

ABSTRACT

Title of Document: EFFECTS OF SUPERVISORS' UPWARD EXCHANGE RELATIONSHIPS ON EMPLOYEES: TESTING MULTILEVEL MEDIATION ROLE OF EMPOWERMENT

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This study empirically examined the proposition that supervisors' exchange relationships with their own supervisors (i.e., LLX) influence their subordinates' work related outcomes through three mechanisms: (1) motivating the team and its members, captured by team and individual empowerment, (2) providing leader-member relationship norms, and (3) facilitating the relationships between leader-member exchange (i.e., LMX) and individual outcomes. Analyses of multi-source and lagged data from 104 team supervisors and 577 subordinates showed that team and individual empowerment sequentially mediated the positive effect of LLX on subordinates' job satisfaction and job performance. Further, LMX mediated the positive effect of LLX on individual empowerment. It was also found that the indirect relationships of LMX with job satisfaction and job performance via individual empowerment were stronger when LLX was higher. Theoretical and practical implications of the findings were discussed.

EFFECTS OF SUPERVISORS' UPWARD EXCHANGE RELATIONSHIPS ON
EMPLOYEES: TESTING MULTILEVEL MEDIATION ROLE OF
EMPOWERMENT

By

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Chapter 1: Introduction

The relationship between a supervisor-subordinate dyad, termed leader-member exchange (LMX), plays an important role in subordinate's work life (Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995). It has been repeatedly demonstrated that the quality of LMX has a positive effect on subordinates' work related outcomes, including job satisfaction, job performance, and citizenship behaviors (e.g., Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007). Recent LMX research has continued to focus on the effect of different LMX quality, but also moved further to a group- or multi-level of analysis of LMX. For example, Erdogan and Bauer (2010) showed that the differentiation of LMX in a group context was negatively related to subordinates' work attitudes and behaviors when the justice climate was low. Further, it has been found that the average level of LMX within a team had a negative effect on team conflict (e.g., Boies & Howell, 2006) and attenuated the negative effect of diversity on turnover (Nishii & Mayer, 2009). Another trend of recent research is to connect LMX to other relational constructs in the organizational context, such as supervisors' upward exchange relationships with their own supervisors (e.g., Tangirala, Green, & Ramanujam, 2007; Venkataramani, Green, & Schleicher, 2010) and subordinates' relationships with coworkers (e.g., Sherony & Green, 2002).

These recent studies share a common observation that rather than operating as a separate exchange system, the dyadic exchange relationship between supervisors and subordinates exists in a network of exchange relationships in the organization (Graen, Cashman, Ginsburg, & Schiemann, 1977; Graen & Uhl-Bien, 1995). In

particular, supervisors exchange with the subordinates in their work groups while they also exchange with their own supervisors. Thus, the exchange relationships between focal supervisor-subordinate dyads are nested within the exchange relationship between the supervisor-higher level supervisor dyad. Following previous research (e.g., Tangirala et al., 2007; Venkataramani et al., 2010), I call the focal exchange relationship between a supervisor and a subordinate leader-member exchange (LMX) and the higher-level exchange relationship between a supervisor and his/her own supervisor leader-leader exchange (LLX).

It is important to understand the effects of LLX on subordinates' outcomes for two main reasons. First, LLX may manifest as an important organizational context factor for the focal supervisor's leadership process. According to Johns (2006), organizational context refers to opportunities or constraints embedded in the organization that may influence organizational behaviors or the functional relationships between individual-level variables. Consistent with this definition, LLX is the exchange relationship between supervisors and higher-level management team that could offer opportunities or impose constraints for the focal supervisors' leadership. Specifically, leadership researchers (e.g., Graen et al., 1977; Likert, 1961; Tangirala et al., 2007) have argued that leaders of units at lower-levels often serve as linking pins between upper-level and lower-level units, being responsible for conveying resources from upper-level management to their subordinates. Thus, supervisors in the linking-pin positions need to maintain high-quality exchange relationships with upper-level management (i.e., LLX) to obtain adequate resources to fulfill their linking-pin functions (Tangirala et al., 2007). As such, it is conceivable

that LLX, as an organizational context factor, may influence how focal leaders form social exchange relationships with different subordinates (i.e., LMX) and how effective these social exchange relationships may be in leading to desirable subordinates' outcomes.

Second, LLX can be a critical antecedent of team-level processes that lead to important subordinates' outcomes as well. Leadership research at team-level suggests that leaders can influence team processes and states by performing various team leadership behaviors (e.g., Morgeson, DeRue, & Karam, 2010). However, it is often the question whether all team leaders have the same capacity to perform team leadership functions effectively. Along this line, I suggest that examining LLX captures one aspect of the different capacities leaders have in fulfilling their team leadership functions, especially in promoting the motivational state of the team as a whole. Given that previous research has shown that team motivational states are related to important individual-level outcomes (e.g., Chen, Kirkman, Kanfer, Allen, & Rosen, 2007), I argue that it is important to examine how LLX relates to team motivational states to more thoroughly understand the effect of LLX on subordinates' outcomes.

The literature on LLX has not answered the critical question regarding what mechanisms underlie the effects of LLX on subordinates. To address this question, the current study proposes and examines three potential mechanisms to explicate the effects of LLX on subordinates. Accordingly, I delineate the theoretical model for the current study in Figure 1. First, at the team-level, I argue that LLX has an effect on the motivational state of the team as a whole. Specifically, leaders who have higher-

quality LLX can create a stronger team motivational state which in turn is related to team members' individual outcomes (Chen et al., 2007). Second, LLX can have an effect on LMX through social learning processes. Specifically, I argue that supervisors learn from their own exchange experience with their supervisors and are likely to develop LMX that mimics the LLX they experience with their own subordinates. Third, LLX may also have a moderating effect on the individual-level effect of LMX. Specifically, I argue that supervisors who have higher-quality LLX can obtain more valuable resources from their supervisors, which can facilitate the beneficial effect of higher-quality LMX in improving subordinates' job attitudes and behaviors.

Moreover, in the current study I also try to understand the black box between leadership and subordinates' outcomes (Lord & Brown, 2004) by examining the mediation role of individual and team empowerment between LLX and subordinates' job attitudes and performance for two reasons. First, theories and empirical research suggest that motivational beliefs – including those captured by empowerment – play critical roles in linking leadership constructs such as LMX to subordinates' work attitudes and behaviors (e.g., Chen & Kanfer, 2006; Chen et al., 2007; Kirkman & Rosen, 1999; Liden, Wayne, & Sparrowe, 2000; Spreitzer, 1995). In particular, at both the individual and team levels, empowerment has been conceptualized as multidimensional motivational construct that captures the extent to which team members believe they have *autonomy* as well as *competence* to perform *meaningful* tasks that can *impact* important organizational outcomes (Chen et al., 2007; Kirkman & Rosen, 1999; Spreitzer, 1995). Individuals and teams with higher sense of

empowerment are more motivated to personally and collectively pursue task goals successfully, and persist in an effort to accomplish their goals (Chen & Kanfer, 2006). Second, empowerment is a multilevel construct, which allows for conceptualization and examination of how LLX influences subordinates through both team-level and individual-level processes. Specifically, building on Chen and Kanfer's (2006) theory of team motivation, I propose below that team empowerment may explain how LLX captures processes that empower (and therefore motivate) the team as a whole, or lead members of a team to share the belief that their team as a whole is empowered; in contrast, individual empowerment can capture processes through which team leaders – by developing different relationships with different team members – empower (and hence motivate) individual team members personally (cf. Chen et al., 2007).

Previous empirical research has shown that LLX moderates the relationship between LMX and subordinates' job attitudes (organizational identification, perceived organizational support, and depersonalization towards customers; Tangirala et al., 2007). It was also shown that LLX is positively related to average LMX (Venkataramani et al., 2010), which positively relates to individual empowerment. Individual empowerment was also shown to be a mediator between LMX and job performance (e.g., Chen et al., 2007). In the current study, I tried to replicate these relationships which are part of my model. I also extended the previous research by testing the effect of LLX on team empowerment which mediates the relationship between LLX and individual empowerment. This study also examined the mediation relationship between LLX, LMX, and individual empowerment. Moreover, this study tried to test that the mediation relationship between LMX, individual empowerment,

and job satisfaction and job performance were conditional on LLX. Last but not least, this study empirically tested the effect of LLX on job performance, which is an important yet not examined criterion in previous LLX research.

In sum, this study aims to make several contributions to the extant research. First, examining the proposed model in Figure 1 helps clarify the effects of LLX on subordinates across both individual and team levels. Previous research has either only looked at the moderating role of LLX on the effect of LMX (Tangirala et al., 2007) or LLX's main effect on LMX (Venkataramani et al., 2010). This study integrates and extends these previous findings by examining three potential mechanisms to explicate the effects of LLX on subordinates. Second, incorporating multilevel motivational processes, this study explicates how team and individual empowerment link the beneficial effects of LLX to subordinates' outcomes and provides an important integration between multilevel theories of leadership and employee motivation. Third, by examining the effect of LLX on subordinates' job satisfaction and job performance, the current study provides an empirical test for the proposition that high-quality exchange relationships between supervisors and upper-level management teams can benefit important work-related outcomes of their subordinates (Graen et al., 1977). As such, I provide further empirical evidence for the notion that middle-level supervisors serve as critical linking-pins between top management and front-line employees (Likert, 1961). Finally and empirically, this study provided a more rigorous examination of the model by using a time-lagged design and collecting data from multiple sources, as well as offering a constructive replication of prior U.S.-based

findings about the LMX-individual empowerment-job performance relationship (Chen et al., 2007) in a sample of supervisors and followers in China.

In the following sections, I first explain the nature of LLX based on social exchange theory (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976; Gouldner, 1960) and Foa and Foa's resource theory (1974, 1976, 1980). I also review the conceptualization of individual and team empowerment and their relationships with leadership constructs and organizational outcomes at individual- and team-level. After clarifying these two issues, I proceed to propose three theoretical mechanisms underlying the effect of LLX on subordinates' outcomes and the mediation role of individual and team empowerment in these three mechanisms.

