

EMOTIONAL INTELLIGENCE, LEADER-MEMBER EXCHANGE, AND BEHAVIORAL  
ENGAGEMENT: CONSIDERING MEDIATION AND RECIPROCITY EFFECTS

BY

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## ABSTRACT\*

Leader-member exchange (LMX) is a dyadic concept that describes the content and quality of a relationship between leader and follower. In order to better understand LMX as a dyadic construct, I investigate both leader and follower contributions to the leader-member exchange relationship. The current study proposes to make four contributions to LMX research: (a) evaluating ability-based emotional intelligence (EI) as a common antecedent of follower LMX, job satisfaction, and *behavioral engagement* (i.e., a composite of job performance, citizenship, and withdrawal), (b) proposing LMX as a relational construct that mediates the effects of EI on job satisfaction and behavior at work, (c) evaluating the role of LMX reciprocity (i.e., the extent to which leader contributions to the LMX relationship are matched by follower LMX contributions and vice versa) in predicting follower job satisfaction and behavioral engagement, and (d) providing initial evidence for the interrelationships among both leader and follower EI, LMX perceptions, job satisfaction and behavioral engagement, within the framework of Kenny, Kashy, and Cook's (2006) Actor-Partner Interdependence Model (APIM). Results from two studies suggest: (a) follower ability-based EI is a robust predictor of self-reported job satisfaction and behavioral engagement (even after controlling for cognitive ability and Big Five personality traits), (b) LMX is not an important mediator of EI effects, although it strongly and independently predicts both job satisfaction and behavioral engagement, (c) LMX reciprocity effects are inconsistent, and (d) pilot data on the APIM imply strong actor effects of LMX on behavioral engagement but more modest partner effects of LMX provisions on one's partner's satisfaction and behavior. Implications for incorporating both EI and LMX as independent antecedents of job satisfaction, job performance, organizational citizenship behavior, and withdrawal are discussed.

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## CHAPTER 1

### INTRODUCTION

The leader-follower relationship has been studied for several decades as leader-member exchange (LMX; also known as vertical dyadic linkage), a theory based on the premise that leaders form a unique exchange relationship with each follower (Dansereau, Graen, & Haga, 1975). This relationship-based approach to leadership has roots in social exchange theory (Blau, 1964; Foa & Foa, 1974; Homans, 1950) and proposes that high quality relationships are characterized by trust, respect, loyalty, liking, intimacy, support, openness, and honesty (Graen & Scandura, 1987). Since the introduction of LMX theory, modern emotion theory has recognized the important role that emotions play in the development and maintenance of interpersonal relationships (Fischer & Manstead, 2008; Frijda & Mesquita, 1994; Keltner & Haidt, 1999). Specifically, social-functional theory of emotion argues that emotions serve social bonding functions and social distancing functions (Fischer & Manstead, 2008) that enhance or diminish interpersonal liking. Similarly, social exchange theory of emotion suggests that the display of positive emotion is an essential part of the social exchange process in interpersonal relationships (Lawler & Thye, 2007). Because of the social functions served by emotions and the relational nature of LMX theory, the current work proposes that emotional competence is a key substrate for the development of LMX relationships. The current paper takes an individual differences approach towards emotion and LMX by theoretically explicating how the ability to understand and regulate emotion predicts leader and follower perceptions of LMX relationship quality. Furthermore, recognizing that LMX reviews have shown the construct to be related to important work outcomes (Gerstner & Day, 1997), it is also proposed that LMX plays a role as a mediator of the effects of emotional competence on both leader and follower behavioral work engagement (Harrison, Newman, & Roth, 2006), or an individual's contribution of effort toward the work role.

In sum, the current paper contributes to LMX theory by (a) evaluating emotional-competence antecedents of LMX, (b) evaluating both leader and follower job satisfaction and behavioral engagement as outcomes of LMX, (c) evaluating the role of LMX reciprocity (i.e., whether leader contributions to the

LMX relationship are matched by follower contribution to the LMX relationship) in predicting follower job satisfaction and leader and follower behavioral engagement.

## Leader Member Exchange

### *Background*

Since the introduction of LMX in the mid-seventies (Dansereau, Cashman, & Graen, 1973; Dansereau et al., 1975), various definitions and labels have been used to describe the construct, including negotiating latitude (McClane, 1991a; McClane, 1991b), individualized leadership (Dansereau, 1995), and maturity of the relationship (Graen & Uhl-Bien, 1991). However, a broad review suggests that a consensus of LMX research defines the construct as the *quality of the exchange relationship between a leader and follower* (Schriesheim, Castro, & Cogliser, 1999). Although the quality of the exchange has typically been studied as a global construct (Joseph, Newman, & Sin, 2011), Liden and Maslyn (1998; see also Dienesch & Liden 1986) have proposed and found support for four “currencies of exchange” (p. 45) or dimensions of LMX: affect, loyalty, contribution, and professional respect. According to these authors, *affect* refers to mutual affection, liking, and interpersonal attraction. *Loyalty* involves public expression of support for the opposite member of the dyad. *Contribution* is defined as whether the dyad member is perceived as advancing mutual goals through work-oriented activity. Finally, *professional respect* pertains to the work-related reputation of a dyad member. The current paper treats these four currencies of exchange as reflections of a single, higher-order LMX construct (consistent with over 80% of published research on LMX; Joseph et al., 2011), and uses the broad LMX construct to theoretically elaborate the relationships among emotional intelligence, leader-member relations, and work outcomes.

### *LMX as a Dyadic Phenomenon*

Inherent in the definition and dimensions of LMX is the understanding that LMX exists at the level of the dyad. Recognizing that LMX is a dyadic phenomenon, the appropriate level of analysis for theoretical and empirical work on LMX should be the leader-follower pair (Graen & Cashman, 1975). However, literature reviews of LMX have shown LMX is rarely studied at the level of the dyad (Schriesheim et al., 1999; Yammarino, Dionne, Chun, & Dansereau, 2005). For example, Schriesheim et

al. counted only 10 of 137 LMX studies reviewed that were analyzed at the appropriate level, given the theoretical development of the paper. Similarly, Yammarino et al. noted that only five of the 35 LMX studies included in their review were at the appropriate level of analysis (i.e., the theoretical development matched the level of analysis). In order to avoid this common mistake, the current paper will attempt to focus on proper alignment of theory, design, and analysis by studying the LMX construct as a dyadic phenomenon.

To begin, it is important to specify the full range of LMX resources that are exchanged in the leader-follower dyadic relationship. Specifically, the complete dyadic relationship between a leader and follower involves both follower contributions to the exchange relationship, or *follower provisions*, and leader contributions to the exchange relationship, or *leader provisions*. These provisions may involve intangible resources such as those specified in the dimensions of LMX [i.e., affect, loyalty, contribution (which can include tangible behavioral contributions), or professional respect; Liden & Maslyn, 1998], or LMX provisions may include a broader exchange of both intangible and tangible resources such as those specified by Wilson, Sin, and Conlon (i.e., affiliation, status, service, information, goods, money; 2010) or Ferris et al. (i.e., affect, loyalty, contribution, professional respect, support, trust, attention, obligation, influence, delegation, latitude, and innovativeness; 2009). Both follower provisions and leader provisions are potentially important, although most studies focus only on the former (see discussion above). To examine LMX as a dyadic phenomenon, the current paper theoretically and empirically relates both follower and leader LMX provisions to emotional intelligence and work outcomes in order to avoid investigating only half of the dyadic exchange (i.e., leader or follower LMX provisions only), as is typical of previous LMX research.

The current paper's simultaneous consideration of both leader and follower provisions is accomplished via two studies. First, in Study 1 I will investigate reciprocity effects—or the outcomes of *fit* between follower perceptions of leader provisions and follower perceptions of their own, follower provisions. A reciprocity effect suggests improved outcomes when the magnitude of follower provisions is matched with the magnitude of leader provisions (i.e., there is balance between the contributions of one

party and the contributions of the other party). Reciprocity effects are investigated via polynomial regression (Edwards, 2002). In Study 2, I consider both leader and follower provisions simultaneously by using Kenny et al.'s (2006) Actor-Partner Interdependence Model (APIM), which allows for estimation of *actor effects*, or the effect of a dyad member's level of an independent variable on his or her own levels of the dependent variable (e.g., leader's conscientiousness predicts leader's satisfaction), and *partner effects*, or the effect of a dyad member's level of an independent variable on the other member's level of the dependent variable (e.g., leader's conscientiousness predicts follower's satisfaction). The specification of partner effects, which are generally ignored in organizational research (cf. Yakovleva, Reilly, & Werko, 2010) permits the examination of unique relational phenomena pertaining to LMX. The current paper uses the APIM model to explore actor and partner effects of individual differences in emotional intelligence on both follower LMX provisions and leader LMX provisions and actor and partner effects of leader and follower LMX provisions on leader and follower job satisfaction and behavioral engagement. I derive and elaborate several specific hypotheses below.

#### The Role of Emotions in LMX

For several decades, theories of emotion have specified that emotions serve a variety functions (Frijda, 1986; Lazarus, 1991; Rolls, 2002). Classic functional approaches to emotion have recognized the adaptive function of emotion, or the propensity for emotion to aid in evolutionary survival (Cosmides & Tooby, 2000; Darwin, 1872; Hammond, 2007; Tooby & Cosmides, 1990). In contrast, more recent theories involving emotion have focused on the social function of emotion, or the tendency for emotion to help establish and maintain relationships (Fischer & Manstead, 2008; Frijda & Mesquita, 1994; Keltner & Haidt, 1999). Given the relational nature of LMX, emotions likely play a key role in understanding leader and follower LMX contributions to the dyadic relationship. Specifically, social-functional emotion theory argues that emotion serves interpersonal functions at the individual, dyadic, group, and cultural levels of analysis (Keltner & Haidt, 1999). At the individual level, social-functional emotion theory proposes that intraindividual changes in emotion can inform the individual of social conditions; whereas at the group level, emotions are proposed to help define group boundaries; and at the cultural level, emotions can

transmit norms and values of a particular culture. Given that LMX is a dyadic phenomenon, I focus on the dyadic level of analysis for the current paper. At this level, social-functional emotion theory proposes that emotions serve three specific interpersonal functions. First, emotions help individuals in recognizing others' emotions, beliefs, and intentions in order to coordinate social interaction. For example, when a leader displays excitement toward an impending change in the organization, it may lead followers to develop similar excitement, thus coordinating all employees for the change. Second, expressed emotions evoke complementary emotions in others in order to respond to events, such as when a follower's frustration is recognized by a leader, who responds with an expression of warmth and support. Third, emotions function as incentives or deterrents for others' behavior, such as when a leader smiles to recognize good follower behavior and expresses anger to punish bad behavior.

