CHAPTER 3

EXPANDING THE SCOPE

Social Network and Multilevel Perspectives on Leader-Member Exchange

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Leader-member exchange (LMX) theory focuses on the *dyadic* relationship between a leader and follower, and research has identified numerous advantages for followers who develop high quality relationships with their leaders. However, despite calls from prominent LMX scholars, the majority of this research does not take the broader social context into account when studying LMX. Taking a contextual approach is important because it most closely mirrors the theoretical foundations of LMX and provides the most accurate depiction of how relationships exist in real world work organizations. In this chapter we further solidify the argument that it is critical to examine the broader social context when studying LMX, review the literature on two contextual approaches (social networks and multilevel thinking) that seek to move beyond studying individual relationships devoid of context, and conclude by presenting a model that integrates these two approaches in an effort to summarize the extant literature and inspire future LMX research to consider the social context.

Sharing Network Leadership, 37–62

INTRODUCTION

Few leadership theories have received more theoretical and empirical attention over the past three decades than leader-member exchange (LMX) theory (for reviews see Dienesch & Liden, 1986; Erdogan & Liden, 2002; Gerstner & Day, 1997; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997; Schriesheim, Castro, & Cogliser, 1999). Originally termed vertical dyadic linkage (VDL) theory, LMX distinguishes itself from many other leadership theories by focusing primarily on the *dyadic* relationship between a leader and his or her followers (Dansereau, Graen, & Haga, 1975). LMX theory originally posited that leaders *differentiate* among their followers due to the actions of leaders, followers, or both by developing high quality relationships with subsequently high achieving followers and spending less time and resources with subordinates that are subsequently less able; although more recent perspectives suggest that leaders should seek enriched relationships among their followers by attempting to develop high quality relationships with all or as many as feasible (Graen, 2003a,b). Research has demonstrated that when a follower develops a high quality relationship with his or her superior, a number of valuable outcomes emerge such as increased job performance, satisfaction, commitment, role clarity, decreased turnover intentions (Gerstner & Day, 1997).

While there is a considerable amount of interest in LMX and most leadership scholars acknowledge the value in examining the relationships between a leader and his or her followers within a group, unit, or team, unfortunately, the majority of research on LMX has focused solely on individual dyadic relationships without taking the social context fully into account. As an example, even though the theoretical stance of LMX is that enriching relationships among followers in a team improves *workgroup* productivity, only recently has research actually examined how the composition (i.e., proportion of high quality relationships in a group) of a group impacts group performance (Graen, Hui, & Taylor, 2004). Similarly, with the exception of an early study by Graen and his associates (Cashman, Dansereau, Graen, & Haga, 1976), only recently has research explored the effect of the network of relationships that leaders and followers have and how such networks may directly impact individual and group outcomes or how network variables may strengthen or weaken the effects of high quality relationships (see Sparrowe & Liden, 2006). Many scholars have called for the expansion of LMX research to consider examining such relationships within a broader social environment reflecting more appropriately what exists in real world work settings (Balkundi & Kilduff, 2005; Erdogan & Liden, 2002; Gertsner & Day, 1997; Graen & Uhl-Bien,

1995; Uhl-Bien, Graen, & Scandura, 2000; Zaccaro, Rittman, & Marks, 2001).

In this chapter we seek to build on the going momentum for studying LMX within a broader social context by integrating LMX with two perspectives: (1) *social networks* and (2) *multilevel thinking*. Many scholars have noted that it is important to integrate *social network* perspectives in LMX theory and research (Liden et al., 1997; Sparrowe & Liden, 1997, 2006). Prompting some of the interest in this integration is early work on LMX that found the relationship a leader had with his or her superior impacted how useful a high quality relationship would be for a subordinate (Cashman et al., 1976; Graen, Cashman, Ginsburgh, & Schiemann, 1977). In addition to the importance of leaders' and followers' social networks, recent advances in *multilevel thinking* have also begun to influence the LMX literature (Graen & Uhl-Bien, 1995; Schriesheim et al., 1999). Given that LMX is a theory about dyads in work groups and networks, it is essential for research to be true to the theory and to study LMX relationships within the context of such groups. By doing so, a host of interesting questions emerge regarding when having a high quality relationship is most beneficial to a leader and/or follower, as well as how the composition of relationships within a group impacts group performance. As theoretical, empirical, and methodological strides regarding social networks and multilevel influences have been made in recent years, leadership scholars are increasingly calling for leadership research, and LMX research in particular, to take this broader context into account.

There are three primary goals of this chapter. First, we seek to build interest in taking context into account when studying LMX. While a lot is known about the effects of having a high quality relationship for followers, we presently do not have a good understanding of how LMX relates to social network variables, how such variables placate or exacerbate LMX effects, or how group level variables directly or indirectly impact individual and group outcomes of LMX. Second, in our attempt to build interest, we provide a comprehensive review of the theoretical and empirical work integrating LMX with social networks and multilevel thinking. Such a review is important as considerable work has been done in these areas in the past decade and it's important to take stock in what we presently know. Third, we present a model that integrates social network and multilevel perspectives on LMX by summarizing past empirical research and highlighting a number of important areas of future research with the goal of studying LMX within a broader social context. As the theoretical work largely outweighs the empirical work, it is essential to make some recommendations about potentially fruitful future empirical investigations.