The Nature of LLX

Before explaining the details of the mechanisms through which LLX may influence subordinates' motivation and outcomes, I would like to clarify the nature of LLX first, mainly based on social exchange theory (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976; Gouldner, 1960) and Foa and Foa's resource theory (1974, 1976, 1980). This description of the nature of LLX serves as the basis for my later discussion on the mechanisms of LLX's effects on subordinates.

Social Exchange Theory

Social exchange theory (SET) is one of the most influential frameworks in our understanding of workplace behaviors. Theories within SET framework (e.g., equity theory, Adams, 1963; Homans's theory on social behavior, 1961; Thibaut & Kelley's theory on interdependence, 1959) have provided the foundations for theories on a

variety of organizational phenomenon, such as organizational justice (e.g., Masterson, 2001; Rupp & Cropanzano, 2002), safety-related behavior (e.g., Hofmann & Morgeson, 1999), leadership (e.g., Chemers, 1997; Graen & Uhl-Bien, 1995), and psychological contract (Dabos & Rousseau, 2004).

In SET, *social exchange* refers to *a series of interactions* between two parties (Emerson, 1976), such as supervisor and subordinate, employee and organization, coworkers, and employee and customer. For specific interactions or the series of interactions, there are *exchange rules* followed by the two exchange parties, such as reciprocity (Gouldner, 1960), negotiated agreements (Molm, 2000; 2003), altruism, group gain, status consistency, competition, and rationality (Meeker, 1971). *Resource* is “anything that can be transmitted from one person to another” in social interactions (Foa & Foa, 1976; p. 101). Overtime through the interactions, the two parties develop a *relationship*, defined as interpersonal connection or attachment, which is distinct from interactions per se. In the next section, I will review Foa and Foa’s resource theory (1974, 1976, 1980) to explain the resources transmitted in the social exchanges. In this section, I would like to clarify two issues closely related to the application of SET to explicating the nature of LLX.

First, reciprocity is one type of exchange rule which does not necessarily equal more positive outcomes for either exchange party. Instead, it is the relationship quality that determines the amount and quality of resources being exchanged between supervisors and subordinates at the first place, which further influences the attitudes and behaviors of the exchange party receiving the resources (Cropanzano & Mitchell, 2005).

Cropanzano and Mitchell (2005) suggested three conceptualizations of reciprocity: reciprocity as interdependent exchanges (i.e., the exchange rule between two parties), reciprocity as a folk belief (i.e., a belief valued by a social group), and reciprocity as a norm and individual orientation (i.e., a behavior standard about what people *should* do). In SET, reciprocity is usually considered as an exchange rule explicitly or implicitly adopted by two exchange parties. Exchange parties following reciprocity rule transmit resources to each other contingently (Emerson, 1976). Contingency means that the transmission of resources from one side to the other is always accompanied by the transmission of the same or a different type of resources the other way around. Thibault and Kelley's (1959) interdependence theory described that the pattern of exchange follows a sequence in which one side provides one type of benefit and the other side returns some benefit. However, to reciprocate does not mean the resources exchanged between the two parties will bring positive outcomes for the receivers. It is possible that two people engaging in a social exchange following reciprocity rule reinforce each other's negative attitudes and behaviors. Therefore, to understand the mechanisms underlying the effect of social exchange on individuals' attitudes and behaviors, it is necessary to move beyond reciprocity argument.

In leadership literature, theories on the mechanisms underlying the effect of exchange relationship on employees' attitudes and behaviors (e.g., LMX-subordinates' outcomes relationship) often argue that one party feels the obligation to reciprocate to the other. For example, it is argued that subordinates feel the obligation to reciprocate to their supervisors, thereby they hold more positive attitudes and

perform better (e.g., Hofmann, Morgeson, & Gerras, 2003). As I explained above, reciprocity may not work well when the relationship quality is low or when the two exchange parties engaging in exchanging counterproductive resources. Therefore, my following theorizing about the nature of LLX and the mechanisms underlying LLX-subordinates' outcomes relationship will draw on resource theory and social learning theory, rather than solely relying on reciprocity argument.

Second, relationship and exchange are distinctive from each other.

Relationship is the interpersonal connection or attachment developed from exchanges. In the workplace, employees can develop relationships with coworkers, supervisors (i.e., LMX), and organization as they engage in social exchanges. The quality of exchange relationship can be indicated by the level of mutual trust, respect, obligation, and communality of goals shared by the exchange parties. SET theory argues that exchange process can influence the relationship developed and the maintenance of the relationship; and it is possible that the characters of exchange relationship in turn affect the process of exchanges (Blau, 1964; Cropanzano & Mitchell, 2005). It is not clear at the moment how the formation and development of relationship associate with exchanges (including the exchange rules and resources being exchanged).

Nevertheless, by separating the relationship construct from the exchanges, it can help us clarify the mechanisms underlying the influence of social exchange on exchange parties, because some possible mechanisms of the effect of relationship might not directly involve exchanges (e.g., social learning-based process).

Foa & Foa's Resource Theory

Foa and Foa's resource theory (1974, 1976, 1980) is a major theory in SET framework that explicates which resources might be exchanged in social interactions. Foa and Foa (1976) argued that there are six types of resources exchanged in social interactions, i.e., love, status, information, money, goods, and services. Love is the affection or positive affect expressed. Status is the evaluation expressing one's respect to the other person or acknowledgement of his/her prestige. Information is the advice, opinions, and instructions sent out. Money is the currency or token that can be measured by standard monetary units. Goods are material products. Service is the labor one provides to the other. Foa and Foa further classified these six types of resources on two dimensions: Concreteness or symbolic level measures the extent to which the resources are tangible and can be measured by objective units (e.g., goods are more concrete whereas status is more symbolic); Particularism measures the extent to which the values of the resources depend on the sources of the resources (e.g., money is universally valued whereas only love from selected people are valued by a focal person).

Cropanzano and Mitchell (2005) argued that these six types of resources can be further collapsed into two categories when studying workplace relationships: economic/material and socioemotional resources. Economic/material resources satisfy financial needs (e.g., money and goods) and are usually tangible. Socioemotional resources satisfy social and emotional needs (e.g., self-esteem) and are usually symbolic and particular.

Along the line with LMX theory, previous empirical research (Ilies et al., 2007; Wayne, Shore, & Liden, 1997) has suggested that in low-quality exchange relationships, the resources bestowed by the leaders to the followers are typically economic/material and are often bounded by the specific employment contract. However, in high-quality exchange relationships, the resources bestowed by the leaders often go beyond what is specified in the employment contract (Ilies et al., 2007; Wayne et al., 1997) and also include socioemotional resources, such as status elevating recognition that satisfies self-esteem needs (Anand, Vidyarthi, Liden, & Rousseau, 2010).

Based on SET and Foa and Foa's resource theory on the nature of social exchange process, I argue that LLX is a relationship-based construct which is related to types and amount of resources exchanged between leaders and their own leaders. Specifically, like LMX, I argue that LLX is a relationship-based construct, which is developed from a series of exchanges between supervisors and their own supervisors. According to Cropanzano and Mitchell (2005), once this relationship is developed, its quality becomes relatively stable and dictates the content and rules in social exchanges between supervisors and their supervisors. The quality of LLX is typically characterized by the levels of mutual trust, respect, obligation, and goal commonality shared between supervisors and their supervisors. When supervisors have high-quality LLX with their own supervisors, their supervisors are more likely to trust and respect them and feel a sense of obligation to help and facilitate their further development (Graen et al., 1977; Graen & Uhl-Bien, 1995). In addition, supervisors having high-quality LLX are more likely to identify with upper-level management's

goals (Dienesch & Liden, 1986; Hu & Liden, in press). Therefore, it is conceivable that the quality of LLX is related to the amount of resources that upper-level management team is willing to bestow to supervisors in the linking-pin positions. Following these previous findings, I argue that the quality of LLX is also related to the amount and types of resources that supervisors receive from their supervisors. Specifically, in high-quality LLX, supervisors are likely to receive more economic/material resources and socioemotional resources from upper-level management team that are beyond the formal employment contract, as compared to supervisors in low-quality LLX.

Individual and Team Empowerment

Conceptualization of Empowerment

Empowerment is a multilevel construct capturing the motivational state of teams and individuals (Kirkman & Rosen, 1999; Spreitzer, 1995; Thomas & Velthouse, 1990). It is a composite of four highly correlated motivational elements at both the individual- and team-level, including impact, competence, meaningfulness, and choice. Impact describes the extent to which individual subordinates or teams perceive that their performance on the tasks would influence the organization. Competence is the subordinates' or teams' evaluation of their capabilities to perform the task, which describes the effort-performance expectancy. Meaningfulness captures subordinates' or teams' intrinsic concern for the task, which is related to valence of the task outcomes. Choice describes perceived autonomy at work. Empirical research has shown that at both the individual- and team-level,

empowerment is positively related to job performance and job attitudes (Chen et al., 2007; Kirkman & Rosen, 1999).

Although the factor structures are the same, team and individual empowerment are distinctive constructs (Chen & Kanfer, 2006; Chen et al., 2007; Kozlowski & Klein, 2000). At the individual-level, workers evaluate their own jobs and combine the four key evaluations to form an overall sense of individual empowerment. However, Team empowerment is a shared belief about the team's motivation state among team members, which is mainly driven by antecedents at the team-level or organization-level and positively promotes the allocation of collective effort during team processes towards the accomplishment of team outcomes (Chen & Kanfer, 2006).

Theoretical and empirical research has also suggested that team empowerment and individual empowerment are positively related (e.g. Chen & Kanfer, 2006; Chen et al., 2007). When working in teams, motivational states of the teams are likely to influence motivational states of individuals, because the team serves as the context that provides information cues to the individuals (Chen & Kanfer, 2006; Hackman, 1992). It is conceivable that when working in teams that are competent at their work, individual team members will be more likely to feel that they have enough competence to accomplish their work. For example, empirical research has shown that team collective-efficacy is related to team members' individual self-efficacy (e.g., Chen & Bliese, 2002). Moreover, since individuals contribute to team outcomes, when individuals perceive that their teams are having an impact on the organization, they know their own effort is meaningful and makes a difference to the organization

(Chen & Kanfer, 2006); thereby, they are more likely to be motivated. Thus, critical elements of empowerment at team-level may be closely related to the same elements at the individual-level.

