were documented separately from their questionnaires. A total of 500 surveys were disseminated and 255 returned with a response rate of 51%. To verify participation, the author’s research assistant randomly selected and called 20% of survey participants ($N = 51$), among whom 49 were confirmed and two could not be reached and were eliminated from the sample. To verify their generational status, an item in the survey provided the definitions of generation status and asked participants to report whether they were first, second, or third generation (and beyond) immigrants. After eliminating participants who were not first or second generation, a total of 235 usable surveys were retained for statistical analysis.

The sample included 45% males and 55% females and had 68% first-generation and 32% second-generation Americans. Participants had an average age of 34 years old ranging from 18 to 71 and with an average organizational tenure of over 5 years. In addition, participants working in organizations of less than 100 people accounted for 42% of the sample, 21% in organizations with 100 to 500 employees, and 37% in organizations with more than 500 employees. Participants were from various organizational ranks with 48% at the junior level, 22% at lower management level, 20% at middle management level, and 10% from upper management.

Survey Instruments

LMX. The study adopted the 7-item measure of LMX known as LMX7. Numerous studies that have used LMX7 have demonstrated sound psychometric properties of the measure (Gerstner & Day, 1997). A sample item from the instrument is, "I have enough confidence in my leader that I would defend and justify his or her decision if he or she were not present to do so." Participants responded on a 5-point scale from 1 = *strongly disagree* to 5 = *strongly agree*.

Role ambiguity, role conflict, and role overload. Kahn et al.'s (1964) 15-item Job Related Tension Index was adopted because it has explicit indicators of all three dimensions of role properties as we have conceptualized. In this index, eight items measure role ambiguity. An example is, "being unclear on just what the scope and responsibilities of your job are." Four items measure role conflict. A sample item is, "thinking that you'll not be able to satisfy the conflicting demands of various people over you." Role overload is measured by three items, an example of which is "thinking that the amount of work you have to do may interfere with how well it gets done."

Control variables. Prior research has shown significant correlations of organizational commitment with LMX quality and role stressors (Addae et al., 2008). Therefore, organizational commitment was included as control. Although Porter, Steers, Mowday, and Boulian's (1974) 15-item measure has been widely employed in previous studies, Benkhoff (1997) reduced it to a 6-item version which demonstrated good psychometric properties. As the measure has two dimensions (commitment to stay and value commitment; Yousef, 2003), the present study controlled for these two types of commitment. A sample item is, "I am willing to put in a great deal of effort beyond that normally expected in order to help this organization to be successful." Participants responded on a 7-point scale from 1 = *strongly disagree* to 7 = *strongly agree*. Prior research also suggests that gender and organizational tenure have significant associations with role stressors (Marginson, 2006). Therefore, gender and organizational tenure were measured as potential control variables as well. Tenure was measured by the number of years an employee has worked for an organization.

Data Analysis

Preliminary and primary analyses were performed. In preliminary analyses, factor analyses were first conducted to examine the underlying dimensionality of the measurement

instruments for LMX, role stressors, and organizational commitment. Based on the results scales were constructed. Second, *t* tests were performed to compare the two generations with the purpose of checking whether data between two generations of immigrants differ significantly on predictor and outcome variables and whether two separate sets of data analyses were necessary. Third, bivariate correlation analyses were performed. Finally, because the study is based on same-source, self-report survey data, the potential influence from common method variance (CMV) causes concern. Tests were performed to assess the potential effect of CMV (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

The primary analyses consisted of three hierarchical regression analyses testing the hypotheses. For each analysis, a role stressor was regressed on the control and predictor variables entered in four steps. Control variables were entered in Step 1 followed by LMX in Step 2. A squared LMX term was entered in Step 3 to test whether a curvilinear term exists that explains a significant amount of variance above and beyond the control and linear terms. In Step 4, a cubed LMX term was entered. This step is intended to rule out the possibility that a more complicated curvilinear relationship with two bends may exist that better represents the data.

