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## **One Member, Two Leaders: Extending Leader–Member Exchange Theory to a Dual Leadership Context**

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### **Abstract**

In this study, we develop and test a model that extends leader–member exchange (LMX) theory to a dual leadership context. Drawing upon relative deprivation theory, we assert that when employees work for 2 leaders, each relationship exists within the context of the other relationship. Thus, the level of alignment or misalignment between the 2 relationships has implications for employees' job satisfaction and voluntary turnover. Employing polynomial regression on time-lagged data gathered from 159 information technology consultants nested in 26 client projects, we found that employee outcomes are affected by the quality of the relationship with both agency and client leaders, such that the degree of alignment between the 2 LMXs explained variance in outcomes beyond that explained by both LMXs. Results also revealed that a lack of alignment in the 2 LMXs led to asymmetric effects on outcomes, such that the relationship with agency leader mattered more than the relationship with one's client leader. Finally, frequency of communication with the agency leader determined the degree to which agency LMX affected job satisfaction in the low client LMX condition.

### **Keywords**

Leader–member exchange, relative deprivation theory, job satisfaction, voluntary turnover, dual reporting relationships

Research conducted during the last four decades has shown that the relationship of an employee with his or her immediate leader is a key driver of employee job attitudes, effectiveness, and retention (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Gerstner & Day, 1997). According to leader–member exchange (LMX) theory, employees who have high-quality relationships with their leaders are in the enviable position of having access to more of the leader's attention, resources, and support than do others who have lower quality relationships. Members who have effective relations with their leaders are more influential (Gajendran & Joshi, 2012) and emerge as leaders among peers (Zhang, Waldman, & Wang, 2012).

LMX theory views leadership at the dyad level and contends that leaders influence their followers through the unique, trust- and affect-based relationship that occurs between the two individuals.

Thus, LMX theory is based on the assumption that leadership resides in the quality of the relationship between an employee and a manager. Although much has been learned about the effects of LMX quality, many contemporary organizations increasingly utilize structures that are not in line with the “one manager for each employee” assumption of LMX theory, such as organizations with matrix structures, expatriates with both foreign and home managers, contract workers, and consultants (cf. Benson & Pattie, 2009; Gregersen & Black, 1992; Nguyen, Felfe, & Fookien, 2013). Furthermore, in flat organizations where work is organized around projects and in small or family businesses where lines of authority are blurred, employees may report to multiple managers concurrently (Gallo, 2013). The Hay Group predicted in their Leadership 2030 study that organizations are increasingly adopting matrix structures to remain competitive in the face of globalization, and these structures require multiple managers to share accountability and jointly manage employees (Hay Group, 2011). Even industries such as banking, retail, health care, and manufacturing often rely on multiple managers in the form of assistant and store managers or team and shift managers (Green, Blank, & Liden, 1983; Gulzar, Mistry, & Upvall, 2011). Likewise O’Leary, Mortensen, and Woolley (2011) reported that 65 to 95% of knowledge workers are members of more than one project team at a time. Combining this with Davenport’s (2005) assessment that knowledge workers constitute a quarter to half of the U.S. workforce and with the Bureau of Labor Statistics (2012) estimate of about 150 million employees in the workforce suggests that between 24 and 71 million workers likely report to more than one supervisor. Contingent employment arrangements, in which individuals hired by one organization serve another, represent one such situation where employees work in multiple organizations and report to multiple managers. Reviewing the literature on different kinds of contingent workers including contract and temporary workers, Connelly and Gallagher (2004) noted that management literature and its existing theories should be reexamined and modified when applied to settings where terms such as employer and job have less clear meanings. Despite the current existence and projected popularity of arrangements where employees have multiple leaders, the study of such situations has been limited (Benson & Pattie, 2009; Green et al., 1983) because most LMX research has been conducted in single-leader contexts that do not reflect these alternative arrangements.

A context where multiple leaders supervise an employee introduces at least two key questions. First, does LMX theory maintain predictive validity in such contexts? Given that LMX literature evolved based on research conducted in traditional organizational settings characterized by vertical hierarchies following the principle of unity of command (Galbraith, 1977), the utility of LMX theory to explain employee behaviors and attitudes in multiple leader contexts cannot be assumed but must be verified. Second, how might the theory be modified and extended when members report to two leaders? The LMX literature has uncovered the importance of social comparison processes in single-leader contexts. That is, work on LMX differentiation (e.g., Erdogan & Bauer, 2010; Liden, Erdogan, Wayne, & Sparrowe, 2006) and relative LMX (Henderson, Wayne, Shore, Bommer, & Tetrick, 2008; Vidyanthi, Liden, Anand, Erdogan, & Ghosh, 2010) recognized that each dyadic relationship occurs within the context of other exchanges and that the effects of a focal person’s LMX depend on the relative standing among peers. By the same token, social comparison processes are likely to be activated when an employee reports to multiple leaders, because when reacting to two leaders employees are confronted with parallels and differences between these two relationships that they maintain simultaneously. Thus, multiple leadership settings represent a contextual condition that requires modifications to LMX theory, with the recognition that each relationship serves as a frame of reference for the other.

In this study, we extend LMX theory to a dual leadership context where employees simultaneously report to two leaders. Information technology employees deployed to a client project, titled consultants

or contractors, have an *agency leader* with power over decisions, such as project assignments, pay raises, and promotions, and also have a *client leader* with jurisdiction over decisions relating to various aspects of the projects, such as detailed schedules and job duties. Our hypotheses are based on a relative deprivation theory framework (Crosby, 1984; Runciman, 1966). Relative deprivation theory postulates that employees do not react to their circumstances at work or in life in isolation. In fact, they may feel dissatisfied even when their rewards, outcomes, or social standing appear satisfactory to outsiders. Instead, individual reactions are a function of social comparisons with referent realities where what individuals have is pitted against what they believe they should have had (Crosby, 1984). When there is a discrepancy, individuals experience resentment and dissatisfaction and engage in withdrawal cognitions and behaviors (Aquino, Griffeth, Allen, & Hom, 1997; Cowherd & Levine, 1992). We contend that the dyadic relationship between an employee and a focal leader forms the “alternate reality” that coexists with the employee’s relationship with the second leader. Thus, going beyond the main effects of the two LMXs, how these two relationships relate to and interact with each other has implications for employee attitudes and actions. We assert that the more these two relationships converge, the lower the tension the employee experiences, because of reduced differences between the relation they currently have and the possible one they could have had. We also examine the effects of misalignment between these two LMXs. In particular, we posit that misalignment in one direction (i.e., when agency LMX is lower than client LMX) has more deleterious outcomes for the employees. Finally, on the basis of past theorizing on how individuals select a referent other to construct their own social reality (Kulik & Ambrose, 1992) and research showing that contextual factors affect the LMX–outcome relationship (e.g., Hu & Liden, 2013), we examine communication frequency as a correlate of the salience of the LMX quality with agency leader.

Our study makes three key contributions to LMX theory. First, we extend LMX theory beyond the single leader–follower dyad. We know from past research that followers reporting to multiple leaders (e.g., assistant managers and branch managers within a bank) differentiate between leaders in terms of their perceptions of LMX quality (Green et al., 1983). Further, studies in single-leader contexts showed that social comparison processes are relevant to how employees react to their LMX quality and that having a higher or lower LMX quality than one’s coworkers matters above and beyond the effect of individual LMXs (Henderson et al., 2008; Hu & Liden, 2013; Vidyarthi et al., 2010). We explore the possibility that employees also react to their relationships with their leaders within the context of their relations with different leaders and that one relationship serves as the point of reference for the other. Failure to account for an employee’s multiple LMXs may result in an incomplete and misleading picture of the implications of LMX quality. For example, two employees with similarly high levels of LMX quality may have different job attitudes and turnover, leading to the conclusion that LMX quality is not a strong predictor, whereas in reality the difference may be due to the alignment or misalignment between the focal LMX and an unmeasured LMX. Thus, examining the effects of alignment between a person’s multiple LMXs represents an addition to the line of research extending LMX theory to include its relational context (e.g., Erdogan & Bauer, 2010; Liden et al., 2006).

Second, we adapt and extend LMX theory to include a context that is becoming increasingly common but contradicts one of the fundamental assumptions of the theory. Currently, although we know that followers reporting to multiple leaders can identify their best quality LMX relationship and that the quality of this “preferred” LMX relationship is related to employee outcomes (Green et al., 1983), we do not know if the other LMX is also effective in explaining employee attitudes and behaviors. Nor do we know which of the relationships are more central to the work life of the employee. Also, we have yet to investigate the implications of alignment or misalignment between different LMX relationships on

members who have multiple leaders. Thus, our study takes an important step in testing the extended validity of LMX theory as a useful leadership theory for organizations using alternative organizational structures (Anand, Hu, Liden, & Vidhyarthi, 2011).

