

The Effects of Leader-Member Exchange (LMX) Social Comparisons
on Employees' Work Behaviors

by

Jungmin Seo

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Jennifer Nahrgang, Co-Chair
Jeff Lepine, Co-Chair
Peter Hom

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ABSTRACT

This dissertation explores when and how the social comparisons that employees make with respect to their LMX (leader-member exchange) relationships affect their work performance and behaviors. The study introduces the concept of LMX social comparison across dyads (LMXAD) in which a follower compares the quality of his/her supervisory relationship to other leader-member dyads outside of the workgroup (e.g., my leader-myself vs. other leaders-other colleagues). Thus, the study sheds light on LMX social comparison processes at a dyadic level (e.g., our relationship vs. their relationships) as opposed to the individual level (e.g., my relationship vs their relationships, when followers share a same leader) to highlight the importance and saliency of leader-member dyadic comparisons. Drawing upon Thibaut & Kelley (1959)'s social exchange theory, the study, which collected data from 318 employees in Korean companies, empirically supported the positive effects of LMXAD on work performance, organizational citizenship behavior (OCB), and the negative effects of LMXAD on counterproductive work behavior (CWB), beyond LMX and LMX social comparison within group (e.g. my leader-myself vs. my leader-coworkers). Furthermore, results suggest upward counterfactual thoughts with regards to the current LMX relationship, mediates the relationship between LMXAD and work performance and CWB. Individual LMX and causal attributions also have a moderating effect by weakening the negative effects of LMXAD on upward counterfactual thoughts.

DEDICATION

I dedicate this work to:

Dongchan Seo & Sukja Lee, my respected parents

Sanghyuck Seo, my dear brother

and

Bumsub Park, my beloved husband.

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Chapter 1

INTRODUCTION

Individuals often compare themselves to others to better understand their own capabilities in life and in the workplace. This subjective comparison to others often results in individuals viewing the other's situation as more favorable than their own. Regardless of the accuracy of this comparison, as Festinger (1954) notes, this subjective comparison to others persists due to the difficulty in finding an objective standard with which individuals can compare themselves. Thus, social comparison processes, in which individuals compare themselves to others, continue to be actively explored to advance our understanding of the effects of social comparison on individuals' motivational states and behaviors (e.g., Adams, 1965; Crosby, 1976). Social comparison processes are deeply embedded in organizational life as well because individuals spend a significant amount of time interacting with others in the workplace. An employee's subjective perceptions drawn from the social comparison process influence their work behaviors. Therefore, continued exploration of the social comparisons made at work is warranted and supported by scholars who have called for more endeavors in linking social comparison theory to employee attitudes and behaviors (Brown, Ferris, Heller, & Keeping, 2007; Greenberg, Ashton-James, & Ashkanasy, 2007; Goodman, 1977).

The phenomena of followers' social comparison processes has been regarded as an important area of study in leader-member exchange (LMX) research. LMX theory posits that leaders inevitably differentiate in the types of relationships they form with followers because they have limited time and resources available to them (Graen, 1976).

Followers can sense the differentiation that takes place in the types of relationships formed between leaders and followers, and thus, they engage in social comparison processes. In addition, followers value their relative standing with leaders in relation to others because being in a high quality relationship with a leader (i.e., high-quality LMX) allows them to receive more resources, support, and information (Wayne, Shore, & Liden, 1997) as well as favorable performance appraisals, regardless of their actual performance (Ma & Qu, 2010). On the other hand, followers in low quality relationships (i.e., low-quality LMX) can feel relative deprivation for what they have lost in comparison with employees in high quality relationships (Liden, Erdogan, Wayne, & Sparrowe, 2006). The social comparison processes that employees engage in impact their justice perceptions in terms of appropriateness of resource allocations (Hooper & Martin, 2008; Roberson & Colquitt, 2005), which in turn influences their behavior and attitudes.

The effects of leader differentiation has been explored in the LMX literature in three specific areas of research: LMX differentiation (LMXD), relative LMX (RLMX), and LMX social comparison (LMXSC). Initially, the research in LMX differentiation (LMXD) focused on the extent to which leaders differentiate within the workgroup to understand the effects of LMXD on individual and group outcomes (e.g., Nishii and Mayer, 2009; Liden et al., 2006). Some studies show that LMX differentiation functions negatively as it undermines employees' organizational commitment and well-being (Hooper & Martin, 2008; Schyns, 2006) while others discovered its positive function of enhancing employees' job performance (e.g., Erdogan & Bauer, 2010; Liao, Liu, & Loi, 2010; Liden et al., 2006). LMX scholars then began to focus on relative LMX (RLMX) which examines the actual differences between individuals' LMX quality and the average of others' LMX within the

group. RLMX has been regarded as a richer index because followers' superior or inferior LMX standing could impact their sense of comparative rewards in relation to others, beyond the actual LMX quality (Hu & Liden, 2013). The positive effects of RLMX has been demonstrated in several empirical studies on followers' perceived organizational support (Epitropaki & Martin; 2013), self-efficacy (Hu & Liden, 2013), and job performance (Henderson, Wayne, Shore, Bommer, & Tetrick, 2008). Most recently, Vidyarthi, Liden, Anand, Erdogan, & Ghosh (2010) extended this RLMX argument by introducing LMXSC which emphasized followers' *perception of relative LMX standing* because individuals' *perception* about the environment serves as a stronger impetus in directing their attitudes and behaviors than reality (e.g., Kristof-Brown, Zimmerman, & Johnson, 2005). In their empirical study, Vidyarthi and colleagues (2010) found positive effects of LMXSC on followers' job performance and organizational citizenship behaviors beyond the effects of actual LMX quality and RLMX.

Although significant progress has been made in understanding of the dynamics of LMX differentiation and the perception of relative LMX standing through Vidyarthi et al.'s (2010) LMXSC, I argue that that the boundary of LMXSC needs to be extended in terms of: (1) referent selection, (2) level of analysis, and (3) applicability to non-workgroup settings. The first gap of existing research is that the referent selection was limited to employees within the same workgroup working with the same leader. Vidyarthi et al. (2010) assumed that co-workers within the same group were the most appropriate referent given their ease in information sharing due to physical proximity. However, due to the improvement of technology and broader social networks, this assumption is limited in today's work environment because employees freely communicate with other employees

outside of their immediate workgroups, regardless of physical distance as well as form broad social networks. Indeed, social psychologists have asserted that individuals use their friends or structural equivalents (job related and organizational) as their referents at the workplace (e.g., Adams, 1965; Shah, 1989; Walster, Walster, & Traupmann, 1978). The second gap in existing research is that studies have focused exclusively on the effects of social comparison processes at the individual level as opposed to a dyadic level, despite the fact that LMXSC was conceptualized as dyadic comparison processes between the leader-member dyads. Because one party of the dyad was consistent (i.e., same leader but different followers) in previous studies, the nature of comparison processes focused on individual differences in rewards obtained from the same leader. Lastly, because existing research has focused on dynamics in work groups, the findings are not applicable to non-workgroup settings. There are many work situations where leaders and followers work as a pair, such as in apprenticeship jobs (e.g., a hair designer and the staff), pair work (e.g., a pilot and a copilot, software programmers of ‘a pair programming’ in technology industry), and mentoring relationships at the workplace (e.g., a senior sales representative and a junior sales representative). Employees in non-workgroup settings may engage in different social comparison processes due to the absence of within-group members who share the same leader.

In this study, I extend the boundary of LMX social comparison from the focus on the comparisons that are made within a group to the comparisons that are made outside of the group. I term this extension “LMXSC across dyads” (LMXAD). I define LMX social comparison across dyads as one’s perceived relative LMX standing compared to leader-member dyads composed of different leaders and other colleagues. Unlike previous

research which focuses on the effects of leader differentiation and the comparisons that members of the immediate group make to one another, LMXAD highlights an employee's perception of how better or worse their own LMX quality is compared to LMX qualities of other referent dyads. Examples of such comparisons include the following: "I have a better relationship with my manager than most others (working with different managers) at the company." and "My manager enjoys my company more than other managers enjoy the company of their followers." For followers, comparing what they are given to what others are given is an automatic process at the workplace (Adam, 1965). Accordingly, LMXAD assumes that the actual LMX quality can be adjusted higher or lower based on comparisons of LMX to others' LMX (e.g., "I thought the relationship with my leader was good enough. But, when I found other colleagues in different workgroups get along with their leaders better than me, I begin to have doubts about the quality of my relationship").

Drawing on social exchange theory from Thibaut and Kelley (1959), this study examines when and how employees' perception of LMX standing relative to other leader-member dyads (especially dyads outside the work unit) affects their work performance and work behaviors. In understanding these relationships, I explore two unique mediating mechanisms: followers' relational identification and counterfactual thoughts. Specifically, I propose that employees with an inferior LMX standing would have lower relationship satisfaction and thus, identify less with their leader-member relationship as well as engage in more upward counterfactual thoughts of 'what might have been better if I was assigned to different leaders' as their relationship stability is threatened. On the other hand, employees with a superior LMX standing would develop stronger relational identification due to high relationship satisfaction and rarely engage in upward counterfactual thoughts

due to strong relationship stability. In addition, I examine the potential moderating effects of individual LMX quality and causal attributions to understand when LMXAD has stronger or weaker effects on relationship identification and upward counterfactual thoughts.

This dissertation makes several contributions to the LMX literature. First, this study incorporates Thibaut and Kelley's (1959) perspective on social exchange theory into the LMX literature. Their approach emphasizes the psychological processes of reciprocity in a dyadic relationship and deviates from previous LMX literature that applies Blau's (1964) view of social exchange theory, which focuses on economic reciprocity. Thus, this study highlights the significance of the dyadic LMX relationship in employees' social comparisons and the extent to which this determines their work behaviors such as work performance, OCB, and CWB. Second, this study extends the boundary of followers' social comparisons by exploring LMX social comparison processes across leader-member dyads (LMXAD) composed of different parties (e.g., leader-myself vs. different leaders-other employees). This initiative advances our understanding of social comparison processes in the workplace at a dyadic level (e.g., our relationship vs their relationships) as opposed to the individual level. To do so, this study examines relational identification and counterfactual thoughts regarding leader-member assignment as the proximal consequences of social comparison process. Third, this study adds more insights regarding how individual differences (the LMX quality and causal attributions) moderate the effects of LMXAD on their work outcomes. Lastly, this study extends the applicability of LMX social comparison in various work settings including non-workgroup settings (e.g., a pair work, apprenticeship jobs).

Chapter 2

LITERATURE REVIEW

Social Comparison Theory

Individuals make social comparisons for a variety of reasons. Bandura and Jourdan (1991) note that social comparison processes are “spontaneous, effortless, and unintentional” (p.227) and Festinger (1954) argued that due to the absence of objective standards, individuals evaluate their capabilities by engaging in social comparison processes. This social comparison to others leads to reducing uncertainty regarding an individuals’ ability level (Radloff, 1966) and providing an understanding of the accuracy of their opinions (Gordon, 1966).

The type of comparison employees engage in can influence their work attitudes and behavior. Two types of comparison processes have been identified in social comparison theory: upward comparisons and downward comparisons. Individuals are likely to compare themselves to others who are considered to be better than them, which is called ‘upward comparisons.’ Research shows that individuals are inclined to engage in this process when they have to affiliate with others (Buunk, 1995), or when they have a salient motivation for self-improvement (Smith and Sachs, 1997). Individuals’ upward social comparison can have a positive influence on their performance (e.g., Nosanchuk & Erickson, 1985). On the other hand, individuals who make ‘downward comparisons’ tend to seek comparison information favorable to them, which helps self-esteem. They compare themselves to others who are inferior to them in order to maintain a view that they are better than others (Goethals, Messick, & Allison 1991; Taylor, 1989).

These upward and downward social comparison processes imply that social comparison is a subjective process in terms of gauging an individual's ability (Goethals et al., 1991). Subjective perceptions of one's ability could cause imprudent decisions (Larrick, Burson, & Soll, 2007). Employees may engage in downward comparison to protect their self-concepts at the workplace by overlooking higher performers. For example, Leventhal's (1976) study showed that employees who view themselves as higher performers also tend to have higher expectations of recognition and rewards. If they do not receive what they expect from the organization, they can act out of frustration in unproductive ways, which in turn negatively affects the entire organization to which the employee belongs. Indeed, Larrick et al. (2007) state that inaccuracy in the employees' perception, which is caused by inflated social comparisons, could wrongfully influence their decision making processes, organizational citizenship behavior, and even turnover decision. For this reason, the effects of social comparison are important in the study of organizational behavior which emphasizes employees' performance in the workplace. Given that social comparison pervades where competitions exist (e.g., performance-based situations) (Rible & Frey, 1991), it is fair to assume that social comparison processes are embedded in employees' everyday organizational life.

Social comparison theory was initially used in the leadership context to describe why ambitious followers are influenced by their supervisors through upward social comparison processes (Wood, 1989). Indeed, given the hierarchical nature of leaders and followers, organizational leaders become salient to followers from social comparison perspectives in terms of assimilation processes (Messé & Watts, 1983). In this context, followers' comparison target is their own leader rather than other coworkers. Greenberg

(2007) noted that despite the close association between social comparison processes and leadership, social comparison processes have not been actively linked to leadership theories. Social comparison theory is useful in understanding the interpersonal processes between leader and follower and in understanding the comparative processes that take place between similar referents, such as between followers.

Among the numerous leadership theories, research on leader-member exchange (LMX; Graen, 1976), which represents the quality of the relationship between a leader and a follower, has paid more attention to the impact of social comparison processes. LMX theory posits that leaders develop differentiated relationships with group members, with some group members forming high-quality relationships with the leader, and some group members forming low-quality relationships with the leader. Given the range of LMX distributions within the group, LMX quality is important for employees as they presume their performance level based on their interpretations of how well their leaders treat them (LMX quality) as well as how better or worse their leaders treat other employees compared to themselves (relative LMX or LMX social comparisons; e.g., Liao, Liu, & Loi, 2010, Wayne, Shore, & Liden, 1997). In these comparison processes, in-group members (i.e., high LMX) likely believe leaders treat them fairly. On the other hand, out-group members (i.e., low LMX), who experience lower status and power, often perceive that their contributions are devalued (Hooper & Martin, 2008). Empirical evidence supports this view by finding a positive relationship between the quality of LMX and followers' justice perception (e.g., Erdogan & Liden, 2006; Masterson, Lewis, Goldman, & Taylor, 2000; Walumbwa, Cropanzano, & Hartner, 2009). Rosen, Harris, and Kacmar (2011) further suggested that perception of organizational justice could be attenuated or amplified

depending on the quality of LMX because LMX quality serves as another (informal) standard of performance evaluation to employees. Indeed, LMX quality affects employees' performance appraisal processes because leaders have power and authority at work. For example, employees with high-quality relationships tend to have more favorable evaluation results from leaders compared to employees with low-quality relationships, regardless of their actual performance (Ma & Qu, 2010).

Evolution in LMX Theoretical Frameworks

LMX theory has evolved into one of the most useful organizational theories for understanding leader and follower dyadic relationships and its effects on employee outcomes. LMX originally relied heavily on role theory to explain the development of LMX relationships (Graen, 1976; Graen & Scandura, 1987), but later began to focus on social exchange theory and the reciprocity process that occurs between leaders and followers (Erdogan & Liden, 2002; Van Dyne, Kamdar, & Joireman, 2008). The fundamental principle of LMX theory is that leaders form unique relationships with differential qualities with their subordinates (Graen & Uhl-Bien, 1995). High quality LMX relationships between leaders and followers are characterized by the socio-emotional exchanges developed based on mutual trust and respect, whereas low quality LMX relationships are characterized by economic exchanges (Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995; Schriesheim, Castro, & Cogliser, 1999).