Antecedents and Outcomes of Empowerment

Empowerment can be influenced by organizational context (Spreitzer, 1995; Thomas & Velthouse, 1990). According to expectancy-valence theories, employees' motivational state is based on psychological processes in perception and formation of beliefs and attitudes about their work (Pinder, 1998). When employees assess the tasks, their evaluations are influenced by information from the work environment, including consequences of their past and on-going task behaviors, and situations of future behaviors (Thomas & Velthouse 1990). Therefore, contextual factors, such as job characteristics of the tasks, performance evaluations from supervisors, and organization's reward systems, can influence psychological empowerment (e.g., Kirkman & Rosen, 1999; Spreitzer, 1995). Particularly, at both individual and team levels, leadership is a driving force of psychological empowerment. At the individual level, the quality of exchange relationships between leaders and individual followers is positively related to individual empowerment (Chen et al., 2007). At the team level, leaders' team leadership behaviors are related to team empowerment (Kirkman & Rosen, 1999).

Considering that motivational states influence the direction, intensity, and persistency of employees' efforts put into accomplishing the job (Chen & Kanfer, 2006), employees and teams that experience higher levels of empowerment are more likely to set higher goals, more closely focus their attention on their tasks, and persist

longer when facing obstacles (Mitchell & Daniels, 2003). Empirical research has shown that at both individual and team levels empowerment is positively related to job performance (Chen et al., 2007; Kirkman & Rosen, 1999).

Based on the above features of LLX and empowerment, I proceed to explain three potential mechanisms (i.e., LLX promoting team motivation, providing leader-member relationship norms, and facilitating the effectiveness of LMX) underlying the effect of LLX on subordinates' job attitudes and behaviors, including the mediating roles of individual and team empowerment.

LLX Promotes Team Motivation

When the subordinates supervised by the same leader work as a work team or group, it is possible that LLX is positively related to team motivation. In this section, I provide theoretical arguments for the positive relationship between the quality of LLX and team motivation mainly drawing on team leadership theory from a functional perspective of leadership (Morgeson et al., 2010; Zaccaro, Rittman, & Marks, 2001) and the nature of LLX I described earlier.

Functional Model of Team Leadership

Leadership theory from the functional perspective considers leaders as problem solvers who diagnose problems or unsatisfied needs which impede task accomplishment or the maintenance of the functional units, and who generate, plan, and implement solutions to satisfy these needs (McGrath, 1962). Therefore, leadership theories from the functional perspective usually start from identifying critical functions relate to task accomplishment and maintenance of the functional

units (i.e., individual followers, work teams, or organizations), and then describe the behaviors of leaders that ensure these functions are carried out well. Fleishman et al. (1991) separated organized leadership activities ensuring the accomplishment of critical functions into four general categories, i.e., information search and structuring, information use in problem solving, managing personnel resources, and managing material resources.

Consistent with these functional theories of leadership, team leadership theory from the functional perspective also starts from identifying critical functions for team goal accomplishment and team maintenance to further classifying team leadership activities. Zaccaro et al. (2001) described four types of team processes that are influenced by team leadership and contribute to team effectiveness, including team cognitive, motivational, affective, and coordination processes. For each type of team processes, there are corresponding leadership processes that can improve the team processes therefore to increase team effectiveness. For example, leadership activities such as planning and developing team members can improve team metacognition. Leaders can also provide feedback and set goals to increase team collective efficacy. Both team metacognition and team collective efficacy are considered as critical functions in achieving team goals (Zaccaro et al., 2001).

A more concise taxonomy on team leadership activities from the functional perspective is provided by Morgeson et al. (2010). Based on Marks, Mathieu, and Zaccaro's (2001) model on team process, Morgeson et al. argued that the team leadership activities can be divided into two categories in correspondence to two distinctive phases of team performance cycles, i.e., transition phase and action phase.

In the transition phase, team processes are focused on goal choice and planning activities whereas in action phase, teams strive towards goal accomplishment. Accordingly, in the transition phase, leadership activities may compose of composing teams, defining missions, establishing expectations and goals, structuring and planning, training and developing teams, sense-making, and providing feedback. In the action phase, leadership activities may compose of monitoring, boundary management, challenging teams, performing certain team tasks, solving problems, providing resources, encouraging team self-management, and supporting social climate in teams.

LLX and Team Empowerment

As I argued earlier, the quality of exchange relationship between supervisors and their own supervisors is related to the extent to which they share mutual goals and act to pursue these goals (Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995). Meanwhile, leadership research has argued that in both action and transition phases of the goal-directed activities of the teams, effective leadership should play the role of driving the team to reach its organizationally relevant goals (Morgeson et al., 2010). Thus, leaders who have higher-quality LLX are more likely to understand and identify with the organization's goals and values, and are more capable of and committed to accurately communicating and clarifying these goals and values to their teams as compared to leaders with poorer-quality LLX. Both theoretical (e.g., Chen & Kanfer, 2006) and empirical research (e.g., Hu & Liden, in press) have suggested that when team members perceive their team as a whole has a clearer goal, they are

more likely to perceive their team to be competent and share higher sense of meaningfulness about the team task, which are key ingredients of team motivation.

Further, as I argued earlier, higher-quality LLX may also lead upper-level management to bestow social status to supervisors as a type of resources (Foa & Foa, 1974; 1980). According to Duchon, Green, and Taber (1986) and Venkataramani et al. (2010), a team leader's social status in the organization is highly visible to his/her team members. As such, high-quality LLX is likely to lead the team to expect that their team effort will be more visible to upper-level management through their leader's desirable upward exchange relationship and their leader will act as an representative for them when there are conflicts with other teams, which provide the team a sense of impact of their team work.

In addition, LLX can also enable supervisors to carry out team leadership functions by providing resources relevant for specific types of leadership activities which are positively related to team empowerment (Chen et al., 2007). For example, supervisors with higher-quality LLX are more likely to receive beneficial resources upon request to train and develop teams, provide feedbacks to the team, and solve problems in team actions. These leadership functions promote team motivation because team members are more likely to see them as a whole team to be more competent and have more autonomy at work. In sum, since LLX can promote these critical dimensions of team empowerment, I expect that the higher the LLX quality, there will be a higher sense of team empowerment within the team as a whole.

Considering that theoretical and empirical research has also suggested that team empowerment and individual empowerment are positively related (e.g. Chen &

Kanfer, 2006; Chen et al., 2007), I also expect that team empowerment, which increases as the quality of LLX increases, would mediate the effect of LLX on individual empowerment. This is consistent with Chen and Kanfer's (2006) theory that collective (team-level) motivational states mediate the influences of ambient (team-oriented) inputs such as leadership on individual-level motivational states. Specifically, leaders who enjoy higher-quality LLX are expected to lead the goal-directed team activities more effectively through enhancing team motivation. They are also more likely to have more resources to increase team empowerment, which in turn may result in higher individual empowerment. In addition, team members who perceive their leaders to be in a higher-quality LLX are more likely to perceive their teams to be empowered, which in turn may also make them to feel more empowered as individuals. Therefore,

Hypothesis 1: Team empowerment mediates the positive relationship between LLX and individual empowerment.

I also expect the effect of LLX on individual empowerment via team empowerment to further impact subordinates' job-related outcomes, such as job satisfaction and job performance. As mentioned earlier, both previous theory-building and empirical research have supported the positive effect of individual empowerment on employees' job attitudes and job performance. This is because employees' motivational states influence their task behaviors by determining their task activity level, concentration, initiative taking, persistence, and flexibility (Thomas & Velthouse, 1990). Individual motivational state also influences goal processes guiding individual performance such that when individuals are more empowered, they will set

higher performance goals and allocate more resources to reach the goals (Chen & Kanfer, 2006). Moreover, Individual empowerment is also related to subordinates' attitudes towards their jobs (Liden et al., 2000). Individuals who are more empowered may find their jobs to be more meaningful, have more impact on their organizations, and allow more autonomy. These are all aspects of job characteristics which have been argued to promote job satisfaction (Hackman & Oldham, 1976). Combining these theoretical arguments and arguments for Hypothesis 1, it is expected that LLX may influence subordinates' job satisfaction and job performance through sequentially influencing team and individual empowerment. Specifically, when a leader has higher-quality upward exchange relationship, the whole team is more likely to be empowered due to having clearer team goals and higher levels of resources they may have in performing team tasks. This collective motivational state enhances individual motivational state, and in turn, individuals are more likely to perform better and feel more satisfied with their jobs. Thus,

Hypothesis 2a: Team empowerment and individual empowerment sequentially mediate the positive effect of LLX on subordinates' job satisfaction (i.e., LLX → team empowerment → individual empowerment → job satisfaction).

Hypothesis 2b: Team empowerment and individual empowerment sequentially mediate the positive effect of LLX on subordinates' job performance (i.e., LLX → team empowerment → individual empowerment → job performance).

LLX Provides Leader-Member Exchange Norms

Cascading Effect and Trickle-Down Model of Leadership

Bass (1990) described a cascading effect in leadership process across organizational levels. Based on social learning theory, it is argued that leadership styles can cascade from one supervisory level to a lower level because higher-level supervisors are role models for the lower-level supervisors, thus lower-level supervisors mimic and learn leadership behaviors from higher-level.