Results

Preliminary Analyses

The first step in the preliminary analyses consists of a series of factor analyses. For the seven items measuring LMX, existing research on the instrument has consistently shown its unidimensionality (Gerstner & Day, 1997). A confirmatory factor analysis (CFA) using AMOS the 18th version verified its unidimensional fit to the current data, $\chi^2 = 40.17$ (14, $N = 235$), normed fit index (NFI) = .96, comparative fit index (CFI) = .97, root mean square of approximation (RMSEA) = .089. An average score of the seven items was computed as a composite measure of LMX ($M = 3.70$, $SD = .85$, $\alpha = .91$).

To examine the dimensional structure of Kahn et al.'s (1964) 15-item measure, principal component factor (PCF) analysis with varimax rotation was used because of the lack of consensus in the literature on its structural composition (MacKinnon, 1978). The criteria for obtaining a factor solution include: (a) factors with eigenvalues greater than 1 are considered significant; (b) the Scree test shows reasonable increase in variance explained with the addition of a given factor; (c) retained items for a factor have to have a primary loading of .50 or better and secondary loading below .40. Based on these criteria, the PCF analysis shows that 10 out of the 15 items were loaded onto a distinct three-factor structure (See Table 1); five items that showed either crossloadings or low loadings had to be deleted. In spite of the reduction of items, a close examination of the semantic content of each retained item and its corresponding factor indicates that the factor solution is consistent with the conceptualization of the constructs discussed earlier. Based on these results, an average score was computed as a composite measure for each of the three factors: role ambiguity (five items; $M = 2.37$, $SD = .91$, $\alpha = .91$), role overload (two items; $M = 2.53$, $SD = 1.10$, $\alpha = .66$), and role conflict (3 items; $M = 2.13$, $SD = .91$, $\alpha = .67$), respectively.

Table 1. Factor Loadings of Role Stressors.

Items	Factors		
	Role Ambiguity	Role Overload	Role Conflict
Not knowing what opportunities for advancement or promotion exist for you	.76	.10	.14
Not knowing what your supervisor thinks of you, how he evaluates your performance	.73	.18	.12
Feeling unable to influence your immediate supervisor's decisions and actions that affect you	.69	.27	.24
Feeling that you have little authority to carry out the responsibilities assigned to you	.66	.28	.10
Being unclear on just what the scope and responsibilities of your job are	.63	.03	.29
Not knowing just what the people you work with expect of you	.55	.19	.53
The fact that you can't get information needed to carry out your job	.53	.06	.53
Feeling that you have too heavy a workload, one that you can't possibly finish during an ordinary workday	.18	.80	.03
Thinking that the amount of work you have to do may interfere with how well it get done	.28	.73	.17
Feeling that your job tends to interfere with your family or life outside work	-.11	.66	.43
Thinking that you'll not be able to satisfy the conflicting demands of various people over you	.44	.63	.25
Having to decide things that affect the lives of individuals, people that you know	.07	.09	.80
Feeling that you may not be liked and accepted by the people you work with	.36	.29	.58
Feeling that you have to do things on the job that are against your better judgment	.32	.28	.58
Feeling that you're not fully qualified to handle your job	.34	.26	.36
Eigenvalue	3.67	2.47	2.46
% variance	24.43	16.47	16.38

For the measure of organizational commitment, Yousef (2003) provided strong evidence for the existence of two factors underlying organizational commitment. One is value commitment and the other commitment to stay. A CFA verified this two-factor structure, $\chi^2 = 16.16$ (8, $N = 235$), $NFI = .95$, $CFI = .97$, $RMSEA = .07$. Two composite measures were constructed: Value commitment was measured by 3 items ($M = 4.74$, $SD = 1.46$, $\alpha = .79$) and commitment to stay was measured by the other three items ($M = 5.83$, $SD = .80$, $\alpha = .64$)

Table 2. Mean, Standard Deviation, and Correlation Matrix (Pearson's Correlation Coefficient, *r*).