Finally, our study has implications for researchers designing studies based on LMX theory. Researchers usually report collecting data from employees and their immediate supervisors. In addition to their immediate supervisors, employees may be in a reporting relationship with other managers within the same or another organization. A discussion of multiple leaders supervising employees and how the decision was made regarding the most appropriate person that employees should reference when answering LMX-related questions is notably absent in the extant literature, belying the complexity of structures that exist in contemporary organizations. Employees may concurrently report to multiple leaders within the same or different organizations, each reporting relationship with a unique quality and different level of communication frequency. Thus, our study has implications for future research designs by exploring the possible ways in which multiple LMXs in a person's work life jointly relate to the outcomes critical to individual and organization effectiveness.

## **Relative Deprivation in a Dual Leadership Context**

Relative deprivation theory (Crosby, 1976, 1984) postulates that individuals have a natural tendency to consider comparisons with their referents when responding to their own circumstances. The belief that one's situation is worse than a comparable other gives rise to discontent, tension, and emotions ranging from anger to sadness (Osborne, Smith, & Huo, 2012). The essence of the theory is that in contexts where information about a referent is available, individual reactions are affected by a comparison to the referent.

We contend that when employees report to two leaders, comparisons between the nature of the two LMXs are inevitable. Although relative deprivation theory often refers to a "referent other" as a different person, the formulation of the theory allows for internal self-comparisons as well. In fact, similarity to the self is thought to be the most powerful reason a referent is chosen (Crosby, 1976), which makes the "self" an appropriate referent. Employees often use their own current, past, or future experiences as a comparison point. Kulik and Ambrose (1992) noted that because choice of a referent usually depends on the attractiveness of the referent and the availability of information, individuals are most likely to identify self-referents as their primary referent.

Relative deprivation theory has been used as a framework for understanding a large number of social phenomena. For example, when one's income is deprived relative to incomes within the referent group (those in the same neighborhood and occupation), one's rate of mortality increases (Yngwe, Kondo, Hägg, & Kawachi, 2012). In organizational settings, relative deprivation relates negatively to attitudes such as job satisfaction (Feldman, Leana, & Bolino, 2002; Sweeney, McFarlin, & Inderrieden, 1990) and positively to turnover (Aquino et al., 1997). Because we are interested in comparison between one employee's relationships with two supervisors, we treat satisfaction with supervisor and the overall job satisfaction as outcomes. Furthermore, relative deprivation is an undesirable state, and withdrawal is a common reaction to a sense of deprivation. Therefore, in addition to examining satisfaction with supervisors and job satisfaction, we examined voluntary turnover as an outcome in this study.

## LMX and Outcomes in a Dual Leadership Context

We argue, based on relative deprivation theory, that the presence of two leaders managing an employee and the two resulting LMX relationships influence attitudinal and behavioral outcomes stemming from comparisons and contrasts (Crosby, 1984). A necessary precondition to our relative deprivation theory-based argument that each relationship serves as a referent for the other is to explore the degree to which the relationship quality between the member and each leader exerts influence over job attitudes and withdrawal. We contend that even in the presence of two LMXs, each relationship is uniquely related to key outcomes, including satisfaction with the supervisor, job satisfaction, and withdrawal. Thus, prior to examining alignment between the two LMX relationships, one should assess the independent links between each employee's two LMX relationships and employee outcomes.

We reason that even in a two-leader setting, a high-quality exchange with each leader is beneficial to the employee and that the quality of each exchange relates to employee evaluations of the leader in question. Research measuring LMX quality with a single leader has shown that LMX quality positively influences employee perceptions of their leaders, as well as broader job attitudes such as job satisfaction and behaviors such as withdrawal (Dulebohn et al., 2012; Gerstner & Day, 1997). When employees do not have high LMX status, they envy others who do (Vecchio, 2005). In the only study of which we are aware that examined the outcomes of relationships with multiple leaders at the same level, Benson and Pattie (2009) showed that the exchange quality between expatriates and their host country manager predicted outcomes relating to the expatriate assignment, such as turnover intentions from the assignment. LMX with the home country manager was more strongly related to overall career outcomes, such as the expectation that career goals would be reached, indicating the importance of each exchange relationship (Benson & Pattie, 2009). We contend that in the presence of multiple managers, the assessment of how satisfied the person is with that manager is a function of the relationship quality with that manager.

*Hypothesis 1:* LMX-agency and LMX-client are positively related to satisfaction with supervision received from the respective leader.

In addition, we contend that in a dual leadership context, the quality of each exchange relationship explains unique variation in the key outcomes of job satisfaction and employee withdrawal. For example, literature to date shows that one of the important correlates of LMX quality is job satisfaction (Dulebohn et al., 2012; Gerstner & Day, 1997). There are several reasons why LMX quality is associated with job satisfaction, including greater access to resources and feeling more efficacious at work (Walumbwa, Cropanzano, & Goldman, 2011). We expect that in a multiple leader context, relationships with both leaders are salient to a person's job satisfaction. When multiple leaders share accountability over employees, each manager shapes how employees spend their time on a daily basis as well as the types of tasks in which employees engage. Although the client leader is in a position of influence for assigning day to day tasks and affecting the daily experiences at work, the agency leader has the power to assign the particular client to the focal individual. The agency leader has the ability to assign employees to clients offering different levels of technical challenge, learning opportunities, and visibility, thus suggesting that each LMX quality is a relevant predictor of employee job satisfaction. Moreover, a person's exchange quality tends to be a reason for the decision to leave the organization (Bauer, Erdogan, Liden, & Wayne, 2006; Graen, Liden, & Hoel, 1982). We assert that, to the degree to which turnover is a reaction to a person's unhappiness at work, both leaders play a role in the actual turnover

of the employee, such that having a high-quality exchange with each leader reduces the probability of turnover.

*Hypothesis 2a:* LMX-agency and LMX-client are both positively related to job satisfaction.

*Hypothesis 2b:* LMX-agency and LMX-client are both negatively related to voluntary turnover.

## **Alignment of LMXs in a Dual Leadership Context**

In a context where employees simultaneously report to two leaders, the situation is ripe for comparisons, and employees are unlikely to react to each relationship in isolation. Instead, on the basis of relative deprivation theory, we argue that the two relationships serve as alternate realities such that they form the context for each other. Individuals feel a sense of deprivation when (a) they do not possess something, (b) someone else, including themselves, possessed it at a different time, (c) they want it, and (d) they see it as feasible that they should have it, and they do not feel personal responsibility for not having it (Runciman, 1966). According to this reasoning, having a moderate- or low-quality exchange with one leader should be even less desirable in the presence of a higher LMX with another leader. This is so because the better relationship highlights the advantages and desirability of having a higher quality relationship with one's leader. In particular, how one relationship compares to the other has implications that go beyond those of the independent LMX levels of the two relationships. The ability to form a high-quality LMX with one leader likely results in an internal attribution (Heider, 1958), whereas the blame for the lower quality LMX is attributed to the leader in question, as the focal individual is clearly capable of developing a high-quality exchange with another leader. On the basis of this rationale, we contend that when the two LMXs converge at a high level, outcomes should be more positive than those in a situation where the two LMXs are of divergent quality (i.e., not aligned, such that one LMX is of higher quality than the other).

Crosby (1976) noted, based on relative deprivation theory, that when contact with others who possess desired resources is frequent and when those who possess the desired resources are attractive and similar to oneself, the feeling of deprivation is intensified. Both of these conditions are fulfilled when the person is comparing simultaneous experiences with two different leaders. In a situation where individuals are comparing the quality of relationships they have with different leaders, tension and dissatisfaction are expected when the two relationships are incongruent. This is because the person can see that he or she has the ability to form a higher LMX with a different leader.

Bolino and Turnley (2009) applied relative deprivation theory to propose and explain why low LMX quality results in less positive attitudes. They contended that those low LMX employees who have had higher quality exchanges in the past experience a greater sense of loss, given that they could see the attainment of a higher quality exchange to be feasible. This proposition is consistent with empirical results demonstrating that individuals tend to assess current relationships with leaders based on the relationships that they had with previous leaders (Ritter & Lord, 2007).

Thus, we posit that when the two LMXs are aligned at a high level, employees should experience high degrees of support and less tension, which leads us to theorize that alignment results in higher job satisfaction. Furthermore, researchers have utilized relative deprivation theory to show that a sense of feeling deprived of a better, feasible, alternate reality can result in withdrawal in the form of turnover (Aquino et al., 1997) and job search behaviors (Feldman & Turnley, 2004). Thus, we also assert that alignment in which both LMXs are of high quality results in lower levels of voluntary turnover. Given the

positive implications of high LMX (e.g., Dulebohn et al., 2012; Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007), a condition where two LMXs converge at a high level should be preferable to a situation in which LMXs converge at a lower level.

*Hypothesis 3a:* Job satisfaction is associated with alignment in LMX-agency and LMX-client beyond the effects of LMX-agency and LMX-client, such that job satisfaction is higher when LMX-agency and LMX-client are aligned at a high level of LMX rather than a low level of LMX.

*Hypothesis 3b:* Voluntary turnover is associated with alignment in LMX-agency and LMX-client beyond the effects of LMX-agency and LMX-client, such that voluntary turnover is lower when LMX-agency and LMX-client are aligned at a high level of LMX rather than a low level of LMX.