High quality leader-member relationships lead to followers' positive attitudinal and behavioral outcomes (e.g, Gerstner & Day, 1997), especially in increasing affective attachment between leaders and followers (Ferris, Liden, Munyon, Summers, Basik, &

Buckley, 2009; Liden & Maslyn, 1998). On the other hand, followers in low quality LMX relationships are more likely to develop negative job attitudes or exhibit undesirable work behaviors due to relative deprivation (Crosby, 1984; Mark & Folger, 1984). According to Dulebohn, Bommer, Liden, Brouer, and Ferris's (2012) meta-analytic study, LMX quality can be predicted by followers' competence, followers' individual differences (such as personality, locus of control, and affect), leader's rewards, leader expectations of follower success, leaders' personality, follower perceived similarity, leader liking, follower ingratiation, self-promotion, and leader trust. Most importantly, the meta-analytic study confirms the significant influence of LMX relationships on employee outcomes such as followers' behavioral outcomes (turnover intentions, OCB, and job performance), attitudinal outcomes (organizational commitment and job satisfaction), and perceptual outcomes (procedural justice and distributive justice).

In recent years, LMX researchers extended the boundary of LMX by focusing on the extent to which LMX relationships impact the entire workgroup. When a leader develops high-quality exchanges with some group members while forming low-quality relationships with other group members, leader-member exchange qualities vary within the work group. This is called 'LMX differentiation' (Liden et al., 2006; Vidyanthi et al., 2010). Although LMX theory posits that it is natural for leaders to form differentiated relationships with subordinates (Dansereau, Graen, & Haga, 1975), researchers have recently begun to investigate the effects of LMX differentiation on group members' work outcomes (e.g., Henderson, Liden, Glibkowski, & Chaudhry, 2009). The impact of LMX differentiation are largely based on followers' social comparison processes. As leaders differentiate their treatment toward followers within a workgroup, some followers would

have high LMX and some would have low LMX. This situation allows followers to make social comparisons between their own LMX and other group members' LMX. Given that LMX differentiation is inevitable due to leaders' and organization's limited resources (Dansereau, Graen, & Haga, 1975), followers' social comparison processes would occur pervasively in the workplace.

Research in LMX differentiation has actively explored how leaders' differentiation impacts social comparison processes within the group and ultimately impacts individual and group performance (e.g., Liao, Liu, & Loi, 2010; Liden et al., 2006). Beyond the social comparison process that take place as a result of LMX differentiation, another notion of social comparison, the concept of relative LMX (RLMX) was suggested by Henderson, Wayne, Shore, Bommer, and Tetrick (2008). RLMX refers to the difference between the actual level of one's LMX and the average LMX of the group members. As Hogg Martin, Epitropaki, Mankad, Svensson, and Weeden (2005) noted, LMX relationships within a work group cannot be considered as an "absolute" term. Followers' actual LMX effects would be adjusted depending on the perception of other group members' LMX quality. For example, followers with a moderate LMX quality may receive the most resources or rewards in the group when all other group members have lower LMX qualities with their leaders (i.e., Hu & Liden, 2013). Therefore, RLMX is important in terms of interpreting the effects of LMX in a group context.

RLMX is a "salient referent point" which helps employees to gauge their own work capabilities at the workplace (Hu & Liden, 2013, p.131). LMX theory explains that leaders develop high-quality relationships with individuals who are considered to be capable and

who perform well (Liden, Wayne, & Stilwell, 1993). Individuals' RLMX standing provides comparative information regarding (1) whether individuals' capabilities are recognized by leaders compared to others, (2) whether individuals can perform well (because high RLMX members can gain more resources from their leaders), and (3) the extent to which individuals are respected by other team members (Hu & Liden, 2013). Thus, high RLMX members would perceive that they perform better than low RLMX members. Indeed, RLMX empirical studies validated that individual's RLMX is positively related to self-efficacy (Hu & Liden, 2013), and in-role and extra-role performance beyond actual LMX quality (Henderson et al., 2008; Vidyarthi et al., 2010).

Recently, Vidyarthi and colleagues (2010) introduced a new concept of 'LMX social comparison (LMXSC)'. LMXSC refers to "the comparison between one's own LMX and that of coworkers" (Vidyarthi et al., 2010, p.850). They suggest that RLMX does not capture group members' subjective perceptions of comparative LMX standing within the group. Since individuals' perception is more influential than reality in directing their attitudes and behaviors (e.g., Kristof-Brown, Zimmerman, & Johnson, 2005), they argue followers' self-perceptions of their relative LMX standing within a group would be "more" valuable in predicting their own work outcomes. LMXSC is differentiated from individual LMX quality in that LMXSC posits that employees choose other group members as the referent point, while LMX itself does not involve any comparative judgement in terms of evaluating leader-member relationships. LMXSC is also distinguished from RLMX in that LMXSC represents a focal employee's own subjective judgment, while RLMX is computed as an actual difference between focal employee's LMX (respondent perception) and other LMX (coworker perceptions) within a group. In Vidyarthi et al.'s (2010) study,

they not only validated that LMXSC explained outcome variance beyond individual LMX quality, but also found positive effects of RLMX on followers' job performance and organizational citizenship behaviors via LMXSC as a mediator.

Gaps in Research

In reviewing the effects of LMX from social comparison perspectives, three key gaps become apparent that the extant LMX literature has not fully considered: (1) referent selection, (2) level of analysis, and (3) applicability of LMXSC in non-workgroup systems. In the following paragraphs, I provide explanations of why these three gaps are important in extending social comparison perspectives in LMX theory.

Referent Selection. In existing LMXSC research, there has not been sufficient discussion regarding with whom employees might compare their LMX relationship. In social comparison processes, referent selection is important because individuals decide how to respond to situations at work based on the information they gain from comparing themselves to the referents (Kulik & Ambrose, 1992). By comparing oneself to referent others, individuals form a sense of relative standing within the social environment (Firebaugh, 1980; Klein, Dansereau, & Hall, 1994). Research on LMXSC has assumed that followers choose referents who have the same leader as them (e.g., Vidiyarthi et al., 2010). This assumption is made because followers can easily gain desired information from within the group by utilizing both controlled (e.g., accessing pay information about each group member) and automatic processes (e.g., noticing the smiles and paralinguistics between the leader and group members) (Lord & Maher, 1991). Indeed, social comparison theory notes

that individuals often choose referents who are similar to themselves and are available for information sharing (Crosby, 1976; Kulik & Ambrose, 1992).

However, employees may also try to obtain information from outside of their groups via various routes (e.g., observations of others, interactions, gossip, and communication at the organizations' social events). Today's work environment, rapidly improved by the development of technology, allows employees to make communications with employees outside of their group much more easily. This implies that physical distance does not restrict information availability, as assumed in previous studies. Social comparison can occur even in virtual work teams where employees cannot physically interact (e.g., Shepherd, Briggs, Reinig, Yen, and Nunamaker, 1996). Employees can also communicate with other individuals outside of their immediate workgroup by working on common projects and participating in company's social events or training programs. Employees may be more inclined to make personal relationships (being friends) with employees outside their workgroup because they are not competing with them for internal (i.e., within) group resources, but still share similar organizational values with them. Shah (1998) noted that employees' friends and structural equivalents (job-related and organizational) could become social referents and Adams (1965) and Walster et al. (1978) argued that any other individual within one's own organization could serve as a referent when employees make equity judgments.

Level of analysis. Most research on social comparisons, including Vidyarthi et al. (2010)'s LMX social comparison, interprets the effects of social comparison processes at an individual level as opposed to a dyadic level. Although LMX focuses on the dyadic

relationship, only the followers are compared in existing LMXSC research because the leader was the same for all dyads studied. Thus, this research can be considered to have been conducted at the individual level as the research focused on how individuals differed in the resources they obtained from the same leader. Existing LMXSC has not provided insight regarding how a dyad is different from another dyad where both parties of the dyads are different across dyads (i.e., not sharing the same leader). When the comparison is made across dyads which are composed of different parties, underlying cognitive processes of individuals within the dyad may be dissimilar. By doing so, individuals perceive their own dyad as oneness, and compare “us” to “them”.

According to Goodman and Haisley (2007), more research is needed to extend our understanding of social comparison to other *levels of analysis*. They questioned whether the social comparison mechanism works similarly at the group or organizational levels. In other words, it is important to know how an employee’s perception of differences in LMX quality across work groups, as opposed to only within their own work group, plays a role in directing their future behavior. There is some research that suggests when individuals compare the quality of their dyadic relationship with that of another dyad, the social comparison effects function differently. For example, some social comparison studies show that when individuals compare with other individuals, the upward comparison functions positively by enhancing their self-improvement (e.g., Smith and Sachs, 1997). However, other studies found upward comparisons function negatively when individuals compare their dyadic relationship to other dyads (e.g., Buunk & Ybema, 2003). Buunk & Ybema (2003) found that couples (in a romantic relationship) who engage in upward comparison with other couples have a lower relationship satisfaction. Although there are

some marital and close relationship studies exploring the dynamics of social comparison among couples, we do not know social comparison processes of work dyadic relationships in organizational settings. Despite numerous studies emphasizing the significant role of leader-member relationship in organizational behaviors, it is surprising that research has not explored the effects of LMX social comparison processes at the dyadic level.

Applicability of LMX Social Comparison theory in non-workgroup systems.

Vidiyarthi et al. (2010)'s study made an important contribution to the LMX literature by highlighting the social comparison processes among group members. Yet, a drawback of the study is that the boundary of the social environment (context) is limited to the employees' work group. Not all leader-member relationships exist in a work group context. There are jobs that require leaders and followers to work together as a pair (1 to 1 relationship; Reagans, Argote, & Brooks, 2005). Organizations often match longer-tenured employees who have experience in the job with newcomers so that the less experienced employees can learn required skills and knowledge effectively. Examples of this include the relationship between a pilot and copilot. Other 1 to 1 relationships can be observed in apprenticeship jobs such as a hair designer and his/her staff as well as in the mentoring relationship (mentor and mentee; e.g., Allen & Eby, 2003). In the technology industry, "pair programming" has been popular for work efficiency. Pair programming refers to the work situation where two programmers work together to develop software artifacts. One programmer takes the role of 'driver' in terms of writing code, and another programmer becomes an 'observer' or a 'navigator' who reviews the coding work (Domino, Collins, & Hevner, 2007). Although this system does not clearly indicate the hierarchical nature between parties of a pair, it is possible that an experienced programmer is paired with a

junior programmer. In all of the above examples, the absence of an internal referent (group members who work with a common leader) may cause employees to make a comparison outside of the workgroup with regards to how better or worse other colleagues get along with their leaders. Therefore, more LMX social comparison studies are needed to understand the underlying mechanism of employees' comparative LMX standing when other dyads (different leaders- other colleagues) are available as the only source of comparison.

LMX Social Comparison Across Dyads (LMXAD)

Extending Vidyarthi et al. (2010)'s LMXSC within group, I suggest employees engage in social comparison processes with other employees outside of the workgroup. That is, followers evaluate the perception of their own LMX standing relative to others' LMX in different workgroups within the organization, which I call LMX social comparison across dyads (LMXAD). It is not uncommon for employees to compare 'how their own leaders treat them' and 'how other leaders treat other colleagues' at the workplace. For example, employees may perceive 'My colleagues in different groups get along with their leaders much better than me and my leader.' LMXAD is differentiated from LMXSC within group: LMXAD explores the comparison processes between 'our relationship' and 'their relationships' while LMXSC captures the comparison processes between 'my relationship' and 'their relationships' when followers share a same leader within the workgroup. The core premise of LMXAD is that employees are interested in how other leaders treat other employees at the workplace.

Greenberg and colleagues (2007, p. 34) notes “the prospects for understanding LMX relationships in terms of social comparison processes make this an area worthy of future research and theory development.” Although their suggestion emphasized the assimilation process of upward social comparison between leaders and followers, LMXAD extends the comparison entities from individual perspectives (leader vs member) to dyadic relationships perspectives (dyad to dyad).

Vidyarathi et al.’s (2010) study has been helpful in understanding the social comparisons that individuals make within the workgroup in terms of considering the effects of LMX. In this dissertation, I extend the applicability of the LMXSC theory in various situations. For example, it is possible that some leaders may form very low variations in treating group members (low LMX differentiation). When employees do not recognize any notable differences in LMX qualities within a group, employees would shift their referent point to someone outside of their immediate workgroup whose LMX qualities are easily distinguishable. This is a natural process, given human beings’ fundamental desire to engage in social comparison (Festinger, 1954). In support, Conner (2003) notes that the lack of comparative information urges employees to find other referents within the organization. Employees may simultaneously perceive comparative LMX standing within the organization by comparing their LMX to other dyads outside their workgroup, even when they have a high LMXSC within a group.

While LMXSC mainly focuses on leader’s differentiation and how followers compare their own relative LMX standing (caused by leaders’ differentiation) within the workgroup, LMXAD focuses on the differences between the focal leader and the other leaders from followers’ perspectives. As the LMXSC theory suggested, employees who

engage in LMXSC within group may develop fairness or unfairness perceptions because of their relative LMX standing within the workgroup, because the superiority and inferiority of the LMX standing was determined by leaders' differentiated treatments. On the other hand, employees who engage in LMXAD may not convert their relative LMX standing into justice perceptions. Instead, employees may appreciate (or depreciate) and feel lucky (or unlucky) to have the existing supervisory relationship by comparing their LMX to other leader-member dyads. Thus, the mechanisms of how LMX social comparisons affect their work outcomes may differ between LMXSC and LMXAD.

Based on the reasoning above, LMXSC across dyads fill the theoretical gaps discussed in the previous section by (1) capturing the dynamics of social comparison process in the organizational settings at the dyadic level, (2) extending the concept to both traditional organizations and other professions with non-workgroup systems, and (3) broadening the boundary of comparison at the workplace. Therefore, in this dissertation, I not only propose that employees engage in LMX social comparison processes by comparing their own LMX to other leader-member dyads' LMX within the organization, but also explore the employees' underlying cognitive mechanisms of LMXAD. In following sections, integrating Thibaut and Kelley's (1959) social exchange theory, I explain how followers' perceptions of comparative LMX standing within the organization affect their work behaviors.

Chapter 3

THEORY AND HYPOTHESES

Overview of the Research Model

This dissertation explores when and how employees' perception of comparative LMX standing relative to other leader-member dyads within the organization, which I call LMX social comparison across dyads (LMXAD), affects followers' work performance, OCB, and CWB. Based on Thibaut and Kelley's (1959) social exchange theory, I contend that the relationships between LMXAD and employees' work outcomes are mediated by their relational identification and counterfactual thoughts.

To be specific, employees with high LMXAD (in downward social comparison) would identify more with the existing relationship and rather engage in downward counterfactual thoughts such as "If I was assigned to other leaders, I might have been much depressed." Then, employees' high relational identification and downward counterfactual thoughts would be translated into increased performance and OCB, and decreased CWB. On the other hand, employees with low LMXAD (in upward social comparison) would identify less with the leader-member relationship, and engage in more upward counterfactual thoughts such as "If I was assigned to other leaders in this company, I might have been much happier." Accordingly, employees' low relational identification and upward counterfactual thoughts demotivate employees at the workplace which eventually decrease their work performance and citizenship behavior, and encourage their CWB.

I also examine the moderating effects of individual LMX quality with the focal leader and causal attributions (internal, external, and relational) on the effects of LMXAD

on two proximal outcomes: relational identification and upward counterfactual thoughts. I posit that the effects of LMXAD on relational identification and upward counterfactual thoughts are strengthened when individuals' LMX quality is higher. In addition, the effects of LMXAD on relational identification are amplified when employees attribute the LMXAD outcome to the leader and the follower as oneness (relational attribution). The effects of LMXAD on upward counterfactual thoughts is strengthened when employees attribute the LMXAD outcome externally (i.e., to the leader) than internally (i.e., to the self).

LMXAD and Social Exchange Theory

LMX theory is rooted in Blau's (1964) social exchange theory which postulates that followers have a perceived obligation to reciprocate the high quality exchange they receive from their supervisors (Blau, 1964; Gouldner, 1960). Blau's (1964) social exchange theory, the foundational perspective in explaining LMX theory (Wayne, Shore, & Liden, 1997), emphasizes the economic and social reciprocity between two parties in terms of individuals' social exchange processes. Based on this theory, a number of LMX studies have shown that followers in a high quality relationship invest more efforts to satisfy or exceed their leaders' expectation in the reciprocal processes (e.g., Liao, Liu, & Loi, 2010, Wayne, Shore, & Liden, 1997).