In the pages that follow, we begin our discussion by drawing on recent work to build the case that it is important for LMX research to take the

broader social context into account—specifically focusing on social network and multilevel perspectives. We then review the theoretical and empirical literatures integrating LMX and networks and multilevel thinking. Finally, we conclude the chapter by suggesting a number of potential avenues for future research.

INTEGRATING CONTEXT: THE IMPORTANCE OF SOCIAL NETWORK AND MULTILEVEL PERSPECTIVES

LMX theory has steadily developed over the past three decades. Reichers and Schneider's (1983) work on the evolution of constructs posits that constructs and theories go through a series of developmental stages. In the first stage the theory is initially articulated and initial empirical articles emerge (called *introduction and elaboration*). In the second stage there are critical reviews of the research and the research grows more complex such as the examination of moderating and mediating variables (called *evaluation and augmentation*). The third and final stage involves general acceptance of the theory and a thorough knowledge of nearly all relevant boundary conditions for the effects (called *consolidation and accommodation*). It would be hard to argue that LMX theory is still in its infancy but it would also be imprudent to suggest that LMX theory has reached its zenith and there is little else to understand. Certainly, LMX theory and research are in the *evaluation and augmentation* stage in which scholars seek to understand more fully the causal mechanisms and boundary conditions of LMX effects.

A useful approach to examining mediating and moderating variables affecting LMX effects is to examine contextual variables—variables that take into account the social context in which leaders and their followers find themselves in work organizations (Balkundi & Kilduff, 2005). Until recently, very little leadership research had taken a contextual approach. In their influential review, House and Aditya (1997, p. 445) sum up this lack of attention to contextual factors: "It is almost as though leadership scholars, including the first author of this article, have believed that leader-follower relationships exist in a vacuum. While it is unlikely that scholars believe this, the fact is that the organizational and environmental context in which leadership is enacted has been almost completely ignored." More recently, empirical research has begun taking such a perspective (see Bono & Anderson, 2005; Sparrowe & Liden, 2006).

This movement to explore context, particularly with regard to social networks, is prevalent within the LMX literature. Even some of the early reviews of the LMX literature called for the examination of context. For example, Dienesch and Liden (1986, p. 630) called for more

research on contextual influences on LMX and noted, based on Cashman and his associates work (1976), that "... leaders who do not have a good relationship with their immediate supervisor tend to have less to offer their subordinates than leaders who have cultivated good relationships with their immediate supervisors." Thus, even as far back as 20 years ago, scholars reviewing the literature on LMX argued for the importance of considering the broader social and organizational context.

Subsequent reviews have also pleaded for more research integrating the social context into LMX research. Gerstner and Day (1997, p. 839) stated that, "Researchers should continue to examine the role of organizational context," and "... much empirical research is needed to understand how the LMX model operates at different levels of analysis." Erdogan and Liden (2002, p. 98) noted that "LMX is imbedded within a larger system of relationships," and cite research integrating LMX and social networks. Sparrowe and Liden (1997, p. 523) make an important insight that, "...both of the perspectives used in the development of LMX theory, role theory and social exchange theory, recognize how dyadic relations develop within a social context," but that research has generally not been in line with these theoretical foundations. Graen and Uhl-Bien (1995, p. 233) agree with Graen and Scandura (1987) that, "... LMX should be viewed as systems of dyadic relationships, or network assemblies." Finally, Liden et al. (1997, pp. 90-91) provide perhaps the clearest explanation for why the broader social context is essential to keep in mind: "The quality of a member's exchange with his or her leader is, however, embedded in a larger relational context that includes peers, the member's own subordinates, the leader's peers and superiors, as well as others beyond the boundaries of formally constituted work groups."

It is no coincidence that nearly every major review of the LMX literature within the past two decades makes the point that to be consistent with the theoretical foundations of LMX and to develop a theory that most accurately maps onto real world work organizations, it is important to consider the broader social context in examining dyadic relationships between a leader and a follower. Some scholars focus their concerns on a lack of research integrating LMX with social networks and others focus on the dearth of research examining LMX from a multilevel perspective. Given that there is little doubt that prominent LMX researchers subscribe to the importance of taking a contextual perspective, in the succeeding sections we first detail the theoretical and empirical work integrating LMX and social networks and then detail the LMX work employing a multilevel framework.

LMX AND SOCIAL NETWORKS

In this section, we consider the literatures on leader-member exchange theory and social network analysis, with the intention of encouraging new research that utilizes a network perspective in leadership research. The purpose of the current section is to describe, from a theoretical perspective, how LMX has been associated with network centrality and how a network perspective on leadership is critical to the advancement of leadership research in general, and LMX research in particular. Whereas much of the existing research on LMX theory has centered on the single dyadic relationship that exists between a leader and follower (Sparrowe & Liden, 1997), significant strides have been made in articulating theoretical justification for assessing leader effectiveness in terms of high quality leader-member exchanges from a social networks perspective. In addition, we will introduce and summarize the conclusions from several studies that have successfully examined LMX and social networks. We first begin by highlighting important related trends in the broader leadership literature.

Trends in the Broader Leadership Literature: Relationships and Social Networks

In the last two decades, the leadership concept and much of the scholarly research on leader effectiveness has evolved beyond the simple examination of leadership traits or behaviors. Modern approaches to understanding excellent leadership recognize that leadership is an influence process that is not limited to positions of formal authority within an organizational structure (Uhl-Bien, 2003). Instead of defining leadership as a set of outstanding individual qualities or a specific set of motivating behaviors, those in academia and in the popular press regard leadership as a process by which one individual develops and exercises influence on others (Maxwell, 1993; Yukl, 1989).