In addition to social-functional emotion theory, social exchange theory also provides justification for the incorporation of emotion into LMX. Early social exchange theory, on which LMX theory was based, incorporated emotion to explain the strength of social relations. Homans (1950) referred to sentiments, or internal states including affection, sympathy, and antagonism, as part of the exchange process that are central to the development of exchange relationships. From this work, a modern social exchange theory of emotion has been developed (Lawler & Thye, 2007) in which positive emotions create affective attachment to the exchange unit and negative emotions serve to detach a member from the exchange unit. This is similar to social-functional theory of emotion in that emotions are central to the process of relationship establishment and maintenance. Therefore, both theories provide support for the notion that emotion is fundamental in understanding LMX relationships.

### Emotional Intelligence

We extend the above theoretical work by proposing that emotions are not only important in LMX relationships, but specifically that individual differences in *emotion-related ability* are a key factor in the establishment of LMX. That is, the ability to understand and regulate emotion may predict the quality of the LMX relationship between a leader and follower. The abilities to perceive, understand, and regulate emotion are three core dimensions of *emotional intelligence* (EI), a concept formally defined as “the



ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought” (Mayer, Roberts, & Barsade, 2008, p. 511). The ability to perceive emotion is defined as the ability to identify emotions in oneself and others, as well as in additional stimuli including stories, music, art, etc. (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Mayer & Salovey, 1997). Emotion understanding is described as a body of emotional knowledge, including knowing how emotions change over time, how emotions differ from each other, and the appropriate emotional display for a given context (Mayer & Salovey, 1997). Finally, the ability to regulate emotion involves the ability to monitor and manage emotions to be in accordance with display rules (Joseph & Newman, 2010; Mayer & Salovey, 1997). It should be noted that the current paper intentionally excludes a fourth dimension of EI, known as *emotion facilitation* (Mayer & Salovey, 1997). Previous research has shown this fourth dimension to be conceptually and empirically redundant with the other three EI dimensions, and factor models including this fourth dimension tend to exhibit poor fit (Fan, Jackson, Yang, Tang, Zhang, 2010; Gignac, 2005; Palmer, Gignac, Manocha, & Stough, 2005; Rossen, Kranzler, & Algina, 2008). Therefore, the emotion facilitation dimension of EI has been excluded from the current paper’s conceptualization of emotional intelligence.

It is also important to note that the current discussion of EI only refers to *ability-based models of EI* (Daus & Ashkanasy, 2005). To elaborate, the label “emotional intelligence” is actually ascribed to two relatively distinct constructs, known as *ability-model EI* and *mixed-model EI* (the corrected meta-analytic correlation between these two constructs is .26; Joseph & Newman, 2010). Ability models posit that EI is a type of intelligence, which is consistent with the label “emotional intelligence” and with the Mayer et al. (2008) definition of EI. In contrast, mixed models characterize EI as “an array of noncognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (Bar-On, 1997, p. 14; see also, Goleman, 1995). Because mixed models define EI as a hodge-podge of everything except cognitive ability (Joseph & Newman, 2010) — including personality, motivation, etc.— they have received much criticism (Elfenbein, 2008; Locke, 2005; Matthews, Zeidner, & Roberts, 2002; Murphy, 2006; Zeidner, Matthews, & Roberts, 2004) and will not

be used in the current paper. From this point forward, I use the term “EI” to refer exclusively to ability-based models of emotional intelligence.

### The Role of Emotional Intelligence in LMX

Regarding the relationship between EI and LMX, I propose that individuals who can intelligently perceive, understand, and regulate emotions are likely to maximize the interpersonal functions of emotion and thus establish higher-quality LMX bonds. This position assumes that both leaders and followers are motivated to establish and maintain higher-quality LMX relationships. Given the importance of emotion in LMX relationships as suggested by a social-functional theory of emotion and social exchange emotion theory (Fischer & Manstead, 2008; Homans, 1950; Keltner & Haidt, 1999; Lawler & Thye, 2007), it is expected that individuals high in EI are better able to understand and regulate emotions in a way that is beneficial for the exchange.

To elaborate on why EI is expected to be positively related to LMX, I begin by noting that leaders and followers who possess the ability to regulate emotion effectively can induce positive emotions and avoid negative emotions when necessary, and these emotional displays serve important social functions. Social-functional emotion theory (Fischer & Manstead, 2008) proposes that positive emotional displays act as “social glue,” serving an affiliation function that establishes or maintains harmonious relations between individuals. Conversely, negative emotional displays are proposed to act as “social repellants” that provide a social distancing function in relationships. Individuals high in EI are able to induce positive emotional displays and avoid negative emotional displays, thereby maximizing the affiliation function of and minimizing the distancing functions of emotional displays. As a result, social-functional theory of emotion suggests dyadic reports of interpersonal liking and friendship are increased (Shiota, Campos, Keltner, & Hertenstein, 2004). This logic can be applied to the context of the LMX relationship, where an individual who possesses EI can use the “social glue” of positive emotional displays to bond the LMX relationship. Restated, EI is expected to be positively related to LMX because those high in EI can take advantage of the social functions of emotional displays by displaying positive emotions when interacting with their dyadic other, resulting in LMX perceptions of affect and liking.

Second, it has been previously suggested that emotional intelligence includes the ability to select more authentic emotion regulation strategies (i.e., deep acting) over less authentic emotion regulation strategies (i.e., surface acting). *Surface acting* is an emotion regulation strategy that involves the alteration of facial expression to match display rules, while *deep acting* refers to actual modification of felt emotions in order to match display rules (Grandey, 2000, 2003; Hochschild, 1983). Recent theoretical work has proposed that leader surface acting is negatively related to follower perceptions of leader authenticity (Gardner, Fischer, & Hunt, 2009), which is supported by empirical evidence in which surface acting is negatively related to ratings of authenticity (Brotheridge & Lee, 2002; Shulei & Miner, 2006). Follower feelings of inauthenticity may spill over into general feelings that a leader is “faking in bad faith” (Gardner, et al., p. 471) or lacking trustworthiness, which may be reflected in ratings of reduced LMX provisions (Liden & Maslyn, 1998). In other words, repeated use of weak emotion regulation strategies (i.e., surface acting) may eventually indicate to a follower a sense of duplicity in the leader’s emotions. In general, these evaluations of inauthentic and duplicitous leader behavior will likely result in decreased follower ratings of leader LMX provisions.

In contrast, deep acting emotion regulation strategies are theoretically unrelated to feelings of disloyalty, because deep acting involves modification of felt emotions, resulting in fewer feelings of inauthenticity (Brotheridge & Lee, 2002; Gardner et al., 2009; Shulei & Miner, 2006). Therefore, while leader surface acting likely causes follower perceptions of disloyalty, leader deep acting does not. Therefore, it is expected that leaders with high emotional intelligence will engage in less surface acting and more deep acting, which will result in higher follower perceptions of leader LMX provisions.

Third, the choice of emotion regulation strategy (i.e., surface acting vs. deep acting) may also be important for contributions to the task-related elements of the LMX relationship (i.e., the LMX dimension of contribution). Self-regulation theory argues that individuals have a finite resource pool available for task performance (Baumeister, 2002; Muraven, Tice, & Baumeister, 1998; Vohs & Heatherton, 2000) and emotional labor research suggests the extent to which the resource pool is “drained” is related to choice of regulation strategy. As argued by Joseph and Newman (2010), individuals high in EI are expected to

choose regulation strategies that result in a smaller drain on the resource pool (i.e., deep acting), which leaves more self-regulatory resources available for task-related contributions to the exchange relationship. Therefore, in LMX relationships, leaders and followers who have high EI should avoid regulatory strategies that deplete the resource pool, allowing resources to be devoted to task-related activities and subsequent LMX perceptions of contribution. To summarize, social functional theory of emotion and emotional labor theory predict that individuals high in EI can induce appropriate emotional displays and choose appropriate emotion regulation strategies in order to enhance the LMX relationship.

Past theorizing and research have directly considered the EI-leadership connection (e.g., see Harms & Crede, 2010). Although extravagant theoretical claims relating EI to leadership have been made in the popular press (e.g., “emotional intelligence is the sine qua non of leadership”, Goleman, 1998a, p. 94; leader EI makes up 80 to 100 percent of the ingredients necessary for success, Goleman, 1998b, p. 187), only a handful of published studies have measured both EI and LMX to date. In Whitman’s (2009) meta-analytic review of the ability EI and LMX relationship, he notes an overall corrected mean correlation of  $r = .24$  between EI and LMX, based on five primary studies. A PsycINFO keyword search for leader-member exchange and ability emotional intelligence revealed six studies measuring both LMX and EI (Cote & Miners, 2006; Gordon, 2007; Huang, Chan, Lam, & Nan, 2010; Schmidt, 2006; Webb, 2007; Yu & Yuan, 2008). Of these six studies, five were written in English (Yu & Yuan, 2008 is published in Chinese), and all five of these measured LMX using the unidimensional LMX-7 scale (Scandura & Graen, 1984). Four of the five previous studies on the EI-LMX relationship (in English) used the Wong and Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002) to measure EI. The WLEIS is a self-report measure of EI which has been shown to have a strong meta-analytic relationship with mixed EI (corrected  $r = .59$ ; Joseph & Newman, 2010) and weak relationships with traditional, right-wrong multiple-choice measures of ability EI (corrected  $r = .12$ ; Joseph & Newman, 2010). These meta-analytic findings suggest the Wong and Law scale may be a better measure of mixed EI than of ability EI. Ultimately, only one previous study has investigated the relationship between properly-measured ability EI and LMX (Cote & Miners, 2006). This study showed a latent correlation of .25

between follower EI and leader-reported LMX (measured via the LMX-7 scale), consistent with the above theoretical argument about the positive functional utility of EI for interpersonal relationships.

In sum, I hypothesize both actor and partner EI effects on LMX. These hypotheses are also displayed as part of Figure 1.