Thibaut and Kelley's (1959) social exchange theory emphasizes interpersonal relations and psychological mechanisms whereas Blau's (1964) social exchange theory focuses on economic exchanges in interpreting reciprocity. Thibaut and Kelley focus on the processes within a dyadic relationship, and posit that social exchange processes are

about “how people decide what to do in their *relationships*” (Thibaut & Kelley, 1959, p.197). Indeed, unlike other traditional leadership theories that assume leaders exert top-down influences on employees, LMX theory emphasizes mutual and equivalent influences in developing the leader-member dyadic relationship (Dulebohn et al., 2012; Sin, Nahrgang, & Morgeson, 2009). That is, leader-member exchanges processes inherently involve psychological aspects as both a leader and a follower pursue socio-emotional exchanges based on mutual trust, respect, and mutual obligation (Graen & Uhl-Bien, 1995).

Given the nature of the LMX relationship, it is quite surprising that Thibaut and Kelly’s (1959)’s social exchange theory approach has been neglected in understanding LMX theory, and instead has been overshadowed by Blau’s social exchange approach. In the marital and close relationship literature, Thibaut and Kelley’s (1959) social exchange theory is one of the most useful theoretical perspectives as the theory explains how “relationships grow, develop, deteriorate, and dissolve as a consequence of an unfolding social-exchange process, which may be conceived as a bartering of rewards and costs both between the partners and between members of the partnership and others” (Huston, & Burgess, 1979, p. 4). Thus, integrating Thibaut and Kelley’s (1959) social exchange theory with LMXSC is worthwhile as it advances our understanding of how followers evaluate the LMX relationship and how the evaluation directs their work behaviors.

Thibaut and Kelly (1959) use the term ‘comparison level’ to represent a standard of outcome quality the individuals have come to expect from a particular relationship compared to what they experienced in past relationships, or knowledge of other similar relationships (Anderson & Narus, 1984). The theory suggests two evaluations of outcomes:

(1) the comparison level (or CL) and (2) the comparison level for alternatives (or CLalt). Relationship satisfaction and relationship stability, which represent individuals' CL and CLalt respectively, are independent (Kirkpatrick & Davis, 1994). In support of this independence, research on marital relationships shows that it is possible that highly stable couples feel relatively low relationship satisfaction (e.g., Cuber & Harroff, 1965; Rands, Levinger, & Mellinger, 1981). Since relationship satisfaction and relationship stability direct individuals' future behaviors in the dyadic relationship (Thibaut and Kelley, 1959), investigating employees' LMX social comparison processes in term of relationship satisfaction and relationship stability is worthwhile in predicting employees' work attitudes and behaviors.

In LMX, CL refers to the standard that followers use to evaluate the rewards and costs obtained from the relationship with a leader in terms of what they expect they deserve compared to other leader-member dyads. For example, if followers perceive a high LMXAD, this implies that they are currently in a superior leader-member relationship which provides outcomes above the comparison level which in turn leads to relationship satisfaction. Relationship satisfaction can be obtained when both partners are satisfied that the profits or rewards from being in the relationship exceed their expectations of what they should receive (Sprecher & Cate, 2004).

CLalt determines the level of relationship stability as it is a standard that followers use to decide whether to stay in the relationship or not. Despite the empirical evidence which finds a negative relationship between LMX and employee turnover (e.g., Dulebohn et al., 2012), the notion of relationship stability from a social comparison perspective has

rarely been studied in the LMX literature (Lee & Jablin, 1995; Fairhurst, 2007). Thibaut and Kelley (1959) explain that the comparison level for alternatives (CLalt) refers to the lowest level of outcomes an individual will accept in the relationship. Kelley and Thibaut (1978) note that individuals “remain in the present less rewarding relationship because the social, emotional, or legal costs entailed in moving to the better alternatives are too high” (p.71). CLalt is particularly important in LMX social comparison processes because followers may remain in a poor relationship if they cannot find better alternatives within the organization. Put differently, although followers have low quality LMX with their leaders, they would rather not end the existing relationship because other employees have worse supervisory relationships (which means ‘no better alternatives’). Followers with a high CLalt would have desirable alternative relationships within the organizations. Consequently, those individuals would be inclined to consider a relationship dissolution (Simpson, 1987). In this study, I assume that followers that perceive low LMXAD have high CLalt because they desire better outcomes from the leader-member relationship similar to what referent coworkers have in their relationship. On the contrary, followers who perceive high LMXAD would have a low CLalt, and thus feel high relationship stability within the existing relationship.

Given that employees’ social comparison processes are inevitable within an organization, comparative information regarding LMX relationships (LMXAD) plays a significant role in adjusting employees’ expectations in terms of evaluating relationship outcomes (such as relationship satisfaction and relationship stability). Individual LMX quality provides basic information of ‘how well the leader and the follower get along at the workplace’. However, it does not contain comparative information of ‘how superior or

inferior the relationship is compared to other leader-member dyads' that followers automatically develop when engaging in social comparison processes. For instance, even followers with high quality LMX can have decreased relationship satisfaction when they compare their LMX to another dyads with higher LMX. To some extent, this comparative information would demotivate them in performing their task roles. In the same vein, as they found better supervisory relationships within the organization, their perception of relational stability could be weakened. This would urge the followers to be less committed to the existing relationship as they desire better supervisory relationships at the workplace. Thus, my argument is that followers' perception of comparative LMX standing relative to other leader-member dyads (which is LMXSC across dyads) will account for followers' work performance, OCB, and CWB, beyond those explained by individual-level LMX and LMXSC within group.

Hypothesis 1a-c. Employees' LMX Social Comparison perceptions across dyads (LMXAD) explain unique variance in (a) work performance (b) organizational citizenship behavior (OCB) and (c) counter productive work behavior (CWB), beyond individual LMX and LMXSC within group.

As highlighted above, given the independent nature of relationship satisfaction and relationship stability, this study explores the effects of LMXAD on employees' work outcomes in two separate mechanisms. The first mechanism explores how LMXAD affects followers' relational identification from the perspective of 'relationship satisfaction' whereas the second mechanism investigates how LMXAD affects followers' counterfactual thoughts of a leader assignment from the perspective of 'relationship

stability.’ In particular, I suggest these two mediators as proximal consequences of LMXAD: (1) relational identification and (2) counterfactual thoughts. Followers with higher LMXAD perceive that they have more benefits from the existing relationship than their expectation, which in turn leads to higher relationship satisfaction. This study assumes that those followers would identify with the leader-member relationship (Sluss & Ashforth, 2007). Followers with lower LMXAD have relatively low relationship stability and thus will engage in more upward counterfactual thoughts in terms of their leader-member assignment such as ‘what might have been better.... if I was assigned to different leaders’. In the following sections, the relationship between LMXAD and relational identification, and LMXAD and counterfactual thoughts is discussed in more detail.

Effects of LMXAD on Relational Identification

When interacting with one another, individuals pursue mutual agreement and attempt to “socially validate” themselves in social settings (Ashforth, 2001; Hinde, 1997; Swann, 1999). Relational identification refers to “the (partial) definition of oneself in terms of a given relationship” (Sluss & Ashforth, 2007, p. 15). Relational identification differs from traditional forms of identification in that it explains one’s identification process with another individual “to be like or actually to be the other person” (Kelman, 1961, p.63). According to Sluss and Ashforth (2007), relational identification develops based on the role relationship, or the perceived oneness with the role-relationship, which involves “a psychologically healthy extension of self” (p.16). As Ashforth, Schinoff, and Rogers (2014) note, relational identification in leader-member relationships can be described as an internalizing process that followers extend their own self-concept to the work relationship

between leaders and followers. Relationship partners develop their own role relationships and personalize the relationships over time by interacting with each other. Sluss, Ployhart, Cobb, and Ashforth (2012) operationalized relational identification with questionnaire items such as “My relationship with my immediate supervisor is an important part of who I am at work” (p.257).

Social identity theory posits that an individual’s social identity is strengthened when individuals belong to the superior and more favorable group (Abrams, 1992; Ashforth & Mael, 1989). That is, individuals tend to identify with high status groups or distinctive and central organizations (e.g., Albert & Whetten, 1985; Ellemers, 1993; Mael & Ashforth, 1992; Roccas, 2003b). In addition, when individuals have multiple identities, individuals prefer developing a strong identification with the most salient identity (Ashforth and Mael, 1989; Dutton, Dukerich, & Harquail, 1994). Pratt (1998) indicated two basic motives for identification from social identity views: the need for self-categorization (Turner, 1987), and the need for self-enhancement. Mael and Ashforth (1992) explained individuals identify with a more prestigious entity because they can enhance their self-esteem. In the same vein, followers who perceive a higher relative LMX standing would be more contented with the relationship and thus develop a higher relational identification as they feel superiority or pride from being in a better supervisory relationship compared to others colleagues. Indeed, Buunk & Ybema (2003) showed that couples who compare themselves to inferior couples have higher relationship satisfaction than couples who compare themselves to superior couples.

Knowing that one has others’ desired supervisory relationship boosts not only an employees’ relationship satisfaction, but also their self-concepts which are drawn from

strong relational identities at the workplace. Given that individuals tend to have fundamental needs of intimacy and interdependence (Brewer & Roccas, 2001), followers in superior LMX relationships (high LMXAD) would easily satisfy these needs by extending their self-concepts within the superior supervisory relationship. For example, followers with high LMXAD may use the term “we” and “us” rather than “my leader and I” to show off their solidarity and identification with their leader to other colleagues.

As part of relational identification processes, role relationships between leaders and followers become personalized over time (Sluss et al., 2012). According to social exchange theory (Thibaut and Kelley, 1959), followers with high LMXAD would return their cognitive efforts in strengthening the relationship quality by actively engaging in relationship personalization. Miller (2002) noted that relationship personalization would increase perceived similarity between partners, interpersonal attraction, and positive emotions.

In sum, I argue that followers’ perceptions of relative LMX standing function positively in developing followers’ relational identification, beyond their actual LMX quality. Even followers who have a moderately positive LMX relationship, but perceive comparative information of having a better relationship than others, will engage in relational identification. In other words, as followers re-estimate their LMX quality through social comparison processes, they will come to hold a favorable perception about their given relationship. On the other hand, employees with low LMXAD would be less active in developing relational identification due to decreased relationship satisfaction and weakened self-concepts (as less acknowledged employees) within the inferior supervisory

relationship compared to other leader-member dyads. Therefore, I suggest that LMX social comparison would affect followers' relational identification as following:

Hypothesis 2. Employees' LMXAD is positively related to their relational identification.

Effects of LMXAD on Counterfactual Thoughts

When employees interact with other colleagues within the organization, employees not only recognize their relative LMX standing, but also engage in counterfactual thinking processes by comparing their relationship to alternative leader-follower relationships. A counterfactual thought refers to “an imagined alternative to an actual event” (Gleicher, 1990, p.284). Counterfactual thoughts occur when individuals make conditional statements of ‘what might have been’, about past events and possible changes (Collins, Hall, & Paul, 2004; Lewis, 1973; Woodward, 2003). Counterfactual thoughts specify alternatives which are better or worse than the actual outcome. The core premise of counterfactual thoughts is accepting the existence of possible alternatives (Lewis, 1973). In the case of LMX social comparisons, when individuals recognize there are desired alternative leader-member relationships compared to their current relationship, the stability of the current relationship is threatened.

Followers can engage in two types of counterfactual thoughts with regards to their current LMX relationship, and the direction of counterfactual thoughts are determined by their LMXAD level. Upward counterfactual thoughts are when followers think of better alternatives of ‘what might have been better’, whereas downward counterfactual thoughts are termed for worse alternatives of ‘what might have been worse’ (Markman, Gavanski,

Sherman, & McMullen, 1993; Roese, 1994). For instance, followers with upward counterfactual thoughts (e.g. if I was assigned to his/her leader, I might have been more satisfied with my job) could feel demotivated for what they possibly lost in terms of benefits. On the other hand, followers with downward counterfactual thoughts (e.g., if I was assigned to his/her leader, I might have been more stressed out) may feel relatively relieved.

According to Thibaut and Kelley (1959), followers with low LMXAD are assumed to have low relational stability due to the high comparison level for alternatives, which refers to the lowest level of outcomes that individuals would accept in the given relationship. Followers with high LMXAD, who are thought to have high relationship stability, may not need to consider alternative relationships as their expected costs of moving to alternative relationships are too high. In fact, they may strengthen the current relationship stability by engaging in downward counterfactual thinking processes, which confirms the advantages of staying in the current relationship. On the other hand, followers with low LMXAD wish for more benefits from the existing relationship, similar to the benefits other employees obtain from their LMX relationship. This cognitive perception encourages followers with low LMXAD to be potentially interested in moving into alternative leader-member relationships within the organization.

Research has also shown that increased relative deprivation stimulates individuals' upward counterfactual thinking process (Olson & Roese, 2002; Roese & Olson, 1995). Followers with low LMXAD would also feel deprived for what they lost or worried about what they may lose in the future in terms of leaders' attention or rewards. Crosby (1976) explains that an individuals' relative deprivation develops when the comparison referent

has a desired outcome or higher rewards. The study also asserts that when individuals feel relative deprivation, they tend to evaluate what they lost and the valence of the outcome. This cognitive process encourages individuals to think about what might have been different (Epstude & Roese, 2008; Roese & Summerville, 2005).

Counterfactual thoughts are also related to causal attribution (Lipe, 1991, Roese & Olson, 1996). I argue followers' LMXAD is negatively related to their upward counterfactual thoughts because individuals make an external causal attribution which attributes the LMXAD outcomes to the leader. To be specific, followers with low LMXAD tend to attribute the perceived inferior relationship to leaders rather than themselves due to followers' perception of 'better than average'. Social psychologists have shown that individuals tend to believe that they are 'better than average' because they evaluate themselves more favorably than they evaluate others (e.g., Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995; Krueger & Mueller, 2002). Based on this perspective, followers with low LMXAD would blame their leaders for not treating them better than other employees, regardless of their actual performance. They may believe that they could have been better acknowledged if they were assigned to other leaders.

To sum up, I argue that employees' LMXAD are closely related to their counterfactual thinking processes. In particular, followers with low LMXAD engage in more upward counterfactual thoughts of 'what might have been better, if they were assigned to other leaders'. On the other hand, followers with high LMXAD do not engage in counterfactual thoughts, or engage in downward counterfactual thoughts of 'what might have been worse'. Since I operationalize the extent of counterfactual thoughts with the

scales between 1 to 7: 1 (strongly engaging in downward counterfactual thoughts), 3 (neither), 7 (strongly engaging in upward counterfactual thoughts), I propose my argument as following:

Hypothesis 3. Employees' LMXAD is negatively related to their upward counterfactual thoughts.

The Moderation Effects

Individual Level LMX Quality as Moderator

Individual level LMX quality represents the actual relationship quality between leaders and followers. Although I argue that LMXAD is important in directing employees' work attitudes and behavior, their own LMX quality serves a significant role as well in moderating the effects of LMXAD on relational identification and counterfactual thoughts. In this study, I contend that LMX quality strengthens the positive effects of LMXAD on relational identification or buffers the negative effects of LMXAD on upward counterfactual thoughts.

Followers' LMX quality enhances the effects of LMXAD in increasing followers' relational identification because the quality affects the extent to which followers define themselves at the workplace (Brickson, 2000; Cooper & Thatcher, 2010; Flynn, 2005; Sluss & Ashforth, 2007). High quality LMX relationships are developed based on interpersonal (Dockery & Steiner, 1990; Wayne & Ferris, 1990; Liden, Wayne & Stilwell, 1993) and perceived similarity (Liden, Wayne, & Stilwell, 1993; Phillips & Bedian, 1994; Engle & Lord, 1997). When followers with high LMXAD have high quality LMX, their relationship satisfaction would be maximized by enjoying sufficient resources from their

own leaders and feeling proud of having a superior relationship within the organization. Accordingly, employees would attempt to maintain the given status (superior LMX) by more strongly identifying themselves within the relationship. On the other hand, even if employees have high LMXAD, when their relationship quality is poor (low LMX), employees would feel less relationship satisfaction and would exert less efforts to identify with their existing relationship compared to employees with high LMX.