Whereas traditional approaches have described leadership as a set of specific behaviors (e.g., Ohio State studies; Fleishman, 1973) or as a follower's cognitive evaluation of the leader's vision (e.g., transformational leadership; Bass, 1985), modern thought about leadership emphasizes an individual's ability to develop strong ties with members of the organization and to facilitate the development of "distributed intelligence" (Marion & Uhl-Bien, 2001). Indeed, effective leadership is not assigned exclusively to those who occupy formal positions of authority within an organization, nor is leadership limited to the interactions between two specific parties (leader and follower). Rather, successful leaders in an

organization may be those who build social capital with co-workers and develop effective relationships among organizational members (Marion & Uhl-Bien, 2001).

Beyond the progression in our definition of leadership, there is a growing need to conduct leadership research with consideration of the social context within which a leader is placed. Certainly, leadership in most modern organizations is tied to the development of influential relationships with others (Geletkanycz, & Hambrick, 1997). As such, research on the leadership process needs to (a) estimate correspondence between a leader's behavior and the development of social capital (i.e., social networks), and (b) determine the extent to which network characteristics shape observed effects of leadership on individual (e.g., performance, satisfaction, and commitment) and group outcomes (e.g., group performance). Indeed, much of the work in today's business is done in teams or work groups (Devine, Clayton, Philips, Dunford, & Melner, 1999; Ilgen, Hollenbeck, Johnson, & Jundt, in press; Kozlowski & Bell, 2003), so it is natural for researchers to pursue a reconciliation of leadership thought with consideration of the social network that develops among members of the work group.

The broad literature on leadership has certainly provided extensive evidence of an effective leader's influence on individual attitudes and work behavior, but while most modern theories of leadership are specified at the group-level (e.g., transformational leadership; Bass, 1985), many studies of the leadership process examine interactions and causal effects at the individual level (Gerstner & Day, 1995; Judge & Piccolo, 2004). That is, studies of leadership tend to isolate one particular leadership style with a focus on single, dyadic relationships. Contextual boundaries of a leader's influence have been examined (e.g., Shamir & Howell, 1999), but additional study is needed to identify how characteristics of an individual's social network shape subsequent job related behaviors and attitudes. Thus, the next steps in the development of leadership thought is to consider leadership as a method of relationship development, to determine how individual leadership behaviors shape a follower's position and influence in the organization's social network, and how a follower's position within that network shapes important organizational outcomes.

Theoretical Work

There is considerable theoretical work linking LMX and social networks. LMX is based, in part, on the quality of leader-member interactions and the quality of relationships that a leader develops with each

member of his or her work group. Social network analysis offers a meaningful framework for assessing the structure and composition of an individual's pattern of informal relationships in an organization (Baker, 1992), and is thought to have an effect on the individual's success in the organization (see Kilduff & Tsai, 2003 for a review). As relationships and interactions are at the center of each concept, a natural linkage exists between LMX and social network analysis (Wellman, 1988).

Several authors (e.g., Burt, 1992; Graen & Uhl-Bien, 1995) have proposed an integration of LMX and social networks by explaining how high quality leader-member interactions are embedded in a work context (Liden et al., 1997), and by emphasizing the importance of the structure of informal relationships on important organizational outcomes (Sparrowe & Liden, 1997). In their influential summary of the LMX literature, for example, Graen and Uhl-Bien (1995, p. 233) called for the expansion of the dyadic partnership between leader and follower to group and network levels, suggesting that leader-member exchanges be "... viewed as a system of interdependent dyadic relationships of network assemblies." Further, Sparrowe and Liden (1997, p. 527) argued, "social network analysis, through its emphasis on the effects of the structure of relationships on important outcomes, offers a means for extending the domain of LMX research beyond the vertical dyad linkage."

As such, the integration of LMX theory and social network analysis is critical (e.g., Graen & Uhl-Bien, 1995; Sparrowe & Liden, 1997) with recognition of the value that exists for the extension of LMX research beyond the analysis of a single dyadic relationship and the prediction of individual-level outcomes (e.g., member satisfaction and commitment). By examining LMX theory with a social network perspective, it is expected that researchers are more likely to identify the impact of group or work context on individual and group outcomes, more capable of explaining why the observed effects of high quality exchange exist, more willing to examine how relationships outside the immediate work group matter, and more able to say how leaders create positive relations among their followers.

A natural question that follows then is "how can we integrate LMX and social network analysis?" Several existing reviews offer compelling guidance (Liden et al., 1997; Graen et al., 2004; Graen & Uhl-Bien, 1995; Sparrowe & Liden, 2006), and in each case, the connection between leader-member exchanges and the structure of informal relationships has been grounded in social exchange theory. Our potential to draw a link between LMX and social network analysis rests primarily on the idea that relationships are at the heart of LMX theory and social networks. Indeed, *relational* theories of leadership (Murrell, 1997) define human interactions at the center of effective leadership, with an emphasis on the devel-

opment of non-hierarchical, non-formal relationships among agents both internal and external to the organization. LMX theory, with its emphasis on the quality of relations between organizational members and its recommendations for the development of differentiated relationships with members of a work team, is consistent with a relational approach.