## **Misalignment of LMXs in a Dual Leadership Context**

Misalignment between the two LMXs may occur in two different ways: the relationship quality with the agency leader may be higher than the one the focal employee has with the client leader, or the opposite, in which relationship quality with the client leader is higher than it is with the agency leader. We reason that when the two LMXs diverge, the case in which the relationship with the agency leader is of higher quality drives more favorable outcomes than when the LMX with the client leader is of higher quality. This is so because LMX quality has shown stronger relationships with happiness, well-being, and positive behaviors when the leader embodies the organization (Eisenberger et al., 2010). This also follows Bolino and Turnley's (2009) theorizing that LMX quality is more strongly related to employees' job attitudes and behaviors when leaders have more power over the employees. Likewise, LMX has been shown to be more strongly associated with a feeling of being supported when the leader is at a higher rather than lower hierarchical level (Self, Holt, & Schaninger, 2005) and when the leader is well supported by the organization (Erdogan & Enders, 2007). Finally, when leaders are well connected, LMX quality is more strongly associated with the amount of influence employees acquire in the organization (Sparrowe & Liden, 2005). These findings suggest that the different LMXs a person develops with different leaders are not equally important; rather, the level of formal and informal power built into the position of the leader makes that LMX more or less salient.

We contend that LMX quality with the agency leader takes precedence over the LMX quality with the client leader. This is because of the transience inherent in the relationship with the client leader. Employees who are contracted out to another organization officially remain employees of the agency. For example, their pay is negotiated by and benefits are still provided by the agency organization. If the client relationship is not working out, the recourse of the employee is to seek a change in assignment from the agency, and even when all is well, the relationship with the client leader and client organization is a temporary one (Druker & Stanworth, 2004). Furthermore, for the external motivators of the job such as salary, bonus, promotion, and career advancement, as well as the determination of client assignments, employees are dependent on their agency leaders (Wallgren & Hanse, 2011). Therefore, we contend that a situation where LMX-agency is lower than LMX-client is more dissatisfying and tension inducing than one where LMX-agency is higher than LMX-client.

*Hypothesis 4a:* Job satisfaction is higher when LMX-agency is greater than LMX-client rather than when LMX-agency is lower than LMX-client.

*Hypothesis 4b:* Voluntary turnover is lower when LMX-agency is greater than LMX-client rather than when LMX-agency is lower than LMX-client.

We further contend that the absence of a high-quality exchange with the client leader should make the LMX quality with the agency leader more salient. This is so because having a low-quality exchange with the client leader likely results in dissatisfaction with the assignment, but some of the benefits missing from these exchanges, such as psychological safety (Burriss, Detert, & Chiaburu, 2008), mentoring (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011), and sponsorship (Sparrowe & Liden, 2005), can be obtained from one's relationship with the agency leader. Our assertion is in line with past research, within contexts where the relationship with a single leader was the focus, that theorized (Erdogan & Liden, 2002; Bolino & Turnley, 2009) and empirically demonstrated (Hu & Liden, 2013) that individuals' exchange relations with others may offset the importance of LMX quality. Likewise, research also suggests that different aspects of the work environment, such as the degree of empowerment a person experiences (Harris, Wheeler, & Kacmar, 2009) or a person's own interpersonal skills (Bauer et al., 2006), reduce the importance of LMX quality for outcomes such as job attitudes and turnover. Thus, in a dual leadership setting, as focal individuals engage in relative comparison process, the absence of a high-quality exchange with the client leader should make the LMX quality with the agency leader more salient.

At the same time, the importance of LMX with the agency leader likely depends on the degree to which the agency leader and the focal employee interact with each other. Frequent encounters with an individual increase that person's salience as a referent (Gartrell, 2002; Kulik & Ambrose, 1992; Shah, 1998). Communication frequency is especially relevant in our two-organization work context, because employees may have relatively fewer means, opportunities, and motives to communicate with their primary leader than those found in a single organization setting. We reason that when LMX with the client leader is subpar, the agency leader emerges as an especially important leader for the focal employee. We contend, consistent with research showing an additional joint effect of LMX and communication frequency (Gajendran & Joshi, 2012), that the effect of LMX-agency is more pronounced when employees have a lower LMX with the client leader. Given that communication frequency tends to influence how strongly LMX quality influences employee effectiveness (Kacmar, Witt, Zivnuska, & Gully, 2003) and that the communication frequency with the agency leader is highly variable, we posit that LMX-agency has a stronger influence over the outcomes for focal employees in low LMX-client relations and when focal employees interact with the agency leader more frequently.

*Hypothesis 5a:* LMX-agency is more strongly and positively related to job satisfaction when LMX-client is low and communication frequency with agency leader is high.

*Hypothesis 5b:* LMX-agency is more strongly and negatively related to voluntary turnover when LMX-client is low and communication frequency with agency leader is high.

## **Method**

### **Participants and Procedures**

We collected data from a U.S.-based information technology (IT) organization that offers comprehensive technology solutions to customer organizations. The IT organization employs highly skilled engineers, holding the title of consultants, who provide on-site technology services to client organizations. Because we were interested in studying the effects of multiple LMXs, we surveyed only those employees who had been working at a client site for at least three months, with the expectation that within three months employees would have formed relationships with client leaders (cf. Liden, Wayne, & Stilwell,

1993). Further, we solicited participation only from those employees who were at a client location within the United States to eliminate any potential effects of country or culture differences.

Because study participants were distributed across the United States, we used a web-based survey method to collect data. Employing a three-phase time lagged research design we measured independent (i.e., LMX-agency and LMX-client) and control variables at Time 1 and dependent variables in the subsequent phases. We gathered attitudinal variables (i.e., satisfaction with supervision and job satisfaction) and the contextual moderator (i.e., frequency of communication) at Time 2, which was 3 months after Time 1, and behavioral outcomes (i.e., voluntary turnover) at Time 3, which was 2 years after Time 1. We sent the Time 1 survey to 801 consultants, such that each person was sent an e-mail with a unique link to a secure web server where they could complete the survey questionnaire. A reminder message was sent after 2 weeks to those who did not complete the survey. In this first wave of data collection, including follow-up reminders, we received responses from 232 consultants working at 31 client locations (initial response rate = 29%). Three months later we administered Time 2 surveys following a procedure similar to the first survey. Participants were asked to refrain from taking this survey if their work arrangement had changed (e.g., a different client leader) since the initial survey. Reminders were sent after 2 weeks to those who had not completed the survey. Out of the 232 consultants who participated in the first phase, 159 consultants from 26 client locations completed Time 2 survey (response rate = 69% between Time 1 and Time 2; overall response rate = 20%). Finally, for the third phase of the study we obtained voluntary turnover information from the human resources department of the participating organization 2 years after the initial survey. We chose a 2-year time period to allow sufficient time for enough employee turnover to have occurred for conducting meaningful analyses. Griffeth, Hom, and Gaertner (2000) noted that 50% is the optimal rate in studies of turnover and at lower rates the relationship between predictors and turnover is attenuated. The choice of a 2-year gap provided us with an adequate number of employees (49% of the respondents at Time 1) who had left the company to meaningfully assess relationships between LMX and turnover.

Respondents used a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), unless otherwise stated. Scale items were averaged, such that higher scores indicated greater value on the underlying construct. Eighty-seven percent of the participants were male, average age was 42.25 years ( $SD = 7.33$ ), mean agency organizational tenure was 4.71 years ( $SD = 1.45$ ), and mean client organization tenure was 7.08 months ( $SD = 1.11$ ). The average number of participants per client location was 6.11. We found that those who responded to both surveys did not differ from those who responded to Time 1 but not Time 2 on LMX-agency ( $t = .06, ns$ ), LMX-client ( $t = -.33, ns$ ), and demographic characteristics of age ( $t = .60, ns$ ); gender ( $\chi^2(1, N = 232) = 1.40, ns$ ) and agency tenure ( $t = .14, ns$ ). The only difference between respondents and nonrespondents was that nonrespondents had slightly shorter tenure with the client ( $t = 2.21, p < .05$ ; mean client tenure 6.53 months and 5.10 months for respondents and nonrespondents, respectively).

## Measures

LMX. LMX-agency and LMX-client were assessed with Liden and Maslyn's (1998) 12-item scale. Because we required participating employees to describe their LMX relationship with both agency and client leaders, we adapted the measure to reflect reference to respective leaders by having "agency manager" or "client manager" replace "manager" in the original scale. Example agency and client LMX items are "I like my agency manager as a person" and "I admire my client manager's professional skills" (LMX-agency  $\alpha = .92$ ; LMX-client  $\alpha = .89$ ).

**Satisfaction with supervision.** We used Janssen's (2001) three-item scale to measure employee satisfaction with supervision received from the agency leader and used the same three items to assess satisfaction with the client leader. Example items are "How satisfied or dissatisfied you are with the support you get from the agency manager" and "How satisfied or dissatisfied you are with the support you get from the client manager." A 7-point scale ranging from 1 (*very dissatisfied*) to 7 (*very satisfied*) was used (satisfaction with supervision received from agency leader  $\alpha = .79$ ; satisfaction with supervision received from client leader  $\alpha = .89$ ).

**Job satisfaction.** We used Bacharach, Bamberger, and Conley's (1991) five-item scale to measure employees' overall job satisfaction. An example item is "How satisfied you are with the chance your job gives you to do what you are best at." A 7-point scale ranging from 1 (*very dissatisfied*) to 7 (*very satisfied*) was used  $\alpha = .95$ ).