*Hypothesis 1a: Follower emotional intelligence will be positively related to follower LMX provisions.*

*Hypothesis 1b: Follower emotional intelligence will be positively related to leader LMX provisions.*

*Hypothesis 1c: Leader emotional intelligence will be positively related to leader LMX provisions.*

*Hypothesis 1d: Leader emotional intelligence will be positively related to follower LMX provisions.*

## LMX and Work Outcomes

### *Job Satisfaction*

As argued by Venkataramani, Green, and Schleicher (2010), the benefits of high-quality social exchange relationships in organizations can induce followers to reciprocate with positive perceptions of the work environment, resulting in the often-studied positive relationship between follower LMX provisions and follower job satisfaction. That is, followers who contribute resources to their LMX relationship may enjoy benefits such as access to scarce resources or greater autonomy, which, in turn, increase follower job satisfaction. Previous studies have repeatedly demonstrated a positive relationship between follower LMX provisions [which are typically operationalized as the original items on the LMX-7 (Scandura & Graen, 1984) or LMX-MDM (Liden & Maslyn, 1998) scales] and follower job satisfaction (e.g., Gerstner & Day, 1997; Golden & Veiga, 2005; Graen, Liden, & Hoel, 1982; Major, Kozlowski, & Chao, 1995; Schriesheim, Scandura, Eisenbach, & Neider, 1992), with meta-analytic evidence showing follower LMX provisions are positively related to follower overall satisfaction (corrected correlation = .50; Gerstner & Day, 1997). More recent theory has noted that while LMX research traditionally focuses on follower outcomes, leaders are expected to receive valuable outcomes from LMX relationships as well (Wilson et al., 2010). Specifically, using Foa and Foa's (1974) resource exchange theory, Wilson et al.

(2010) proposed that leaders' contribution to the LMX relationship can generate certain benefits that shape leaders' attitudes toward the job in general. For example, a leader who withholds her LMX provisions from the exchange relationship may find that her followers do not advocate on her behalf, do not meet her performance expectations, and may relay negative perceptions of the leader to other followers, causing these effects to spillover to other LMX relationships. As a result, the leader's job satisfaction may suffer. Based on the previous findings that follower LMX provisions are related to follower job satisfaction, and also the notion from Wilson et al.'s theoretical development that leader LMX provisions can shape general work attitudes, the current paper proposes *actor effects* whereby one's own contribution to the LMX relationship yields benefits to the individual that are reflected in an increase in one's own job satisfaction (i.e., follower and leader LMX provisions are positively related to follower and leader job satisfaction, respectively; Figure 1).

*Hypothesis 2a: Follower LMX provisions will be positively related to follower job satisfaction.*

*Hypothesis 2b: Leader LMX provisions will be positively related to leader job satisfaction.*

Whereas Hypothesis 2a and 2b specify *actor effects*, the relationships between LMX perceptions and job satisfaction are also expected to demonstrate *partner effects*. To elaborate, a leader's contribution to the LMX relationship would likely create a work environment for the follower that matches the quality of the exchange. For example, a leader who contributes few resources to the LMX relationship may display negative affect toward the follower, spend less time with the follower, and offer the follower fewer task-related opportunities, which could create an unpleasant work environment for the follower and result in reduced follower job satisfaction. Therefore, one would expect a positive relationship between a leader's LMX provisions and follower job satisfaction. The same expectation holds for followers who contribute little to the LMX relationship with their leaders. In this case, a follower may be interpersonally disrespectful to the leader, withhold task contributions, and discuss the poor quality relationship with others, which may create an unpleasant work environment for the leader. This notion that follower LMX provisions are positively related to leader job satisfaction was theoretically enumerated by Wilson et al. (2010) who developed a taxonomy of resources provided by followers that may enhance a leader's job

satisfaction (or hinder job satisfaction when the resources are not provided). This taxonomy includes information-related resources (e.g., information from other peers), status-related resources (e.g., admiration and respect), affiliation-related resources (e.g., inclusion in after-work social events), and service-related resources (e.g., effort and performance), all of which are proposed to be positively related to leader satisfaction when provided by the follower. Therefore, leader and follower LMX provisions are expected to display partner effects with follower and leader job satisfaction, respectively (Figure 1).

*Hypothesis 3a: Leader LMX provisions will be positively related to follower job satisfaction.*

*Hypothesis 3b: Follower LMX provisions will be positively related to leader job satisfaction.*

### *Behavioral Engagement*

Several summaries of the LMX literature have estimated the relationship between follower LMX provisions and follower work behaviors including task performance, organizational citizenship behavior (OCB), and withdrawal, with results confirming positive relationships of LMX with task performance ( $r_{\text{corrected}} = .30$ ; Gerstner & Day, 1997) and OCB ( $r_{\text{corrected}} = .37$ ; Ilies, Nahrgang, & Morgeson, 2007; see also Hackett, Farh, Song, & Lapierre, 2003), and negative relationships of LMX to withdrawal ( $r_{\text{corrected}} = -.31$ ; Gerstner & Day, 1997). Wilson et al.'s (2010) theoretical work on leader outcomes of LMX has also proposed a similar effect for leader outcomes whereby leader LMX provisions create benefits for the leader that afford the leader opportunities for increased task performance, OCB, and fewer withdrawal behaviors.

In light of theory and evidence suggesting job performance, OCB, and withdrawal as behavioral outcomes of high-quality LMX relationships, I note a related attempt by Harrison et al. (2006) to conceptualize these three behavioral manifestations (task performance, OCB, and withdrawal behavior) as reflecting a common motivational construct, defined as an individual's contribution of effort toward the work role. This broad behavioral construct has been labeled *behavioral engagement* (Newman & Harrison, 2008). The behavioral engagement construct represents the shared content among task performance, OCB, and withdrawal, and is supported via large-scale meta-analytic evidence of the covariation among these three widely-studied criteria (Harrison et al., 2006; Newman, Joseph, & Hulin,

2010). Given that the quality of relational ties represents an important investment in one's work role (Mossholder, Settoon, & Henagan, 2005; Wayne, Shore, & Liden, 1997), I hypothesize that one's own LMX provisions will be positively related to his/her generic behavioral contribution to the work role, as indexed by the behavioral engagement concept (i.e., an actor effect; Figure 1).

*Hypothesis 4a: Follower LMX provisions will be positively related to follower behavioral engagement.*

*Hypothesis 4b: Leader LMX provisions will be positively related to leader behavioral engagement.*

In addition to the specification of *actor effects* relating LMX provisions to behavioral engagement, the current paper also proposes *partner effects*, whereby leader LMX provisions are expected to be positively related to follower behavioral engagement, and follower LMX provisions are expected to be positively related to leader behavioral engagement. According to social exchange theory, a leader or follower who receives substantial LMX provisions from the dyadic other should reciprocate the exchange using the currency of LMX-related resources (e.g., information, displays of liking) and also behavioral contributions to the work role (e.g., task performance, OCB, and lack of withdrawal). Therefore, the current paper hypothesizes that leader LMX provisions will be reciprocated with follower behavioral engagement, and follower LMX provisions will be reciprocated with leader behavioral engagement (Figure 1).

*Hypothesis 5a: Leader LMX provisions will be positively related to follower behavioral engagement.*

*Hypothesis 5b: Follower LMX provisions will be positively related to leader behavioral engagement.*

#### LMX Agreement and LMX Reciprocity

One area of LMX research in which the empirical data have diverged from the original theory is in the lack of evidence that the LMX bond is a uniformly dyad-level perception, about which leaders and followers mutually agree. [Here, *agreement* refers to congruence/correlation between the leaders' and followers' perceptions regarding the extent of the LMX provisions (e.g., the leader and follower both agree that the follower admires the leader). Glibkowski, Chaudhry, and Wayne (2007) have also referred



to this as *mutuality*).] Instead, meta-analytic evidence has shown leaders and followers typically do not exhibit high levels of agreement regarding the quality of the exchange relationship (Gerstner & Day, 1997; Sin, Nahrgang, & Morgeson, 2009). Recent research has also shown that the strength of agreement on leader LMX provisions moderates the LMX-attitudes relationship and the relationship between LMX perceptions and follower work behavior (Markham, Yammarino, Murry, & Palanski, 2010) such that the relationships between LMX and follower job satisfaction/task performance are stronger when the leader and follower agree on the leader's LMX provisions. Similarly, Cogliser, Schriesheim, Scandura, and Gardner (2009) demonstrated higher job satisfaction and task performance in dyads that displayed high LMX agreement on leader LMX provisions.

While this research appears to suggest LMX agreement is an important moderator of the LMX-attitudes/performance relationship, one little-studied effect in LMX research is the extent to which there exists parity in the social exchange between leader and follower. That is, while LMX *agreement* research has studied the extent to which the leader and follower agree that one member of the LMX dyad provides affect, loyalty, task contributions and professional respect to the dyadic other, research has generally ignored LMX *reciprocity*, or whether the employee's contributions are reciprocated or matched by the dyadic other. To clarify, the difference between LMX agreement and LMX reciprocity is depicted in Figure 2. LMX Agreement is actually a comparison between the two columns in Figure 2 (i.e., a leader report vs. a follower report), which is a comparison of two methods used to assess the same construct (i.e., where the construct is either leader provisions or follower LMX provisions). In contrast, LMX reciprocity involves a comparison between the two rows in Figure 2 (i.e., leader provisions vs. follower provisions), which is a comparison of the match between two separate constructs. The current paper focuses on the lesser-studied of the two concepts, LMX reciprocity.

According to social exchange theory, positive outcomes accrue to the extent that employer inducements match employee contributions (Adams, 1965; Dabos & Rousseau, 2004; Greenberg, 1990). That is, social exchange works when there is a balance struck between the "gives" and the "gets" (Gouldner, 1960). Similarly, met expectations theory, or the notion that the amount of discrepancy

between what a person expects to encounter on the job and what he/she actually encounters is related to subsequent employee attitudes and behavior (Porter & Steers, 1973; Wanous, 1977), can be applied to an LMX context to predict the outcome of a reciprocated LMX relationship. LMX follower inducements likely reflect how the follower expects to be interpersonally treated by the leader (e.g., a follower who offers respect toward his/her leader is likely to expect respect in return). When followers are treated as they expect to be treated (i.e., LMX follower provisions are matched by a similar level of LMX leader provisions), the met expectations hypothesis suggests job satisfaction and behavioral engagement are likely to be enhanced. Therefore, it is hypothesized that follower job satisfaction and behavioral engagement will be increased when there is a match between the follower's contributions to the relationship and the leader's contributions to the relationship (i.e., when there is reciprocity, or balance, between leader and follower LMX provisions). Similarly, it is also hypothesized that leader behavioral engagement will be increased when there is reciprocity between follower and leader LMX provisions (a reciprocity effect for supervisor job satisfaction is not hypothesized, because it could not be tested in the current paper due to absence of leader job satisfaction measures in Study 1 and inadequate sample size for self-reported leader job satisfaction in Study 2).