A social network perspective on leadership would require that leaders be skilled at building strong networks among subordinates, peers, and superiors, and skilled at accurately identifying those relationships and network subassemblies that are particularly useful (or harmful) to one's effectiveness. As Balkundi and Kilduff (2005, p. 946) theorized, effective leaders must accurately perceive aspects of the social network, including "relations between actors in [the work] unit and the extent to which [these] relationships involve embedded ties (kinship, friendship)." According to these authors, the accurate perception of and constructive management of informal social networks within an organization is "intrinsic to the leadership role" (p. 942). In this way, a leader's effectiveness is contingent on his or her ability to identify, foster, and maintain a powerful network of formal and informal relationships. Given the theoretical grounding for an integration of LMX theory and social network analysis, several studies have directly (or indirectly) derived a link between LMX and network centrality. In the following section, we review the handful of studies that have recognized social network development as part of the LMX leadership process.

Empirical Research

The theoretical work linking social networks and LMX far outweighs the amount of empirical work that has tested such notions. However, there is some research that was conducted soon after LMX theory was developed and some recent research that speaks to the importance of examining relationships outside the work group and social networks in particular. Specifically, there are four major sets of findings: (1) research linking a leader's relationship with his superior to member outcomes, (2) research exploring how leader and member centrality influence perceptions of LMX quality, (3) research examining the effects of having a high quality relationship with member centrality, and (4) research examining a leader's social network and whether a member has been incorporated into that network as boundary conditions for the effects of LMX. We review this empirical research below.

Despite a call by leading scholars to integrate LMX and social network analysis, only a handful of studies have specifically considered a relationship between the two concepts. First, some research has demonstrated

that a leader's relationships with his or superior matters. For example, Cashman et al. (1976) and Graen et al. (1977) found that the quality of a leader's relationship with his or her own boss has a direct positive influence on the leader's resources to develop enriched exchange relationships with his or her own subordinates. Indeed, if a leader had a poor relationship with his or her boss, employees were less likely to benefit from high quality relationships with their leader.

Second, in a study of 91 professionals in a nonprofit organization, Goodwin, Whittington, and Bowler (2004) found significant interactions between aspects of a leader's network centrality and a follower's perceptions of LMX quality. For example, when the leader maintained high *influence* centrality in the organization's social network, the leader's advice centrality had little impact on followers' ratings of LMX quality. However, when the leader did not have influence centrality, the leader's advice centrality had a direct and significant effect on ratings of LMX quality. Further, when a leader was not regarded as central in the organization's social network, followers were less likely to report similarity with the leader or high levels of relationship quality. Similar results were reported for leader perceptions of LMX quality. That is, a follower's position in the organization's influence and advice networks shaped leader ratings of similarity with the follower and ratings of LMX quality. If a member was regarded as non-central, leaders were less likely to report favorable leader-member relations. Thus, according to Goodwin and his associates, network centrality has an important influence on how dyadic interactions are judged from both the leader and follower's perspective. The Goodwin et al. study provides further support for an integration of LMX theory and social network analysis.

Third, some recent research has linked LMX quality with network centrality. Sparrowe and Liden (2006) suggested that a relationship between LMX and a member's influence in his or her network could not be understood apart from consideration of the organization's larger social network. In a sample of 212 employees across three separate organizations, the authors reported a positive and significant relationship between LMX and member advice centrality and sponsorship, providing support for the notion that high quality leader-member relations shape the member's status in the organization's larger social network.

Fourth, Sparrowe and Liden also found support for a social network moderator of the effects of having a high quality relationship on member influence. Further, sponsorship and leader advice centrality each acted as moderators of the relationship between LMX and member influence. According to the authors, the value of a high quality relationship (i.e., high LMX) depended on the leader's own centrality in the broad organi-

zational network and the extent to which a member shared networks with his or her leader.

Similar research is present within other leadership domains such as transformational leadership theory. For example, Bono and Anderson (2005) surveyed 39 managers and 130 employees in 6 separate organizations to determine how transformational leadership behaviors affect the leader's centrality in advice and friendship networks. Consistent with expectations, the authors found positive associations between behaviors that characterize the transformational approach (e.g., intellectual stimulation and charisma) and the leader's centrality in advice and influence networks.

Although sparse, these studies illustrate how leadership can be integrated with social network analysis to understand how leadership effects are revealed. In this section, we attempted to build a case for the integration of LMX and social network analysis. In the next section, we continue our discussion on the extension of LMX theory by introducing the literature on LMX and multilevel thinking.

LMX AND A MULTILEVEL PERSPECTIVE

In addition to examining LMX with a social network paradigm, another strategy for understanding contextual effects on leader-follower relationships is by taking a multilevel approach. Indeed, one trend in the organizational sciences is that scholars are increasingly taking a multilevel approach to understand a variety of phenomena (Klein, Dansereau, & Hall, 1994; Klein & Kozlowski, 2000). Taking a multilevel approach acknowledges that relationships traditionally examined at the individual level of analysis can be impacted by higher-level variables (e.g., group, team, unit, store, branch, organization, industry, etc.) and encourages scholars to consider not only individual-level dependent variables but also outcomes at the aggregate level of analysis. Within the leadership literature, a growing amount of literature is taking a multilevel perspective (For a review, see Yammarino, Dionne, Jae, & Dansereau, 2005).