**Communication frequency with agency leader.** We used an adaptation of Kacmar et al.'s (2003) scale to measure employees' frequency of communication with agency leaders. We retained the six items that captured non-face-to-face communication using various means, such as e-mail and phone, and added two additional items to capture frequency of communication via text and instant messaging. The final scale had eight items with the two additional items being "How frequently do you communicate with your agency supervisor by text or instant messaging?" and "How frequently does your agency supervisor communicate with you by text or instant messaging?" A 5-point scale ranging from 1 (*less than once a month*) to 5 (*more than once a day*) was used  $\alpha = .91$ ).

**Voluntary turnover.** We obtained data on employee voluntary turnover from the human resource department of the participating organization 2 years after the initial survey (coded stay = 0; quit = 1).

**Control variables.** We controlled for employees' *age*, *sex*, and *organizational tenure* consistent with past studies on LMX (e.g., Erdogan & Enders, 2007; Liden et al., 2006) and because they were significantly correlated with at least one dependent variable. We also controlled for context-specific factors that could provide alternative explanations for the observed relationships. Because the time spent at the client site may have implications for development of exchange relationships with client leader, we controlled for *tenure in the current client assignment*. Further, our sample included 41 consultants whose agency leaders were working alongside them at the client location. Because working from a distance from one's leader could affect relationship development as well as the implications of these relationships for outcomes (Golden, 2006), we controlled for *agency leader location* (coded 1 = agency leader and consultant at same location, 0 = different locations). We also controlled for project length, because the duration of projects largely determines the extent of interaction between agency and client leaders and thus sets the context for relationships between individual employee's LMXs with both of the leaders and outcomes. Finally, we controlled for group size because the number of consultants varied across client locations.

## Analytical Strategy

In our sample it was possible for multiple consultants to work at one client location. Because attributes of a client location may have influenced attitudes and behaviors of all residing consultants, it was not appropriate to treat individual observations as independent of each other. Therefore we used hierarchical linear modeling (HLM) to account for the nested nature (i.e., consultants grouped at a client

location) of our data (Bliese, 2000). HLM also allowed us to control for group level variables, such as group size and project length in our model.

To test our hypotheses regarding the effects of alignment and misalignment between LMX-agency and LMX-client on outcome variables (Hypotheses 3 and 4), we used polynomial regression analyses (e.g., Edwards, 1994; Edwards & Parry, 1993). Edwards (2001) noted that for continuous variables, tests of congruence are best handled with polynomial regression. It has advantages over other methods, such as difference scores and product terms, because it allows researchers to model and test hypotheses involving degrees and direction of alignment and misalignment. Polynomial regression allows for treating congruence as a continuous variable, which is superior to using product terms where the relationship between the independent and dependent variable is examined at discrete levels of a moderator. Further, polynomial regression allows for testing hypotheses examining the directionality of misalignment, again treating misalignment as a continuous variable.

Thus, we developed the following multilevel regression equation (with random effects for intercepts and fixed effects for slopes) to test these hypotheses. Because our primary goal was to model individual employee level variability in outcomes (i.e., job satisfaction and voluntary turnover) arising from alignment or misalignment between LMX-agency and LMX-client, we used fixed effects at Level 2 for all coefficients except the intercepts. We specified random effects for the intercepts to control for any client location-specific attributes that may have influenced mean levels of the outcome variables (e.g., Anand, Vidarthi, Liden, & Rousseau, 2010).

Level 1 equation:

$$\begin{aligned}
 DV_{ij} = & \beta_{0j} + \beta_{1j}(\text{individual level controls}) \\
 & + \beta_{2j}(\text{LMX-agency}) + \beta_{3j}(\text{LMX-client}) \\
 & + \beta_{4j}(\text{LMX-agency})^2 + \beta_{5j}(\text{LMX-agency} * \text{LMX-client}) \\
 & + \beta_{6j}(\text{LMX-client})^2 + r_{ij}
 \end{aligned}$$

Level 2 equation:

$$\begin{aligned}
 \beta_{0j} = & \gamma_{00} + \gamma_{01}(\text{group level controls}) + u_{0j}; \beta_{1j} = \gamma_{10}; \beta_{2j} \\
 = & \gamma_{20}; \beta_{3j} = \gamma_{30}; \beta_{4j} = \gamma_{40}; \beta_{5j} = \gamma_{50}; \beta_{6j} = \gamma_{60}. \quad (1)
 \end{aligned}$$

In this equation, DV represents the dependent variables (i.e., job satisfaction and voluntary turnover). Inclusion of squared and product terms (i.e., LMX-agency<sup>2</sup>, LMX-agency \* LMX-client, and LMX-client<sup>2</sup>) allowed for detection of any potential higher order effects of LMX alignment or misalignment on the outcome variables (Edwards, 1994). To ascertain the LMX alignment effect (Hypotheses 3a and 3b), we examined significance of the joint effect of the higher order terms and the negative curvature of response surface (i.e., three-dimensional plot of the relationship between the two LMXs and the outcome variable) along the misalignment line (Edwards & Parry, 1993). The parameter estimate of the alignment effect on the outcomes was operationalized as the sum of the parameter coefficients for LMX-agency and LMX-client, and its statistical significance was tested with a contrast statement in SAS (e.g., Jansen & Kristof-Brown, 2005). The LMX misalignment effect was estimated by the difference between parameter coefficients of LMX-agency and LMX-client, and its significance was tested with a contrast statement in SAS (e.g., Vidarthi et al., 2010). All predictor variables were scale-centered before analyses to reduce multicollinearity and to facilitate interpretation. Scale centering involved subtracting

the mean value of the scale from the measured value of LMX-agency and LMX-client. Because voluntary turnover is a dichotomous variable, we used the Bernoulli distribution hierarchical linear model of Equation 1 to regress turnover on LMX-agency and LMX-client.

Because Hypothesis 5 concerned testing the effect of communication frequency on the relationship between LMX-agency and outcomes when LMX-client is low, we developed a series of models that included various interaction terms with the final model including a three-way interaction term.<sup>1</sup> The final Level 1 regression equation was

$$\begin{aligned} DV_{ij} = & \beta_{0j} + \beta_{1j}(\text{individual level controls}) \\ & + \beta_{2j}(\text{LMX-agency}) + \beta_{3j}(\text{LMX-client}) \\ & + \beta_{4j}(\text{communication frequency}) \\ & + \beta_{5j}(\text{LMX-agency} * \text{LMX-client}) \\ & + \beta_{6j}(\text{LMX-agency} * \text{communication frequency}) \\ & + \beta_{7j}(\text{LMX-client} * \text{communication frequency}) \\ & + \beta_{8j}(\text{LMX-agency} * \text{LMX-client} \\ & * \text{communication frequency}) + r_{ij}. \end{aligned}$$

In this equation,  $\beta_8$  represented the coefficient for the three-way interaction term, and its test of significance was used to determine support for Hypotheses 5a and 5b. A plot was drawn to illustrate the relationship among LMX-agency, LMX-client, communication frequency, and the dependent variable.

## Results

Before testing the hypotheses, we conducted a confirmatory factor analysis (CFA) using LISREL 8.80 (Jöreskog & Sörbom, 2004). In the CFA model we specified the two forms of LMX (i.e., LMX-agency and LMX-client) as two second order factors (each comprising subfactors corresponding to the four LMX dimensions; Liden & Maslyn, 1998) and four separate factors for satisfaction with supervision received from agency leader, satisfaction with supervision received from client leader, communication frequency with agency leader, and job satisfaction. We constrained each item to fall under a single factor and allowed the factors to correlate. Good fit between the hypothesized model and the data was indicated by suitable absolute fit criteria,  $\chi^2(826) = 1,395.10$ ,  $p < .01$ ; root-mean-square error of approximation (RMSEA) = .06, and relative fit criteria: comparative fit index (CFI) = .94; standardized root-mean-square residual (SRMR) = .07; Tucker–Lewis index (TLI) = .94 (Hu & Bentler, 1999). An alternate model that combined LMX-agency and LMX-client items into one factor while keeping the remaining factors unchanged had poorer fit indices.  $\Delta\chi^2(1) = 335.07$ ,  $p < .05$ . These results, along with the modest

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<sup>1</sup> Hypothesis 5 examines the relationship between LMX-agency and outcomes when LMX-client is low. Because we do not hypothesize that the entire alignment/misalignment effect is being moderated by communication frequency, we tested the three-way interaction between LMX-agency and outcomes when LMX-client is low. This represents the moderating effect as an enhancer or a substitute. Supplementary analyses using moderated polynomial regression results are also supportive of the findings but suggested that the three-way interaction method was more parsimonious (i.e.,  $AIC_{3\text{-way interaction}} < AIC_{\text{Moderated polynomial regression}}$ ) and thus appropriate.

correlation between LMX-agency and LMX-client ( $r = .16, p < .05$ ), indicated that respondents distinguished between the two forms of LMX. Other alternate CFA models with fewer factors, such as a model combining LMX-agency and satisfaction with agency leader,  $\chi^2(825) = 1,787.29, p < .01$ ; RMSEA = .08; CFI = .91; SRMR = .11; TLI = .90; or a model combining LMX-client and satisfaction with client leader,  $\chi^2(825) = 1,496.60, p < .01$ ; RMSEA = .07; CFI = .93; SRMR = .08; TLI = .93; and a one-factor model,  $\chi^2(821) = 3,068.23, p < .01$ ; RMSEA = .14; CFI = .83; SRMR = .20; TLI = .82; were inferior to the proposed model. Table 1 presents means, standard deviations, reliability coefficients ( $\alpha$ ), and correlations.