Variables	M	SD	Scale Reliability (Cronbach's α)	Correlation Matrix									
				1	2	3	4	5	6	7	8		
1. LMX	3.70	.85	.91	—									
2. Role ambiguity	2.37	.91	.91	-.44***	—								
3. Role conflict	2.13	.91	.67	-.22**	.58***	—							
4. Role overload	2.53	1.10	.66	-.21**	.47***	.43***	—						
5. Value communication	4.74	1.46	.79	.57***	-.38***	-.10	-.14*	—					
6. Communication to stay	5.83	.80	.64	.19**	-.32***	-.24***	-.24***	.34***	—				
7. Tenure	5.28	6.29	—	.07	-.11	-.08	-.08	.08	.09	—			
8. Gender	—	—	—	.06	-.07	-.22**	-.07	.01	.08	-.01	—		

Notes: LMX = leader-member exchange quality.
 * $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed).

Following scale analyses and constructions, independent-samples *t* tests were conducted, comparing two generations of immigrants on predictor and outcome variables. Results did not show any significant difference with regard to these variables. Therefore, data on the two generations were pooled and treated as one data set for analyses.

Next, correlation matrix was computed (see Table 2). As correlations of each of the three dependent variables with organizational tenure were small and nonsignificant, organizational tenure was not included in the following regression analyses to increase model parsimony (Hair, Anderson, Tatham, & Black, 1998). As shown in Table 2, value commitment and commitment to stay both had significant negative correlations with role stressors and had significant positive correlations with LMX quality. LMX quality demonstrated significant negative correlation with all three role stressors.

Finally, to assess the potential influence of CMV (Podsakoff et al., 2003), first, a CFA was performed on the 17 indicators of LMX, role ambiguity, role overload and role ambiguity. The hypothesized four-factor model resulted in good model fit, $\chi^2(113) = 187.63$, NFI = .90, CFI = .96, RMSEA = .05. However, when all 17 indicators were loaded on one single factor, the results showed a poor fit, $\chi^2(119) = 669.04$, NFI = .63, CFI = .67, and RMSEA = .14. The comparison of these two models confirmed the distinctness of the four factors. To further confirm this result, following the recommendation of Podsakoff et al. (2003), an additional CFA test was conducted, in which the 17 indicators were loaded onto the four theoretical factors as well as onto one latent CMV factor, $\chi^2(96) = 151.20$, NFI = .92, CFI = .97, RMSEA = .05. Although comparison between the four-factor model and the one with the additional CMV factor shows significant χ^2 difference, other goodness-of-fit indices did not show significant improvement. Additionally, the variance estimate for the CMV factor was nonsignificant. Based on these results, it can be concluded that CMV did not pose a problem in the present study.

Primary Analyses

Hierarchical regression analyses were performed to test the three hypotheses. Mean deviations of test variables were used in regression analyses to avoid the potential problem of multicollinearity. Table 3 summarizes the results. H1 states that LMX quality and role ambiguity have an inverted U relationship. This was tested by comparing Step 3 model that had the quadratic LMX term to Step 2 model in predicting role ambiguity. The result showed that the quadratic LMX term did not explain additional significant amount of variance of role ambiguity above and beyond the variance predicted by the linear LMX term and other control variables in the model. Therefore, H1 was not supported. The possibility of a curvilinear relationship with two bends was also ruled out through testing Step 4 model with the cubed LMX term against Step 3 model. The result did not yield significant R^2 change. However, the findings did support a significant negative linear effect of LMX quality ($\beta = -.33, t = -4.78, p < .001$) on role ambiguity controlling for the effects of gender and organizational commitment, ($\Delta R^2 = .07, \text{adjusted } R^2 = .25, \Delta F(4, 229) = 22.81, p < .001$). Also interesting in the results was the significant effect of commitment to stay (Step 1, $\beta = -.21, t = -3.36, p < .01$; Step 2, $\beta = -.22, t = -3.57, p < .001$), suggesting its significant association with role ambiguity after controlling for the effects of LMX, gender and value commitment.