Within the LMX literature specifically, a burgeoning literature is emerging. LMX theory was initially premised on the assumption that the best way for a leader to head a productive group is by differentiating among his or her followers and creating high quality relationships with some members and spending less time and resources with those less willing to grow (Graen, Novak, & Sommerkamp, 1982; Graen, Scandura, & Graen, 1986) and less capable members (Dansereau et al., 1975). Thus, LMX as a theory is inherently multilevel. Leader-member relationships take place within a broader social context—that of the work group. In

addition, such relationships are likely to be impacted by forces outside of the work group itself (e.g., the leader's relationship with his or her supervisor). Further, the dependent variable of interest in LMX theory—group performance—is not at the individual level of analysis (although it is almost exclusively tested at this level). In what follows we highlight theoretical and empirical LMX work that takes a multilevel perspective.

Theoretical Work

Two reviews of the LMX literature within the past decade raise the important issue of using a multilevel perspective to understand LMX. In perhaps the most comprehensive review, Graen and Uhl-Bien (1995) suggest that the next wave of LMX research should take a multilevel perspective. They point out that leader-follower relationships do not exist within a vacuum but rather within a work group and an organization. They also acknowledge that informal relationships between peers, teammates, and other organizational members are also relevant. Specifically, they propose that a multilevel approach includes, "investigating patterns of relationship quality within the leadership structure, taking into consideration the criticality of relationships for task performance, as well as the effects of differentiated relationships on each other and the entire structure" (Graen & Uhl-Bien, 1995, p. 234).

Graen and Uhl-Bien (1995) go on to pose a variety of questions that emerge when taking a multilevel perspective at various levels of analysis. At the *workgroup* level, questions regarding why differentiating occurs, how differentiating impacts member relationships, and individual and group performance, and what is the best combination of relationships within a group are posed. At the *organizational* level, the impact of having a high quality relationship with a leader and his or her ability to make friendships throughout the organization are pertinent issues. At a *cross-organizational* level, questions emerge regarding how the pattern of relationships in a group or organization impacts employee interactions with individuals outside the organization. The work by Graen and Uhl-Bien provides a great introduction into the possible questions that can be asked when studying LMX from a multilevel perspective.

Another recent review by Schriesheim et al. (1999) highlights some of the level of analysis issues that have plagued the LMX literature. Indeed, these authors noted, "the level of analysis issue is not a minor or trivial one for LMX research" (p. 78). They highlight how early work on LMX (then referred to as VDL), departed from the prevailing assumptions of average leadership style (ALS) which posited that leaders treat all followers the same way. LMX on the other hand posited that leaders differenti-

ate among their subordinates. They go on to say that while most assume that LMX is predicated on the differentiation process, the work by Graen and Uhl-Bien (1995) provides a departure from the traditional dyadic level of analysis to consider LMX from multiple levels of analysis. In response, Dansereau and colleagues have distanced themselves from LMX per se and have examined a new approach referred to as "Individualized Leadership," which focuses on dyadic relationships without a group or organizational context (Dansereau et al., 1995; Graen & Lau, 2005 for a review). While this approach has been critiqued (see Graen, 2005), it still presents one of the current perspectives on LMX.

Both of these theoretical reviews point to the importance of specifying the level of analysis before conducting LMX research. While there is not complete consensus about the appropriate level of analysis LMX should be tested at, there appears to be momentum to study LMX from multiple levels. Below we review LMX research that has taken a multilevel approach. One set of research examines the differentiation process (i.e., Do all group members have high or low quality relationships or is there variance?), and the other set of research examines the effects of LMX at the group level with a specific focus on group-level outcomes.

Empirical Research

Testing the differentiation hypothesis. The majority of research exploring LMX from a multilevel perspective has sought to examine whether groups are differentiated or whether leaders treat all of their followers the same. Schriesheim and colleagues (Schriesheim, Neider, & Scandura, 1998; Cogliser & Schriesheim, 2000; Schriesheim et al., 2000; Schriesheim, Castro, Zhou, & Yammarino, 2001) have put together an impressive body of research using a multilevel analytical approach to test predictions of LMX. The premise of this multilevel research is to test whether within-group effects proposed by LMX are indeed stronger than between-group effects. For example, if followers have different perceptions of their relationship quality with their leader then it supports the within-group approach as originally espoused by LMX. However, if members of a group rate their relationship quality similarly to other group members then this supports a between-group effect and substantiates the presumptions of average leadership style (ALS)—a theory that posits that leaders treat all of their members similarly.

To test whether the LMX or ALS approach is most appropriate, Schriesheim and colleagues have used a statistical approach called WABA (within and between analysis; Dansereau, Alutto, & Yammarino, 1984). There are three primary steps to WABA. First, in WABA I, each variable is

assessed to determine whether its variation is primarily attributable to within or between group entities. Second, in WABA II, relationships are assessed to determine whether their variation is primarily attributable to within-group entities, between-group entities, or none at all. Third, raw score correlations are separated into within and between-group entities and the results from the first two steps are combined with the third step to determine the most appropriate level of analysis of the relationship.

The results of these multilevel examinations have generally found support for both within- and between-group effects (Graen, 2003a; Schriesheim et al., 1998; Cogliser & Schriesheim, 2000; Schriesheim, Castro, & Yammarino, 2000; Schriesheim et al., 2001). Thus, while there is some variation in how followers rate their relationships with a particular leader, the variation within groups appears to be smaller than the variance between groups. These results suggest that aspects of both the ALS and LMX approaches have credence. While these results are potentially interesting, scholars have noted the potential weaknesses of WABA as a statistical approach because it is highly sample size dependent (Bliese, 2000) and LMX scholars have critiqued this analytical approach (Graen & Lau, 2005).