Another similar stream of research is named trickle-down model, the idea of which originated from research on justice in employee-customer relationship (Masterson, 2001) and is carried over to leadership research (Mayer, Kuenzi, Greenbaum, Bardes, Salvador, 2009; Tepper & Taylor, 2003). The original idea of trickle-down model is that employee treats the customers the same way as they are treated by the organization. Several studies have applied the idea of trickle-down model to leadership research, arguing that leadership styles can also trickle down because leaders can lead the followers following how they are led by their own supervisors. For example, Mayer et al. (2009) showed that ethical leadership of top management is positively related to the ethical leadership among lower-level managers. Zohar and Luria (2005) found that safety related managerial commitments and priorities at top management level were positively related to the same variables among lower-level supervisors.

LLX and Average LMX

Both cascading effect and trickle-down model of leadership suggested that leadership at two organizational levels can be related through social learning

processes of the supervisors. Therefore, it is conceivable that supervisors as followers in their upward exchange relationships may observe and mimic the behaviors of their supervisors including the way their supervisors develop and maintain exchange relationships with them. Thus, LLX may be positively related to the average level of LMX developed by the supervisors with their subordinates. LMX theory has suggested that through leadership-making process, leaders can be trained to develop high-quality LMX with more than a select few subordinates (Graen & Uhl-Bien, 1995). Further supporting this theoretical possibility, Cashman, Dansereau, Graen, and Haga (1976) and Graen, et al. (1977) have documented that the quality of supervisors' LLX could influence the relationship development process between supervisors and their own subordinates, showing that higher-quality LLX was associated higher levels of LMX as being evaluated by the subordinates. Moreover, leaders on linking-pin positions can also learn from their leaders to develop differentiated exchange relationships with subordinates. In other words, LLX can improve average LMX without decreasing or nullifying the within-unit variance of LMX. Therefore, the learning process linking LLX to average LMX and the next mechanism proposed (i.e., the facilitating effect of LLX on the effect of LMX) are two different mechanisms underlying the effects of LLX on subordinates.

Past research suggested that LMX could influence subordinates' motivational state through social exchange processes, thereby influencing subordinates' work-related outcomes (e.g. Chen et al., 2007; Liden et al., 2000). For dyads with high-quality LMX, supervisors typically provide more valuable resources to subordinates, such as information, autonomy, and social support (Graen & Uhl-Bien, 1995).

Subordinates who receive more valuable resources are more likely to feel that their supervisors care about their well-beings and view them as valuable employees (Wayne et al., 1997). Therefore, subordinates experiencing high-quality LMX are more likely to have a sense of impact and meaningfulness about their jobs.

Subordinates in high-quality LMX are also likely to receive more autonomy in their jobs when leaders bestow them with substantial decision latitude (Graen & Uhl-Bien, 1995), which enhances the choice component in their empowerment beliefs. In addition, receiving more information, goods, and services can boost subordinates' efficacy beliefs about their own competency in the job. Thus, through the exchange processes, high-quality LMX may increase subordinates' empowerment perception which in turn motivates them to perform better and hold more positive attitudes toward their jobs. Consistent with this theorizing, empirical research also found that LMX was positively related to individual empowerment (Liden et al., 2000; Seibert, Wang, & Courtright, in press) which mediated the positive relationship between LMX and job performance (e.g. Chen et al., 2007). Therefore, I propose:

Hypothesis 3: LMX mediates the positive relationship between LLX and individual empowerment.

Considering the positive effect of individual empowerment on employees' job attitudes and job performance suggested in previous research (as detailed in developing Hypotheses 2a and 2b), I also propose:

Hypothesis 4a: LMX and individual empowerment sequentially mediate the positive effect of LLX on subordinates' job satisfaction (i.e., LLX → LMX → individual empowerment → job satisfaction).

Hypothesis 4b: LMX and individual empowerment sequentially mediate the positive effect of LLX on subordinates' job performance (i.e., LLX → LMX → individual empowerment → job performance).

LLX Facilitates the Effectiveness of LMX

Resource-Based Moderators of LMX-Outcomes Relationships

Leadership theories have held the notion that leadership effectiveness depends on contextual factors for decades (e.g., Likert, 1961). Several early empirical studies tested the proposition that the relationship between leadership behavior and subordinates' reactions is conditional on the influence of the supervisor on upper-level management (House, Filley, & Gujarati, 1971; Pelz, 1952; Wager, 1965). These studies did not show consistent support for the moderating effect of social influence, partly because their focus was on the one-way influence from the supervisor onto the upper-level management rather than the interdependent exchanges between the dyads.

As organizational theories based on SET (e.g., LMX theory and perceived organizational support [POS] theory) were established and developed, several recent studies have tried to examine the interaction effect of upward and downward exchange relationships of supervisors' on subordinates' work outcomes and found interesting results supporting the old notion that leadership effectiveness depends on contextual factors (Erdogan & Enders, 2007; Tangirala, et al., 2007). Tangirala et al.'s (2007) study found that when LLX is of higher quality, their LMX with subordinates has a stronger positive effect on employees' organizational identification, POS, and depersonalization towards customers. To explain the underlying mechanisms for the interaction effect, they argued that supervisors who have better

relationships with their superiors “are better positioned to seek and receive psychological resources (e.g., emotional support, enhanced status at work, recognition) and material resources (e.g., increased budgetary support, decision-making authority) from their supervisors” (p. 311). Similarly, Erdogan and Enders (2007) argued that the exchange relationship between supervisors and their organizations, i.e. POS, decides the resources they possess to effectively influence their subordinates. The results from their study supported this view by showing that supervisor’s POS strengthens the positive relationships between subordinate’s LMX and job performance and job satisfaction.

LLX Moderates the Effect of LMX

As argued earlier, the quality of LLX is related to the amount and types of resources leaders may receive from upper-level management. Thus, LLX may moderate the beneficial effect of LMX on subordinates’ outcomes as well. Specifically, LLX may influence the effect of LMX on individual empowerment by influencing the amount and quality of resources bestowed from the supervisors to subordinates (Graen et al., 1977). For example, for a supervisor to elevate subordinates’ status, that supervisor needs to enjoy higher formal or informal status in the organizations as well. It is likely to be influenced by the quality of LLX between the supervisor and his/her own supervisor (Tangirala et al., 2007). Similarly, economic/material resources that can be bestowed to one’s subordinates may also depend on the amount of resources supervisors could obtain from their upward exchange relationships. Supporting this notion, previous research has shown that when there are limited economic/material resources, supervisors are more likely to

distribute them to subordinates they trust (Kiker & Motowidlo, 1999). Thus, supervisors with high-quality LLX may have access to more valuable resources to distribute to their subordinates. Consequently, subordinates of supervisors who have more resources from upward exchange relationships may be more likely to benefit from the high-quality LMX relationships they form with supervisors than subordinates of supervisors who have poorer LLX. In other words, LLX may moderate the beneficial effect of LMX on subordinate's work motivation. As a result, the indirect effect of LMX on job satisfaction and job performance via individual empowerment is expected to be conditioning upon LLX as well.

Hypothesis 5: LLX moderates the positive relationship between LMX and individual empowerment such that the relationship becomes stronger as LLX is higher.

Hypothesis 6a: The indirect effect of LMX on job satisfaction via individual empowerment is moderated by LLX such that the indirect effect becomes stronger as LLX is higher.

Hypothesis 6b: The indirect effect of LMX on job performance via individual empowerment is moderated by LLX such that the indirect effect becomes stronger as LLX is higher.

Chapter 2: Method

Sample and Procedure

Employees working for a large bank in China were recruited to participate in the current study. The employees worked in research and development teams, which performed tasks such as developing new customer service tools and solving problems in electronic banking systems. There was one supervisor for each team. Team members interacted with each other in everyday job tasks, such as task collaboration and discussion in project meetings. Research and development teams were studied because the team members must be interdependent in order to successfully accomplish their tasks. Therefore, both team- and individual-level motivational states were relevant for their job performance and job attitudes. In addition, supervisors of the research and development teams in the bank were subordinates of an upper-level management team. Therefore, they were the linking-pins between their subordinates and the bank's upper-level management team.

Surveys were distributed to all 104 supervisors of the bank's research and development teams and all of their 610 subordinates. Before the surveys were distributed, these employees received a letter from their HR department that solicited their voluntary participation, which assured them that their managers and organization would not know their individual responses in the survey. Participants were also allowed to complete the surveys during work time. As a result, all supervisors ($N = 104$) completed both self-report surveys and performance ratings for subordinates; among subordinates, 577 completed self-report surveys (response rate = 95%). The average age of the supervisors was 30.73 years ($SD = 6.88$). Among them,

54 (51.90%) were male. Average organizational tenure of the supervisors was 6.04 years ($SD = 3.67$). Among the subordinates who participated in the study, 296 (51.30%) were male. Average age of the subordinates was 26.66 years ($SD = 5.06$). Average organizational tenure of the subordinates was 2.92 years ($SD = 3.18$). Subordinates have worked for an average of 2.29 years ($SD = 2.08$) in the current teams. Team size ranged from 3 to 14 members per team ($median = 5$).

To reduce potential biases that may result from common method variances (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), I collected data at two time points with three months in between to warrant sufficient time lag to separate the measurement of predictors and mediators from the outcome variables. At Time 1, supervisors completed a measure of LLX, subordinates completed measures of LMX, individual empowerment, and team empowerment, and both supervisors and subordinates also provided demographic information. At Time 2, supervisors rated the job performance of each of their subordinates, and subordinates completed a job satisfaction measure. All surveys were translated from English to Chinese, using Brislin's (1980) recommended translation-back translation procedure. Unless otherwise noted, the measures employed a 7-point Likert scale (1 = strongly disagree, 7 =strongly agree).

Measures

Items for all measures used in the study are listed in the Appendix.

LLX and LMX

Supervisors' LLX and subordinates' LMX were both measured by the 8-item scale of LMX used by Bauer and Green (1996) (e.g., "I usually know where I stand

with my supervisor”). This version of the scale was formed by decomposing one double-barrel item of the original 7-item scale developed by Scandura and Graen (1984). Cronbach’s alpha was .92 and .90 for LMX and LLX respectively.