Based on the reasoning above, I argue the positive relationship between LMXAD and relational identification would be strengthened when followers' own LMX quality is higher. Hence, I propose the following hypothesis:

Hypothesis 4a. Employees' current LMX quality moderates the relationship between LMXAD and Relational Identification such that the positive relationship is strengthened when LMX is higher than lower.

Employees with low LMX have higher uncertainty and lower job security because they lack information, support, or resources from their leaders (Liden, Sparrowe, & Wayne, 1997). Loi et al. (2011) showed that employees with low job security react more sensitively to support and rewards they obtain from their leaders because they perceive their low-quality supervisory relationship as unstable. Employees with low LMXAD would feel negative about their given situation and the negative affect would be aggravated when they have low LMX. Employees with high LMXAD and low LMX would engage in less counterfactual thoughts compared to employees with low LMXAD and low LMX because they recognize that there are no better supervisory relationship options within the organization.

Alternatively, employees with a low LMXAD would interpret the inferior LMX standing less seriously if they have high LMX because they are currently acknowledged and supported by their focal leaders. Although they may consider alternative situations of working with other leaders (because they still want a superior LMX standing), the amount of upward counterfactual thoughts would be much less than employees with low LMX quality. Employees with high LMXAD and high LMX would not engage in upward counterfactual thoughts because they have the best possible work condition in the organization.

Based on the above reasons, I suggest that LMX quality buffers the negative relationship between LMXAD and employees' upward counterfactual thoughts. Employees with low LMXAD would engage in more upward counterfactual thoughts, when they have low quality relationship (low LMX) due to increased job insecurity and intensified negative emotions. Thus, I suggest the following hypothesis:

Hypothesis 4b. Employees' current LMX quality moderates the relationship between LMXAD and Upward Counterfactual Thoughts such that the negative relationship is strengthened when LMX is lower than higher.

Causal Attributions as Moderator: Internal, External, and Relational

Internal and External attribution. Despite the assumption that most individuals tend to attribute the perceived inferior LMX standing to the leader due to followers' own belief in being 'better than average' in terms of their task performance, I contend that potential individual differences exist in terms of perception of causal attributions.

Therefore, I propose followers' causal attribution as an important moderator of the relationship between LMXAD and counterfactual thoughts.

Individuals identify the cause of an event because assessing causation allows them to have a “stable, predictable, and controllable” (p.171) world (McArthur, 1972). Causal attribution draws from attribution theory which answers why outcomes were achieved or why the event occurred (Eberly, Holley, Johnson, & Mitchell, 2011). For example, employees with low LMXAD may ask, “Why is our relationship worse than their relationship?” When individuals know the cause of the given event, they possess more control in terms of directing future behavior and are able to better predict what will happen in the future (Kelley, 1971; Thibaut & Walker, 1975). Attribution theory posits that individuals make internal (self) or external (outside of self) explanations in terms of the cause of the event (Kelley, 1967). Individuals' causal attribution (whether they see the cause internally or externally) influences their future behaviors, motivations, and affect (Weiner, 1985). Some employees may attribute inferior LMX standing to deficiencies in their own efforts or performance (internal causal attribution). They believe that increasing their efforts and performance will be noticed by their leader and will improve their relative standing. On the other hand, some employees would attribute inferior LMX standing to the leaders' lack of considerations or passion, or deficient leadership skills (external causal attribution). These employees may consider a job transfer or quitting the organization.

In this study, I suggest that employees' causal attribution moderates the effects of LMXAD on their counterfactual thoughts. Employees' perception of causality significantly influence the direction of counterfactual thoughts (Lipe, 1991, Roese & Olson, 1996). For

example, when employees make internal attributions about low LMXAD, they would engage in less upward counterfactual thoughts regarding working with different leaders. This is because they find the cause of low LMXAD as themselves and thus, they would believe switching to a different leader is not the best solution to improve the current situation. These employees may assume that their existing leader will recognize them and provide them with more resources and rewards if they improve their efforts and performance. On the other hand, employees who make external attributions would engage in more upward counterfactual thoughts. This is because they believe that other leaders will value their work inputs more than their existing leaders. In other words, if they were working with different leaders, they would have a superior LMX standing within the organization resulting in increased benefits and rewards. Taken together, the effect of LMXAD on upward counterfactual thoughts is expected to be attenuated when employees internally attribute a lower LMXAD and amplified when employees externally attribute a lower LMXAD. Hence, I propose the following hypothesis:

Hypothesis 5a. Employees' Causal Attribution direction moderates the negative relationship between LMXAD and Upward Counterfactual Thoughts such that the negative relationship is strengthened when employees externally (e.g., leaders' poor leadership) attribute the cause of LMXAD compared to when they internally (e.g., followers' poor performance) attribute the cause of LMXAD.

Relational attribution. Internal and external attributions provide a great deal of information in understanding the cognitive mechanisms of LMXAD's effects on counterfactual thoughts by focusing the processes at the individual level. However, internal

and external attributions do not capture the relational aspect of performance. Given my argument that LMXAD would positively lead to employees' relational identification, I predict that relational attribution provides a stronger theoretical explanation regarding when LMXAD is related to relational identification.

Eberly, Holley, Johnson, and Mitchell (2011) recently introduced the concept of 'relational attribution' as a third loci of causality. Relational attributions refers to "those explanations made by a focal individual that locate the cause of an event within the relationship the individual has with another person" (Eberly et al., 2011, p. 732). Eberly and colleagues assume that relational attribution is developed when two partners interact with each other, and that it triggers relationship-focused behaviors. For example, when two partners (as a pair) fail to win a task competition, they may attribute the outcome to the poor interaction the two parties had (which is a feature of their relationship) instead of blaming oneself (internal attribution) or their partner (external attribution). These two individuals would enhance their interaction methods (relationship-focused behavior) to be successful in performing future tasks.

Relational attribution draws from the theory of relational self (Brewer & Gardner, 1996). The relational self refers to individuals' role relationships with significant others. The theory suggests that individuals attempt to find relational explanations, beyond internal and external explanations, for "achievement-oriented interpersonal events" (Eberly et al., 2011, p. 737). Accordingly, employees who make relational attributions identify the causes of the given situation as relational elements such as coordination between two parties, rapid information exchange, and appropriate feedback exchanges. Since relational attribution

allows individuals to share the responsibility for the given outcome, they attempt to fix or develop the relationship by improving the processes to achieve better outcomes.

In the context of LMX social comparison, employees could either appreciate or blame two partners (leader-member) as oneness for the given LMX standing. When employees attribute LMXAD to both the self and the leader (high relational attribution), they want to maintain or enhance the existing patterns of reciprocal behaviors. The series of relational efforts that the employees make with their leaders would accordingly increase their relational identification. Alternatively, when employees weakly attribute LMXAD to the leader-member relationship (low relational attribution), subsequent relationship-focused work would be less activated compared to employees with higher relational attribution. The above reasoning leads to the following hypothesis:

Hypothesis 5b. Employees' relational attribution moderates the positive relationship between LMXAD and Relational Identification such that the positive relationship is strengthened when employees have higher relational attribution than lower.

Effects of Relational Identification on Work Performance, OCB, and CWB

Relational identification yields various interpersonal benefits such as mutual understanding, loyalty, cooperation, social support, altruism and in-role performance (Hui, law, & Cohen, 1994). In addition, it is helpful for self-enhancement processes (cf. Dutton, Dukerich, & Harquail, 1994), and in developing a sense of connection and belonging (Baumeister & Leary, 1995). In this study, I propose that employees' relational identification with the supervisor is positively related to employees' work performance and

organizational citizenship behavior (OCB), which refers to employees' role behaviors beyond the formal job description (Organ, 1988), and negatively related to employees' counter-productive behavior (CWB), which refers to "intentional employee behavior that is harmful to the legitimate interest of an organization" (Dalal, 2005, p.1242). First, relational identification enhances individuals' work motivation because individuals find meaningfulness in performing the tasks or roles assigned by their supervisors. Second, employees feel safer and more strongly connected with their supervisors, which is positively related to a followers' psychological contract to the supervisor. Thus, they are more likely to follow through in performing both in-role and extra-role behaviors and less likely to break the psychological contract by engaging in CWB. Third, employees have more energy for increased performance and OCB due to reduced psychological burden and emotional labor.

Employees with stronger relational identification feel more "worthwhile, useful, and valuable" (Khan, 1990, p.704) because the two partners within the relationship acknowledge mutual investments and work efforts. That is, since employees' behaviors are acknowledged by leaders, employees develop a sense of reciprocity which is manifested in their motivation and investment in their role performance. Sluss and Ashforth (2007) note that one of the most promising consequences of relational identification is individuals' enhanced motivation. Therefore, employees with high relational identification with their supervisor would exert themselves to pursue a higher work performance.

Relational identification implies a strong connection between two partners. Individuals tend to feel safe when they are cognitively connected to others (Khan, 1990).

In particular, when employees have some uncertainty or concerns within the organization (Schein, 1987), psychological safety is helpful for employees. Employees are not afraid of failing or making mistakes due to their partners' strong support and trust (Khan, 1990). Employees with high relational identification clearly understand the patterns and protocols of work behavior that their supervisors highly value and thus able to perform effectively. In addition, enhanced safety encourages employees to form a high psychological contract with the supervisors (e.g, Guzzo, Noonan, & Elron, 1994). When employees sense a strong connection and belonging with the leader, they extend the sense of belonging to the organization (Sluss et al., 2012). This psychological connections encourages followers to help and cooperate with other colleagues and perform the roles beyond their assigned jobs for the success of organization. In the same vein, employees with high relational identification are less likely to engage in deviance behaviors because they do not want to harm the organization, supervisors, or other colleagues. On the contrary, employees who feel a weak connection or belonging with the supervisor would develop low psychological safety and negative affect such as frustration or anger toward the supervisor. Such psychological conditions causes employees' counterproductive work behaviors (Dalal, 2005). Thus, the lack of relational identification will lead to employees' work deviance behavior.

Employees with relational identification would also have more physical and emotional energy because they do not feel burdens or frustrations within the supervisory relationship. Moreover, these employees are more secure about the work roles and their own status within the organization. Employees who are acknowledged by both leaders and other colleagues have increased self-confidence. Such positive energy would be translated

into their improved work performance and increased OCB. In particular, given that OCB is a discretionary work behavior unlike work performance, employees who feel physically and emotionally tired from performing their own task-roles are less likely to engage in citizenship behavior. Indeed, employees' stress and burnout is negatively related to their citizenship behavior (Cropanzano, Rupp, & Byrne, 2003). In the same vein, employees who have less energy due to the weak relational identification with their supervisor would engage in more work deviance behaviors such as having a longer break that is not allowed or gossiping about their supervisors. Overall, I hypothesize that employees' relational identification encourages increased work performance, OCB and decreased CWB.

Hypothesis 6a-c. Employees' relational identification is positively related to their (a) work performance, (b) OCB, and negatively related to (c) CWB.

Effects of Counterfactual Thoughts on Work Performance, OCB, and CWB

Counterfactual thoughts such as employees thinking 'what might have been better or worse' will impact employees' affect and behavior (e.g., Epstude & Roese, 2008; Markman & McMullen, 2003; Roese & Olson, 1995; Sanna, Carter, & Small, 2006) because those counterfactual thoughts let individuals consider why past events occurred as they did (e.g., Branscombe, Crosby, & Weir, 1993). Upward counterfactual thoughts (what might have been better) generally engender negative affect such as regret, dissatisfaction, and envy (e.g., Medvec, Madey, & Gilovich 1995; Roese & Olson, 1995), whereas downward counterfactual thoughts (what might have been worse) generate positive affect such as happiness and relief (Boninger, Gleicher, & Strathman, 1994; Markman, Gavanski, Sherman, & McMullen, 1993, 1995; Roese, 1994). The negative affect caused by upward

counterfactual thoughts in turn stimulates individuals to evaluate a given situation less favorably (Baron, 2000).

In LMX social comparison processes, I propose that followers' upward counterfactual thoughts of 'what might have been better if I was assigned to other leaders' will negatively influence their work behaviors, thus decreasing their work performance and OCB, and increasing their CWB. In support, Roese (1997) stated that "Thoughts of what might have been are... most often triggered by unpleasant emotional experiences, and one of their immediate consequences is to exacerbate the unpleasantness." (p.145). Epstude and Roese (2008) argued that counterfactual thoughts are activated when an individual perceives a problem or a deficit and begin engaging in problem-solving behaviors to deal with the situation. Followers who engage in upward counterfactual thoughts would feel disappointment and even resentful about their existing supervisory relationship. Therefore, followers' heightened negative attitudes would cause corresponding behavioral consequences.

The more employees imagine scenarios of working with other leaders, the lower relationship stability they would have as they become less engaged in the existing relationship. Employees' perceptions of low relationship stability would weaken their perception of benefits that they obtain from the organization relative to other employees. According to social exchange theory (Thibaut & Kelley, 1959), individuals want to exit the existing relationship when their perceived cost of switching into another relationship is lower than the cost of staying in the existing relationship. On the other hand, employees who engage in downward counterfactual thoughts would not see the value of ending the

existing relationship because they can achieve more benefits if they remain in the existing relationship. Based on the norm of reciprocity (Gouldner, 1960), employees with upward counterfactual thoughts would not exert their best efforts due to the perception of relative deprivation and lack of earned benefits from the existing supervisory relationship. Thus, employees' upward counterfactual thoughts would be negatively related to employees' work performance and OCB.

Employees with upward counterfactual thoughts may consider two possible options of ending the existing leader-member relationships: job transfer or leaving the organization. In most organizations, employees do not have voice into who becomes their leader, or their assignment to a particular leader. Given the difficulty of changing the leader in the organizational setting, unless the leader leaves the workgroup, an employees' dissatisfaction with the existing leader or frustration would be amplified when they cannot control the given situation. Indeed, Hanish and Hulin (1990) suggested that employee withdrawal is closely related to CWB because withdrawal behaviors are "set of behaviors dissatisfied individuals enact to avoid the work situation" (p.63). Thus, the negative affect or attitudes engendered by upward counterfactual thoughts would be eventually expressed into employees negative work behaviors. In other words, employees retaliate against this dissatisfying work situation by engaging in CWB (Dalal, 2005). On the contrary, employees who do not engage in upward counterfactual thoughts, or rather engage in downward counterfactual thoughts, will have positive affect and attitudes toward the supervisory relationship and organization. Based on meta-analytic evidence that negative affect is a proximal predictor of CWB and positive affect is a proximal predictor of OCB

(Dalal, 2005; Spector and Fox, 2002), I argue that employees' upward counterfactual thoughts will be negatively related to OCB and positively related to CWB.

As such, I propose that employees' work performance and OCB will be decreased when they engage in more upward counterfactual thoughts. On the other hand, they will engage in more CWB when they engage in more upward counterfactual thoughts. Therefore, I propose the following:

Hypothesis 7a-c. Employees' upward counterfactual thoughts are negatively related to their (a) work performance, (b) OCB, and positively related to (c) CWB.

Effects of LMXAD on Work Outcomes through Relational Identification

The effects of employees' LMXAD on relational identification translate to the employees' work outcomes of work performance, OCB, and CWB. That is, followers identify themselves within the leader-member relationship by having a superior LMX standing within the organization. Then, their relational identification will in turn increase work performance and OCB, and decrease CWB because followers with enhanced self-concepts and positive attitudes towards the organization will become highly motivated in their role behaviors at the workplace (Sluss & Ashforth, 2007).