H2 predicts an inverted U relationship between LMX quality and role conflict. After comparing Step 3 model to Step 2 model in predicting role conflict, results demonstrated that the addition of the quadratic LMX term ($\beta = -.15, t = -2.18, p < .05$) significantly enhanced model prediction over Step 2 model, ($\Delta R^2 = .02, \text{adjusted } R^2 = .13, \Delta F(5, 228) = 4.74, p < .05$), suggesting the existence of an inverted U relationship between LMX quality and role conflict. The Step 4 model did not provide evidence for a cubic relationship. In sum, H2 was supported. Additionally, both gender (Step 1, $\beta = -.20, t = -3.18, p < .01$; Step 2, $\beta = -.19, t = -3.03, p < .01$; Step 3, $\beta = -.19, t = -3.03, p < .01$) and commitment to stay (Step 1, $\beta = -.21, t = -3.18, p < .01$; Step 2, $\beta = -.22, t = -3.28, p < .01$; Step 3, $\beta = -.17, t = -2.51, p < .05$) appeared to be significant predictors of role conflict controlling for the effects of value commitment and LMX.

Finally, H3 predicts an inverted U relationship between LMX quality and role overload. Testing Step 3 model predicting role overload over the Step 2 model yielded significant results, ($\Delta R^2 = .03, \text{adjusted } R^2 = .10, \Delta F(5, 228) = 8.05, p < .01$). The quadratic LMX term ($\beta = -.21, t = -2.84, p < .01$) was shown to be a significant predictor above and beyond the linear LMX term. The nonsignificant result from comparing the Step 4 model with Step 3 model helped rule out the possibility of a cubic curvilinear relationship. Hence, test results offered support to an inverted U relationship between LMX quality and role overload. In addition, it was noticeable that the commitment to stay was a significant predictor in all three models, (Step 1, $\beta = -.22, t = -3.16, p < .01$; Step 2, $\beta = -.22, t = -3.23, p < .01$; Step 3, $\beta = -.16, t = -2.28, p < .05$), controlling for the effects of value commitment, gender, and LMX.

As the results supported an inverted U relationship between LMX and role conflict (Figure 1) and between LMX and role overload (Figure 2), it means that in both relationships,

Table 3. Hierarchical Regression Analyses.

Beta	Role Ambiguity				Role Conflict				Role Overload			
	Step				Step				Step			
	1	2	3	4	1	2	3	4	1	2	3	4
Value communication.	-.31***	-.12	-.12	-.11	-.03	.11	.11	.10	-.07	.04	.03	.03
Communication to stay	-.21**	-.22***	-.18**	-.18**	-.21**	-.22**	-.17*	-.17*	-.22**	-.22**	-.16*	-.16*
Gender	-.05	-.03	-.03	-.03	-.20**	-.19**	-.19**	-.19**	-.05	-.04	-.04	-.04
LMX	—	-.33***	-.38***	-.27**	—	-.23**	-.31***	-.34**	—	-.19*	-.28**	-.37**
LMX squared	—	—	-.11	-.23*	—	—	-.15*	-.12	—	—	-.21**	-.11
LMX cubed	—	—	—	-.21	—	—	—	.06	—	—	—	.17
Adj. R ²	.18	.25	.26	.26	.09	.12	.13	.13	.05	.07	.10	.10
ΔR ²	.19	.07	.01	.01	.10	.04	.02	.00	.07	.02	.03	.01
ΔF	17.91***	22.81***	3.00	2.38	8.20***	9.64**	4.74*	.16	5.36**	5.84*	8.05**	1.25
df	3, 230	4, 229	5, 228	6, 227	3, 230	4, 229	5, 228	6, 227	3, 230	4, 229	5, 228	6, 227

Notes: LMX = leader-member exchange quality.

*p < .05. **p < .01. ***p < .001.