Despite the possible limitations of WABA as an analytical tool, recent work by scholars using other multilevel frameworks have also found both within and between-group effects using aggregation statistics and random coefficient modeling (RCM), commonly referred to as hierarchical linear modeling (HLM). The use of RCM as an analytical technique to study LMX relationships has been praised in the literature (Graen & Lau, 2005). Calculating aggregation statistics is an important first step before using RCM because it is important to determine if there is a between-group effect such that it makes sense to partition the variance attributable to within and between-group effects. In an empirical demonstration of this approach, Hoffman, Morgeson, and Gerras (2003) found an ICC(1) value for LMX ratings of .39, which suggests that there is a significant between-group effect for LMX indicating that 39% of the variance in an individual's LMX score is attributable to the specific group in which that member resides.

The results of this emerging body of multilevel research on LMX is very useful in partly substantiating the claim of LMX theory that not all members in work groups feel like they have the same level of quality in their relationships with a particular leader and that aspects of groups impact individual LMX perceptions. Thus, the aforementioned multilevel studies provide support for the need to understand the effects of differentiation in groups. These WABA and ICC(1) findings are important because they provide evidence that LMX does in part operate at the

group level of analysis, and thus provides evidence for why it is important to take the group context into account.

Testing Group-Level Dependent Variable

As highlighted previously in this chapter, research on LMX was initially conceptualized as producing group-level outcomes, but the empirical research has focused mainly on the more unexpected individual-level outcomes. Below we highlight some of the research that has been conducted.

The first paper to examine group-level outcomes associated with LMX was conducted by Liden, Erdogan, and Wayne (2002). They found that variance in group members' perceptions of LMX was positively related to group performance (i.e., leader ratings of the group). In other words, the more variance in LMX relationship quality across group members the higher the group performance. This is consistent with initial LMX theorizing that because of limited time and resources, a leader was forced to differentiate between his/her employees and thus to create higher and lower quality relationships. In addition, this relationship was moderated by the LMX median. The authors dichotomized LMX using a median split and found that for groups with a low LMX median, differentiation improved performance, whereas, for groups with a high LMX median, differentiating did not impact performance. This finding suggested that when group members are above the median with regards to high quality relationships, differentiation has less of an impact, but when group members are below the median in terms of being in the in-group, it is important to have a few trusted people who leaders can count on to perform. Finally, while not predicted, they found that LMX median was positively related to group performance. Thus, while it is not entirely clear whether the effects are partly attributable to the high correlation between LMX median and LMX variance, the notion that having a group of individuals with high quality relationships is advantageous did receive some support.

More recent studies have also examined the effects of LMX on group outcomes. Graen et al. (2004) found that when a higher percentage of members of a team had high quality relationships with their leader both team performance and team development were more favorable. Dotan, Goldstein, Nishii, and Mayer (2004) found that the group median on LMX positively related to group sales performance but that, in contrast to the differentiation hypothesis, variance in group members' LMX perceptions was not related to group sales performance. Further, when there was low differentiation and the group was cohesive and synergistic, group sales performance was most favorable. Nishii, Mayer, Goldstein, and

Dotan (2004) examined LMX quality (mean levels of LMX within a group) as a moderator of the relationship between group diversity and group performance (e.g., profits, customer satisfaction, turnover). The results indicated that group profits and customer satisfaction were higher and turnover was lower when diverse groups had high LMX ratings. Stewart and Johnson (2005) also examined LMX as a moderator of group diversity effects on group performance. They found that LMX quality (group mean on LMX) and LMX differentiation (group variance on LMX) interacted with group diversity to predict group performance. High quality and differentiation attenuated the potential deleterious effects of diversity, whereas low quality and differentiation were associated with decreased performance. Finally, Mayer (2006) found that higher mean levels of LMX were positively related to procedural and interactional justice climates, whereas variance in LMX perceptions was negatively related to these justice climates—especially when the groups were high on task interdependence.

In this section we reviewed the theoretical and empirical work on LMX that took a multilevel perspective. In the next section we present a model that integrates social network and multilevel approaches to the study of LMX.

INTEGRATIVE MODEL AND FUTURE DIRECTIONS

Thus far we have tried to make the case that integrating social network and multilevel perspectives into LMX research is important because such approaches take the social context into account, and we have reviewed relevant theoretical and empirical work using this framework. We now present a model that pictorially summarizes existing research and seeks to promote new research taking a social network and/or multilevel approach to LMX (see Figure 3.1). The model is partitioned into individual- and group-level sections to elucidate how a multilevel perspective can enrich the LMX literature. Specifically, for each level (individual and group), we describe direct effects, then mediating effects, and finally moderating effects indicated in the model—with a particular focus on integrating social network variables. We first discuss the empirical research that has been conducted within each subsection and then present potential research questions to stimulate empirical work integrating LMX, networks, and multilevel perspectives. Although this model is not meant to be exhaustive, its purpose is to clarify what research has been done and bring to light a number of potential research questions.