Employees in a high LMXAD believe that they earn more benefits from the existing relationship compared to other colleagues within the organization. Being in a high LMXAD allows followers to feel privileged and proud of themselves. Thus, they will extend their self-concepts (as established employees) with the supervisory relationship because they want to maintain or even strengthen the current status at the workplace. By strongly identifying with the relationship, they feel more positive, safe,

and energetic in performing work tasks assigned by their leaders. On the other hand, followers in low LMXAD may feel disappointed and even angry with what they might have lost or what they may lose in the future. Since individuals tend to believe that they are 'better than average' (e.g., Alicke et al., 1995; Krueger & Mueller, 2002), followers believe that they performed better or invested more work-related efforts than other colleagues. Accordingly, when followers perceive that their supervisory relationship is inferior to others' supervisory relationships, they may attribute the low LMXAD to their leaders or a weak leader-member fit. Thus, the negative affect regarding the existing supervisory relationship such as resentment toward leaders would hinder those followers to build a relational identification with their existing leader. Followers with lower relational identification would be demotivated at the workplace because they are uncertain about their own work behavior patterns that their leaders highly value and feel insecure due to the lack of belonging or connections with their leaders.

In sum, followers with higher LMXAD will build stronger relational identification compared to followers with lower LMXAD, and followers with enhanced relational identification will increase their work performance and OCB, and decrease CWB. Therefore, I hypothesized as following:

Hypothesis 8a-c. Employees' LMXAD has a significant indirect effect on their (a) work performance, (b) OCB, and (c) CWB through relational identification.

Effects of LMXAD on Work Outcomes through Upward Counterfactual

Thoughts

By comparing followers' own LMX to others dyads' LMX, followers come to have certain degrees of knowledge in terms of an 'acceptable' relationship within an organization. For example, employees with low LMX relationships who feel frustrated with their supervisory relationship may change the view of their existing relationship once they realize that their relationship is at least better than other leader-member dyads within the organization (which allows them to have a high LMXAD). They may rationalize their poor LMX to some degree by lowering their own standard of 'ideal LMX'. Thus, being in a high LMXAD encourages those followers to engage in positive work behaviors such as investing more efforts in their work performance or helping supervisors or other co-workers.

This study assumes that followers in high LMXAD have high relationship stability due to the decreased comparison level of alternatives; whereas followers in low LMXAD have low relational stability due to the increased comparison level of alternatives. That is, when followers find desirable alternative relationships within the organization in the LMX social comparison processes, they see less value in the existing relationship. Indeed, Simpson (1987) showed that individuals with high comparison level of alternatives tend to favor relationship dissolution. In particular, followers with low LMXAD would be less motivated in their work behaviors when they work with the existing leaders due to engaging in upward counterfactual thoughts of 'what might have been better, if I was assigned to different leaders'. The more they desire the alternative

leader-member relationships, the weaker they are committed to the existing relationship. As followers feel unfulfilled with the existing work environment, employees express their negative affect and attitude as retaliating behaviors that damages organizational effectiveness. Employees may not support other employees when they need help. On the other hand, followers with high LMXAD would form positive attitudes caused by the superior supervisory relationship status, because they will undervalue the alternative situations of working with different leaders. This would promote followers' work performance and citizenship behavior and make it less likely they will exhibit deviance behaviors.

To sum up, the negative influence of LMXAD on followers' upward counterfactual thoughts influence followers' work behaviors. Therefore, I hypothesized my argument as follows:

Hypothesis 9a-c. Employees' LMXAD has a significant indirect effect on their (a) work performance, (b) OCB, and (c) CWB through upward counterfactual thoughts.

Chapter 4

METHODS

Sample size requirement of the Main Study

In order to determine the appropriate sample size for testing the hypothesized model, I followed guidelines by Cohen (1988, 1992) in which I estimated the significant criterion, statistical power, and effect size. With the effect size set at a moderate effect size of .30, the significance criterion α set at .05 (two-tailed), and statistical power ($1-\beta$) set at .80, the required sample size was 84. Because the total sample size is 318, this study meets the criteria of the power analysis.

Sample and Procedure

Given that this study examines the effects of LMX social comparison across leader-member dyads, it was important to obtain a sample in which employees actively interact with their leaders and other employees outside of their immediate workgroups. I first interviewed HR managers of the companies in my study to understand the work environments of the companies. The companies operate using work-groups and employees directly report to the supervisors of the workgroup on a daily basis. Although employees work in work-group settings, employees also collaborate with other employees (who work in different workgroups) in the same office which is designed with low partitions allowing for easy communications between workgroups.

Participants were recruited from a broad sample of companies operating in the manufacturing and media industry in South Korea. Six companies participated in the sample, with an average company size of 377 ($SD=315$) and average company age 22 years ($SD=12.15$). Table 2 provides the sample information of participating companies. The

correlation of LMXAD and other study variables of each company were examined to confirm data consistency. As shown in table 2, though some correlations were insignificant due to the small sample size, the directions of the correlation between LMXAD and outcome variables were all consistent and thus, all size companies were included in my analysis.

I visited these companies to explain the purpose of this study and assure confidentiality to the study participants. Then, prepared survey questionnaires were distributed to the employees. As this study focuses on the leader-member dynamics which assume that leaders and followers work closely, only employees working in the office were included in the surveys whereas employees in manufacturing jobs did not participate in the study. Survey questionnaire items were prepared in Korean by translating the original English items into Korean by the bi-lingual linguistics (Brislin, 1970).

Employees evaluated their LMX, LMXSC, LMXAD, employees' causal attribution, relational identification, upward counterfactual thoughts, and filled out demographic information. Supervisors of these employees evaluated their followers' work performance, OCB, and CWB. 44% of the sample data were collected on two occasions with three weeks' time lag to avoid common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, remaining 56% of sample data were collected at one time (These companies only allowed one time survey). I analyzed the two sets of data separately to check if there is any discrepancy in terms of the relationship between LMXAD and two proximal outcomes: relational identification and counterfactual thoughts. In the set of two-wave data (44%), the path coefficient of the effects of LMXAD was .18 ($p < .05$) on relational identification

and $-.50$ ($p < .001$) on counterfactual thoughts. In the other set of data that was collected in one time period (56%), the path coefficient of the effects of LMXAD was $.48$ ($p < .001$) on relational identification and $-.57$ ($p < .001$) on counterfactual thoughts. Because the correlation of LMXAD and the two proximal outcomes was in the same direction in both data sets, I combined the two data sets to secure enough sample size for testing the hypothesized model. I did, however, control for the survey design (one wave or two wave data) using a dummy coded variable in my analysis.

A total 318 entry-level employees participated the survey. On average, employees were 35 years old ($SD=6.59$), had 4.11 years of work tenure ($SD=3.74$). 73 % of participants are male, and 84% had college degree or above.

Measures

Unless otherwise noted, all measures were evaluated using a 7-point Likert-type scale ranging from 1 = strongly disagree or almost never to 7= strongly agree or always.

LMX social comparison across dyads (LMXAD). A 7-item measure modified from Vidyarathi et al. (2010) measure of LMX social comparison and Liden and Maslyn (1993) measure of LMX was used to evaluate followers' LMX social comparison across dyads. Sample items include "I have a better relationship with my manager than most average others (working with different managers) in different work groups at the company.", "My manager enjoys my company more than other managers of different work groups enjoy the company of their followers." The social psychology literature suggests that individuals typically choose "average" others as their referent point (Blanton, Buunk, Gibbons, & Kuyper, 1999; Forsyth, 2000; Gilbert, Giesler, & Morris, 1995; Moore, 2007;

Wood, Taylor, & Lichtman, 1985) rather than only one or a small portion of team members (Hu & Liden, 2013). Thus, I asked participants to assess their LMX standing relative to the average of other dyads' LMX within the organization (i.e., better than average or worse than average). Cronbach's alpha for the scale was .95.

LMX social comparison. An 8-item measure modified from Vidyarathi et al. (2010) measure of LMX social comparison and Liden and Maslyn (1993) measure of LMX was used by followers to evaluate relative LMX standing within workgroup. Sample items include "My manager is more loyal to me compared to how different managers are loyal to other employees" and "My manager enjoys my company more than other managers enjoy the company of their followers." Cronbach's alpha for the scale was .92.

Individual level LMX quality. The 7 item LMX measure from Liden et al. (1993) was used to assess follower LMX quality. Sample items include "My working relationship with my supervisor is effective.", "My supervisor understands my problems and needs." Cronbach's alpha for the scale was .88.

Counterfactual Thoughts. A modified 3-item measure from Baron (2000) was used to evaluate followers' upward and downward counterfactual thoughts. Sample items include "I often think of 'If I worked with other managers instead of my manager, my work life might have been better'" "I often think of 'If I worked with other managers instead of my leader, I might have better supervisory relationships at the workplace'" "I often dream of working with other managers instead of my current leader." Cronbach's alpha for the scale was .93.

Relational Identification. The 4-item measure from Sluss et al. (2012) was used to evaluate a follower's relational identification with their leader. Sample items include "My work relationship with my leader is important to how I see myself," "If someone criticized my work relationship with my leader, it would be a personal insult". Cronbach's alpha for the scale was .86.

Causal attribution. The 3-item measure from McAuley, Duncan, and Russell's (1992) causal dimension scale (CDSII) was used to evaluate causal attribution. Sample items include "The cause of my superior (or inferior) leader-member relationship status reflects an aspects of myself," "The cause of my superior (or inferior) leader-member relationship status is inside of me." Cronbach's alpha for the scale was .89.

Relational attribution. The 3-item measure of McAuley et al.'s (1992) causal attribution scale was modified to examine relational attribution. Sample items include "The cause of my superior (or inferior) leader-member relationship status reflects an aspects of our relationship between me and my manager," "The cause of my superior (or inferior) leader-member relationship status is something about us (me and my leader)". Cronbach's alpha for the scale was .87.

Work performance. The 5 item measure of Williams and Anderson (1991)'s in-role behaviors were used to measure follower work performance. Sample items include "Fulfills responsibilities specified in job description" "Meets formal performance requirements of job". Cronbach's alpha for the scale was .92.

Counterproductive work behavior. Nine items from Bennett and Robinson (2000)'s 28 item measure of work deviance was used to evaluate counterproductive work

behavior. Among 28 items, 9 items that represented potential deviance behaviors most likely to occur in a Korean work place were selected. Sample items include “Worked on a personal matter instead of work for your employer” “Neglected to follow boss’s instructions” “Take an additional or a longer break than is acceptable at the workplace” Cronbach’s alpha for the scale was .83.

Organizational citizenship behavior. To assess organizational citizenship behavior, supervisors responded to 10 items from Williams and Anderson (1991)’s measure. Sample items include “Helps others who have been absent” “Passes along information to co-workers”. Cronbach’s alpha for the scale was .92.

Control variables. Employees’ demographic information were considered as control variables for this study as they have been shown to demonstrate small relationships with LMX (Epitropaki & Martin, 1999). I found that only gender was significantly related to the dependent variables in my study (work performance, OCB, and CWB). Thus, I included gender as a control variable. Gender was controlled when examining the effects of LMXAD on RI and CFT, and the three dependent variables. In addition, because the data sets had two different survey designs (one wave versus two wave), I controlled for survey design using dummy code in which the one wave data was coded as 1 and two wave data was coded as 2. The survey design was controlled for when testing the effects of LMXAD on the two mediators of RI and CFT.

Data Analysis

The main research model of nine hypotheses was tested with multi-level path analysis to examine the path coefficients using Mplus 7 (Muthen & Muthen, 2014). A

multi-level path analysis was used since employees are nested in groups and organizations, therefore level 1 represented the individual level, level 2 the group level, and level 3 the organizational level. Path analysis is appropriate for testing my model in that multiple indirect effects can be estimated using a maximum likelihood approach.

Prior to performing multi-level path analysis, confirmatory factor analysis (CFA) was performed to verify the measurement validity of study variables (LMXAD, LMXSC, RI, and CFT) as well as the discriminant validity of LMXAD from the measures of other LMX related variables: LMX, LMXSC. Overall model fit was assessed by chi-square, Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1992), comparative fit index (CFI; Bentler, 1990), and Standardized root mean square residual (SRMR, Hu & Bentler, 1998). In general, the cut-off values of .90 (CFI; IFI) and .08 or less (RMSEA) are used to confirm a good fit. Additionally, a chi-square test is conducted to compare the model with various alternative models to ensure robustness of the findings. In particular, the hypothesized model was compared to the baseline model involving control variables. As shown in table 6, the fit indices of model 1 which excludes direct effects of LMXAD on work outcomes were compared to model 2 (the hypothesized model). The comparison result indicates that model 2 has a better fit, supporting the direct effects of LMXAD on work outcomes.

To test the extent to which LMXAD explained unique variance in work performance, OCB, and CWB beyond the individual LMX and LMXSC within group (Hypothesis 1), pseudo R-squared values from the path analysis were compared. Hypotheses 2 and 3, which hypothesized main effects of LMXAD on relational

identification and upward counterfactual thoughts, and Hypotheses 6a-c and 7a-c, which hypothesized the main effects of relational identification and upward counterfactual thoughts on work performance, OCB, and CWB, were tested by the direction and significance of the path coefficients along with overall model fit indices. To test the moderating effects of LMX (Hypotheses 4a-b) and causal attributions (Hypotheses 5a-b), I calculated the product terms of the path coefficients of main effects after mean-centering the variables to reduce collinearity between the main effect and interaction terms (for review, Cohen, Cohen, West, & Aiken, 2003).

Following MacKinnon, Fairchild, & Fritz (2007), I estimated the significance of the product terms of the paths from independent variable to the mediators and from the mediators to the dependent variables. I used Selig and Preacher's (2008) Monte Carlo method for Assessing Mediation (MCMAM) program, which is appropriate in estimating same level (1-1-1) indirect effects in multi-level models (Preacher, Zyphur, & Zhang 2010). MCMAM provides the product terms' parameter point estimates, asymptotic variances and covariance, and 95% confidence intervals based on 10,000 bootstrap samples. In sum, the six mediation effects of (1) LMXAD on employees' work performance, OCB, and CWB via relational identification (Hypothesis 8a-c), and (2) LMXAD on employees' work performance, OCB, CWB via upward counterfactual thoughts (Hypothesis 9a-c) were tested by using MCMAM to obtain 95% confidence intervals for these effects.

RESULTS

Data Description.

Table 3 shows the means, standard deviations, and intercorrelations of study variables. The mean score of LMXAD was 4.46 and standard deviation was 1.05. The mean score of LMXSC was 4.04 (SD = .90), and the mean score of LMX was 4.95 (SD = .96). LMXAD showed a higher mean score (4.46 on a scale of 7) and a higher standard deviation compared to LMX and LMXSC which implies that individuals engaged in social comparisons with other leader-member dyads. The correlation between LMXAD and LMXSC was .69 ($p < .01$), and the correlation between LMXAD and LMX was .70 ($p < .01$). The correlation between LMXAD and relational identification shows a positive relationship ($r = .42, p < .01$), while the correlation between LMXAD and upward counterfactual thoughts was negative ($r = -.47, p < .01$). The correlation results initially support the predicted positive relationship between LMXAD and relational identification and negative relationship between LMXAD and upward counterfactual thoughts.

Relational identification was positively correlated with employees' work performance ($r = .13, p < .01$), but the correlations with OCB ($r = .07, ns$) and CWB ($r = -.05, ns$) were not significant. Thus, the correlations do not support my hypotheses predicting a relationship between relational identification and OCB and CWB, but do support the predicted relationship between relational identification and work performance.

Upward counterfactual thoughts of a leader assignment was negatively correlated with work performance ($r = -.28, p < .01$) and OCB ($r = -.18, p < .05$), but positively correlated with CWB ($r = .29, p < .01$), which also supports my argument that upward

counterfactual thoughts are related to employees' work outcomes. In addition, LMXAD was positively correlated with employees' work performance ($r = .40, p < .01$) and OCB ($r = .33, p < .01$), and negatively correlated with CWB ($r = -.28, p < .01$), supporting that idea that LMXAD is related to employees' work outcomes.

Measurement Model.

The fit indices of the full measurement model of independent variable (LMXAD), two mediators (RI and CFT), and a key control variable (LMXSC) confirms a good measurement model: $\chi^2(203) = 664.531, p < .01$; CFI=.92; RMSEA=.05; SRMR=.08, which supports a good measurement model (Anderson & Gerbing, 1988). As shown in Table 4, the four factor model (including LMXSC, LMXAD, RI, and CFT) shows a better fit compared to other comparison models. To be specific, the four factor model has a better fit compared to the three factor model which does not distinguish RI and CFT ($\Delta\chi^2 = 823.17, p < .01$), as well as compared to the two factor models which combines LMXSC with LMXAD, and RI with CFT ($\Delta\chi^2 = 1249.90, p < .01$), and finally compared to the one factor model which combines all four study variables ($\Delta\chi^2 = 1833.53, p < .01$).