Individual and Team Empowerment

Individual empowerment was measured by the 12-item scale developed by Spreitzer (1995; e.g., “I am confident about my ability to do my job”), whereas team empowerment was measured by the 12-item scale developed by Kirkman, Rosen, Tesluk, and Gibson (2004; e.g., “My team believes it can be very productive”). Following previous studies (e.g. Chen et al., 2007; Kirkman & Rosen, 1999), overall scores were calculated respectively for individual and team empowerment scales by averaging the item scores. Cronbach’s alpha was .86 and .96 for individual and team empowerment respectively.

Job Satisfaction

Subordinates’ job satisfaction was measured by the 8-item Abbreviated Job in General scale (AJIG; Russell, Spitzmuller, Lin, Stanton, Smith, & Ironson, 2004). Participants were asked to think of their job in general, and rate how the adjectives (e.g., “pleasant”) or phrases (e.g., “makes me content”) described their job by choosing from “Yes,” “No,” and “Uncertain.” Following Russell et al. (2004), these three response options were scored as 3, 0, and 1 respectively for data analysis. Cronbach’s alpha was .81 for this scale.

Job Performance

Supervisors rated subordinates' job performance using five items used by Podsakoff and MacKenzie (1989) and Janssen and Van Yperren (2004) (e.g., "This subordinate always accomplishes his/her in-role assignments"; 1 = strongly disagree; 5 = strongly agree). Cronbach's alpha was .87 for this scale.

Control Variables

Subordinates' gender and time of which they had worked in the team (i.e., team tenure) were used as control variables in the analyses. The effect of gender was controlled because previous studies suggested that male and female employees might differ in their job satisfaction (Kim, 2005). Team tenure was controlled because subordinates' experience in the team might influence their job performance (McDaniel, Schmidt, & Hunter, 1988). Age and organizational tenure were not included as control variables because they were highly correlated with team tenure ($r = .50$ and $.74$, $ps < .01$, respectively).

Confirmatory Factor Analysis

Confirmatory factor analyses were conducted to examine whether subordinates' scores on their self-report measures (i.e. LMX, individual empowerment, team empowerment, and job satisfaction) captured distinctive constructs. Following previous research (Chen et al., 2007), scores on the four dimensions of the individual empowerment and team empowerment measures were used as indicators for these two latent variables. The hypothesized four-factor model was specified by loading indicators on their respective latent variables, and the

correlations among latent variables were freely estimated. Results showed that the four-factor model fit the data well, $\chi^2 (df = 246, N = 577) = 658.51$, Comparative Fit Index (CFI) = .95, Standardized Root Mean Square Residual (SRMR) = .05, and Root Mean Square Error of Approximation (RMSEA) = .05. Indicators all significantly loaded on their respective latent factors. Considering that the item contents in the measures of individual and team empowerment were similar, an alternative three-factor model was specified by constraining the variances of and covariance between individual and team empowerment factors to be equal (thereby their correlation equaled 1), and constraining the covariances between these two factors and other latent factors to be equal. The three-factor model fit the data significantly worse than the four-factor model, $\Delta\chi^2 (df = 4, N = 577) = 85.39, p < .01$. An alternative two-factor model was specified by constraining constructs measured at Time 1 to have equal variances and covariances with each other (i.e., LMX, individual empowerment, and team empowerment perfectly correlated with each other) and equal covariances with the satisfaction factor. This two-factor model also fit the data significantly worse than the four-factor model, $\Delta\chi^2 (df = 7, N = 577) = 1050.29, p < .01$. Therefore, the measures reported by subordinates themselves captured distinctive constructs.

Aggregation Tests

Scores of team empowerment were aggregated from individual ratings to team-level. To support the aggregation, $r_{wg(J)}$ of team empowerment was computed for each team using uniform distribution as the null distribution. The median of $r_{wg(J)}$ s for all the teams was .98, ranging from .74 to 1.00, indicating that in all the teams surveyed, team members shared perceptions regarding team empowerment in their

particular teams. ICC(1) of team empowerment was .30, indicating that the effect size of team membership on individuals' perceptions of team empowerment was large. One-way ANOVA results showed that there were significant differences among the group-level means of team empowerment ratings, $F(103, 473) = 3.33, p < .01$. ICC(2) was .70, indicating that teams could be reliably differentiated based on average member ratings of team empowerment. Taken together, these evidences support the aggregation of the team empowerment ratings.

Analytic Strategy

The current data contained a hierarchical structure in which responses of individual-level variables were nested within teams. In addition, to test certain multilevel mediation hypotheses (i.e., Hypotheses 4a, 4b, 6a, and 6b), the covariances among the Level-1 random effects had to be estimated in order to estimate random indirect effects and corresponding standard errors (Bauer, Preacher, & Gil, 2006). Therefore, I used multilevel modeling to simultaneously estimate the effects hypothesized using Mplus 5.0 (Muthén & Muthén, 2007). I also used Monte Carlo method recommended by Preacher, Zyphur, & Zhang (2010) to estimate confidence intervals for the hypothesized multilevel mediation effects to determine their significance (an open-source software R based simulator can be found at <http://www.quantpsy.org>). In 41 (39.42%) teams sampled, all subordinates in the teams participated in the study. In the remained 63 (60.58%) teams, various portions of subordinates (all larger than 80%) in the teams participated in the study. Because of these unequal probabilities for team members to participate in the study, standard errors of model parameter estimates were computed using a sandwich estimator to

correct the potential sampling bias (for technical details, see Muthén & Muthén, 2007).

Chapter 3: Results

Preliminary Analysis

Means, standard deviations, and bivariate correlations among studied variables are reported in Table 1. Between the individual-level variables, LMX was positively correlated with individual empowerment ($r = .50, p < .01$) and job satisfaction ($r = .18, p < .01$), and individual empowerment was positively correlated with job satisfaction ($r = .26, p < .01$) and job performance ($r = .08, p < .05$). At the team-level, LLX was positively correlated with team empowerment ($r = .20, p < .05$). I also calculated the correlations between group-mean-centered individual-level variables (Table 2). After subtracting unit means, LMX was positively correlated with individual empowerment ($r = .41, p < .01$) and job satisfaction ($r = .11, p < .01$), and individual empowerment was positively correlated with job satisfaction ($r = .21, p < .01$) and job performance ($r = .12, p < .05$). These findings provided preliminary support for the hypothesized relationships.

Model Estimation

The hypothesized model (in Figure 1) was estimated. At Level-1 (i.e., individual-level), LMX had a random effect on individual empowerment and individual empowerment had random effects on job satisfaction and job performance. In addition, gender and team tenure were included as control variables which had fixed effects on individual empowerment, job satisfaction and job performance. The covariances among random effects were also estimated (Bauer et al., 2006). At Level-2 (i.e., team-level), LLX had a team-level effect on team empowerment, a cross-level

main effect on LMX, and a cross-level moderating effect on the random effect of LMX on individual empowerment. Team empowerment was specified to have a cross-level main effect on individual empowerment. To facilitate the interpretation of the findings, gender, team tenure, LLX, and team empowerment were all grand-mean centered. LMX was group-mean centered to obtain an unbiased estimate of its Level 1 effect (Enders & Tofighi, 2007; Hofmann & Gavin, 1998). Model estimation results showed that all of the relationships in the hypothesized model were significant. Based on the path coefficients (presented in Figure 2) from this model, I tested each proposed hypothesis. Snijders and Bosker's (1999) formulas were used to calculate pseudo- R^2 ($\sim R^2$) for the model. $\sim R^2$ is a statistic based on proportional reduction of Level-1 and Level-2 errors due to including predictors in the model. For job satisfaction, for its Level-1 variance $\sim R^2 = .46$, for its Level 2-variance $\sim R^2 = .17$, total $\sim R^2 = .21$. For job performance, for its Level-1 variance $\sim R^2 = .04$, for its Level-2 variance $\sim R^2 = .03$, total $\sim R^2 = .04$. These sizable effect sizes suggest that LLX indeed had significant roles in predicting subordinates' job satisfaction and job performance.

The mediation hypotheses were tested using Monte Carlo simulation to construct the distribution of the indirect effects. Simulation results for Hypotheses 1, 2a, 2b, 3, 4a, and 4b are summarized in Table 3.

Testing Hypothesis 1

As shown in Figure 2, LLX was positively related to team empowerment ($\beta = .14, p < .01$). Team empowerment was positively related to individual empowerment ($\gamma = .40, p < .01$). Team empowerment was hypothesized to mediate

the relationship between LLX and individual empowerment, which corresponds to a 2-2-1 cross-level mediation (i.e., the predictor and mediator are at Level-2, whereas the outcome is at Level-1; Krull & MacKinnon, 2001). To estimate this cross-level indirect effect, parametric residual bootstrap procedure was used with the Monte Carlo simulator (Pituch, Stapleton, & Kang, 2006; Preacher et al., 2010). Results showed that there was a positive indirect effect of LLX on individual empowerment via team empowerment (indirect effect = .056, 95% bias-corrected bootstrap confidence interval = [.052, .060] with 20000 Monte Carlo replications). Therefore, Hypothesis 1 was supported.

Testing Hypotheses 2a and 2b

Team and individual empowerment were hypothesized to sequentially mediate the relationships between LLX and job satisfaction and job performance, corresponding to a 2-2-1-1 three-path cross-level mediation model (i.e., the predictor and the first-order mediator are at Level-2, whereas the second-order mediator and the outcome are at Level-1; Krull & MacKinnon, 2001; Taylor, MacKinnon, & Tein, 2008). Figure 2 shows that individual empowerment was positively related to job satisfaction ($\gamma = .26, p < .01$) and job performance ($\gamma = .10, p < .01$). Further, with 20000 Monte Carlo replications, I found that the indirect effect for LLX \rightarrow team empowerment \rightarrow individual empowerment \rightarrow job satisfaction was 0.015, with a 95% CI of [0.006, 0.023]. Further, I found that the indirect effect for LLX \rightarrow team empowerment \rightarrow individual empowerment \rightarrow job performance was 0.006, with a 95% CI of [0.005, 0.007]. Thus, both indirect effects were significant, supporting Hypotheses 2a and 2b and suggesting that LLX had effect on subordinates' work

outcomes through its sequential effect on team empower and individual empowerment.