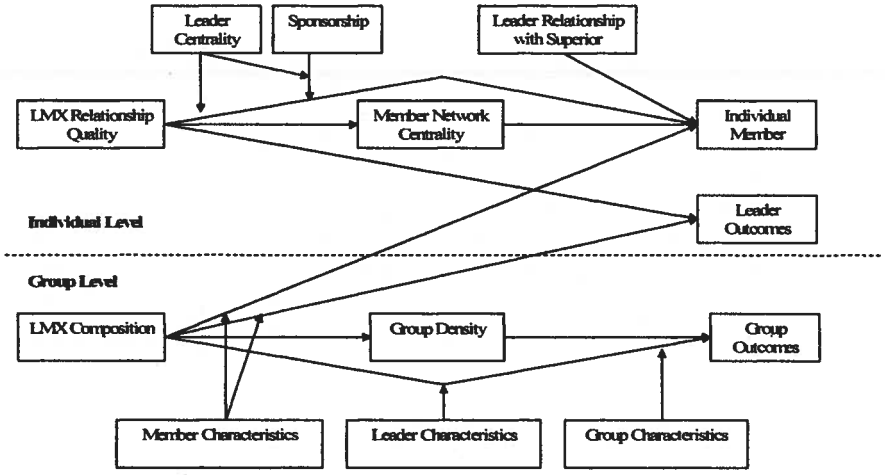

Figure 3.1. A multilevel social network model of leadership.

Individual Level

Direct effects. At the individual level of analysis there is considerable research to draw upon. For example, a plethora of past research has linked LMX relationship quality with a variety of individual outcomes (Gerstner & Day, 1997). In addition, although less research has focused on leader outcomes per se there is some research to support the idea that having a high quality relationship with a follower results in improved leader outcomes. However, given that LMX is a theory about leader effectiveness, we suggest more research on this link is needed. Integrating the social network perspective, work by Cashman et al. (1976) and Dansereau et al. (1975) provide support for the notion that a leader's relationship with his or her own boss is positively related to member outcomes. The integration of social network variables here prompts potential research questions. For example, does a leader's relationship with other team members impact an individual team member's or leader's outcomes? Does a leader's relationship with other leaders outside the immediate work group impact individual member or leader outcomes?

Mediating effects. Although much research has been conducted to link high quality relationships with member outcomes, there is a dearth of research examining why such relationships occur. We propose in this model that one explanation for the effects of high quality relationships on individual outcomes is because members that develop good relationships with their leaders are likely to be more central in their group's networks.

Indeed, if a member is "in good" with a leader she or he is likely to have better access to resources and information—and thus more likely to be a central player in the group's network. Preliminary support for this notion comes from the work of Sparrowe and Liden (2006) who found a positive relationship between having a high quality relationship and network centrality. And, many studies have linked network centrality to a variety of individual outcomes (Borgatti & Foster, 2003). Thus, it may be that network centrality serves as a mediator of the LMX quality to outcomes relationships. By testing this mediated path, scholars could uncover another explanation for why members' with high quality relationships reap a variety of benefits. Extending this logic, a variety of questions emerge. For instance, does member network centrality mediate the effects of LMX relationship quality on individual outcomes? Is this more likely to be the case for certain dependent variables? Does it matter what type of network a member is central in? Do high quality relationships result in being central in advice networks as opposed to friendship networks? Are individuals with low quality relationships more central in adversarial networks or do individuals with high quality relationships alienate fellow team members and subsequently become central in adversarial networks? Does having a high quality relationship impact what type of centrality index is higher (e.g., in-degree, out-degree, betweeness)? All of these questions would be interesting to address in future research.

Moderating effects. As LMX theory and research continue to evolve, it is important to identify boundary conditions of LMX effects. Sparrowe and Liden (2006) used a social networks paradigm to examine two moderators of LMX effects. They found that the relationship between having a high quality relationship with a leader and member influence is moderated by both sponsorship and leader centrality—the relationship is stronger when leaders are central in their network and when members are ushered in as apprentices by their leader. Further, there is a three-way interaction between relationship quality, sponsorship, and leader centrality such that members do not get positive outcomes if they have a high quality relationship and are sponsored by a leader who is not central. This research suggests that the effects of having a high quality relationship are in part dependent on aspects of the leader's centrality and whether a member is engulfed into that network. Unanswered questions include whether a member's perceived (or actual) similarity with his or her leader impacts whether he or she is sponsored.

In addition, future research should examine the extent to which follower centrality shapes leader-member exchange quality and observed outcomes of high quality exchange. The study by Goodwin et al. (2004) offered evidence that a follower's position within an organization's social network has an influence on perceived similarity with the leader and

judgments of LMX quality. According to the authors, outcomes of LMX quality (e.g., organizational commitment, job satisfaction, in-role performance) are not independent of the follower's network. These observations are consistent with studies in the leadership literature that have emphasized the role of followers in the leadership process (e.g., Ehrhart & Klein, 2001; Howell & Shamir, 2005). Thus, characteristics of the follower and the follower's network are likely to influence the development of LMX quality and the existence of valuable organizational outcomes.