Due to the high correlations between LMX, LMXSC, and LMXAD, another confirmatory factor analysis was conducted to examine the discriminant validity of these three variables. As shown in Table 5, the three factor measurement model fit the data well: $\chi^2(206) = 545.03, p < .01$; CFI=.94; RMSEA=.07; SRMR=.04. Factor loadings of the five constructs were all significant with mean standardized loading=.80. The three-factor model was compared with four alternative models to evaluate discriminant validity. For example, a one-factor model was specified by combining all constructs' items on one factor. Model

comparison was conducted with the chi-squared difference score tests. The fit indices results were reviewed to confirm the discriminant validity of LMXAD. According to the comparison results, the three-factor model has a better fit than the two factor model A ($\Delta\chi^2 = 593.74, p < .01$) which combined LMXSC and LMXAD, the two factor model B ($\Delta\chi^2 = 563.56, p < .01$) which combined LMX and LMXSC, and the two factor model C ($\Delta\chi^2 = 317.39, p < .01$) which combined LMX and LMXAD.

Hypothesis Testing.

Main effects. Hypothesis 1 posited that LMXAD explains unique variance in work performance, OCB, and CWB beyond individual LMX and LMXSC within group. Pseudo-R squared comparison results demonstrated that LMXAD explained 2.8% of the unique variance in work performance, 2.6% in OCB, and 0.83% in CWB beyond that of LMX and LMXSC. Thus, Hypothesis 1a, 1b, and 1c were supported.

The model fit indices confirmed that the hypothesized model fit the data well: $\chi^2(8) = 14.90, p < .05$; CFI=.99; RMSEA=.05; SRMR=.05. As shown in Table 6, the main model (model 2) had a better fit compared to model 1 which has no direct effects of LMXAD on three dependent variables ($\Delta\chi^2 = 23.67, p < .01$). I hypothesized that LMXAD is positively related to employees' relational identification (H2) and negatively related to upward counterfactual thoughts (H3). As shown in Table 8, the path coefficient of LMXAD on relational identification was significant ($\beta = .35, p < .01$), supporting Hypothesis 2. The path coefficient of LMXAD on upward counterfactual thoughts was significant as well ($\beta = -.58, p < .01$), supporting Hypothesis 3. These results show that employees who perceive that their supervisory relationship is relatively superior than other

colleagues' supervisory relationships tend to identify stronger with their supervisory relationship and are less likely to have thoughts such as what could have been better if they were assigned to other leaders.

Hypotheses 6a-c proposed that employees' relational identification is positively related to work performance (H6a) and OCB (H6b), and negatively related to CWB (H6c). The path coefficients of relational identification on work outcomes were not significant: (a) work performance ($\beta = -.01, ns$), (b) OCB ($\beta = -.09, ns$), and (c) CWB ($\beta = .04, ns$). Thus, Hypotheses 6a, 6b, and 6c were not supported. Hypotheses 7a-c suggested that employees' upward counterfactual thoughts will be negatively related to work performance (H7a) and OCB (H7b), and positively related to CWB (H7c). The path coefficients of upward counterfactual thoughts on work performance ($\beta = -.09, p < .05$) and CWB ($\beta = .12, p < .05$) were significant, supporting Hypotheses 7a and 7c. The results explain that employees who often think of what might have been better with other leaders tend to have lower work performance and higher counterproductive behaviors at the workplace. However, the path coefficient of upward counterfactual thoughts on OCB was not significant ($\beta = -.01, ns$). Thus, Hypothesis 7b was not supported.

Moderating effects. Hypotheses 4a-b posits that individual LMX moderates the effects of LMXAD on relational identification and upward counterfactual thoughts, respectively. As shown in Table 7, the moderating effect of individual LMX on the relationship between LMXAD on relational identification was not significant ($\beta = -.04, ns$). Thus, Hypothesis 4a was not supported. The moderating effect of individual LMX on the relationship between LMXAD on upward counterfactual thoughts was significant ($\beta = .13,$

$p < .05$), supporting Hypothesis 4b. I plotted this interaction effect in Figure 4 using guidelines from Aiken & West (1991) for + 1 and – 1 standard deviation and also conducted simple slopes tests. Figure 4 shows that LMXAD is negatively related to employees' upward counterfactual thoughts when they have low LMX quality relationships with their own supervisors (-1 standard deviation, $\beta = -.48$, $S.E = .09$, $p < .01$). In addition, when employees have a high LMX quality relationship with their own supervisors (+1 standard deviation, $\beta = -.27$, $S.E = .08$, $p < .01$), the negative effects of LMXAD on upward counterfactual thoughts were weakened. These results show that the negative effect of LMXAD on upward counterfactual thoughts is strengthened when employees have a lower LMX quality relationship with their focal leader than when they have a higher LMX quality relationship.

Hypotheses 5a-b suggested that causal attribution moderates the effects of LMXAD on upward counterfactual thoughts and relational identification, respectively. The moderating effects on the relationship between LMXAD on upward counterfactual thoughts were significant ($\beta = .19$, $p < .01$), which supports Hypothesis 5a. I also plotted this interaction effect of causal attribution in Figure 5. LMXAD is negatively related to employees' upward counterfactual thoughts when employees make internal attributions about their relationship quality (+1 standard deviation, $\beta = -.38$, $S.E = .07$, $p < .01$), and the negative effect became stronger when employees make external attributions (-1 standard deviation, $\beta = -.78$, $S.E = .10$, $p < .01$). In particular, when employees' LMXAD is high, and employees attribute their superior relationship to their leaders (externally), they are less likely to have upward counterfactual thoughts compared to employees who attribute the superior relationship to themselves. However, the moderating effects of causal

attribution (relational attribution) on the relationship between LMXAD on relational identification was not significant ($\beta = -.02, ns$). Thus, Hypothesis 5b was not supported.

Indirect effects. Hypotheses 8a-c posits that relational identification mediates the effects of LMXAD on work performance, OCB, and CWB. As shown in the Table 8, indirect effects of LMXAD on work performance ($\alpha\beta = -.01, [-.05, .01]$), OCB ($\alpha\beta = -.26, [-.07, .02]$), and CWB ($\alpha\beta = .01, [-.01, .04]$) via relational identification were not significant as the 95% confidence interval crosses 0. Thus, Hypotheses 8a, 8b, and 8c were not supported. Hypotheses 9a-c suggested that upward counterfactual thoughts mediates the effects of LMXAD on work performance, OCB, and CWB. The indirect effects between LMXAD on work performance ($\alpha\beta = .05, [.01, .10]$) and CWB ($\alpha\beta = -.07, [-.12, -.02]$) were confirmed with the 95% CI excluding 0, supporting Hypotheses 9a and 9c. However, the indirect effect of LMXAD on OCB via upward counterfactual thoughts was not significant ($\alpha\beta = .01, [-.03, .05]$). Thus, Hypothesis 9b was not supported.

Direct effects of LMXAD on work outcomes. Although I proposed the two mediating mechanisms of the effects of LMXAD on employees' work outcomes, I also expected that direct effects of LMXAD exist on the three work outcomes. The direct effect of LMXAD on work performance and OCB were both significant ($\beta = .32, p < .01$ for both). These findings support my argument that LMXAD is positively related to employees' work performance and OCB, highlighting the importance of LMXAD in employees' work behaviors. While these two direct effects were significant, the direct effect of LMXAD on CWB was marginally significant ($\beta = -.17, p < .10$). This implies that the mediating

mechanisms of LMXAD to CWB via employees' upward counterfactual thoughts could be a full mediation path.

Chapter 6

DISCUSSION

LMX Social Comparison Across Dyads (LMXAD)

By integrating the literature on LMX and social comparison, my dissertation introduces the concept of employees' perception of relative LMX in comparison with other colleagues' LMX (LMXAD). This study of entry-level employees in South Korea finds support for the positive effect of LMXAD in determining employees' work outcomes. Specifically, when employees perceive that they have a superior supervisory relationship compared to other colleagues' supervisory relationships, they reported higher relational identification and lower upward counterfactual thoughts. Most importantly, the study examined that LMXAD is positively related to employee work performance and negatively related to CWB via decreased upward counterfactual thoughts. However, the study failed to support the mediating mechanism of relational identification.

It is common to find employees comparing 'who has a better supervisory relationship' and 'whose work life is better or worse with the supervisors' at the workplace. Employees can easily obtain information about other leaders' work styles, leadership styles, and personalities by directly observing other colleagues' work life. Surprisingly, there has been few attempts to understand what happens when individuals compare their supervisory relationships. Although LMX scholars have endeavored to answer how employees interpret relative LMX within the work group, individuals' LMX social comparisons beyond the work group has been unexplored. My dissertation extends previous work on

LMX social comparison (e.g., Vidyarthi et al, 2010) by proposing that individuals often engage in the two types of social comparison behaviors to interpret their supervisory relationships. Specifically, individuals compare their LMX to not only their co-workers within the work group, but also their colleagues outside of their work group, to understand the relative superiority or inferiority of their supervisory relationships. Having a comparative advantage in terms of supervisory relationship relative to other leader-member dyads implies that those employees in a superior relationship enjoy more resources and have a stronger connection or trust with their leaders. Thus, employees find out whether they have advantageous work conditions compared to other colleagues. My dissertation findings contribute to the LMX theory by suggesting that comparisons of the focal LMX to other colleagues' LMX provide additional explanations about how followers interpret the way they are treated by the focal leader.

Drawing from social exchange theory (Thibaut & Kelly, 1959), my dissertation provides theoretical explanations of mediating mechanisms of LMXAD on employees work outcomes with two unique mediators: relational identification and upward counterfactual thoughts. While the mediating mechanisms of LMXAD on work performance and CWB via upward counterfactual was clearly supported, I did not find the indirect effect of LMXAD on OCB. This suggests that mechanisms linking LMXAD to OCB may differ from work performance and CWB. Given that I found direct effects of LMXAD on OCB, I encourage future studies to explore other mediating mechanisms of LMXAD to OCB. In addition, although I found the effects of LMXAD on relational identification, I was not successful of finding the effects of relational identification on employees' work outcomes, when controlling for LMXAD. Perhaps, there could be other

proximal mediators (e.g., job satisfaction, work engagement, organizational commitment) between relational identification and the three work outcomes.

The positive moderating effects of individual LMX and causal attribution were found on the relationship between LMXAD and employees' upward counterfactual thoughts. In addition, the moderating effect of causal attribution highlights the importance of individuals' perception about the contributions of the leader and follower to the LMX relationship. Employees determine the cause of relative LMX standing by considering how much contributions the leader and the followers have made to the relationship. Consistent with the extant research which argues that individuals' perception is more influential than reality in directing their attitudes and behaviors (e.g., Kristof-Brown, Zimmerman, & Johnson, 2005), this study supports that individuals' perception of causal attribution of their LMX standing moderates the effects of LMXAD on upward counterfactual thoughts. Regardless of the reality, when individuals attribute the superior supervisory relationship to themselves (internal attribution), the negative effects of LMXAD on upward counterfactual thoughts are weakened. In other words, when individuals attribute the superior supervisory relationship to leaders (external attribution), the effects of LMXAD will be stronger which makes individuals think less about 'what could have been better with other leaders'.

Contributions, Limitations, Managerial Implications

Theoretical contributions. By extending the LMX social comparison processes from the workgroup to the outside of the workgroup, this study introduces the effects of LMXAD on employees' work outcomes. To answer Greenberg et al (2007)'s call for more

studies about LMX relationships in terms of social comparison processes, this dissertation proposed and tested a model explaining the mechanisms regarding why and how LMXAD affect employees' work performance, OCB, and CWB. The study results empirically supported the effects of LMXAD on employees' work outcomes, beyond the effects of individual LMX quality and LMXSC within group.

The current study contributes to the LMX literature in several ways by supplementing the theoretical gaps of previous LMX studies. First, by extending the comparison referent from co-workers (team members) who shared the same leader to colleagues who work with different leaders, this study sheds light on the role of another type of LMX social comparison, LMXAD, within the organization. This contribution supplements the basic assumption of previous LMX theory that individuals compare their supervisory relationship qualities between in-group and out-group. In today's organizational context where individuals work with not only the focal leader and work-group members, but also other potential supervisors and colleagues, the comparison referent needs to be extended to outside the focal workgroup.

Second, by allowing the comparisons across leader-member dyads where both parties of the dyads are different, this study examines the nature of LMX social comparisons at the dyadic level and confirm the negative effects of upward social comparisons of LMX. The construct of LMXAD helps us to explore dynamics of employees' LMX comparisons when individuals consider "our relationship" vs "their relationship" in terms of supervisory relationships. It is noteworthy that individuals simultaneously consider how their leaders treat them compared to how other leaders treat their followers when interpreting the effects of LMX quality.

Third, by suggesting this new type of LMX social comparison (LMXAD), this study extends the applicability of LMX social comparison studies to additional situations such as other professions that are not operated with ‘workgroup’ systems. Although LMX theory posits that leaders develop different relationships with each of their followers in a work group and this differentiation influences followers’ work attitudes and behavior, the theory application is limited to the traditional work context. It is important to understand the effects of leader-member relationship quality in work contexts where leader differentiation does not occur (such as the work context where leaders treat all the followers equally or where the leader and the follower work together as a pair, not as a workgroup).

Lastly, this study confirmed the mediating mechanism of LMXAD on work outcomes via upward counterfactual thoughts. The results highlight the important mediating role of upward counterfactual thoughts which explains individuals’ cognitive processes and their impact on work behaviors. LMX scholars can further explore the dynamics of upward counterfactual thoughts as a proximal predictor of employees’ work performance and counterproductive behaviors.

Limitations. Several limitations of my study should be noted. First, the findings of this study are all based on a dataset collected in companies where employees and supervisors are operating in a traditional work-group setting. I suggested that the construct of LMXAD will be well applied in the non-traditional work context where leaders and followers work as a pair such as in apprenticeship jobs (e.g., a hair designer and the staff) and pair work (e.g., software programmers of ‘a pair programming’ in technology industry). However, I limited the current study’s data set to the traditional work-group setting to verify the validity of the new construct. By so doing, I demonstrated the unique variance of

LMXAD in explaining employees work outcomes beyond individual LMX and LMXSC within group. Future studies that collect data in other professions that may not operate in traditional work group settings will help validate the effects of LMXAD on employees' work outcomes.

Second, although I attempted to collect the data on two occasions with 2-3 weeks' time lag to relieve the common method bias and to justify the causal mechanisms, I could not conduct the longitudinal design in three companies of the six companies who participated in this study. 56% of data set were collected at one time with multiple sources which weakens the causal mechanism of empirical analysis. Post hoc analysis using only the data that were collected with a time lag confirmed the causal relationship between LMXAD and relational identification and counterfactual thoughts.

Third, the generalizability of the findings could be limited. Although the current study confirmed the effects of LMXAD, the effects may vary depending on the work context or workgroup characteristics. For example, this study did not consider the effects of group-level constructs such as task interdependence within group or between groups. When task interdependence within group is strong, employees may engage in LMXSC within group more than LMXAD because employees become sensitive about the focal leaders' differentiation among team members. On the other hand, when task interdependence between groups is strong, employees may engage in LMXAD more than LMXSC because employees would be often exposed to situations where they can see how other colleagues work with and get along their leaders. I encourage future studies to explore the effects of LMXAD in various settings and to considering contextual effects of the work settings.

Fourth, the construct validity of LMXAD has some limitations. In this study, I modified the existing survey items of LMXSC within group (Vidyarthi et al., 2010) to develop the measure of LMXAD. Because I theoretically proposed that LMXSC and LMXAD are different in terms of the comparison referent, I changed the phrase which describes referent comparisons of LMXSC (e.g., “I have a better relationship with my manager than *most others in my work group*.” to “I have a better relationship with my manager than *most other colleagues (working with different managers) at the company*.”). Due to the similarity of construct measurements in terms of LMX comparison processes, when both constructs were evaluated by the subordinates at the same time, the confounding effects of two constructs could be worrisome. In future studies, I encourage LMX researchers to consider other ways of examining two different LMX comparison processes (LMXSC and LMXAD).