*Hypothesis 6a: Follower job satisfaction will be higher when reciprocity between leader and follower LMX provisions is strong, versus when reciprocity is weak.*

*Hypothesis 6b: Follower behavioral engagement will be higher when reciprocity between leader and follower LMX provisions is strong, versus when reciprocity is weak.*

*Hypothesis 6c: Leader behavioral engagement will be higher when reciprocity between leader and follower LMX provisions is strong versus when reciprocity is weak.*

In addition to specifying how LMX reciprocity of leader and follower LMX provisions will affect follower job satisfaction and follower/leader behavioral engagement, it is also important to note that job satisfaction and behavioral engagement are likely to be stronger not only when leaders and followers reciprocate LMX provisions, but also when LMX provisions are high rather than low. That is, the best-case scenario for enhancing job satisfaction and behavioral engagement is expected to be when leader and follower LMX provisions are matched and the absolute level of these provisions is high (e.g., the leader

and follower have high respect for each other) rather than low (e.g., the leader and follower do not respect each other). Therefore, LMX reciprocity *and* the absolute level of leader and follower LMX provisions are hypothesized to influence follower job satisfaction and follower/leader behavioral engagement.

*Hypothesis 7a: Follower job satisfaction will be higher when leader and follower LMX provisions are reciprocated and LMX provisions are high rather than low.*

*Hypothesis 7b: Follower behavioral engagement will be higher when leader and follower LMX provisions are reciprocated and LMX provisions are high rather than low.*

*Hypothesis 7c: Leader behavioral engagement will be higher when leader and follower LMX provisions are reciprocated and LMX provisions are high rather than low.*

Finally, when LMX reciprocity does not exist (i.e., follower provisions are not matched by leader provisions), it is proposed that the effect of inequity in LMX provisions would have the greatest reduction in follower job satisfaction and behavioral engagement when leader LMX provisions are lower than follower LMX provisions. In other words, if a follower is giving more than she is receiving (e.g., she respects her leader but this respect is not returned by the leader), her general evaluation of her job and behavioral contribution to the work role are proposed to suffer more than if she is receiving more than she is giving (e.g., she does not respect her leader, but her leader respects her). Similarly, when considering leader behavioral engagement, it is expected that leader behavioral engagement will be hindered more when the leader is giving more than she is receiving (i.e., leader LMX provisions are greater than follower LMX provisions) rather than when the leader is receiving more than she is giving (i.e., follower LMX provisions are greater than leader LMX provisions). These hypotheses are supported by early work on equity theory suggesting that perceived underpayments (e.g., when the provisions contributed to the LMX relationship are greater than the provisions received from the LMX relationship) result in greater dissatisfaction and performance decrements than overpayments (Campbell & Pritchard, 1976; Greenberg, 1982; Greenberg & Ornstein, 1983; Mowday, 1979; Mowday, 1996; Pritchard, 1969). Therefore, I expected job satisfaction and behavioral engagement to be higher when followers or leaders are overpaid in LMX provisions rather than when they are underpaid in LMX provisions.

*Hypothesis 8a: Follower job satisfaction will be higher when leader LMX provisions are greater than follower LMX provisions, rather than when follower LMX provisions are greater than leader LMX provisions.*

*Hypothesis 8b: Follower behavioral engagement will be higher when leader LMX provisions are greater than follower LMX provisions, rather than when follower LMX provisions are greater than leader LMX provisions.*

*Hypothesis 8c: Leader behavioral engagement will be higher when follower LMX provisions are greater than leader LMX provisions, rather than when follower LMX provisions are less than leader LMX provisions.*

## CHAPTER 2

### STUDY 1

#### Method

Recognizing that LMX is a dyadic phenomenon, there are several study designs and corresponding analytic techniques available to capture the relational quality of the construct. The variations in study design can generally be captured by whether (a) the employee reports on follower LMX provisions, reports on leader LMX provisions, or reports on both, (b) LMX provisions are reported by the leader, follower, or both leader and follower, and (c) whether the leader-follower dyads are independent (each leader has only one follower) or non-independent (each leader has multiple followers). In order to assess the full dyadic relationship, it is most appropriate to assess both leader and follower provisions with both leader and follower reports. Because current analytic techniques are lacking for empirical tests of actor and partner effects such as those specified in the current paper when leader-follower dyads are non-independent, the current paper employs a design consisting of independent dyads only. [Markham et al. (2010) have used empirical evidence to suggest that even when the data structure is such that dyads are nested within leaders, LMX primarily operates at the level of independent dyads rather than dependent dyads, reaffirming the choice to use an independent-dyad study design.] In Study 1, leader LMX provisions, follower LMX provisions, follower EI, follower job satisfaction, and both leader and follower behavioral engagement were reported by followers within independent dyads. In Study 1, LMX reciprocity effects (Hypotheses 6, 7, and 8) were tested along with the basic EI-LMX mediation model presented in Figure 3 (i.e., Figure 3 is taken from the bottom half of the full APIM model presented in Figure 1, but focuses on followers only). I chose to test this half of the APIM model as an initial test of the idea that LMX is a mediator of the relationship between EI and behavioral engagement/job satisfaction. In Study 2, both follower *and* leader reports of EI, follower and leader LMX provisions, job satisfaction, and behavioral engagement within independent dyads were obtained in order to test the full APIM model (Kenny et al., 2006; see Figure 1). However, due to extremely limited sample sizes in Study 2, the full APIM results for Study 2 are interpreted as preliminary.

### *Study 1 Sample*

A multi-organizational sample of 1013 employees (371 women, 639 men; 2.28% African American, 72.15% Asian, 18.53% Caucasian, 0.59% Hispanic, 6.44% “other”; 69.40% under 30 years of age, 20.73% between 30 and 39 years old, 6.52% between 40 and 49 years old, 2.27% between 50 and 59 years old, 1.09% over 60 years old; 2.28% with some high school, 11.78% with a high school degree, 8.42% with an Associate’s degree, 52.87% with a Bachelor’s degree, 24.06% with a Master’s degree, 0.59% with a Doctoral degree) were recruited from an online data collection service. Research on the use of the Amazon.com MTurk data collection tool has revealed that MTurk participants tend to be more representative of the U.S. population than the typical Internet sample, more diverse than the typical U.S. undergraduate sample (Buhrmester, Kwang, & Gosling, 2011), and participants tend to be as attentive to responding carefully as those in the the typical U.S. sample (Paolacci, Chandler, & Ipeirotis, 2010). Furthermore, scholarly work on MTurk samples has suggested the data obtained from these samples are as reliable as data obtained from traditional methods (Buhrmester et al., 2011) and the quality of the data can be greatly increased through the inclusion of quality control items (Barger & Sinar, 2011). Thus, the current data collection involved the use of two quality control items (“For quality control purposes, please enter ‘D’ as the answer to this question” and “For quality control purposes, please enter ‘B’ as the answer to this question”) placed at the middle and end of the survey. All participants who failed to correctly answer these two items (N = 133) were excluded from the analyses. Participants were also asked to report whether they were unemployed, employed part-time, or employed full-time, and how often they interacted with their supervisor at work (“Less than once a month”, “Once a month or so”, “Once a week or so”, “Daily”, or “Hourly”). Participants who reported being unemployed (N = 180) or reported interacting with their supervisor “Less than once a month” (N = 54) or “Once a month or so” (N = 51) were also excluded from the analyses. The final sample (excluding participants who answered either quality control item incorrectly, were unemployed, or who did not interact with their supervisor at least “Once a week or so”) consisted of 588 participants (217 women, 368 men; 2.91% African American, 68.38% Asian, 22.56% Caucasian, 1.03% Hispanic, 5.13% “other”; 67.46% under 30 years of age,

22.83% between 30 and 39 years old, 6.13% between 40 and 49 years old, 2.21% between 50 and 59 years old, 1.36% over 60 years old; 2.06% with some high school, 10.46% with a high school degree, 7.38% with an Associate's degree, 53.17% with a Bachelor's degree, 25.90% with a Master's degree, 1.03% with a Doctoral degree; 39.80% employed part-time, 60.20% employed full-time). In this final sample, the mean tenure in one's organization was 3.78 years ( $SD = 4.44$  years), the mean tenure in one's current position in the organization was 2.66 years ( $SD = 4.05$  years), and the mean length of the leader-follower relationship was 3.24 years ( $SD = 4.80$  years). Because of the nature of the sample (i.e., single-source reports), all measured variables were reported by the follower (i.e., follower variables were self-reported, and leader variables were follower-reported).

### *Study 1 Measures*

#### *Emotional Intelligence*

The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002) is arguably the most popular ability measure of EI and has been cited as the “purest” measure of EI (O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011, p.793) that has “solid evidence and support for its reliability and validity” (Daus, 2006, p. 305). However, the measure is cumbersome long (141 items), is proprietary and expensive, and has two scoring options that have been widely criticized (see Matthews, Emo, Roberts, & Zeidner, 2006, for a review). Furthermore, a recent meta-analysis suggests the intended four-factor structure of the MSCEIT is inappropriate (Fan et al., 2010) and empirical research on ability measures with the same response stem as the MSCEIT items have questioned the use of the MSCEIT response stem (i.e., “How effective is each response?”; Freudenthaler & Neubauer, 2007).

Because of these issues, I chose not to use the MSCEIT to measure emotional intelligence. Instead, the current study measured EI with the Situational Test of Emotion Understanding and the Situational Test of Emotion Management (STEU and STEM, respectively; MacCann & Roberts, 2008). The STEU includes 42 situational judgment items (scored dichotomously—as correct or incorrect) that are based on Roseman's (2001) appraisal theory of emotion. Each item describes an emotion-generating situation and the respondent is asked to choose the correct felt emotional response from a list

of possible emotions. The correct answer is based on Roseman's (2001) appraisal theory. For example, Roseman's theory suggests relief is the typical felt response when an annoying situation ceases; thus, the correct answer to an item describing the cessation of an annoying event would be "relief". The STEM is a 44-item situational judgment test in which the respondent is asked to choose the most effective response to a situation from a set of possible responses. The responses are scored with a weighting scheme based on expert responses. Cronbach's alphas were .88 for the STEU, .82 for the STEM, and .92 for the combined STEU and STEM as a composite measure of emotional intelligence. The EI composite score is used in all further analyses. All items and scoring paradigms for the STEU and STEM can be found in MacCann and Roberts (2008).

#### *Leader-Member Exchange*

In order to assess both follower and leader LMX provisions, LMX was assessed with two versions of Liden and Maslyn's (LMX-MDM; 1998) 12-item scale developed to measure overall LMX and the four LMX dimensions of affect, loyalty, contribution, and professional respect. Sample items are "I like my supervisor very much as a person" (affect), "My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question" (loyalty), "I do not mind working my hardest for my supervisor" (contribution), and "I am impressed with my supervisor's knowledge of his/her job" (professional respect). A previous summary of LMX literature has noted this measure has "undergone reasonable psychometric testing and shown promising evidence of satisfactory reliability and validity" (Schriesheim et al., 1999, p. 95). Furthermore, a recent review of LMX measurement has shown the LMX-MDM measure is the second-most popular measure of LMX and is correlated with the most popular measure of LMX (i.e., the LMX-7; Scandura & Graen, 1984) at corrected  $r = .9$  (Joseph et al., 2011).