Testing Hypothesis 3

Figure 2 shows that LLX was positively related to LMX ($\gamma = .27, p < .01$) and LMX was positively related to individual empowerment ($\gamma = .32, p < .01$). LMX was hypothesized to mediate the relationship between LLX and individual empowerment, which corresponds to a 2-1-1 cross-level mediation (i.e., the predictor is at Level-2, whereas the mediator and the outcome are at Level-1). To estimate this cross-level indirect effect, parametric residual bootstrap procedure was also used. With 20000 Monte Carlo replications, results showed that there was a positive indirect effect of LLX on individual empowerment via LMX (indirect effect = .085, 95% bias-corrected bootstrap confidence interval = [.037, .142]). Therefore, Hypothesis 3 was supported.

Testing Hypotheses 4a and 4b

LMX and individual empowerment were hypothesized to sequentially mediate the relationships between LLX and job satisfaction and job performance, corresponding to a 2-1-1-1 three-path cross-level mediation model (i.e., the predictor is at Level-2, whereas the mediators and the outcome are at Level-1). Based on coefficients presented in Figure 2, with 20000 Monte Carlo replications, I found that the indirect effect for LLX \rightarrow LMX \rightarrow individual empowerment \rightarrow job satisfaction was 0.022, with a 95% CI of [0.006, 0.045]. Further, I found that the indirect effect for LLX \rightarrow LMX \rightarrow individual empowerment \rightarrow job performance was 0.009, with a

95% CI of [0.004, 0.015]. Thus, both indirect effects were significant, supporting Hypotheses 4a and 4b and suggesting that LLX had effect on subordinates' work outcomes through its sequential effect on LMX and individual empowerment.

Testing Hypothesis 5

The multilevel modeling results demonstrated a positive effect of LLX on the random slope between LMX and individual empowerment ($\gamma = .04, p < .01$). Following Cohen, Cohen, West and Aiken's (2003) recommendations, I plotted this interaction at conditional values of LLX (1 *SD* above and below the mean). As shown in Figure 3, when LLX was higher, the relationship between LMX and individual empowerment was stronger. Therefore, Hypothesis 5 was supported.

Testing Hypotheses 6a and 6b

To test Hypotheses 6a and 6b, I estimated the indirect effect of LMX via individual empowerment at higher (+1 *SD*) and lower levels (-1 *SD*) of LLX using Bauer et al's (2006) method (summarized in Table 4). For job satisfaction, the indirect effect was higher when LLX was higher (*Estimate* = .10, *SE* = .01, $p < .01$) than when LLX was lower (*Estimate* = .07, *SE* = .01, $p < .01$), $z = 2.50, p < .05$. For job performance, the indirect effect was higher when LLX was higher (*Estimate* = .03, *SE* = .01, $p < .01$) than when LLX was lower (*Estimate* = .02, *SE* = .01, $p < .01$), $z = 1.98, p < .05$. Taken these results and the test results for Hypothesis 5 together, Hypotheses 6a and 6b were supported.

Chapter 4: Discussion

There has been growing interest in studying how supervisors' upward exchange relationships influence subordinates' work related outcomes (e.g. Tangirala et al., 2007; Venkataramani et al., 2010). This study contributes to this research stream by explicating a broader set of individual- and team-level mechanisms through which supervisors' upward exchange relationships influence subordinates' work outcomes and the mediating role of empowerment in these mechanisms. In support of the hypotheses, I found that LLX was positively related to team empowerment which in turn was positively related to individual empowerment. Further, team empowerment and individual empowerment sequentially mediated the positive effect of LLX on subordinates' job satisfaction and job performance. LLX was also positively related to LMX which in turn was positively related to individual empowerment. Moreover, I found that LLX moderated the indirect effects of LMX on job satisfaction and job performance via individual empowerment, as the positive indirect effects of LMX on individual-level outcomes became stronger when LLX was higher.

Theoretical Implications

These findings have several theoretical implications. First, the current study delineated a more comprehensive picture of the influence of LLX on subordinates. Specifically, the current study showed that LLX was positively related to subordinates' job satisfaction and job performance which was sequentially mediated by team empowerment and individual empowerment. These results provided support

to the first mechanism of LLX, i.e., LLX is positively related to motivational state of the team as a whole which provides a motivational context for individual motivational state and work related outcomes. The current study also showed that LLX was positively related to average LMX of the team, providing support to the second mechanism proposed, i.e., LLX provides relationship norm for lower-level exchange relationships developed between leaders and subordinates. In other words, when LLX is higher, on average, subordinates have better-quality LMX with the supervisor. Moreover, I also found that LLX had cross-level moderating effect on the indirect effect of LMX, which suggest that LLX is also positively related to the lower-level relationships between differentiated exchange relationship within work groups, individual motivational state, and subordinates' outcomes. By demonstrating these three effects simultaneously, the current study integrated and extended previous findings (e.g. Tangirala et al., 2007; Venkataramani et al., 2010), providing a more comprehensive understanding about the effects of LLX.

Second, although previous research has argued that leaders' upward exchange relationships might have an influence on subordinates' outcomes (e.g. Graen et al., 1976), little effort has been devoted to empirically examine how this effect is manifested. The current findings addressed this gap by demonstrating the mediating role of empowerment at both individual- and team-level. These findings suggest that motivational processes are effective mechanisms through which leaders' upward exchange relationships can influence subordinates' outcomes. I also showed that the effect of LLX on individual empowerment was mediated through team empowerment. This result suggests that LLX promotes individual outcomes by helping to shape a

more motivating team context, as captured by team empowerment. This provides explanations to why team leadership behaviors, such as empowering leadership (Chen, Sharma, Edinger, Shapiro, & Farh, in press) which are not directly targeted at individuals but groups, could still manifest effect on individual outcomes. From another perspective, these findings also provide implications for the general leadership research. Although leadership theories have suggested that leaders could influence subordinates through motivating them (e.g. House & Mitchell, 1974), it was less clear where the leaders could obtain the resources to implement their motivating actions. The findings suggest that LLX could be a critical factor that drives leadership behaviors related to empowerment perceptions. Therefore, to enhance leadership effectiveness leaders need to be well connected to their own leaders (Graen et al., 1977).

Third, this research has also provided an important integration between prior theories of leader-member exchange and team motivation. In particular, this research combined prior theoretical and empirical work on LMX and LLX (e.g., Graen et al., 1977; Tangirala et al., 2007) with Chen and Kanfer's (2006) model of team motivation to provide a broader understanding of how social exchanges between leaders and their followers at multiple organizational levels can lead to a more motivating team context. In doing so, this study has shown that the quality of leader-leader relationship (i.e., LLX) serves as an important conduit through which resources available from the broader organizational environment may translate into a more motivating team context, provide relationship norm for the team members, as well as

strengthen the motivating potential of the differentiated within-group exchange relationship (i.e., LMX).

Finally, the cross-level main effect of LLX on LMX demonstrated in the current study also provided interesting implications for which factors can possibly mediate the positive effect of supervisors' lateral and upward exchange relationships on subordinates' outcomes. Venkataramani et al. (2010) showed that the quality of supervisors' LLX and their centrality in peer network are related to their subordinates' perception of their status. Status also mediated the relationship between LLX and LMX. This study showed that this mediation link can further extend to subordinates' individual empowerment which in turn positively relates to subordinates' job satisfaction and job performance. Taken the results from these two studies together, it is suggested that relational constructs in the organization which connect to the leaders can influence subordinates' motivation through exchange relationships between leader-subordinate dyads, thus to influence individual-level outcomes.

Strength, Limitations and Future Research Directions

From the methodological perspective, a major strength of this study is collecting data from multiple sources at different time points, which reduces potential biases that may result from common method variances (Podsakoff et al., 2003). Second, the proposed model was estimated following a general path analytic framework (i.e., all hypothesized effects were estimated simultaneously). Therefore, problems that are associated with the piecemeal approach and the causal step approach for testing mediation were avoided (Bauer et al., 2006; Edwards & Lambert,

2007; Preacher et al., 2010). As such, the results from this study provided a more rigorous empirical examination of the hypothesized multilevel effects. Finally, the current study included both job attitudes and job performance measures as the outcomes, which extended the criterion space of the effect of supervisors' upward exchange relationships.

However, this study also suffered from several limitations. One important weakness of this study is that I did not directly capture the resources supervisors and subordinates received as results of LMX and LLX. Although drawing on the social exchange theory, previous studies have made strong cases that the effects of LMX (e.g., Wayne et al., 1997) and LLX (e.g., Tangirala et al., 2007) on employees' motivation are likely to be functions of resource exchanged between the leader-member dyad, few studies directly examined this resource-based mechanism by directly testing the effects of LMX and LLX on the resources exchanged (Cropanzano & Mitchell, 2005). As such, future studies may directly examine the relationship between LLX and resources received by middle-level managers from the top-management teams and how these resources may facilitate the beneficial effect of LMX to confirm the resource-based mechanism.

Another weakness of my study is that LMX, individual empowerment, and team empowerment were measured from the same source at the same time. Although logistic constraints within the organization did not allow me to separate measures of predictors and mediators to different times, I examined the factor structure of the measures in subordinates' self-report surveys and confirmed that these measures captured distinctive constructs. There are also two theoretical reasons to support the

direction of the relationships I found. First, leaders usually assume dominant roles in organizations. Thus, it is more likely to expect a causal influence from leadership construct (e.g. LMX) to subordinates' motivation (e.g. individual empowerment). Second, in mature teams, top-down processes usually are more influential than bottom-up processes (Kozlowski & Klein, 2000). Therefore, it is more likely that team empowerment influences individual empowerment rather than vice versa.