Fifth, although I focused on employees’ LMX comparison processes across dyads within the organization, individuals may engage in other types of LMX comparison at the workplace. Employees may compare their existing supervisory relationships to previous relationships with leaders, or to their ideal supervisory relationship. For example, employees who have limited experiences with supervisory relationships (e.g., newcomers) may compare their first supervisory relationship to an ideal relationship. Likewise, employees who recently changed jobs or work groups may engage in LMX comparison processes to their previous supervisory relationship. In this case, if these employees perceive that the previous LMX was better than the current LMX (with the new leader), they may engage in counterfactual thoughts of ‘what could have been better if I stayed in the previous company (or work team)’ which may lead them to be less motivated in the

workplace. As such, the construct of LMXAD could be applied to various contexts in which the stage of the LMX relationship or tenure of the employee impacts the referent LMX relationship. Future research should explore these various LMX social comparison processes and their effects on employees work outcomes.

Managerial Implications. My dissertation has important implications for managers and employees. Managers need to pay attention to not only the leader-member relationship quality they form with their subordinates, but may also want to pay attention to other managers' leadership styles and the quality of relationships they form with their subordinates. Given the study findings, employees seem to be motivated by having a superior relationship with their leaders compared to other colleagues' supervisory relationships. Therefore, managers should have open and frequent communications with their followers by asking their needs and any difficulties that followers may have in order to form both high quality LMX relationships as well as relationships that will compare favorably to other supervisory relationships.

Companies can reduce the variance of their managers' leadership behaviors by preparing a special session where managers discuss their leader-member experiences so that managers can learn from each other. Companies can also provide guidelines or suggestions of how to develop ideal leader-member behaviors so supervisors can pursue more consistent LMX quality relationships across the organization. At the same time, the HR department can play a mediating role by having confidential communications with employees with regards to employees' supervisory relationships. In cases where employees express their intention to work with other managers, the company can actively arrange a job transfer or a team transfer for those employees. Because companies cannot respond to

all of these requests, companies should carefully decide employees' job or team transfer after a thorough review of the case. This is critical when dissatisfied employees are high performers because the company may demotivate or even lose them by neglecting their difficulty at work.

Conclusion

This study demonstrated the effects of LMXAD on employees work performance, OCB, and CWB, beyond the effects of individual LMX and LMXSC within group. This study found that employees' perception of relative LMX standing compared to other colleagues who work with different leaders (LMXAD) is positively related to relational identification and negatively related to upward counterfactual thoughts of a leader-member assignment. The mediating mechanism of LMXAD on work performance and CWB via upward counterfactual thoughts was supported. In addition, individual LMX and causal attribution of relative LMX standing (either to self or leader) moderates the effects of LMXAD on upward counterfactual thoughts. This study provides evidence that individuals indeed compare their supervisory relationships to other colleagues' supervisory relationships to interpret the degree of comparative advantage in the organization.

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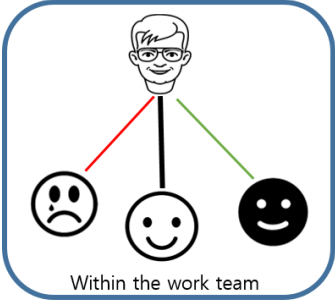
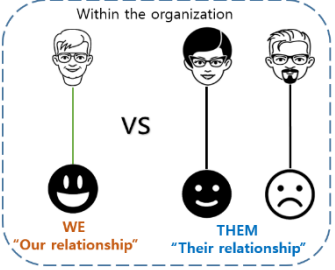
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Table 1

The Concepts of LMX Social Comparison

Construct	Comparison referent	Definition	Figure ¹
LMXSC within group (LMXSC)	Coworkers who share the same leader	The comparison between one’s own LMX and that of coworkers as LMX social comparison, or LMXSC. (Vidyarthi, Kiden, Anand, Erdogan, & Ghosh, 2010)	
LMXSC Across dyads (LMXAD)	Colleagues who work with different leaders	The comparison between one’s own LMX and that of other leader-member dyads.	

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¹ “Happy face” icon by Daniel Simon, “Happy” icon by Jean-Philippe Cabaroc, “Smile” icon by Pham Thi Dieu Lihn, “Crying” icon by Wilson Joseph, “Sad” icon by Tyler Payne, “Man” “Women” and “Man” icons by Simon Child from thenounproject.com.

Table 2

Company Information

Company	Industry	Company size	Company age	N of office job	Response rate	Survey Design	The correlation of LMXAD with				
							RI	CFT	Perf	OCB	CWB
1	Manufacturing	700	41	200	55%	Two waves	.17	-.32**	.21†	.23†	-.13
2	Manufacturing	210	9	90	61%	Two waves	.43**	-.27	.59**	.18	-.21
3	Manufacturing	92	16	70	81%	Two waves	.29†	-.23	.45**	.34**	-.08
4	Manufacturing	850	33	150	67%	One time	.56**	-.41**	.46**	.40*	-.42**
5	Manufacturing	200	16	90	66%	One time	.64**	-.54**	.32**	.22	-.04
6	Media	210	18	100	28%	One time	.65**	-.73**	.03	-.18	-.25

Table 3

Means, Standard Deviations, and Intercorrelations of Study Variables

	Mean	SD	LMXAD	LMX	LMXSC	RI	CFT	Perf	CWB	OCB	GEND	CA	RA
LMXAD	4.46	1.05	-										
LMX	4.95	0.96	.70**	-									
LMXSC	4.04	0.90	.69**	.59**	-								
RI	4.64	1.08	.42**	.36**	.37**	-							
CFT	3.32	1.33	-.45**	-.48**	-.27**	-.06	-						
Performance	5.58	0.90	.40**	.41**	.25**	.13*	-.28**	-					
CWB	2.26	0.78	-.28**	-.32**	-.19**	-.05	.29**	-.59**	-				
OCB	5.43	0.92	.33**	.30**	.20**	.07	-.18*	.73**	-.55**	-			
GEND	0.25	0.43	-.14*	-.15**	-.08	-.07	.08	-.21**	.13*	-.22**	-		
CA	3.89	1.09	.18**	.15**	.18**	.10	.00	.13*	-.06	.15*	-.12*	-	
RA	3.97	1.15	.07	.02	.08	-.01	.10	-.07	.14*	-.03	.01	.48**	-
Survey design	1.54	.50	-.16**	-.19**	-.05	.09	.20**	-.11	.17**	-.13*	.21**	.09	.12*

Note. N=318, * $p < .05$, ** $p < .01$, Pairwise, LMXAD = LMX social comparison across dyad, LMX = Leader-member exchange, LMXSC= LMX social comparison within group, RI=Relational identification, CFT= Upward counterfactual thoughts, CWB=Counterproductive work behavior, OCB=Organizational citizenship behavior, CA = Causal Attribution, RA= Relational Attribution, Survey design = coded 1 for one time survey, coded 2 for two times survey, and the unit of tenure is month.

Table 4

Full measurement model of Study Variables

Model	χ^2	d.f.	CFI	SRMR	RMSEA	$\Delta\chi^2$
1 factor model LMXSC, LMXAD, RI, CFT	2498.062	209	.61	.13	.19	
2 factor model LMXSC & LMXAD, RI, CFT	1914.429	208	.71	.12	.16	
3 factor model LMXSC & LMXAD & RI, CFT	1487.700	206	.78	.14	.14	
4 factor model LMXSC & LMXAD & RI & CFT	664.531	203	.92	.05	.08	1833.53**(1 factor model) 1249.90**(2 factor model) 823.169**(3 factor model)

Note. N=318, LMXAD = LMX social comparison across dyad, LMXSC=LMX social comparison within group, RI = Relational Identification, CFT=Counterfactual thoughts

Table 5

Confirmatory Factor Analysis for LMXAD with Related Constructs

Model	χ^2	d.f.	CFI	SRMR	RMSEA	$\Delta\chi^2$
1 factor model						
LMX, LMXSC, LMXAD	1483.06	209	.78	.09	.14	
2 factor model A						
LMX & LMXSC, LMXAD	1138.77	208	.84	.08	.12	344.29**
2 factor model B						
LMX, LMXSC & LMXAD	1108.59	208	.84	.08	.12	374.47**
2 factor model C						
LMX, LMXAD & LMXSC	862.42	208	.89	.06	.10	620.64**
3 factor model						593.74(a)**
LMX & LMXAD & LMXSC	545.03	206	.94	.04	.07	563.56(b)**
						317.39(b)**

Note. LMXAD = LMX social comparison across dyad, LMX = Leader-member exchange, LMXSC=LMX social comparison within group

Table 6

Multi-level Path Analysis Fit Indices.

Model	χ^2	d.f.	CFI	SRMR	RMSEA	$\Delta\chi^2$
Baseline model	1100.01	35				
Model 1 No direct effects from LMXAD on DVs	38.57	11	.97	.06	.09	1061.44**
Model 2 (Main Model)	14.90	8	.99	.05	.05	23.67**

Note. LMXAD = LMX social comparison across dyad

Table 7

Interaction Effects of LMX, and Causal/Relational Attributions

	DV	DV	
	RI	CFT	
LMXAD	.29*	LMXAD	-.33**
LMX	.13	LMX	-.49**
LMXAD * LMX	.04	LMXAD * LMX	.13*
LMXAD	.35	LMXAD	-.58**
RA	-.03	CA	.06
LMXAD * RA	.02	LMXAD * CA	.19**

Note. RI=Relational identification, CFT= Upward counterfactual thoughts, LMXAD = LMX social comparison across dyad, LMX = Leader-member exchange, RA= Relational Attribution, CA = Causal Attribution. † $p < .10$, * $p < .05$, ** $p < .01$

Table 8

Direct and Indirect Effects of LMXAD on Work performance, OCB, and CWB

DVs	Direct effects	“α” path		“β” path		Indirect effects “αβ”	
	LMXAD	LMXAD to RI	LMXAD to CFT	RI to DVs	CFT to DVs	LMXAD on DVs	
						via RI	via CFT
Work performance	.32**	.35**	-.58**	-.04	-.09*	-.01 [-.05, .01]	.05 [.01, .10]
OCB	.32**			-.09	-.01	-.26 [-.07, .02]	.01 [-.03, .05]
CWB	-.17†			.04	.12*	.01 [-.01, .04]	-.07 [-.12, -.02]

Significance of bootstrapped indirect effect was determined by examining the 95% confidence interval (CI) for the indirect effect using 10,000 bootstrap samples. † $p < .10$, * $p < .05$, ** $p < .01$

Figure 2

The Hypothesized Model

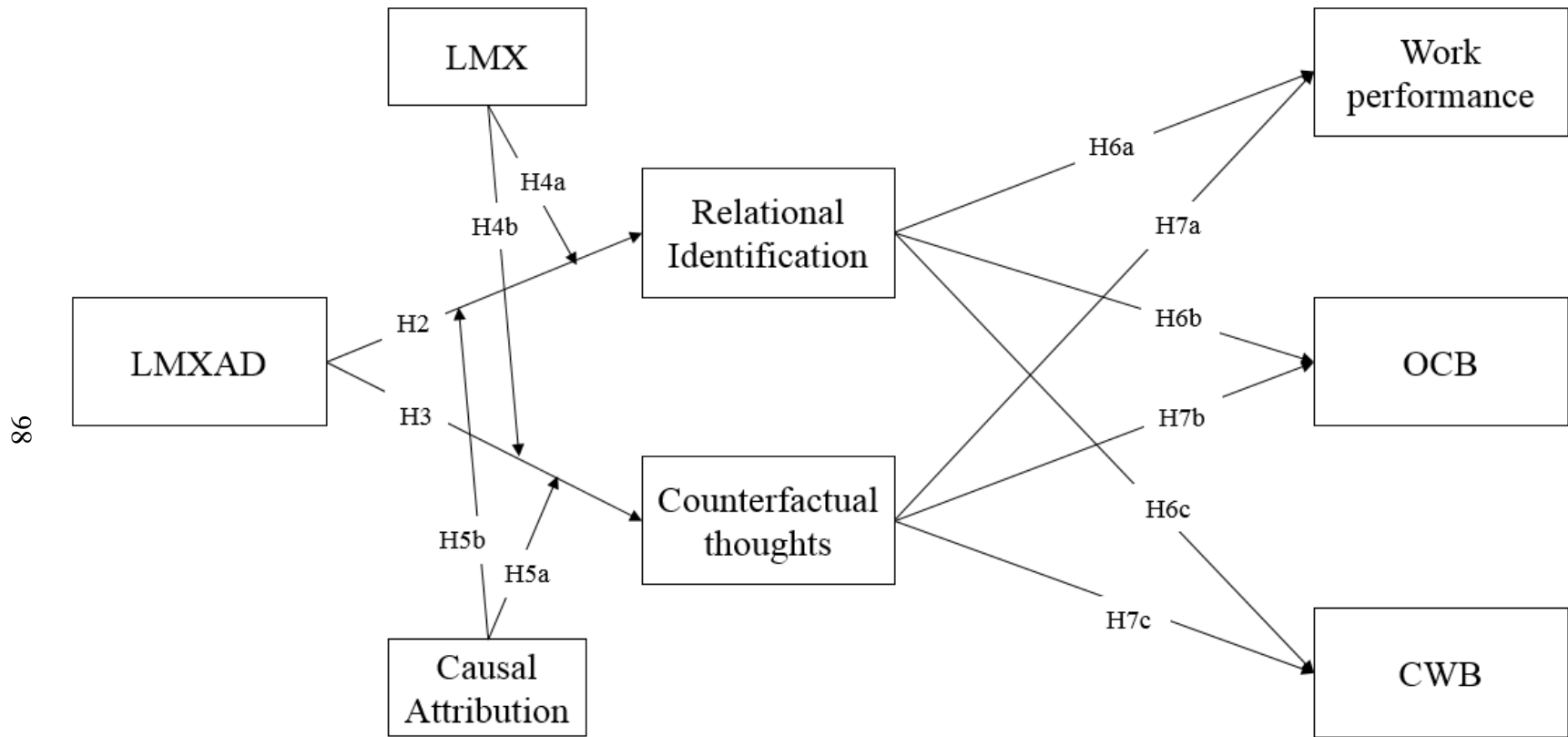


Figure 3

Path Coefficient Results of Main Effects.