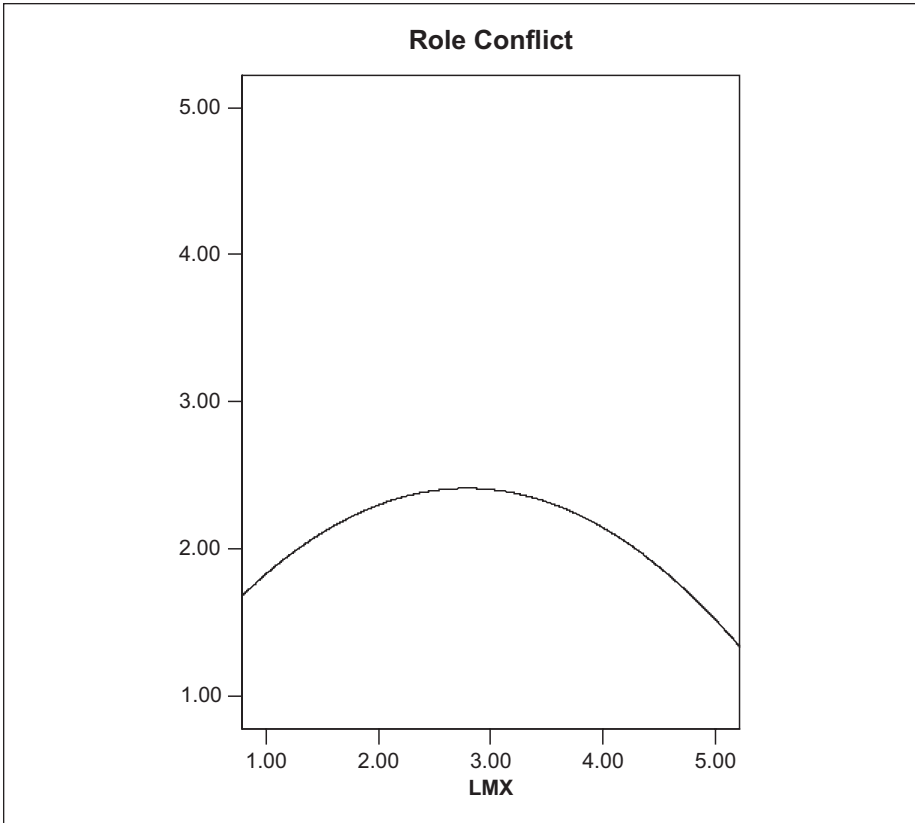


Figure 1. The quadratic effect of LMX on role conflict.

a critical point or threshold existed beyond which the direction of the relationship changed from being positively to negatively related. Calculation revealed a critical point with the level of perceived role conflict at its highest when LMX was at 2.78 (1.08 standard deviation below the mean) with 15% of the cases in the sample below the critical point. The perceived role overload was at its highest when LMX was at 3 (.82 standard deviation below the mean) with 16% of the cases in the sample below the critical point.

Discussion

Although earlier research on LMX theory supported a negative linear relationship between LMX quality and role stressors, communication research and studies from other areas suggest that a more complex nonlinear relationship may exist between some of the organizational variables and LMX quality. Acting upon this newly raised suspicion, the present study revisited the relationship between LMX quality and role stressors with mixed findings.