Results from my study could also be explained by alternative mechanisms considering that some third variables were not measured in the study. For example, it is possible that the positive relationship between LLX and team empowerment was mediated by leaders' charisma or transformational leadership behaviors. Supervisors who have more resources may be perceived as being more charismatic and may persuade subordinates more easily. It should be noted that charismatic or transformational leadership mechanisms are not identical to team-based motivational mechanism argued in this paper. It is very important that future study use a more rigorous research design to clarify the causal relationships among these variables and to test competing mechanisms.

It is also possible that the positive relationship between LLX and LMX could be explained by social exchange process. For example, in the original trickle-down model, Masterson (2001) argued that employees perceive the fair treatment they receive as a valued resource from the organization and feel obliged to pay back to the organization by increasing commitment to the organization and extra-role activities in customer service, thus the customers perceive fairness too. For another example, it is argued that justice perception of supervisors could influence their subordinates'

justice perception and extra-role performance through supervisors' extra-role leadership behaviors (Tepper & Taylor, 2003). Thus, it is possible that leaders with higher-quality LLX develop better-quality LMX on average because they feel the obligation to pay back to their supervisors by leading better. Future studies should directly test the competing mediating mechanisms.

Finally, I also proposed and tested the mediating roles of individual and team empowerment. It is possible other variables could also capture the motivational process underlying the link between LLX and subordinates' outcomes, such as trust and goal-setting. Future study could examine other mediators to further confirm this motivational process.

I also propose several other future research directions. First, factors in broader social context in the organization could be examined as boundary conditions of the model I proposed. For example, organizational climate could moderate the effect of exchange relationships on subordinates' behaviors by shaping the norms of behaviors endorsed by the workplace (e.g. Hofmann, Morgeson, & Gerras, 2003). A second potential boundary condition of the model could be individual characteristics of the supervisors on linking-pin positions. Previous research on social exchange relationships in the organization has shown that reciprocity belief (Cropanzano & Mitchell, 2005) and personality (Kamdar & Van Dyne, 2007) interact with exchange relationships in influencing organizational behaviors. Therefore, for supervisors who are inclined to reciprocate resources from others (e.g. upper-level leaders), and/or who have social interactions with others, LLX is likely to have stronger effects. Third, since only research and development teams were examined in my study, future study

could test to see if the model could generalize to teams which are comparatively low on task interdependence (Chen et al., 2007). It is possible that in work units which do not rely on interdependence among unit members to achieve unit goals, team empowerment cannot be developed thus it is unlikely to play the mediation role between LLX and outcomes. Moreover, organizational structure (e.g., hierarchy) can be a potential boundary condition on some of the relationships in the model. For example, in organizations that emphasize less on maintaining hierarchy, subordinates are likely to obtain resources from peer and leaders outside of the units as well. Therefore, the moderating effect of LLX on LMX-individual empowerment relationship is likely to be weaker.

Finally, societal culture could be a boundary condition of the model examined. For example, Chinese culture is considered as high on power distance, which is the extent to which individuals accept the unequally distributed power in institutions and organizations (Hofstede, 2001). In such a high power distance culture, the moderating effect of LLX on the relationship between LMX and individual empowerment is likely to be stronger than that in low power distance culture, as individuals in high-power distance cultures are more likely to rely on their supervisors to obtain useful resources to perform their jobs (i.e., resources for supervisors to perform leadership duties) than seek resources from peers or subordinates. However, previous empirical research which examined the relationship between team leadership and team empowerment did not find significant differences across U.S.-China samples (Chen et al., in press). Nevertheless, future research should try to replicate the findings in my study using samples from other cultures, especially those low on power distance.

Practical Implications

The findings also provide some suggestions for practice. First, the findings suggest that empowering teams and individual subordinates is an effective way for leaders with good upward exchange relationships to enhance their subordinates' job satisfaction and job performance. Therefore, organizations can help leaders develop skills for building better and stronger relationships with their own superiors, which could relate to increased perceived empowerment of their teams and their subordinates. Second, the findings also suggest that leaders' dyadic relationships with their employees are more likely to positively promote employee sense of empowerment when leaders' also have positive relationships with their own leaders. This suggests that organizations should aim to develop a broader climate that encourages trust and supportive relationships across organizational levels. For example, establishing and maintaining high performance work systems can ensure the development of a supportive climate and higher quality of relationships across organizational levels (e.g., Takeuchi, Lepak, Wang, & Takeuchi, 2007).

Chapter 5: Conclusion

Development in LMX research has suggested that rather than operating as a separate exchange system, the dyadic exchange relationship between supervisors and subordinates operates in a network of exchange relationships in the organization (Graen et al., 1977; Graen & Uhl-Bien, 1995; Tangirala et al., 2007; Venkataramani et al., 2010). The current study extended previous research in this stream by clarifying three mechanisms underlying the effect of LLX on subordinates' work related outcomes: (1) motivating the team and its members, captured by team and individual empowerment, (2) providing leader-member relationship norms, and (3) facilitating the relationships between leader-member exchange (i.e., LMX) and individual outcomes. In support the hypothesized relationships, this study showed that LLX was positively related to team empowerment which in turn was positively related to individual empowerment. Team empowerment and individual empowerment sequentially mediated the positive effect of LLX on subordinates' job satisfaction and job performance. It was also found that LLX was positively related to LMX which in turn was positively related to individual empowerment. Moreover, LLX moderated the indirect effects of LMX on job satisfaction and job performance via individual empowerment, as the positive indirect effects of LMX on individual-level outcomes became stronger when LLX was higher. Thus, the current study delineated a more comprehensive picture of the influence of LLX on subordinates. It also provided an important integration between prior theories of leader-member exchange and team motivation.

Appendix

Time 1 Supervisor Self-Report Survey

Leader-Member Exchange

Scale

1 = Strongly Disagree

7 = Strongly Agree

1. Regardless of how much power he/she has built into his/her position, my supervisor would be personally inclined to use his/her power to help me solve problems in my work.

2. I can count on my supervisor to “bail me out,” even at his or her own expense, when I really need it.

3. My supervisor understands my problems and needs.

4. My supervisor recognizes my potential.

5. My supervisor has enough confidence in me that he/she would defend and justify my decisions if I were not present to do so

6. I usually know where I stand with my manager.

7. I usually know how satisfied my manager is with me.

8. I would characterize the working relationship I have with my manager as extremely effective.

Time 1 Subordinate Self-Report Survey

Leader-Member Exchange

Scale

1 = Strongly Disagree

7 = Strongly Agree

1. Regardless of how much power he/she has built into his/her position, my supervisor would be personally inclined to use his/her power to help me solve problems in my work.

2. I can count on my supervisor to “bail me out,” even at his or her own expense, when I really need it.

3. My supervisor understands my problems and needs.

4. My supervisor recognizes my potential.

5. My supervisor has enough confidence in me that he/she would defend and justify my decisions if I were not present to do so

6. I usually know where I stand with my manager.

7. I usually know how satisfied my manager is with me.

8. I would characterize the working relationship I have with my manager as extremely effective.

Individual Empowerment

Scale

1 = Strongly Disagree

7 = Strongly Agree

1. The work I do is very important to me. (Meaning)

2. My job activities are personally meaningful to me. (Meaning)

3. The work I do is meaningful to me. (Meaning)

4. I am confident about my ability to do my job. (Competence)

5. I am self-assured about my capabilities to perform my work activities.

(Competence)

6. I have mastered the skills necessary for my job. (Competence)

7. I have significant autonomy in determining how I do my job. (Self-determination)

8. I can decide on my own how to go about doing my work. (Self-determination)

9. I have considerable opportunity for independence and freedom in how I do my job. (Self-determination)

10. My impact on what happens in my department is large. (Impact)

11. I have a great deal of control over what happens in my department.

(Impact)

12. I have significant influence over what happens in my department. (Impact)

Team Empowerment

Scale

1 = Strongly Disagree

7 = Strongly Agree

1. My team has confidence in itself. (Potency)

2. My team can get a lot done when it works hard. (Potency)

3. My team believes that it can be very productive. (Potency)

4. My team believes that its projects are significant. (Meaningfulness)

5. My team feels that its tasks are worthwhile. (Meaningfulness)

6. My team feels that its work is meaningful. (Meaningfulness)

7. My team can select different ways to do the team's work. (Autonomy)
8. My team determines as a team how things are done in the team. (Autonomy)
9. My team makes its own choices without being told by management.

(Autonomy)

10. My team has a positive impact on this company's customers. (Impact)
11. My team has a positive impact on this company. (Impact)
12. My team makes a difference in this organization. (Impact)

Time 2 Subordinate Self-Report Survey

Job Satisfaction

Scale

1 = Yes

2 = No

3 = Uncertain

1. Good
2. Undesirable*
3. Better than most
4. Disagreeable*
5. Makes me content
6. Excellent
7. Enjoyable
8. Poor*

(* are reverse coded items.)

Time 2 Supervisor Rating of Subordinates' Performance

Job Performance

Scale

1 = Strongly Disagree

5 = Strongly Agree

1. This subordinate always accomplishes his/her in-role assignments.
2. This subordinate meets all the formal performance requirements of the job.
3. This subordinate fulfills all responsibilities required by his/her job.
4. This subordinate never neglects aspects of the job that he/she is obligated to perform.
5. This subordinate often fails to perform essential duties.*

(* are reverse coded items.)

Table 1

Means, standard deviations, and bivariate correlations among studied variables

Variable	Mean	Individual- level SD	Team-level SD	1	2	3	4	5	6	7	8
1. Gender	.51	.50		—							
2. Team tenure (year)	2.29	2.08		.15**	—						
3. LMX	5.12	1.13		-.07	-.13**	(.92)					
4. Individual empowerment	5.15	.81		-.02	.01	.50**	(.86)				
5. Job satisfaction	1.86	.77		-.07	-.10*	.18**	.26**	(.82)			
6. Job performance	4.29	.64		.04	-.04	.05	.08*	.06	(.87)		
7. LLX	5.47		.94							(.90)	.20*
8. Team empowerment	5.77		.67								(.96)

Note. $N = 577$ for individual-level variables. $N = 104$ for team-level variables. Gender was coded as “1” for male and “0” for female.