We note the original LMX-MDM scale assesses only the *follower's contribution to the exchange* (i.e., follower provisions) *from the follower's perspective* (e.g., "I do not mind working my hardest for my supervisor"). Recent research on this scale has noted that these items only capture half of the exchange content between a leader and follower (Greguras & Ford, 2006). That is, these items fail to capture a



*leader's contribution to the exchange* - an assessment practice that neglects the role of actual *exchange* in the LMX relationship. Greguras and Ford have modified the original Liden and Maslyn items to create a scale that is designed to assess the *leader's perspective of the leader's provisions* (e.g., "I do not mind working my hardest for my subordinate"). Extending the work of Greguras and Ford (2006), Joseph et al. (2011) presented a 2 x 2 matrix of possible LMX measures (shown in Figure 2) where a measure can assess two possible targets of the exchange (leader LMX provisions or follower LMX provisions) from two possible perspectives (leader perspective or follower perspective). Because leader-reports were not available in the MTurk sample, the Greguras and Ford items were adapted to reflect a follower report of leader LMX provisions (e.g., "My supervisor does not mind working his/her hardest for me"). To summarize, follower LMX provisions were assessed with a follower report of the original LMX-MDM scale (Liden & Maslyn, 1998) and leader LMX provisions were assessed with an adapted version of this scale that captures a follower's report of leader LMX provisions. All original and modified items are presented in Table 1. Responses were given on a 5-point Likert scale from "strongly disagree" (1) to "strongly agree" (5). Cronbach's alpha for the follower LMX provisions scale (follower-report) was .90 and Cronbach's alpha for the leader LMX provisions scale (follower-report) was .91.

### *Job Satisfaction*

Follower job satisfaction was assessed with a self-reported 8-item version of the Brayfield and Rothe (1951) overall job satisfaction scale. Five of the eight items have been used previously as a shortened version of the Brayfield and Rothe scale (see Judge, Locke, Durham, & Kluger, 1998) and an additional three items from the Brayfield and Rothe scale were chosen to increase reliability. Items included "Most days I am enthusiastic about my work", "I feel fairly well satisfied with my present job", "Each day of work seems like it will never end" (reverse scored), "I find real enjoyment in my work", "I consider my job rather unpleasant" (reverse scored), "I definitely dislike my work" (reverse scored), "I like my job better than the average worker does", and "Most of the time I have to force myself to go to work" (reverse scored). Responses were indicated on a 5-point Likert scale from "strongly disagree" (1) to "strongly agree" (5). Cronbach's alpha for this scale was .77.

### *Behavioral Engagement*

Leader and follower task performance, organizational citizenship behavior, and withdrawal were each measured via follower reports. Task performance was assessed with Williams and Anderson's (1991) 7-item measure of in-role performance. A sample item is "Adequately completes assigned duties." Alpha reliability of the scale was .81 for follower self-reports of follower task performance and .82 for follower-reports of leader task performance. Organizational citizenship behavior was measured with Lee and Allen's (2002) 16-item scale of OCB ( $\alpha = .91$  for follower-reports of follower OCB and  $\alpha = .94$  for follower-reports of leader OCB). A sample item is "Help others who have been absent". Task performance and OCB were assessed on a 5-point scale from "strongly disagree" (1) to "strongly agree" (5). Finally, withdrawal was measured with 14 items taken from Hanisch and Hulin's (1990, 1991) withdrawal scale which assesses the frequency with which employees engage in withdrawal behaviors. The 14 items were: "Failed to attend scheduled meetings", "Let others do your work for you", "Took frequent or long coffee or lunch breaks", "Made excuses to go somewhere to get out of work," "Were absent when you were not actually sick," "Did poor quality work", "How often are you late for work or scheduled assignments?", "How desirable is it for you to be late for work or scheduled work assignments?", "How likely is it that you will be late for work or scheduled work assignments at least once in the next two weeks?", "How often do you think about being absent from work when you are scheduled to be there?", "How often do you expect to be absent from work when you are supposed to be there?", "In a typical month, how likely is it that you will be absent from work at least once when you are supposed to be there?", "How often do you think about resigning from your current job?", "How likely is it that you will resign from your current job in the next several months?". These items were chosen from the full scale because they were appropriate for use in follower reports of both follower withdrawal and leader withdrawal (in contrast, items such as "drinking alcohol or using illicit drugs after work primarily because of things that occurred at work" were not included because the follower may not have an accurate understanding of the leader's reasons for alcohol use after work hours). Response options varied across items, reflecting the original scales. To create a withdrawal scale score, a composite of z-scores was

created. Cronbach's alpha reliability was .89 for follower-reports of follower withdrawal and .91 for follower-reports of leader withdrawal.

### *Control Variables*

Critics have been skeptical about whether EI has the potential to predict LMX after controlling for Big Five personality traits and cognitive ability (Antonakis, 2009; Antonakis, Ashkanasy, & Dasborough, 2009). Given this criticism, along with previous recommendations that no study of EI should be conducted without controlling for Big Five personality and cognitive ability (Landy, 2005) and empirical evidence suggesting colinearity of both EI and LMX with Big Five personality and cognitive ability (Bernerth, Armenakis, Field, Giles, & Walker, 2007; Joseph & Newman, 2010), Big Five personality traits and cognitive ability are included as control variables in the current study.

*Cognitive Ability.* Due to difficulties involving the inability of certain popular and proprietary cognitive ability tests to be embedded in an online survey (e.g., The Wonderlic Personnel Test; Wonderlic, 1999), a set of cognitive ability measures from the ETS Kit of Factor-Referenced Cognitive Tests (Ekstrom, French, Harman, & Dermen, 1976) was chosen to index follower cognitive ability. These ETS measures have been used extensively in past research (cited 1478 times, Google Scholar, February 2011) and could be embedded in an online survey. Specifically, I chose the Diagramming Relations subscale from the ETS Kit to capture fluid intelligence (Gf) and the Extended Range Vocabulary subscale to measure crystallized intelligence (Gc). This decision was based on previous research demonstrating that the Diagramming Relations subscale loads very strongly onto the Gf factor (factor loadings = .87, Beier & Ackerman, 2001; .87, Beier & Ackerman, 2005) and the Extended Range Vocabulary subscale loads highly onto Gc (.86, Beier & Ackerman, 2001; .84, Beier & Ackerman, 2005). The Diagramming Relations subscale is a logical reasoning measure in which three objects are presented and participants are asked to choose among a set of diagrams that best represents the relationship among the objects. The test involves two parts of 15 items each. Due to survey length constraints, only Part 1 was used in the current study. The Extended Range Vocabulary test is a multiple-choice vocabulary measure in which participants are presented with a list of vocabulary words and must choose the word that most closely

resembles a target word. This measure contains 48 items administered in two parts (24 items each). To reduce the length of the survey, only Part 1 was used in the current study. The Diagramming Relations and Extended Range Vocabulary scales were combined into an overall measure of general mental ability (Cronbach's  $\alpha = .83$ ).

*Big Five Personality.* Follower personality was measured using the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991), a widely-used measure of Big Five personality. Previous research has shown a clear factor structure as well as evidence of convergent and discriminant validity (Benet-Martinez & John, 1998; John & Srivastava, 1999). The BFI consists of 44 items (8-10 items per personality dimension) answered on a 5-point scale from “disagree strongly” (1) to “agree strongly” (5). Cronbach's  $\alpha$  estimates were .74 for Agreeableness, .78 for Conscientiousness, .68 for Extraversion, .77 for Neuroticism, and .67 for Openness.

#### *Confirmatory Factor Analysis*

To confirm the measurement model for the current study, I subjected all measures of emotional intelligence, cognitive ability, Big Five personality, follower LMX, job satisfaction, task performance, citizenship behavior, and withdrawal to a confirmatory factor analysis (CFA) in LISREL 8.71. To reduce the total number of indicators and also to improve the reliability of each indicator, item parcels were formed. The parceling strategy primarily involved random assignment of the items to three parcels per factor, and was accomplished using the “rand()” function in Microsoft Excel. Factor loadings and factor intercorrelations are given in Table 2. The *a priori* thirteen-factor measurement model (including the higher-order behavioral engagement factor reflected by lower-order performance, OCB, and withdrawal), which allowed all factors to correlate with each other, was judged to fit the data adequately,  $\chi^2(731, N = 577) = 2118.52$ , root-mean-square error of approximation (RMSEA) = .057, comparative fit index (CFI) = .971, Tucker–Lewis index (TLI) = .967, standardized root mean square residual (SRMR) = .073. The discriminant validity of emotional intelligence from general mental ability can also be assessed with this measurement model, as the latent correlation between the two was  $\phi = .84$ . A nested model comparison suggested an alternative in which EI and g were merged into a single factor fit significantly worse than

the current model [ $\Delta\chi^2(1, N=577) = 41.92; p < .05$ ]. Although the change in CFI between the current model and the alternative model was only -.001, the SRMR value for the alternative model was .115, while the SRMR for the current model was .073, supporting the current model.