Before hypothesis testing, we developed null models without any predictors to estimate the variability in outcome variables attributable to nesting of consultants in client locations. The ICC(1) values (calculated as the ratio of between-group and total variance) for satisfaction with agency leader, satisfaction with client leader, job satisfaction, and voluntary turnover were .13,  $\chi^2(25) = 43.49, p < .01$ ; .16,  $\chi^2(25) = 49.28, p < .01$ ; .11,  $\chi^2(25) = 33.42, p < .05$ ; and .07,  $\chi^2(25) = 23.90, ns$ ; respectively, suggesting that the use of HLM was warranted (Bliese, 2000). Also, because significant variance in outcomes resided at the group level, we followed Kreft and De Leeuw's recommendation to use Akaike information criteria (AIC) to assess model fit in multilevel modeling (Kreft & De Leeuw, 1998).

To test Hypothesis 1 we created a preliminary model in which we regressed outcome variable satisfaction with supervision received from agency leader on control variables (age, sex, agency tenure, client tenure, agency leader location, project length, and group size) and LMX-client. In the following model we introduced the independent variable LMX-agency. As shown in Table 2, LMX-agency was positively related to satisfaction with supervision received from agency leader ( $\gamma = 0.48, p < .01$ ), whereas LMX-client was not so related ( $\gamma = 0.04, ns$ ). Next, we adopted a similar approach to test the relationship between LMX-client and satisfaction with supervision received from client leader. As reported in Table 2, LMX-client was positively related to client leader satisfaction ( $\gamma = 0.62, p < .01$ ), whereas LMX-agency was not related ( $\gamma = 0.10, ns$ ). Taken together, these results supported Hypothesis 1. Further, change in pseudo- $R^2$  showed that LMX-agency explained 19% of the variance in agency leader satisfaction and LMX-client explained 38% of the variance in client leader satisfaction. Finally, model comparison indicated by change in AIC showed that hypothesized models were more parsimonious than the preliminary models.

To test Hypothesis 2, we developed a preliminary model (Model 1) with control variables. Next, we introduced LMX-agency and LMX-client in Model 2 and Model 3, respectively, to examine their relationship with job satisfaction. As shown in Table 3, both LMX-agency ( $\gamma = 0.47, p < .01$ ) and LMX-client ( $\gamma = 0.42, p < .01$ ) were positively and significantly related to job satisfaction. To provide a more robust test of Hypothesis 2a, we used the subsequent model (i.e., Model 4) that included both LMXs. As shown in Table 3, both LMX-agency ( $\gamma = 0.42, p < .01$ ) and LMX-client ( $\gamma = 0.34, p < .01$ ) remained positively and significantly related to job satisfaction, supporting Hypothesis 2a. Hypothesis 2b was tested in a similar manner. As reported in Table 3, both LMX-agency and LMX-client were negatively and significantly related to voluntary turnover ( $\gamma = -0.40, p < .01$  and  $\gamma = -0.15, p < .05$  respectively), supporting Hypothesis 2b. To attribute changes in remaining variance in the outcomes to the respective LMXs, we compared pseudo- $R^2$  values from Model 2 and Model 3 with pseudo- $R^2$  value of Model 1. Computation of change in pseudo- $R^2$  showed that 14% and 10% of variability in job satisfaction and 16% and 7% of variability in turnover were attributable to LMX-agency and LMX-client, respectively. A reduction in AIC value also suggested that Models 2 and 3 were more parsimonious than Model 1.

Table 1  
Descriptive Statistics and Correlations Between Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	42.25	7.33														
2. Sex	0.87	0.35	-.09													
3. Agency organization tenure (years)	4.71	1.45	-.02	-.12												
4. Client organization tenure (years)	0.59	0.09	.01	-.13	.71**											
5. Agency leader location	0.26	0.44	-.02	-.12	.01	.11										
6. Group size	6.11	3.19	.04	-.08	.05	.04	-.05									
7. Project length (year)	1.87	1.48	.14	-.16	.06	.18*	-.05	.11								
8. LMX-agency	4.42	1.17	.01	-.04	-.17*	-.27**	.12	.04	.03	(.92)						
9. LMX-client	4.71	1.10	-.03	-.09	.04	-.03	.12	-.02	-.05	.16*	(.89)					
10. Satisfaction with supervision received from agency leader	4.57	1.27	-.03	.07	-.27**	-.19*	.11	.04	-.08	.49**	.13	(.79)				
11. Satisfaction with supervision received from client leader	4.76	1.11	-.13	-.16*	.00	.00	.08	.02	-.11	-.03	.61**	.16*	(.89)			
12. Job satisfaction	4.38	1.55	.19*	-.02	-.22**	-.29**	.13	.03	-.08	.44**	.33**	.40**	.22**	(.95)		
13. Voluntary turnover	0.49	0.49	.15	-.15	.01	.02	.01	.04	.01	-.25**	-.12	-.17*	-.05	-.11		
14. Frequency of communication with agency leader	2.52	1.08	-.01	.16*	-.14	-.04	.45**	.08	-.09	.24**	.04	.34**	-.07	.16*	-.02	(.91)

Note.  $n = 159$ ; Cronbach's alpha reliabilities are reported along the diagonal. Sex was coded as female = 0, male = 1; agency leader location was coded as different location = 0, same location = 1; voluntary turnover was coded as stay = 0, quit = 1. For group size  $n = 26$ ; correlation coefficients were obtained by assigning group size to all employees in a group. LMX = leader-member exchange.  
\*  $p < .05$ . \*\*  $p < .01$ .

Table 2

*HLM Results for Relationship Among LMX-Agency, LMX-Client, and Leader Satisfaction*

Variable	Satisfaction with supervision received from agency leader		Satisfaction with supervision received from client leader	
	Preliminary model estimate	Hypothesized model estimate	Preliminary model estimate	Hypothesized model estimate
Intercept, $\gamma_{00}$	5.43**	5.14**	6.33**	5.86**
Control variables				
Age, $\gamma_{10}$	-.01	-.00	-.01	-.01
Sex, $\gamma_{20}$	.16	.28	-.65*	-.43**
Agency tenure, $\gamma_{30}$	-.02	-.02	.00	-.00
Client tenure, $\gamma_{40}$	-.00	.01	.00	.01
Agency leader location, $\gamma_{50}$	.26	.04	.24*	.06
Group size, $\gamma_{01}$	.01	.01	.01	.02
Project length, $\gamma_{02}$	-.00	-.01	-.02	-.01
LMX-agency, $\gamma_{\text{LMX-agency}}$		.48**	.03	.10
LMX-client, $\gamma_{\text{LMX-client}}$	.12	.04		.62**
<i>df</i>	131	130	131	130
Pseudo- $R^2$	.03	.22	.03	.42
$\Delta$ Pseudo- $R^2$		.19		.38
AIC	552.6	521.9	518.2	443.9
$\Delta$ AIC		30.7		74.3

$N = 159$ ; HLM = hierarchical linear modeling; LMX = leader-member exchange; *df* = degrees of freedom; AIC = Akaike information criterion.

\*  $p < .05$ . \*\*  $p < .01$ .

To test Hypothesis 3a, we used cross-level polynomial regression analyses. First, we added LMX-client to Model 2 and created Model 4 to regress job satisfaction on all control variables, LMX-agency, and LMX-client. Next, we added three higher order terms (i.e., LMX-agency<sup>2</sup>, LMX-agency \* LMX-client, and LMX-client<sup>2</sup>) to Model 4 to create Model 5. As reported in Table 3, Model 5 showed significant fit improvement over Model 4 ( $\Delta$ AIC = 2.2) and a negative curvature ( $\gamma = -0.16$ ,  $p < .05$ ) along the line of misalignment, supporting Hypothesis 3a. The response surface slope was positive and significant ( $\gamma_{\text{LMX-agency}} + \gamma_{\text{LMX-client}} = 0.58$ ,  $p < .01$ ) along the line of alignment between LMXs (i.e., LMX-agency = LMX-client line), suggesting significant positive effect of LMX alignment on job satisfaction. Figure 1 illustrates the three-dimensional relationship among LMX-agency, LMX-client, and job satisfaction. In this figure, the response surface has a positive slope along the line of alignment between LMXs, which runs from the front corner to the back corner, and job satisfaction is higher in the back corner (high-high alignment) than in the front (low-low alignment), showing support for Hypothesis 3a.