Internal consistency coefficients, Cronbach’s alphas, are reported in the parentheses on the diagonal. Correlations among raw scores

of individual-level variables are below the diagonal. Correlation between team-level variables is above the diagonal. * $p < .05$. ** $p < .01$.

Table 2

Correlations between group-mean-centered individual level variables

Variable	1	2	3	4
1. LMX	—			
2. Individual empowerment	.41**	—		
3. Job satisfaction	.11**	.21**	—	
4. Job performance	.07	.12**	.06	—

Note. $N = 577$ for individual-level variables. ** $p < .01$.

Table 3

Hypotheses 1, 2a, 2b, 3, 4a, and 4b testing results

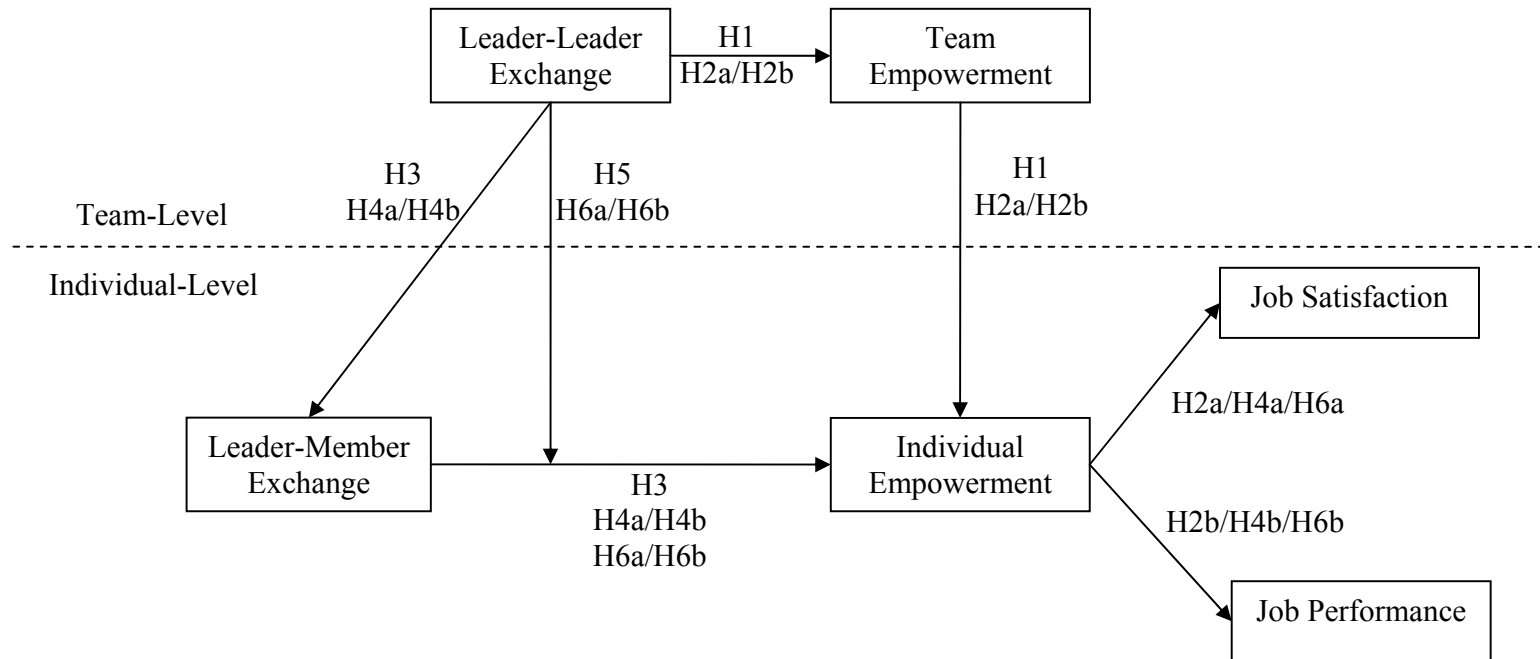
	Hypothesized relationship	Indirect Effect	95% CI
Hypothesis 1	LLX -> Team Empowerment -> Individual Empowerment	.056	[.052, .060]
Hypothesis 2a	LLX -> Team Empowerment -> Individual Empowerment -> Job Satisfaction	.015	[.006, .023]
Hypothesis 2b	LLX -> Team Empowerment -> Individual Empowerment -> Job Performance	.006	[.005, .007]
Hypothesis 3	LLX -> LMX -> Individual Empowerment	.085	[.037, .142]
Hypothesis 4a	LLX -> LMX -> Individual Empowerment -> Job Satisfaction	.022	[.006, .045]
Hypothesis 4b	LLX -> LMX -> Individual Empowerment -> Job Performance	.009	[.004, .015]

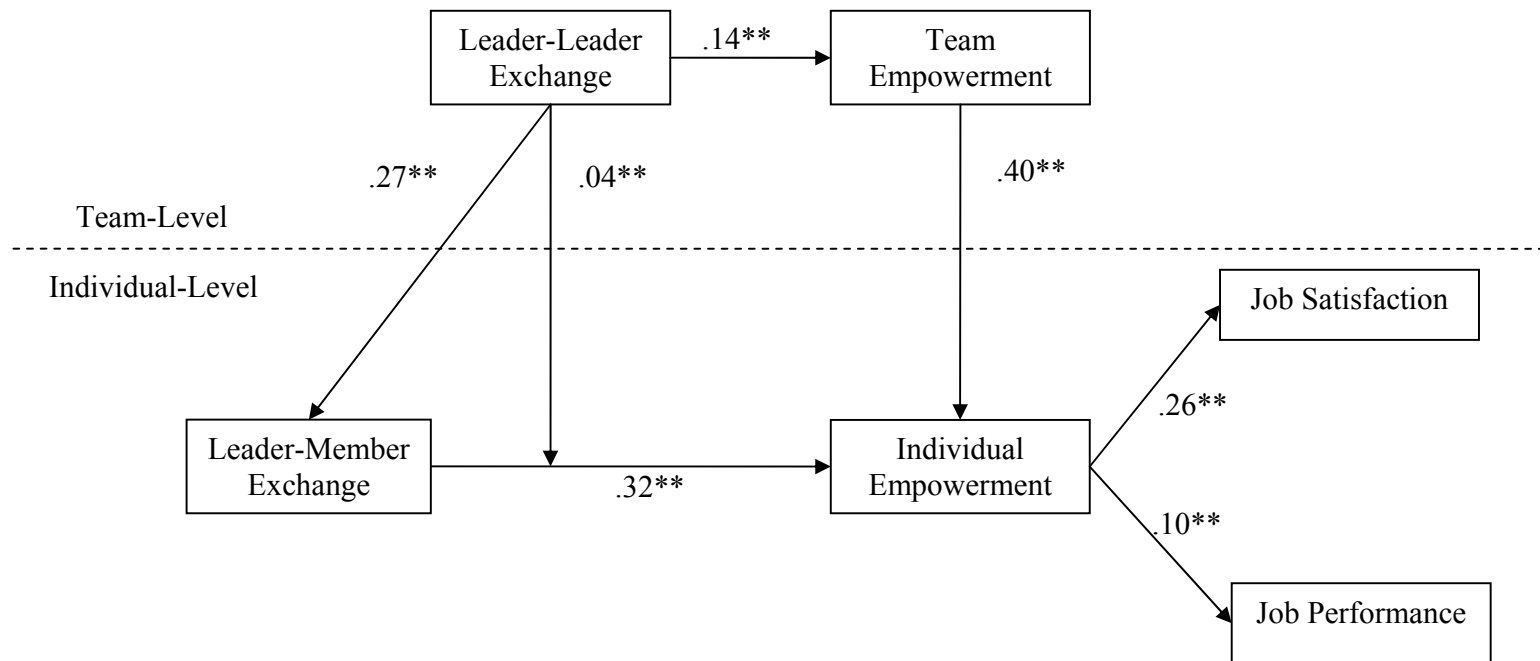
Note. 95% CI = Bias-corrected 95% Confidence Interval from 20000 Monte Carlo replications.

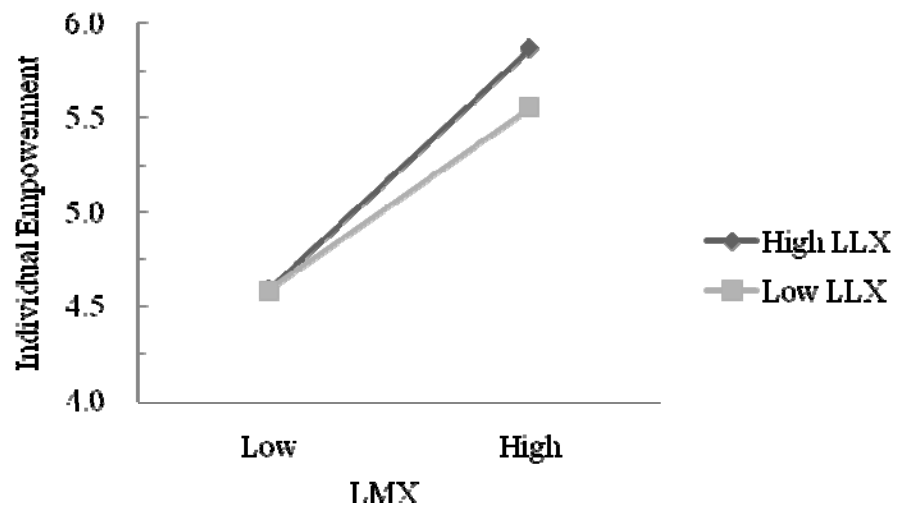
Table 4

Hypotheses 6a and 6b testing results

LLX	Level-1 Relationship	Indirect Effect	SE
High	LMX -> Individual Empowerment -> Job Satisfaction	.10	.01
Low	LMX -> Individual Empowerment -> Job Satisfaction	.07	.01
High	LMX -> Individual Empowerment -> Job Performance	.03	.01
Low	LMX -> Individual Empowerment -> Job Performance	.02	.01







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