### *Study 1 Analyses*

#### *Polynomial Regression and Reciprocity Effects*

Reciprocity effects (i.e., Hypotheses 6, 7 and 8) were tested via polynomial regression and response surface analysis (Edwards, 2002), which were based on the following regression equation:

$$Y = b_0 + b_1F + b_2L + b_3F^2 + b_4(F \times L) + b_5L^2 + e \quad \text{Eq. 1}$$

In the above equation, Y refers to the specified outcome (e.g., job satisfaction, behavioral engagement), F refers to the follower's LMX provisions and L refers to the leader's LMX provisions. Before conducting the reciprocity analyses, leader and follower LMX provisions were scale-centered to reduce multicollinearity and facilitate interpretation of the first-order terms and response surface (Edwards, 1994). The polynomial regression technique begins by entering the main effects of leader and follower LMX provisions first, and subsequently adding the squared terms and interaction term simultaneously. If the second step explains significant incremental variance in the outcome of interest (e.g., job satisfaction, behavioral engagement), there is necessary but not sufficient evidence for a reciprocity effect (Edwards, 2001). In order to complete the test of reciprocity, the response surface of each regression is plotted and analyzed for several features. To illustrate these features, Figure 4 displays an idealized example plot of the reciprocity effects hypothesized in the current paper. The vertical axis of Figure 4 refers to the dependent variable of interest (i.e., job satisfaction, behavioral engagement, or a facet of behavioral engagement) and the F and L axes represent follower and leader LMX provisions, respectively. The reciprocity line refers to the diagonal line along which  $F = L$ , or where follower LMX provisions are matched by equal amounts of leader LMX provisions. The inequity line refers to the line along which  $L = -F$ , or where follower LMX provisions are unequally matched by LMX provisions, to varying degrees. Consistent with Hypothesis 6, the idealized example plot in Figure 4 shows a reciprocity effect as evidenced by a ridge (rather than a valley) along the reciprocity line. This ridge along the reciprocity line

indicates that the dependent variable (i.e., job satisfaction or behavioral engagement) is highest when follower LMX provisions are reciprocated by leader LMX provisions. Similarly, along the inequity line, as the mismatch between follower LMX provisions and leader LMX provisions increases, the dependent variable (i.e., job satisfaction or behavioral engagement) is expected to decrease (i.e., the dependent variable decreases as distance from the reciprocity line increases, creating an inverted-U shape along the inequity line). The significance of the reciprocity effect specified in Hypothesis 6 (i.e., job satisfaction and behavioral engagement are highest when follower LMX provisions are matched by leader LMX provisions) would be confirmed by showing significant *curvature of surface* along the inequity line, reflecting that the dependent variable decreases as leader LMX provisions differ from follower LMX provisions. In contrast, an example plot in which there is no curvature along the inequity line is presented in Figure 5. The curvature along the  $L = -F$  line can be tested for statistical significance by substituting  $L = -F$  into Equation 1, which results in the following:

$$Y = b_0 + (b_1 - b_2)F + (b_3 - b_4 + b_5)F^2 + e \quad \text{Eq. 2}$$

Subsequently, the curvature along the inequity line is tested by examining the significance of the term  $(b_3 - b_4 + b_5)$ . As an additional test, Hypothesis 6 would also be supported if the slope of the inequity line is flat at the point where  $F = 0$  and  $L = 0$ . That is, there should be a true ridge (i.e., slope = 0) where leader and follower LMX provisions are equal. The slope of the inequity line can be tested as the lack of significance of the  $(b_1 - b_2)$  term in Equation 2. If the curvature along the inequity line is significant and the slope along the inequity line is not significant, there is support for Hypothesis 6 (i.e., a reciprocity effect). However, a zero slope along the inequity line ( $b_1 - b_2 = 0$ ) would contradict the test for Hypothesis 8, which is described below. Therefore, only the significance of curvature along the equity line will serve as a test of Hypothesis 6 for the current study.

In order to test Hypothesis 7 (i.e., follower work outcomes will be highest when there is reciprocity in leader and follower LMX provisions *and* when these provisions are high rather than low), one must examine the features of the reciprocity line ( $F = L$ ). If job satisfaction and behavioral engagement are highest when LMX reciprocity exists and when LMX provisions are high (i.e., when both

leader and follower are making high, equal contributions to each other), there should be a positive slope along the reciprocity line (i.e., the ridge of the surface should increase in height as follower and leader provisions increase; see Figure 4). In contrast, if there is a zero slope along the reciprocity line, the response surface would look like Figure 6. Once again, one can substitute  $F = L$  into Equation 1 to obtain the relevant coefficients representing the slope, and curvature of the reciprocity line. Substituting  $F = L$  into Equation 1 yields:

$$Y = b_0 + (b_1 + b_2)F + (b_3 + b_4 + b_5)F^2 + e \quad \text{Eq. 3}$$

where  $(b_1 + b_2)$  represents the slope along the reciprocity line. If this term is significant, there is support for Hypothesis 7. Because the current paper does *not* hypothesize nonlinear LMX effects (i.e., increasing pay-offs in job satisfaction or behavioral engagement for each increment of LMX as LMX provisions increase), I expect the ridge along the reciprocity line (see Figure 4) to have a positive slope, but no curve. Thus, there should be zero curvature along the reciprocity line. As seen in Equation 3, the curvature along the reciprocity line is represented by the term  $(b_3 + b_4 + b_5)$ , which should not be significant if the current set of hypotheses is supported.

Finally, Hypothesis 8 predicts that when reciprocity does not exist (i.e., as one moves away from the  $L = F$  line), follower job satisfaction and behavioral engagement will be higher when leader LMX provisions are greater than follower LMX provisions (i.e., a follower is receiving more LMX provisions than he/she is giving), in comparison to when follower LMX provisions are greater than leader LMX provisions (i.e., a follower is giving more to the LMX relationship than he/she is receiving). This hypothesis was tested by examining whether the  $L$  and  $L^2$  coefficients are larger in absolute value than the  $F$  and  $F^2$  coefficients, respectively (i.e., whether  $|b_2| - |b_1| > 0$  and whether  $|b_5| - |b_3| > 0$  in predicting follower satisfaction and follower engagement). A  $b_2$  value that is significantly larger than  $b_1$  indicates that the surface is decreasing at the point where it crosses the  $F = L$  line. Similarly, if  $b_5$  is larger than  $b_3$ , there is evidence that the surface of the plot has been rotated clockwise (as in Figure 4), which would also support the greater influence of leader LMX provisions on follower job satisfaction and behavioral engagement than follower LMX provisions (if significant). Hypothesis 8 also predicted that leader

behavioral engagement will be higher when follower LMX provisions are greater than leader LMX provisions (i.e., a leader is receiving more LMX provisions than he/she is giving). This was tested in the same manner as Hypothesis 8 for follower outcomes, although it was expected that the  $L$  and  $L^2$  coefficients would be smaller in absolute value than the  $F$  and  $F^2$  coefficients, respectively (i.e., whether  $|b_1| - |b_2| > 0$  and whether  $|b_3| - |b_5| > 0$  in predicting leader engagement).

In sum, Hypotheses 6, 7 and 8 were tested by examining the significance of the following characteristics of the response surface:  $(b_3 - b_4 + b_5)$  [curvature along the inequity line (a reciprocity ridge exists)],  $(b_1 + b_2)$  [slope along the reciprocity line (more provisions are better than fewer provisions)],  $(|b_2| - |b_1| > 0)$  for follower outcomes [surface is decreasing as it crosses the  $F = L$  line (leader provisions predict follower outcomes more strongly than do follower provisions)],  $(|b_1| - |b_2| > 0)$  for leader outcomes [surface is increasing as it crosses the  $F = L$  line (follower provisions predict leader outcomes more strongly than do leader provisions)],  $(|b_5| - |b_3| > 0)$  for follower outcomes [surface has been rotated clockwise (leader provisions are more important than follower provisions)], and  $(|b_3| - |b_5| > 0)$  for leader outcomes [surface has been rotated counter-clockwise (follower provisions are more important than leader provisions)]. These response surface characteristics were examined for the dependent variables of job satisfaction, behavioral engagement, task performance, OCB, and withdrawal. Behavioral engagement was operationalized as a composite of task performance, OCB, and withdrawal (withdrawal was reverse-coded).

### *Mediation Modeling*

In order to test the basic EI-LMX mediation model (i.e., the portion of the hypothesized APIM model that could be tested with the data provided by Sample 1), the fit of the model in Figure 3 was tested using structural equation modeling in LISREL 8.57. The fit of the basic EI-LMX mediation model (Figure 3; includes Big Five personality traits and cognitive ability as correlated predictors of follower LMX provisions, follower job satisfaction, and follower behavioral engagement) was tested on the correlation matrix amongst all parcels (see Table 2 for factor loadings of parcels onto the latent factors). One indicator loading per factor was set to 1.0. It should be noted that the model presented in Figure 3



includes direct effects from follower EI to follower job satisfaction and follower behavioral engagement, specifying a partial mediation model rather than a full mediation model.

## Results and Discussion

Means, standard deviations, and correlations among all variables of Study 1 are presented in Table 3. Results of the polynomial regression are presented in Tables 4 and 5, and results of the response surface tests are presented in Tables 6 and 7. Plots of the response surfaces are presented in Figures 7 to 15. Results of the EI-LMX Mediation Model are presented in Figure 16.

### *LMX Reciprocity*

#### *Follower Outcomes*

To test the extent to which the match between follower LMX provisions and leader LMX provisions are important for follower job satisfaction and behavioral engagement (Hypotheses 6a and 6b), the results of the polynomial regressions were first examined and then the response surface plot characteristics were tested for significance. As can be seen in Table 4, Model 1 (i.e., main effects of follower LMX provisions and leader LMX provisions predicting follower outcomes) explained a significant amount of variance in each of the hypothesized outcomes (i.e., follower job satisfaction: 18%, behavioral engagement: 15%, task performance: 7%, OCB: 24%, and withdrawal: 4%). In addition, Model 2 explained a statistically significant amount of incremental variance in each hypothesized outcome (i.e., follower job satisfaction: 2%, behavioral engagement: 10%, task performance: 10%, OCB: 8%, and withdrawal: 4%), indicating necessary, but not sufficient support for the hypothesized reciprocity effects (i.e., Hypothesis 6a and 6b). (It should be noted that a significant change in  $R^2$  value for Model 2 indicates support for any of a variety of effects, of which a reciprocity effect is only one possibility.)

Upon examining the unstandardized regression coefficients presented in Table 4, it appears that follower LMX provisions had a statistically significant effect in the expected direction for all of the outcomes examined (Model 1; follower job satisfaction:  $b_1 = .45$ , behavioral engagement:  $b_1 = .29$ , task performance:  $b_1 = .23$ , OCB:  $b_1 = .20$ , withdrawal:  $b_1 = -.23$ ). However, these effects become non-statistically-significant when the squared terms and interaction term were entered in Model 2 for all

outcomes except job satisfaction and OCB. In contrast to follower LMX provisions, leader LMX provisions only had a significant effect on follower OCB ( $b_1 = .23$ ), and this semipartial effect became statistically non-significant when the higher-order terms and interaction term were entered in Model 2.