We tested Hypothesis 3b regarding the effect of LMX alignment on voluntary turnover in a similar manner using a Bernoulli distribution transformation to account for the dichotomous nature of voluntary turnover. As reported in Table 3, Model 5 showed significant fit improvement over Model 4 ( $\Delta$ AIC = 2.5) and a negative curvature ( $\gamma = -0.15$ ,  $p < .05$ ) along the line of misalignment supporting Hypothesis 3b. The slope of response surface was negative and significant ( $\gamma_{\text{LMX-agency}} + \gamma_{\text{LMX-client}} = -0.48$ ,  $p < .01$ ) along the line of alignment between LMXs (i.e., LMX-agency = LMX-client), suggesting a significant negative effect of LMX alignment on voluntary turnover. The relationship among LMX-agency, LMX-client, and voluntary turnover is illustrated in Figure 2. In this figure, the response surface has a negative slope along the line of alignment between LMXs, which runs from the front corner to the back corner,

and voluntary turnover is lower in the back corner (high-high alignment) than in the front (low-low alignment), showing support for Hypothesis 3b.

In Hypotheses 4a and b, we contended that when LMX-agency and LMX-client are not aligned, employees react more favorably (higher job satisfaction and lower voluntary turnover) to misalignment where LMX-agency is greater than LMX-client rather than vice versa. To test these two hypotheses, we calculated the slope of the response surface along the line of misalignment (i.e.,  $LMX\text{-}agency = LMX\text{-}client$ ) in LMXs. We found that the response surface slope for job satisfaction as the dependent variable was not significant ( $y_{LMX\text{-}agency} - y_{LMX\text{-}client} = 0.04, ns$ ), thus failing to support Hypothesis 4a. However, the two LMX parameter estimates were in the expected direction (i.e.,  $y_{LMX\text{-}agency} > y_{LMX\text{-}client}$ ). We followed a similar procedure to test Hypothesis 4b. As reported in Table 3, the effect of misalignment for employees with agency LMX higher than client LMX was negative and significant ( $y_{LMX\text{-}agency} - y_{LMX\text{-}client} = -0.14, p < .05$ ), suggesting that LMX-agency has a greater effect than LMX-client on voluntary turnover, thus supporting Hypothesis 4b. This asymmetric effect of misalignment in LMXs is illustrated in Figure 2, showing that voluntary turnover is lower when LMX-agency is higher than LMX-client (in right corner) than when LMX-client is higher than LMX-agency (in left corner).

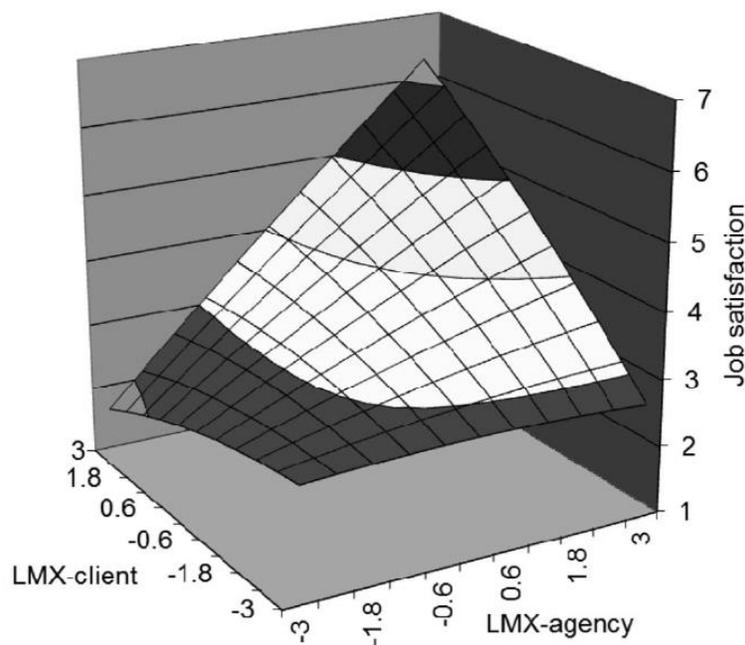


Figure 1. Response surface for the relationship among LMX-agency, LMX-client, and job satisfaction. LMX = leader-member exchange.

Hypotheses 5a and 5b suggested a three-way interaction among LMX-agency, LMX-client, and communication frequency with agency leader to affect job satisfaction and voluntary turnover. To test these hypotheses we developed three successive models, such that the initial model had control variables and independent variables (LMX-agency, LMX-client, communication frequency); the second model included two-way interaction terms (LMX-agency \* LMX-client, LMX-agency \* communication frequency, LMX-client \* communication frequency), and the final model contained the three-way interaction term (LMX-agency \* LMX-client \* communication frequency). The regression coefficients obtained are reported under Model 1, Model 2, and Model 3 respectively in Table 4. The results showed a negative and significant effect of LMX-agency \* LMX-client \* communication frequency term ( $-0.15, p < .01$ ), providing support for Hypothesis 5a. Further, a test of simple slopes (Cohen, Cohen, West &

Table 3  
HLM Results for Relationship Among LMX-Agency, LMX-Client, Job Satisfaction, and Voluntary Turnover

Variable	Job satisfaction					Voluntary turnover <sup>a</sup>				
	Model 1 estimate	Model 2 estimate	Model 3 estimate	Model 4 estimate	Model 5 estimate	Model 1 estimate	Model 2 estimate	Model 3 estimate	Model 4 estimate	Model 5 estimate
Intercept, $\gamma_{00}$	2.80**	2.47**	2.45**	2.21**	2.03**	-0.55	-0.20	-0.39	-0.11	-0.25
Control variables										
Age, $\gamma_{10}$	.05*	.05*	.05*	.05*	.05*	.04	.04	.04	.04*	.04*
Sex, $\gamma_{20}$	-.31	-.15	-.13	-.03	.00	-.90*	-1.17**	-1.11**	-1.28**	-1.62**
Agency tenure, $\gamma_{30}$	-.00	-.00	-.00	-.00	-.00	-.00	-.02	-.01	.00	.01
Client tenure, $\gamma_{40}$	-.03	-.02	-.03	-.01	-.02	-.01	-.01	.00	-.01	-.02
Agency leader location, $\gamma_{50}$	.57*	.34	.41	.23	.26	.13	.43	.26	.51	.58
Group size, $\gamma_{01}$	.01	.01	.01	.02	.02	.02	.02	.02	.02	.02
Project length	-.01	-.01	-.00	-.01	-.01	-.00	-.01	-.01	-.01	-.00
LMX-agency, $\gamma_{LMX-agency}$		.47**	.42**	.42**	.31**		-.39**	-.21*	-.36*	-.31**
LMX-client, $\gamma_{LMX-client}$				.34**	.27**				-.15*	-.17*
LMX-agency <sup>2</sup> , $\gamma_{LMX-agency}^2$					-.01					.02
LMX-client <sup>2</sup> , $\gamma_{LMX-client}^2$					.13*					.09*
LMX-agency × LMX-client, $\gamma_{LMX-agency} \times LMX-client$					-.02					-.08*
Slope along the alignment in LMX, $\gamma_{LMX-agency} + \gamma_{LMX-client}$					.58**					-.48**
Curvature along the alignment in LMX, $\gamma_{LMX-agency}^2 + \gamma_{LMX-client}^2$										
Slope along the misalignment in LMX, $\gamma_{LMX-agency} - \gamma_{LMX-client}$					.10					-.03
Curvature along the misalignment in LMX, $\gamma_{LMX-agency}^2 - \gamma_{LMX-client}^2$					.04					-.14*
$\gamma_{LMX-agency}^*$ LMX-agency + $\gamma_{LMX-client}^*$ LMX-client					-.16*					-.15*
$\gamma_{LMX-agency}$	132	131	131	130	127	132	131	131	130	127
Pseudo- $R^2$	.07	.21	.17	.26	.29	.01	.17	.08	.20	.22
$\Delta$ Pseudo- $R^2$		.14	.10	.05	.03		.16	.07	.03	.02
AIC	607.1	591.4	593.1	582.7	580.5	296.7	276.5	279.1	272.1	269.6
$\Delta$ AIC		15.7	14.0	8.7	2.2		20.2	17.6	4.4	2.5

Note. N = 159; HLM = hierarchical linear modeling; LMX = leader-member exchange; df = degrees of freedom; AIC = Akaike information criterion.

<sup>a</sup> Bernoulli distribution regression. <sup>b</sup> Test of significance obtained using contrast statement in SAS.

\* p < .05. \*\* p < .01.

Aiken, 2003) showed a significant difference ( $t = 2.03, p < .05$ ) between low and high communication frequency with agency leader when client LMX is low, corroborating support for Hypothesis 5a. To interpret the results of this three-way interaction we plotted the relationship under the combination of high/low client LMX and high/low frequency of communication with agency leader. As shown in Figure 3, the relationship between LMX-agency and job satisfaction was uniformly positive when LMX-client was high. When LMX-client was low, the relationship between LMX-agency and job satisfaction depended on communication frequency, such that LMX-agency was positively related to job satisfaction when communication frequency with agency leader was high but was not significant when communication frequency was low. Hypothesis 5b was tested in a similar manner. As reported in Table 4, the regression coefficient of the three-way interaction term was not significant ( $-0.04, ns$ ) for voluntary turnover. Thus, Hypothesis 5b was not supported.