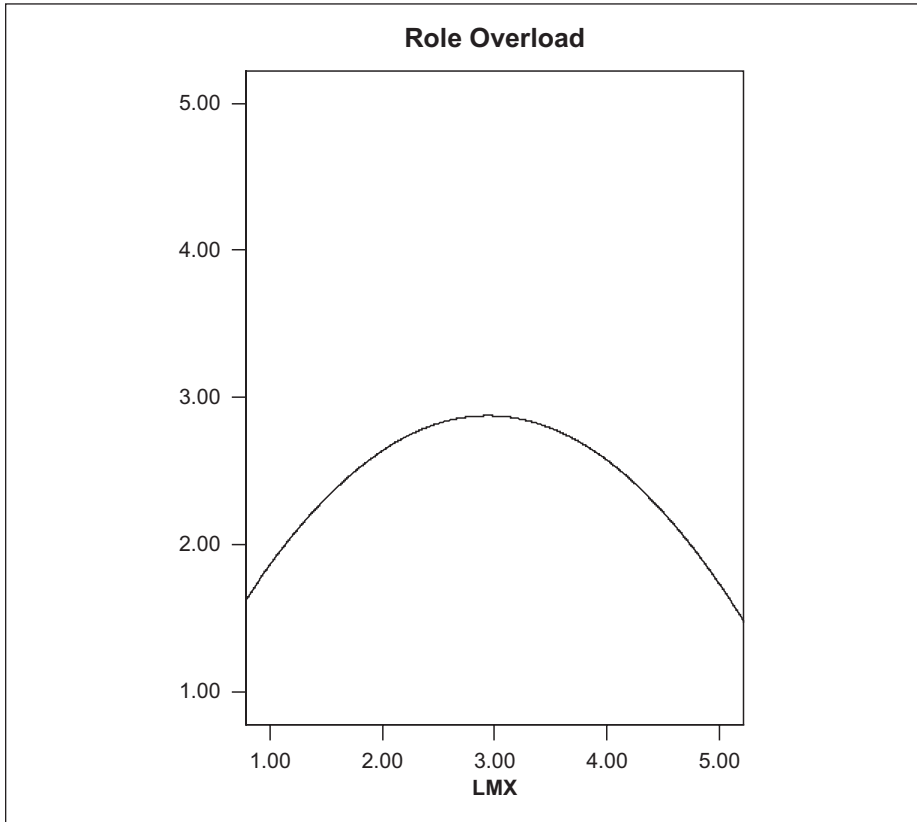


Figure 2. The quadratic effect of LMX on role overload.

In the following I will summarize these findings and discuss their theoretical and practical implications.

First of all, several significant outcomes emerged from the study. The findings revealed that LMX quality has differential relationships with role stressors: LMX-role ambiguity was shown to have a negative linear relationship, whereas LMX-role conflict and LMX-role overload both demonstrated a curvilinear relationship. This finding echoes a growing argument that role ambiguity, role conflict, and role overload are three separate constructs and may correlate with other constructs in different patterns (Jackson & Schuler, 1985; Kahn & Byosiere, 1990; Tordera et al., 2008). The finding of a negative linear relationship between LMX quality and role ambiguity provided confirmation to the existing consensus (Gerstner & Day, 1997; Nelson et al., 1998; Tanner et al., 1993) that employees who report lower levels of LMX quality tend to report higher level of perceived role ambiguity. Role ambiguity could be explained as the result of inadequate transaction of resources and communication between leaders and members. In higher quality exchange relationships with broader

negotiation latitude, greater mutual influence, and more extracontractual communication, the results indicate, members perceive their roles with greater clarity.

Unlike role ambiguity, role conflict and role overload assumed an inverted U relationship with LMX quality. That is, as LMX quality increases from low to moderate levels, the perceptions of role conflict and role overload increase as well; each of the role stressors has a critical point at which they reach their highest level; beyond the critical point, as LMX quality continues to rise, the perceptions of role conflict and overload begin to decrease. This pattern has to be explained by the communication dynamics and the quality and quantity of the exchange contents between leaders and members as relationship quality changes. As LMX quality increases from low to moderate levels, leader-member communication patterns change from polarizing moves to accommodating moves (Fairhurst, 1993). The accommodating moves signal greater trust between leader-member dyads and leaders assigned more trusted members with tasks that could be perceived as more challenging. As defined earlier in the paper, both role conflict and role overload have to do with work demands (Kahn et al., 1964). Before a LMX relationship reaches its critical point, work assignments could be a continuing test given by leaders as to their members' competency and tolerance for work demands. As a result, as the work demand increases, the perception of role conflict and role overload increases. When relationship quality moves beyond the critical point, leaders and members are in a mature relationship marked by aligning moves in communication patterns, which help produce a greater mutual understanding: on the one hand, leaders have gained a better understanding of their subordinates' ability, and, on the other, members have achieved greater tolerance and appreciation for leader's expectations and work assignments. Consequently, higher LMX quality beyond the critical point is associated with lower perceptions of role conflict and overload. The finding of a curvilinear relationship prompts us to ask for finer-grained questions regarding the functioning of communication. For example, what are the leader-member communicative practices that enable the transition before and after the critical point? How is work demand communicated and interpreted in different stages of relationship development? How is the exchange of socioemotional content conducted in interaction, which may impact the interpretation and perception of role stressors? Answers to these questions would help further ground the findings of this study.