Further investigation of the hypothesized reciprocity effects requires an examination of the response surface characteristics presented in Table 6 and Figures 7-11. As previously mentioned, evidence for a reciprocity effect would be supported if the curvature along the inequity line ( $b_3 - b_4 + b_5$ ) was significant. This value was not statistically significant for job satisfaction ( $b_3 - b_4 + b_5 = -.06$ ) or for withdrawal ( $b_3 - b_4 + b_5 = -.55$ ), suggesting the match between follower LMX provisions and leader LMX provisions is not a critical factor that influences either outcome. However, the curvature of the inequity line was statistically significant for the dependent variables of behavioral engagement ( $b_3 - b_4 + b_5 = .94$ ), task performance ( $b_3 - b_4 + b_5 = .69$ ), and OCB ( $b_3 - b_4 + b_5 = .82$ ). Surprisingly, however, the curvature of the inequity line was in the *opposite direction* of the expected value. That is, the hypothesized reciprocity effect should have produced a negative curvature along the inequity line, representing an inverted-U shape whereby the dependent variable decreases as follower LMX provisions deviate from leader LMX provisions. Instead, the curvature along the inequity line was found to be positive, representing a U-shape, or *incongruence effect* rather than a *reciprocity effect* (i.e., the shape of the surfaces in Figures 8, 9, and 10 are bowl-shaped rather than dome-shaped). In other words, behavioral engagement, task performance, and OCB were highest when follower LMX provisions and leader LMX provisions were not equal. Therefore, Hypothesis 6a and Hypothesis 6b were not supported.

Hypotheses 7a and 7b predicted that job satisfaction and behavioral engagement would be higher when leader and follower LMX provisions were reciprocated *and high* rather than low, which is tested by examining the slope of the reciprocity line at the point where follower and leader provisions both equal 0 (after being centered at the scale midpoint). A significant slope was found for job satisfaction ( $b_1 + b_2 = .32$ ) and behavioral engagement ( $b_1 + b_2 = .16$ ), indicating that job satisfaction and behavioral engagement both increased as the follower and leader contributed more to the LMX relationship. These positive slopes suggest support for Hypotheses 7a and 7b, although it should be noted that Hypotheses 7a

and 7b were dependent on finding support for a reciprocity effect in Hypothesis 6a and Hypothesis 6b, which was not supported. Therefore, there is only partial support for Hypothesis 7a and Hypothesis 7b due to the lack of a reciprocity effect for job satisfaction and behavioral engagement. It should also be noted that a significant slope along the reciprocity line was found for OCB ( $b_1 + b_2 = .25$ ), but not for task performance ( $b_1 + b_2 = .01$ ) and withdrawal ( $b_1 + b_2 = -.08$ ). This suggests that the positive slope along the reciprocity line for behavioral engagement is likely due to the OCB component of behavioral engagement more so than task performance or withdrawal. It is also interesting to note that the curvature of the surface along the reciprocity line ( $b_3 + b_4 + b_5$ ) was significant for all outcomes, suggesting that as followers and leaders contribute more to their LMX relationship, they receive increased pay-offs in terms of job satisfaction and behavioral engagement. This significant curvature can be seen in Figures 7-10 by noticing the back corners of Figures 7-10 are curved upward like a bowl, and the back corner of Figure 11 is curved downward like a dome (because there are increasing decrements in withdrawal as follower and leader provisions increase).

Finally, Hypothesis 8 predicted that follower job satisfaction and behavioral engagement would be higher when leader LMX provisions exceeded follower LMX provisions (i.e., followers reported receiving more than they were contributing to the LMX relationship). Hypothesis 8 was not supported, as evidenced by the lack of statistically-significant shift and rotation for follower job satisfaction (shift:  $|b_2| - |b_1| = -.30$ ; rotation:  $|b_5| - |b_3| = -.01$ ) and behavioral engagement (shift:  $|b_2| - |b_1| = -.04$ ; rotation:  $|b_5| - |b_3| = -.16$ ). Interestingly, upon examining the response surface plots for job satisfaction and behavioral engagement in Figures 7 and 8, one might suspect that *follower* LMX provisions were more critical in determining follower job satisfaction and behavioral engagement than were *leader* LMX provisions (the opposite of Hypothesis 8); however, the values for shift and rotation were not significant, indicating follower and leader LMX provisions were equally valuable in predicting job satisfaction and behavioral engagement.

In sum, while the current paper expected to find reciprocity effects for follower and leader LMX provisions in predicting job satisfaction, the results indicated no such effect for job satisfaction. Instead,

the job satisfaction response curve and regression models suggest that job satisfaction tends to increase as follower LMX provisions increase (Figure 7; Table 4). In sum, when predicting follower job satisfaction, the general follower LMX provision contributes to one's attitude toward his/her job, regardless of whether parity exists in the provisions exchanged between follower and leader.

In contrast, the findings for behavioral engagement indicated nearly the exact opposite of the expected reciprocity effect: an *incongruence effect* where behavioral engagement was highest when follower LMX provisions and leader LMX provisions were mismatched or unequal. In combination with the finding that behavioral engagement increases exponentially as the absolute value of follower and leader LMX provisions increase (Hypothesis 7b), this incongruence effect suggests that follower and leader LMX provisions can act as substitutes for one another in influencing one's contribution to the work role (see Figure 8; Table 4). That is, behavioral engagement can be high as long as either follower or leader LMX provisions are high; a match between follower and leader LMX provisions is not necessary for high behavioral engagement.

It is important to note that the current findings are based on self-reported task performance, OCB, and withdrawal, due to data constraints in gathering leader-reported measures of task performance, OCB, and withdrawal. The lack of non-self-report in predicting follower job satisfaction and behavioral engagement may have affected the results of the polynomial regressions and response surface plots, although common method bias is especially unlikely to create artifactual interaction effects (Evans, 1985; Siemsen, Roth, & Oliveira, 2009). Nonetheless, the current findings should be replicated in the future with other-rated task performance, OCB, and withdrawal.

### *Leader Outcomes*

Upon investigating the findings for LMX reciprocity predicting *leader* outcomes (e.g., leader engagement), the results appear quite different from that of follower outcomes. The polynomial regression results for LMX reciprocity predicting leader behavioral engagement, task performance, OCB, and withdrawal are presented in Table 5. An examination of Table 5 reveals that Model 1 (main effects of follower and leader LMX provisions) predicted a significant amount of variance in leader behavioral

engagement (43%), task performance (33%), OCB (55%), and withdrawal (12%). [In comparison, recall from the previous section that the main effects of leader and follower LMX provisions explained a substantially smaller percentage of the variance in *follower* behavioral engagement (15%), task performance 7%), OCB (24%), and withdrawal (4%).] As a first step in testing whether a reciprocity effect exists, the amount of incremental variance explained by Model 2 (including the leader LMX provisions X follower LMX provisions interaction term and squared terms) was statistically significant for leader behavioral engagement (1%), task performance (1%), and withdrawal (1%). Whereas the amount of incremental variance explained by Model 2 in predicting leader behavioral engagement, task performance, and withdrawal was only 1%, even small interactions change the interpretation of lower-order main effects. In order to fully test whether the reciprocity of LMX provisions predict leader outcomes, the curvature of the inequity line was examined next (see Table 7 and Figures 12-15). The curvature along the inequity line was not significant for any leader outcome, indicating there is neither a reciprocity effect nor an incongruence effect for LMX provisions in predicting leader behavioral engagement (i.e., no support for Hypothesis 6c). However, results did indicate a significant slope along the reciprocity line in the expected direction for leader behavioral engagement ( $b_1 + b_2 = .78$ ), task performance ( $b_1 + b_2 = .53$ ), OCB ( $b_1 + b_2 = .76$ ), and withdrawal ( $b_1 + b_2 = -.37$ ). The significant slope along the reciprocity line for all leader outcomes suggests leader behavioral engagement is increased when the leader and the follower contribute more exchange resources to the relationship. However, because Hypothesis 6c was not supported, these results do not indicate full support for Hypothesis 7c. Finally, in order to determine whether leader behavioral engagement was increased when follower LMX provisions were greater than leader LMX provisions rather than when leader LMX provisions were greater than follower LMX provisions (Hypothesis 8c), the shift and rotation of the response surface were examined. The shift of the response surface for leader behavioral engagement was significant and in the expected direction ( $|b_1| - |b_2| = .40$ ), suggesting behavioral engagement was highest when follower provisions were greater than leader provisions (i.e., “gets” were greater than “gives”). However, the

rotation of the response surface for behavioral engagement was not significant ( $|b_3| - |b_5| = .05$ ), Therefore, there was only partial support for Hypothesis 8c.

In sum, while leader and follower LMX provisions acted as substitutes for one another in predicting *follower* behavioral engagement (i.e., an incongruence effect), *leader* behavioral engagement appears to be almost fully explained by the main effects of leader LMX provisions and follower LMX provisions (Table 5).

To summarize the results from all the reciprocity hypotheses and analyses (Tables 4-7; Figures 7-15), it appears that (a) follower LMX provisions predict follower job satisfaction (Figure 7), (b) follower LMX provisions and leader LMX provisions both predict follower behavioral engagement nonlinearly, creating a bowl-shaped three-dimensional response surface (Figure 8), and (c) follower LMX provisions and leader LMX provisions both predict leader behavioral engagement linearly, creating an angled planar three-dimensional response surface (Figure 12). With regard to the response surface effects (Tables 6 & 7), these same three trends described above are manifest as (a) positive follower job satisfaction slope along the reciprocity line, (b) positive follower behavioral engagement *curvature* along the reciprocity line and also along the inequity line, and (c) positive leader behavioral engagement shape along the reciprocity line and also along the inequity line. Both the first and third phenomena above can be partly explained by common method effects, although the second effect above (bowl-shaped curvature along both reciprocity and inequity lines) is not likely to be a method artifact.

#### *EI-LMX Mediation Model*

Hypotheses 1c, 2a, and 4a predicted that follower EI would be positively related to follower LMX and follower LMX would be related to follower job satisfaction and follower behavioral engagement, respectively. These hypotheses are derived from the basic EI-LMX mediation model (Figure 3), where EI predicts job satisfaction and behavioral engagement via the influence of emotional competence on interpersonal work relationships (i.e., LMX). This fully-specified basic EI-LMX mediation model is shown in Figure 16, which includes Big Five personality traits and cognitive ability as correlated predictors of follower LMX provisions, job satisfaction, and behavioral engagement. The EI-LMX

mediation model represents half of the full APIM model (see Figure 1), and focuses on constructs that can be measured at the follower-level only (and can therefore be tested with a sample of follower-only data). The model shown in Figure 16 fit the data adequately ( $\chi^2(738, N=577) = 2062.57$ ; RMSEA = .058, CFI = .97, TLI = .96, SRMR = .17), although the high SRMR fit index suggests the model is not an excellent fit to the data. Upon examining the modification indices, the misfit for this model appears to emanate from three sources: (a) one of the task performance parcels would have changed the chi-square value by 68.55 if it were allowed to load onto the withdrawal construct, (b) allowing EI to directly predict withdrawal would have lowered the chi-square by 60.48, and (c) allowing LMX to directly predict withdrawal would have changed the chi-square by 97.39. The problematic performance parcel contained the only two reverse-scored items from the task performance measure (“Neglect aspects of the job you are obligated to perform?” and “Fail to perform essential duties?”)—the two items this parcel comprises were both very similar to items on the withdrawal measure, which may explain why the modification index for this performance parcel to load onto withdrawal is so high. Future research may benefit from re-testing the basic EI-LMX mediation model while using a different task performance measure that does not contain neglect/withdrawal items. As for the high modification indices relating EI and LMX directly to withdrawal, socio-emotional individual differences (i.e., EI) and relational characteristics may be important in predicting withdrawal above and beyond behavioral engagement. That is, the social component of EI and LMX may be valuable in predicting one’s withdrawal beyond the effort one contributes to his/her work role. There is a large portion of variance in withdrawal that does not overlap with the higher-order behavioral engagement construct (Newman et al., 2010), and this variance may be especially connected to social-emotional components of the work experience.