## Discussion

Four decades of research suggests that LMX quality is consistently related to key individual attitudes and behaviors (Dulebohn et al., 2012; Gerstner & Day, 1997). Typically, LMX studies implicitly assumed that employees report to a single leader and assessed relationship quality with one leader. Our study extends LMX research by integrating relative deprivation theory as a means for developing an understanding of the dynamics at play when employees simultaneously report directly to two leaders, thus forming two LMX relationships. Our findings demonstrate that, in the presence of multiple leaders, each LMX has a unique relationship with employee outcomes. The quality of each LMX was related to satisfaction with supervision received from that particular leader. Moreover, both LMXs were related to overall job-related outcomes: job satisfaction and voluntary turnover. In other words, the presence of multiple leaders did not diminish the importance of LMX quality, and instead each LMX quality continued to be relevant to understanding job attitudes and behaviors. Further, we hypothesized on the basis of relative deprivation theory that the quality of each relationship is perceived and evaluated within the context of the other and that alignment of the multiple relationships would yield better outcomes.

Relative deprivation theory is often employed to explain the way in which focal employee attitudes and behaviors, such as retention decisions, can be influenced by comparisons that they make between their subjective assessments of their current condition as compared to similar others; when it is determined that others enjoy a better situation, the focal individual feels relatively deprived and seeks a more balanced situation. However, perceptions of relative deprivation can also be made internally. For example, on the basis of an evaluation of one's educational background and job training, employees may determine that their current jobs do not fully utilize their skills, abilities, and potential, resulting in a feeling of relative deprivation (Erdogan & Bauer, 2009). As in this example, rather than comparing one's situation with that of a comparison other, in the current investigation, we found that employees make comparisons between different relationships that they have with their two leaders. These findings suggest that relative deprivation theory is relevant in a wider range of situations than originally thought.

We found, consistent with our expectations, that the highest job satisfaction and lowest turnover were achieved when both LMXs were high and in alignment with each other. In case of a misalignment between the two LMXs, employee voluntary turnover was lower when LMX-agency was higher than LMX-client, rather than vice versa. Finally, employees with low-quality LMX-client had more positive outcomes when their LMX-agency was high and there was a high degree of communication with the agency leader, indicating that high levels of communication with the leader who plays a long-term role

over the career of the individuals can compensate for a low-quality exchange with the leader who shapes the daily tasks of the individual.

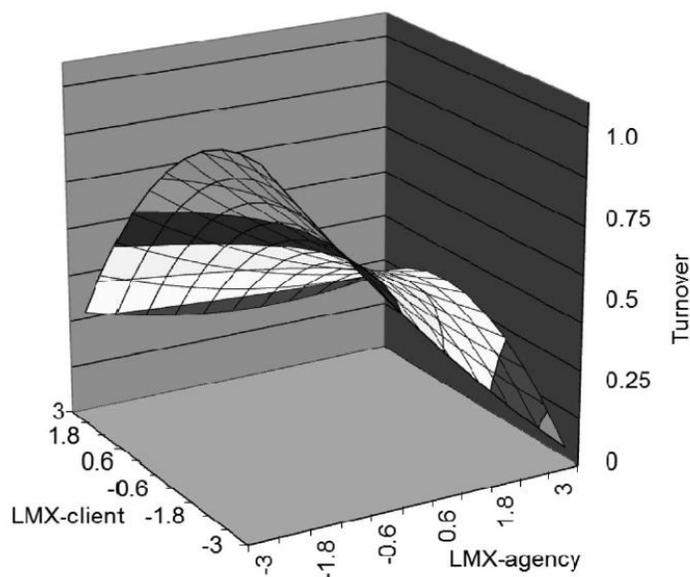


Figure 2. Response surface for the relationship among LMX-agency, LMX-client, and turnover. LMX = leader-member exchange.

Table 4

HLM Results for the Three-Way Interaction Among LMX-Agency, LMX-Client, and Communication Frequency With Agency Leader to Predict Job Satisfaction and Voluntary Turnover

Variable	Job satisfaction			Voluntary turnover <sup>a</sup>		
	Preliminary model estimate	Intermediate model estimate	Hypothesized model estimate	Preliminary model estimate	Intermediate model estimate	Hypothesized model estimate
Intercept, $\gamma_{00}$	2.17**	1.70*	1.62**	-0.34	-0.84	-0.88
Control variables						
Age, $\gamma_{10}$	.05*	.05*	.05*	.04*	.05*	.04*
Sex, $\gamma_{20}$	-.03	.01	.02	-1.32*	-1.24**	-1.24**
Agency tenure, $\gamma_{30}$	-.00	.00	.00	.00	.01	.00
Client tenure, $\gamma_{40}$	-.02	-.02	-.03	-.01	-.02	-.02
Agency leader location, $\gamma_{50}$	.22	.21	.22	.41	.34	-.35
Group size, $\gamma_{01}$	.01	.02	.01	.02	.02	.02
Project length, $\gamma_{02}$	-.01	-.01	-.01	-.01	-.01	-.01
LMX-agency, $\gamma_{60}$	.42**	.27**	.31**	-.48**	-.47**	-.47**
LMX-client, $\gamma_{70}$	.35**	.29**	.35**	-.24*	-.23*	-.22
Communication frequency with agency leader (CFAL), $\gamma_{CFAL}$	.02	.02	.09	.09	.10	.12
LMX-agency $\times$ LMX-client, $\gamma_{LMX-agency \times LMX-client}$		.13*	.09		-.05	-.04
LMX-agency $\times$ CFAL, $\gamma_{LMX-agency \times CFAL}$		.18*	.21**		.14	.15
LMX-client $\times$ CFAL, $\gamma_{LMX-client \times CFAL}$		-.11	-.13*		.04	.03
LMX-agency $\times$ LMX-client $\times$ CFAL, $\gamma_{LMX-agency \times LMX-client \times CFAL}$			-.15**			-.04
<i>df</i>	130	127	126	130	127	126
Pseudo- $R^2$	.27	.29	.33	.21	.20	.20
$\Delta$ Pseudo- $R^2$		.02	.04		-.01	.00
AIC	577.2	575.6	569.4	283.6	298.0	303.8
$\Delta$ AIC		1.6	6.2		-14.4	-5.8

Note.  $N = 159$ ; HLM = hierarchical linear modeling; LMX = leader-member exchange; *df* = degrees of freedom; AIC = Akaike information criterion.

<sup>a</sup> Bernoulli distribution regression.

\*  $p < .05$ . \*\*  $p < .01$ .

Our study has important implications for LMX literature. First, we were able to show that the quality of LMX continues to be related to employee satisfaction and retention in a dual-leader context. It seems

that both relationships play a role in explaining member outcomes. Second, following the footsteps of LMX differentiation scholars who showed that coworkers' LMXs are an important part of the relational context surrounding each LMX, our study shows that the relational context also includes LMX relationships the focal employee forms with other leaders in their work lives. We theorized, based on relative deprivation theory (Crosby, 1976), that having a high-quality exchange with another leader outside of the focal LMX relationship increases expectations about high-quality treatment within the focal relationship and magnifies its salience when the focal LMX relationship is of low quality. Thus, in a dual leader scenario, outcomes go beyond the individual effects of each LMX. Instead, exchanges that are aligned at the high level result in the most positive outcomes, and in cases of misalignment, a higher quality exchange with the leader who makes administrative decisions (i.e., salary increments, promotions) is most important with respect to satisfaction and retention. Our results underline the importance of careful consideration of who is considered to be the leader of the employee in LMX studies. It seems that from a correlational perspective, the leader who makes administrative decisions rather than day-to-day work assignments for the employee has greater ability to shape member attitudes and behaviors. At the same time, neglecting to focus on other meaningful LMX relationships in employees' work lives can give us a skewed picture regarding the effects of LMX on outcomes.

## **Strengths, Potential Limitations, and Future Directions**

Our research design goes beyond the traditional leader–follower dyad-based tests of LMX theory. This study was conducted in a large IT consulting organization, where the employees reported to an agency leader and also to client leaders. By showing the existence of two distinct LMXs between the employee and the agency leader (i.e., LMX-agency) and the client leader (LMX-client), we extend LMX theory beyond the “single leader–follower” dyadic model. Although Green et al. (1983) studied multiple reporting relationships in bank branches by asking respondents to indicate after each LMX item which leader (among the branch manager and assistant branch managers) was most likely to provide that leader behavior, in the current study, we measured each LMX relationship separately and assessed the effects of alignment and misalignment on outcomes. A second strength of this study is its time-lagged design employing data collection from multiple sources. We gathered satisfaction with supervision and overall job satisfaction measures 3 months after measuring the independent variables of LMX-agency and LMX-client. Following recommendations of organizational behavior/human resource scholars (Ballinger, Lehman, & Schoorman, 2010; Singer & Willett, 1991), we waited 24 months before collecting voluntary turnover from the participating organization's records. This temporal separation between the study variables allowed us to minimize concerns about common source and common method bias as potential explanations for the results (Podsakoff, MacKenzie, Bachrach, & Podsakoff, 2005). Another strength of this study is our use of hierarchical linear modeling for all analyses, which separates variance in outcome variables due to individual-level factors from that attributable to group membership effects. This analytical strategy allowed our models to appropriately account for the nested nature of the data. Further, to test the effects of alignment and misalignment between LMXs we used multilevel polynomial regression methods, which are more accurate than using difference or product scores of the two LMXs (Edwards, 1994).