In addition, the study also indicated gender difference in the perception of role conflict. Previous research has shown that males tend to perceive higher levels of stress related to conflict with other work units and with decision making, whereas females tend to report higher levels of stress related to work-family conflict (Spielberger & Vagg, 1999; Vagg, Spielberger, & Wasala, 2002). The conceptualization and measurement of role conflict in the present study focused on conflicting work demands within the work domain and did not include work-family role conflict. The finding is consistent with previous research showing males perceive higher levels of role conflict than do their female counterparts. Finally, it is interesting to find that, unlike value commitment, commitment to stay has a significant negative association with all three role stressors even when other predictors are controlled. An implication could be that a work environment with higher levels of role stressors is more likely to lead to higher rate of employee turnover.

Several limitations exist in the study and suggest paths for future research. First, because the study was based on data collected for a broader project of work socialization of immigrant employees, the sample limits its generalization to a wider population. Although second (U.S. born) generation of immigrants are included and *t* test did not show significant difference from the first generation on all the test variables, replications in samples of later generations would further validate the results of the present study. Second, although the study offered statistical evidence for an inverted U relationship in LMX-role conflict and LMX-role overload, the mechanism underlying such association remains theoretical speculation and needed detailed empirical research in the future. In addition, although the study implies a unidirectional relationship between LMX and work role stressors, that is, LMX produces effects on stressors, a reversed causal relationship is also plausible in which role stressors influence LMX possibly mediated by factors such as performance and commitment. This latter relationship certainly deserves future investigation. Third, our deletion of five items from the Job Related Tension Index due to crossloading and low loading may have contributed to the relatively low reliability of measures for role conflict and role overload. It is suspected that the Index' performance may be related to the heterogeneous organizational and professional contexts that this sample has, which may cause more diverse interpretations of index items with regard to their relevancy and meaning than do samples from a single organization or profession. Fourth, it needs to be acknowledged that role stressors could involve players other than supervisors, such as subordinates, clients and mentors. Future studies should consider and examine the multi-source nature of role stressors. Finally, the study results only reflect a cross-sectional picture of how various levels of LMX quality are associated with different role stressors. It would be very interesting to see whether similar patterns emerge if we take a developmental view that follows LMX evolution correlating with changes in role stress. Repeated measures of relationship definition, role definitions, and role stressors along time will offer a dynamic view with regard to the association.

In spite of these limitations, the study findings bear significant practical implications in addition to the theoretical contributions discussed earlier. First, although the study could not ascertain any causal relationship, the significant associations are strong enough to call for managers' attention to the predictive effects of their relationship quality with their direct reports on the latter's perception of role stressors. Because subordinates are often reluctant to report stress to their managers for fear of exhibiting weakness or incompetence, the findings can assist managers to gauge the potential level of stressors their subordinates may be experiencing. For instance, the results help inform managers that those direct reports with whom their relationship quality is at a moderate level may be experiencing the highest level of role conflict and role overload, as the pattern of inverted U suggests. Mindful communicative actions by managers, such as coaching and soliciting and providing timely feedback, could help subordinates manage and/or reduce role stressors. As the statistical results indicate, when the LMX quality reaches the critical points, as in the case of role conflict and role overload, the perceptions of these stressors begin to reduce. This means that managers' conscious communicative efforts may induce a virtuous cycle that ultimately leads to higher LMX quality and to a work environment with lower levels of role stressors for their subordinates.

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