Group Level

Direct effects. While some research has used a social networks perspective to link the existence of a high quality relationship with member outcomes, there is a dearth of research integrating both social networks and a multilevel approach to LMX. Although there is a shortage of research on this issue, it is likely that team composition (meaning both the group mean and variance on LMX) could have direct effects on member and leader outcomes. For example, if the group mean is high, one would expect individual outcomes to also be more favorable. However, when differentiation (i.e., variance) is high, it is unclear if team composition has an effect on member and leader outcomes or if it is an artifact. Looking at these cross-level direct effects raises the question of how group composition of LMX impacts individual and leader outcomes. In addition to the direct effect of group composition of LMX on individual outcomes, one can examine its relationship with group outcomes. For example, research by Dotan et al. (2004) and Liden et al. (2002) suggests that LMX composition impacts group performance. However, Dotan et al.'s results suggest that having a higher group mean on LMX leads to the most favorable outcome, Liden et al.'s findings suggest that differentiation (under the right contexts) is most effective. A fundamental question that needs to be answered in the LMX literature is whether differentiation leads to positive individual and group outcomes or whether it is better for all team members to have high quality relationships.

Mediating effects. Just as we posited that network features could mediate the relationship between high quality relationships and member outcomes, we also believe this process could operate at the group level. Indeed, the integration of social network analysis may be essential to extending the scope of LMX beyond the examination of individual outcomes to those that reflect results at a higher-level (e.g., group performance, cohesion, cooperation). At its core, LMX theory provides a compelling explanation of how leader-member interactions shape follower attitudes, cognition, and behaviors. To understand how high quality

LMX relates to outcomes at the group level, network features may emerge as a valuable explanatory mechanism.

It is reasonable to suggest, for example, that when most members of a group have high quality relationships, it is likely that such individuals will have more access to information and resources and will share that information with one another. In other words, an inclusive environment where there are frequent positive interactions between members is likely to emerge. Such a situation exemplifies what network scholars call a *dense* network. Density refers to the number of actual links to the number of possible links in a network. Thus, the more members are connected, the denser the network. And, considerable research has demonstrated that groups with dense networks tend to be more effective—both in terms of viability and performance (Balkundi & Harrison, in press). Given the links between group composition of LMX and group density, and the relationships between density and group outcomes, it is likely that one way LMX impacts group performance is by creating dense networks where information and resources are shared. Thus, group density may help to explain the observed effects of high quality exchange. To our knowledge no research has examined this possibility.

Moderating effects. Just as we examined boundary conditions of individual effects, we also highlight a few boundary conditions at the group level. Because research has generally not addressed this issue, many ideas are speculative and we try to highlight areas of future research. Specifically, we discuss three classes of variables—member, leader, and group characteristics.

It is likely that member characteristics moderate the relationship between LMX composition and individual outcomes. One pertinent question is: Which type of person most objects to differentiation? Indeed, members that value an equality rule will likely have less favorable attitudes when group members are treated differently. There is also support for the notion that women and collectivists tend to value equal treatment and thus might object more to differentiation (Major & Deaux, 1982). However, if group members are solely interested in group outcomes and they believe differentiation is an acceptable and appropriate means to improve group performance they may accept such differentiation. Thus, it is important to understand how different types of people react to differentiation.

In addition to member characteristics, leader characteristics are also an important moderator of the relationship between LMX composition and group outcomes. For example, Liden et al. (1997) suggested that competent leaders will be more effective when differentiating because they will choose the right members with which to develop high quality relationships. In addition, social and communication skills also might be impor-

tant for a leader who needs to justify why group members are getting differential access to high quality relationships. Thus, certain leaders may be able to thrive when differentiating while others may not.

Finally, characteristics of the group may also matter. For example, Dotan et al. (2004) found that low differentiation led to the best outcomes when groups were cohesive and synergistic. In addition, Mayer (2006) found that differentiation had a particularly negative effect on justice climates when the group was high in task interdependence. Thus, characteristics of the group appear to have an impact on how LMX composition relates to group outcomes. This appears to be a fruitful area for research.

Studies of this nature are consistent with the broad leadership literature, which has attempted to emphasize the importance of context on the emergence, development, and effectiveness of various leadership styles. Fiedler's (1967) contingency theory, for example, rested on the notion that leaders could not adjust their behaviors according to the demands of the organization's environment and the leader's relationship with members of the organization's informal network. According to Fielder, when a leader maintains high position power (i.e., network centrality) and high quality leader-member relations (i.e., high quality LMX), a task-oriented style of leadership is most effective. On the other hand, when a leader maintains modest power within the organization and only marginal relations with coworkers, a people-oriented style is most desirable. In this way, Fiedler recognized that effective leader behavior should not be examined independent of the leader's centrality in the organization's social network.

Further, it has become widely accepted that societal (e.g., political, economic), organizational (e.g., mission, structure) and group (e.g., cohesiveness, norms) contingencies exist to impose meaningful constraints on the effectiveness of specific leader behaviors. This idea was recently articulated by Pawar and Eastman (1997), who described how an organization's mission and governance structure shaped the emergence of charismatic and transformational leadership styles. As the authors noted, organizational issues are particularly meaningful when researchers examine leadership effects at the group level. As such, future examinations of LMX should recognize the impact of those contextual and group characteristics that are widely proposed to influence the effectiveness of leader behavior and the development of high quality leader-member relations.

CONCLUSIONS

The goal of this chapter was to further integrate the social network structure into LMX research by drawing on social network and multilevel perspectives. There is clearly a trend within the larger leadership literature,

and the LMX literature in particular, to take the social context into account when examining leadership effectiveness. By integrating these perspectives, LMX scholars will help develop a more ecologically generalizable theory of leadership that has important implications for how to lead a team or network. In addition, by including aspects of social network analysis in leadership research, researchers and practitioners will recognize network relationship building as a critical part of the leadership function. Such an enhancement to our view of the leadership process may move existing models of leadership forward.

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