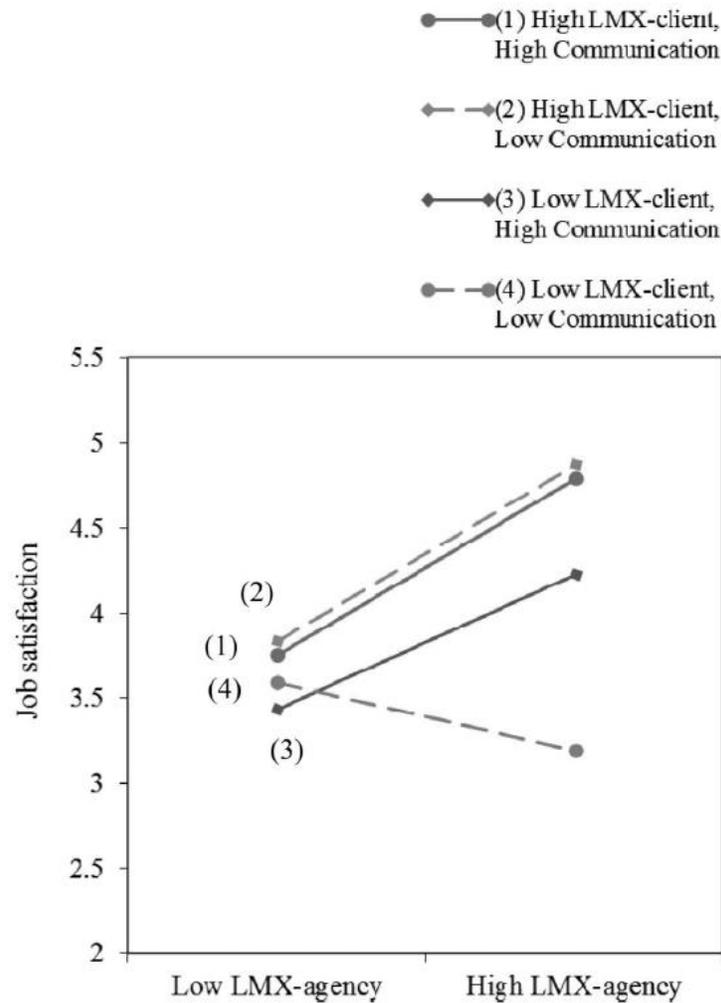


Figure 3. Three-way interaction showing the relationship among LMX-agency, LMX-client, frequency of communication with agency leader, and job satisfaction. LMX = leader-member exchange.

One limitation of the current study was the relatively modest response rate. Using a web-based survey design may have contributed to the lower response rate, but given the geographic dispersion of our sample, it was not possible to collect data on-site during paid work hours, an approach that tends to produce higher response rates. A second limitation is that it was not possible to measure all variables at both time periods, thus making this a time-lagged rather than a true longitudinal study. A final limitation of the study was a lack of cultural heterogeneity in our sample. Our sample consisted of consultants working at client locations within the United States, which did not allow us to explore how the differential effects of the two LMXs could have varied across different cultures. Our hypotheses should be tested in other settings to augment the generalizability of our findings.

Future research will benefit from testing our hypotheses in different cultural settings and in different industries. For example, there is some evidence that collectivistic individuals put a high premium on relationships and harmony (Triandis, 1995). For such individuals, alignment in LMXs may be particularly fruitful whereas a misalignment may be highly deleterious (cf. Dulebohn et al., 2012; Rockstuhl, Dulebohn, Ang, & Shore, 2012). We tested our hypotheses in the IT consulting industry, where employees had relatively short tenures with client leaders. Future researchers should test our hypotheses in settings where employees have two leaders on a more permanent basis, such as long-

term project teams or matrix structures. When employees have two leaders for long durations, their LMXs with both leaders are likely to be mature, such that the alignment or misalignment of their LMXs has stronger effects on outcomes. Another important variable for future research is the quality of relationship between these two leaders. It is likely that this relationship quality affects LMX–outcome relationship among employees who are simultaneously embedded in LMX relationships with these two leaders. For example it is possible that a high-quality relationship between the leaders prompts both of them to adjust their individual LMX relationships with the employee. As the two leaders get closer, the effect of LMX alignment on outcomes (i.e., job satisfaction and voluntary turnover) likely becomes stronger. We recommend that future researchers assess the quality of relationship between the two leaders and explore its effect on employees’ LMX–outcome relationships. Research and theory on Simmelian ties suggest that examining triads, in this case two leaders and a follower, may be powerful in explaining key outcome variables (Tortoriello & Krackhardt, 2010).

Future researchers should also consider collecting outcome variables (e.g., organizational citizenship behaviors) from other sources, such as focal employees’ leaders and coworkers, to explore if these outcomes are more or less strongly related to LMX–agency or LMX–client. This would also afford an opportunity to investigate whether the patterns of relationships between alignment (and misalignment) of LMXs and outcomes changes when outcomes are not measured from the perspective of focal employees.

An examination of Table 1 reveals the interesting finding that client organization tenure is negatively correlated with LMX–agency, satisfaction with agency leader, and job satisfaction. We offer two possible explanations for these relationships. First, working at the client site for a long time may make the differences between regular and contractor employees more salient. Indeed, in order to avoid legal challenges, client organizations must avoid providing the same benefits to contractors as to full-time employees, or the contract employee may by default qualify as a full-time employee over time (Smith, 2008). As a result, leaders and employees of the client organization may treat contract employees differently than full-time employees. Leaders may be reluctant to invest as much time or resources in contractor development, and employees may resent contractors because they may be seen as a threat to job security (Kraimer, Wayne, Liden, & Sparrowe, 2005). If contractors are treated differently from that organization’s regular employees, this could make them unhappy, and the longer they work for the same client, the more severe this problem would be. A second possible explanation is that the longer contract employees have worked for the same client organizations, the more likely it is that they are engaged in uninteresting work, such as maintaining old systems or databases using outdated computer code/programs. Being an expert on a “dead” system or computer language can stall career progression and over time reduce job mobility. It is likely that contractors ultimately attribute blame for extended assignments in the same client organization to the agency leader, which would explain the negative correlations found between client organization tenure and both LMX–agency and job satisfaction (Wilkin, 2013). We encourage future researchers to explore other outcomes associated with long-term assignments with the same client organization.

## **Managerial Implications**

Past research has consistently shown that a high-quality relationship with one’s leader leads to desirable outcomes for both the employee and the organization (Gerstner & Day, 1997; Ilies et al., 2007). Our findings suggest that when employees have two leaders it is not just the individual relationships with the

leaders but also the degree of alignment or misalignment between those relationships that decide the outcomes. In this study employees exhibited the highest job satisfaction and lowest turnover when LMXs were high with both leaders. Contemporary organizations are increasingly adopting structures that are not based on “unity of command.” Many employees today work within fluid structures where day-to-day operating directions come from more than one leader, or employees’ performance evaluations also depend on feedback from those other than their formal leaders. One of the common criticisms of such structures is that leaders care only for their direct or permanent reports, leaving the temporary reports to fend for themselves (e.g., Ang & Slaughter, 2001). This criticism is rooted in typical leaders’ job descriptions that include mentoring and nurturing only their direct reports. Therefore, it behooves organizations to update leaders’ job descriptions and also to train them to establish high-quality relationships not only with their permanent reports but also with the temporary ones to gain optimal outcomes (e.g., low voluntary turnover) for the organization and for the employees (e.g., high job satisfaction). However, establishing high-quality LMX with the transient employees is not always feasible. LMX quality is after all based on efforts made by both leaders and their followers (Maslyn & Uhl-Bien, 2001). Sometimes the relationship tenure may be too short to motivate the followers to invest the efforts required for a high-quality exchange. Under such conditions (i.e., low LMX with one’s temporary leader) the LMX quality with one’s permanent leader becomes very important. In this study, employees in low LMX relationships with their temporary leaders experienced the best outcomes when those employees had high LMX with a permanent leader with whom they communicated frequently. A higher quality LMX with one’s permanent leader in comparison to the LMX with one’s temporary leader also mitigated the negative outcomes resulting from misalignment between the two LMXs. These findings indicate that, under dual leader conditions, permanent leaders play a very important role. Permanent leaders in these situations should make every effort to establish high-quality relationships with their subordinates, communicate frequently, and also advise them to establish high-quality relationships with their temporary leaders.

## Conclusion

For over 40 years scholars have explored the dyadic relationship between a single leader and follower. A multitude of studies has demonstrated how the quality of this dyadic relationship influences a large number of employee outcomes. This study answers the question of whether LMX theory is still relevant in the era of changing organizational structures and more transient relationships between leaders and followers. We extend LMX theory beyond the leader–follower dyad and show that, under conditions of dual leaders, employees do establish dual LMXs and that both relationships distinctly and jointly impact employee outcomes.

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