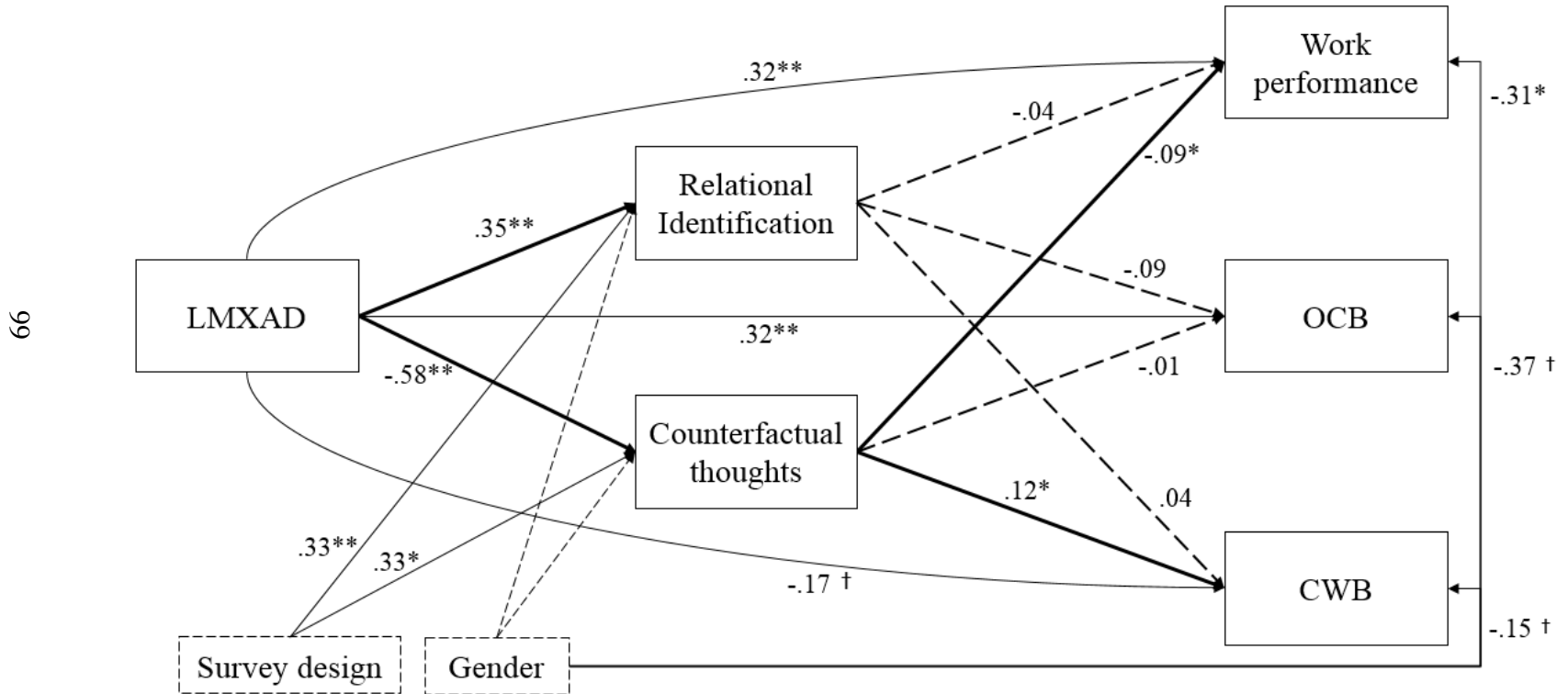


Figure 4

Interaction Graph of Individual LMX Quality

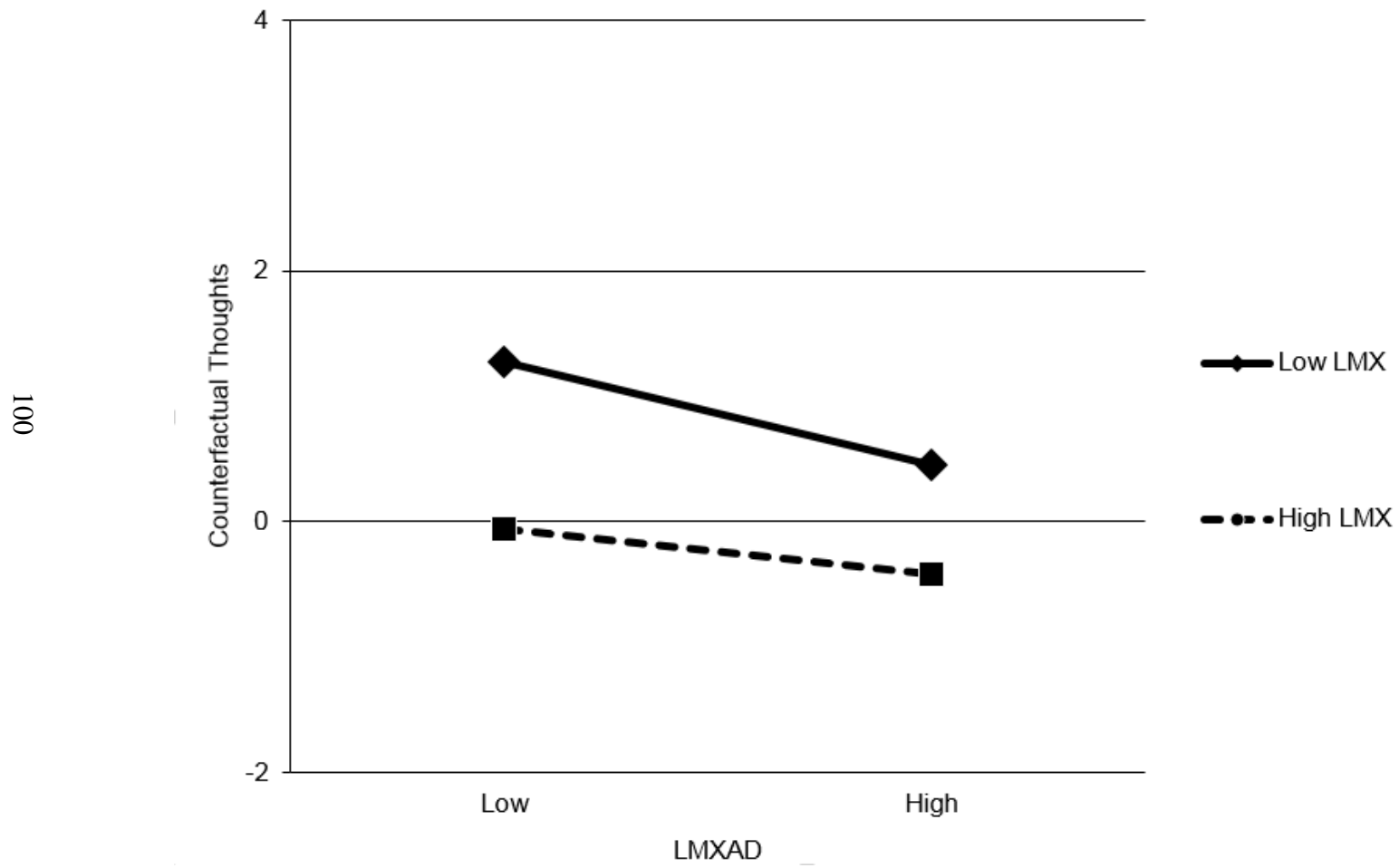
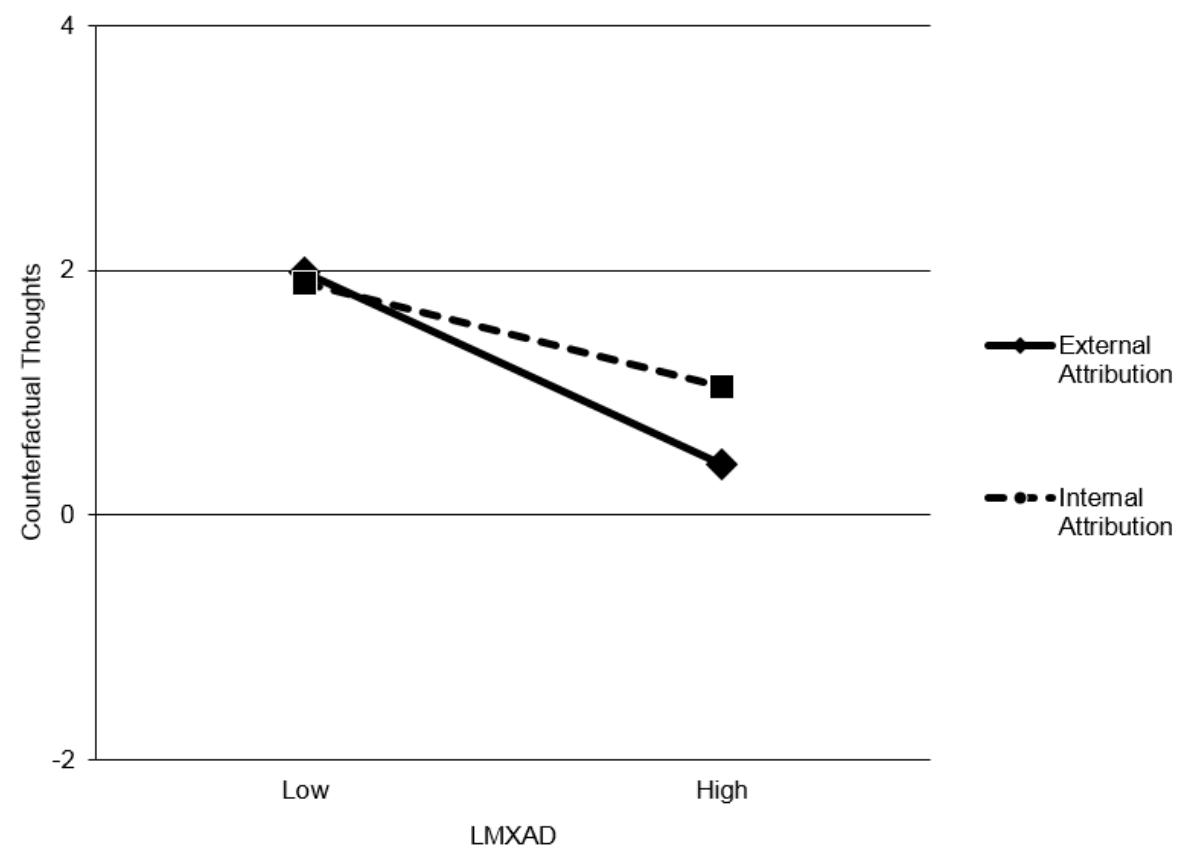


Figure 5

Interaction Graph of Causal Attribution

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APPENDIX A
SURVEY ITEMS

LMX social comparison across dyads (LMXAD)

(Modified 5 items from Vidyarathi et al., 2010, and 2 items from Liden & Maslyn's LMX-MDM, 1998)

1. I have a better relationship with my manager than most others (working with different managers) at the company.
2. Relative to average others working with other managers, I receive more support from my manager at the company.
3. The working relationship I have with my manager is more effective than the relationships most others have with other managers.
4. My manager is more loyal to me compared to how other managers are loyal to other colleagues.
5. My manager enjoys my company more than other managers enjoy the company of their subordinates.
6. My manager offers me more resources compared to how other managers offers resources their subordinates.
7. My manager share more information with me compared to how other managers share information with their subordinates.

LMX social comparison (LMXSC) (Vidyarthi et al., 2010, and 2 items from Liden & Maslyn's LMX-MDM, 1998)

1. I have a better relationship with my manager than most others in my work group.
2. When my manager cannot make it to an important meeting, it is likely that s/he will ask me to fill in.
3. Relative to the others in my work group, I receive more support from my manager.
4. The working relationship I have with my manager is more effective than the relationships most members of my group have with my manager.
5. My manager is more loyal to me compared to my coworkers.
6. My manager enjoys my company more than he/she enjoys the company of other group members.
7. My manager offers me more resources compared to other group members.
8. My manager share more information with me compared to other group members.

LMX-7 (Liden et al., 1993)

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 supervisor.
7. My working relationship with my supervisor is effective.

Counterfactual thoughts (Modified from Baron, 2000)

1. I often think of ‘If I worked with other managers instead of my manager, my work life might have been better’
2. I often think of ‘If I worked with other managers instead of my leader, I might have better supervisory relationships at the workplace’
3. I often dream of working with other managers instead of my current leader.

Relational identification (Sluss et al., 2012)

1. My work relationship with my manager is important to how I see myself.
2. My work relationship with my manager is an important part of who I am at work.
3. If someone criticized my work relationship with my manager, it would be a personal insult.
4. My work relationship with my manager reflects the kind of person I am.

Causal attribution (Internal and external) (McAuley et al., 1992)

The cause of superior (or inferior) relationship status within the organization,

1. reflects an aspect of myself
2. is inside of myself
3. something about me

Relational attribution (McAuley et al., 1992)

The cause of superior (or inferior) relationship status within the organization,

1. reflects an aspect of our relationship between me and him/her
2. inside of us (me and him/her)
3. something about me and him/her

Work performance (Williams & Anderson, 1991)

1. Adequately completes assigned duties.
2. Fulfills responsibilities specified in job description.
3. Performs tasks that are expected of him/her.
4. Meets formal performance requirements of the job.
5. Engages in activities that will directly affect his/her performance evaluation.

Organizational Citizenship Behavior (Williams & Anderson, 1991)

1. Helps others who have been absent.
2. Helps others who have heavy work loads.
3. Assists supervisor with his/her work (when not asked).
4. Takes time to listen to co-workers' problems and worries.
5. Goes out of way to help new employees.
6. Passes along information to co-workers.
7. Attendance at work is above the norm.
8. Gives advance notice when unable to come to work.
9. Conserves and protects organizational property.
10. Adheres to informal rules devised to maintain order.

Counterproductive Work Behavior (Selected 9-items from Bennet, 2000)

1. Worked on a personal matter instead of work for your employer
2. Taken an additional or a longer break than is acceptable at your workplace
3. Repeated a rumor or gossip about the boss or coworkers
4. Neglected to follow boss's instructions
5. Put little effort into the work
6. Left her/his work for someone else to finish
7. Act rudely toward someone at work
8. Leave the worksite without permission
9. Chat with coworkers about personal matters during the office hours

APPENDIX B
INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL FORMS FOR THE
DISSERTATION

APPROVAL: EXPEDITED REVIEW

Jennifer Craig
Management
480/965-4641
Jennifer.Nahrgang@asu.edu

Dear Jennifer Craig:

On 11/30/2015 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	The effects of leader-member exchange (LMX) social comparisons on employees' work performance
Investigator:	Jennifer Craig
IRB ID:	STUDY00003580
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	Name: Graduate Education
Grant Title:	
Grant ID:	
Documents Reviewed:	<ul style="list-style-type: none"> • consent form_employee_KOR.pdf, Category: Consent Form; • Employee T2.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • consent form__field study _employee.pdf, Category: Consent Form; • Back translation form , Category: Translations; • Korean survey_IRB_Seo_supervisor1.pdf, Category: Translations; • HRP-503a-TEMPLATE_PROTOCOL_SocialBehavioralV_Seo_3.docx, Category: IRB Protocol; • Graduate research support approval document, Category: Sponsor Attachment; • Korean survey_IRB_Seo_time 2_1.pdf, Category: Translations;

	<ul style="list-style-type: none"> • Recruitment Consent Letter_Seo.pdf, Category: Recruitment Materials; • Employee T1.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • consent form_supervisor_KOR.pdf, Category: Consent Form; • Consent form_supervisors.pdf, Category: Consent Form; • Korean survey_IRB_Seo_time 1 (1).pdf, Category: Translations; • supervisor T1.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • [REDACTED] Survey request approval letter.pdf, Category: Recruitment materials/advertisements /verbal scripts/phone scripts;
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The IRB approved the protocol from 11/30/2015 to 11/29/2016 inclusive. Three weeks before 11/29/2016 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 11/29/2016 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Jungmin Seo
 Jungmin Seo
 Peter Hom
 Jennifer Craig
 Jeffery LePine

APPENDIX C

STANDARDIZED FACTOR LOADINGS OF LMX, LMXSC, AND LMXAD

ITEMS	FACTOR LOADINGS
LMX	
1. I usually know where I stand with my supervisor.	.56
2. My supervisor understands my problems and needs.	.80
3. My supervisor recognizes my potential.	.79
4. My supervisor has enough confidence in me that he/she would defend and justify my decisions if I were not present to do so.	.73
5. I can count on my supervisor to “bail me out” even at his or her own expense, when I really need it.	.71
6. My working relationship with my supervisor is effective.	.85
7. 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.	.62
LMXSC	
1. I have a better relationship with my manager than most others in my work group.	.69
2. Relative to the others in my work group, I receive more support from my manager.	.73
3. The working relationship I have with my manager is more effective than the relationships most members of my group have with my manager.	.78
4. My manager is more loyal to me compared to my coworkers.	.80
5. My manager enjoys my company more than he/she enjoys the company of other group members.	.71
6. When my manager cannot make it to an important meeting, it is likely that s/he will ask me to fill in.	.67
7. My manager offers me more resources compared to other group members.	.91
8. My manager share more information with me compared to other group members.	.90
LMXAD	
1. I have a better relationship with my manager than most others (working with different managers) at the company.	.84
2. Relative to average others working with other managers, I receive more support from my manager at the company.	.89
3. The working relationship I have with my manager is more effective than the relationships most others have with other managers.	.83
4. My manager is more loyal to me compared to how other managers are loyal to other colleagues.	.90
5. My manager enjoys my company more than other managers enjoy the company of their subordinates.	.76
6. My manager offers me more resources compared to how other managers offers resources their subordinates.	.91
7. My manager share more information with me compared to how other managers share information with their subordinates.	.91