The path coefficients of the basic EI-LMX model are presented in Figure 16. All of the path coefficients are significant and in the expected directions, except for the path from follower EI to follower LMX provisions ( $\beta = -.09$ ; n.s.), suggesting EI is an important predictor of one’s own job satisfaction ( $\beta = .41, p < .05$ ) and behavioral engagement ( $\beta = .35, p < .05$ ), but not one’s own LMX provisions. These results do not support Hypothesis 1c, which predicted a positive relationship between follower EI and

follower LMX provisions, although the results do provide support for Hypothesis 2a (follower LMX provisions predict follower job satisfaction;  $\beta = .37, p < .05$ ) and Hypothesis 4a (follower LMX provisions are positively related to follower behavioral engagement;  $\beta = .45, p < .05$ ). Interestingly, upon examining the path coefficients involving the control variables in the model (Big Five personality traits and cognitive ability), emotional intelligence displayed the strongest path coefficient predicting both job satisfaction and behavioral engagement, suggesting EI may be a critical predictor of job satisfaction and behavioral engagement, even after controlling for Big Five personality traits and cognitive ability.

In sum, Study 1 found no support for the LMX reciprocity effects hypothesized in the current paper for either follower outcomes (i.e., job satisfaction, behavioral engagement, task performance, OCB, and withdrawal) or leader outcomes (i.e., behavioral engagement, task performance, OCB, and withdrawal). Surprisingly, Study 1 actually indicated an incongruence effect for follower behavioral engagement, suggesting that follower and leader LMX provisions need not match in order to influence behavioral engagement; instead, follower and leader LMX provisions appear to act as substitutes for each other in predicting one's contribution of effort toward one's work role. Study 1 also found initial support for the EI-LMX mediation model, although the non-statistically-significant path from EI to LMX suggests follower LMX provisions do not mediate the relationship between follower EI and follower job satisfaction/behavioral engagement, and is contrary to what the model title suggests. Instead, follower EI appeared to be a valuable predictor of both job satisfaction and behavioral engagement (even more than traditional predictors of these outcomes, including Big Five personality traits and cognitive ability), but LMX was not the mechanism for these EI effects.



## CHAPTER 3

### STUDY 2

#### Method

Although the results from the test of the EI-LMX mediation model in Study 1 suggest adequate fit for some of the parameters specified in the APIM model (Figure 1), the full dyadic APIM model specifying relationships among follower *and* leader EI, LMX, job satisfaction, and behavioral engagement remains untested. In Study 2, I attempted to test the full APIM model.

#### *Study 2 Sample*

The sample consisted of employees from two organizations located in the Midwest. The first organizational sample involved custodial staff, property managers, and administrative staff from a property management firm. The second organization consisted of administrative staff, laboratory technicians, and nurses recruited from a large hospital. In order to obtain dyad-level data, leader-follower dyads were sampled from each organization based on the organizational hierarchy, and each participant was asked to fill out a survey that included questions about her/his dyadic partner. Specifically, for each supervisor, a subordinate was randomly selected to provide responses. Supervisors were sent an email containing the name of this subordinate along with instructions asking the supervisor to remember the name of the subordinate for purposes of the survey, and were given a link to the online survey. Similarly, subordinates who had been matched to a supervisor were sent an email containing the name of their supervisor, instructions asking the subordinate to remember the name of their supervisor for purposes of the survey, and a link to the online survey. Each online survey asked the participant to report the name of their assigned dyadic partner (supervisor or subordinate). To ensure that the participant answered questions about his/her assigned dyadic partner, the reported name was also piped into the item stems for most of the questions to make clear the intended referent (e.g. “Please indicate the extent to which you agree [name of reported supervisor/subordinate] performs the following behaviors at work”). Employees were sent reminder emails three, six, and nine days after the original recruitment email was sent. 38 dyads from the property management firm and 40 dyads from the hospital were targeted for participation in the

study. Study participation required around 1 hour of the respondents' time, primarily due to the combined length of the two EI measures and the two cognitive ability measures. Responses for full dyadic pairs (i.e., where both the follower and leader responded) were obtained from 28 dyads, or a dyadic response rate of 36%. (Due to the small sample size obtained in both organizations, the samples were combined to estimate the parameters in the full APIM model.) The final sample of 28 dyads consisted of six men and 50 women, and was 91% Caucasian, 2% African American, 2% Hispanic, and 2% "other". Participants reported a mean tenure in the organization of 7.82 years ( $SD = 7.51$ ), a mean tenure in their current position of 5.06 years ( $SD = 5.39$ ), and a mean relationship length of 5.22 years ( $SD = 5.04$ ) with their current leader/follower. Participants who completed the survey were given a \$10.00 Amazon.com gift card.

### *Study 2 Measures*

The measures used in the current study were the same as those used in Study 1, although the sources of the reports for several of the variables differ from those in Study 1. In Study 2, each participant completed performance-based measures of his/her own emotional intelligence and cognitive ability, reported his/her own Big Five personality and job satisfaction, and reported on his/her dyadic partner's LMX provisions, task performance, OCB, and withdrawal. The items adapted from the original LMX-MDM (Liden & Maslyn, 1998) scale to assess the LMX provisions of the dyadic partner are reported in the last two columns of Table 1.

### *Study 2 Analyses*

Hypotheses 1-5 (see Figure 1) were tested using the Actor-Partner Independence model (APIM; Kenny et al., 2006). The APIM and its associated actor and partner effects can be tested in one of three ways: (a) pooled regression, (b) multilevel modeling, or (c) structural equation modeling (SEM). The SEM/path modeling method is most appropriate for testing data that involves distinguishable dyads (i.e., members of the dyad can be distinguished from one another according to their roles, such as a leader and follower; Kenny et al., 2006) and is therefore used to test the APIM model in the current study. Following standard recommendations for the APIM model, the data were structured at the dyad level and the sample

size was the number of dyads in the sample ( $N = 28$ ). Although the small sample size in the current study violates conventional data requirements for SEM, I note that the path modeling equivalent of Figure 1 tested here (which involves the structural model paths, but estimates no measurement model parameters because each construct is specified via a single, manifest indicator with zero uniqueness) is much more parsimonious. To be specific, the path model (Figure 1) only requires estimation of 15 parameters. Also, each of these parameter estimates is exactly equivalent to a conventional multiple regression parameter (i.e., path analysis is simply a series of regression models). In short, whereas a sample size of 28 dyads is woefully inadequate to attempt SEM, the stripped-down path analyses (i.e., multiple regressions) in the current study have much lower data requirements. Nonetheless, the sample of 28 dyads has inadequate statistical power to most appropriately assess the hypothesized effects, and thus the current results should be considered preliminary (similar to a pilot study).

## Results and Discussion

Means, standard deviations, and Cronbach's alpha of the measures used in Study 2 are presented in Table 8. Although sample size limitations make the use of standard fit indices inappropriate, for the sake of curiosity I note the APIM model exhibited poor fit to the data ( $RMSEA = .15$ ,  $CFI = .86$ ,  $TLI = .71$ ,  $SRMR = .19$ ). Another (perhaps more diagnostic) approach to analyzing these data is to examine the sources of model misfit. Upon looking at the residuals of the estimated model, it appears the largest residual was for the covariance between leader behavioral engagement and follower behavioral engagement (standardized residual = 3.44), suggesting this is a potential source of misfit that should be considered in future models. Finally, when comparing the results from the saturated APIM model (Study 2, Figure 17) against the results from the basic EI-LMX mediation model (Study 1, Figure 16), I see several similarities. Before making these comparisons of results, I note that the primary design differences between Studies 1 and 2 are the estimation of additional effects in Study 2 that could not be estimated in Study 1: (a) actor and partner effects involving Leader EI, (b) actor and partner effects involving leader job satisfaction, and (c) actor and partner effects involving leader ratings of follower engagement. These three sets of parameters could only be estimated in Study 2. However, for the other parameters, direct

comparisons are possible between Studies 1 and 2. First, Studies 1 and 2 both demonstrate strong actor effects of one's LMX provisions upon one's behavioral engagement. Second, Studies 1 and 2 both suggest the follower LMX-engagement effect may be partly mediated by follower job satisfaction. Third, both Studies 1 and 2 suggest that ability-EI is *not* related to LMX—an unexpected result that disconfirms the hypothesized EI-LMX mediation model.

Next, there were several effects that could uniquely be estimated in Study 2. Perhaps most interesting among these were potential partner effects of follower EI on leader LMX. Although not statistically significant (i.e., not distinguishable from zero), it appears that follower EI might relate to leader LMX (despite not relating to a follower's own LMX). One statistically significant partner effect is the effect of leader LMX on follower behavioral engagement ( $\beta = .23$ ). These two effects, if combined, might imply that a leader's LMX partly mediates the effect of follower EI on follower engagement. That is, by considering both members of the dyad simultaneously, the EI-LMX mediation hypothesis might be shown to have some merit. The real test of this assertion will await the collection of further dyadic data.

## CHAPTER 4

### GENERAL DISCUSSION

The current study sought to make four contributions to LMX research. First, I sought to establish emotional intelligence as an antecedent of leader-member exchange on the basis of social-functional theory of emotion, social exchange theory of emotion, and emotional labor theory. Second, LMX was proposed to act as a mediator of the relationship between EI and job satisfaction and behavior at work. Third, I sought to evaluate the role of LMX reciprocity (i.e., the extent to which leader contributions to the LMX relationship are matched by follower contributions and vice versa) in predicting follower job satisfaction and behavioral engagement. Finally, I sought to provide initial evidence for the interrelationships among both leader and follower EI, LMX perceptions, job satisfaction, and behavioral engagement, within the framework of Kenny et al.'s (2006) Actor-Partner Interdependence Model (APIM). I review the findings for each proposed contribution below.

#### Emotional Intelligence as an Antecedent of LMX

The proposed role of EI as an antecedent of LMX was based on social-functional theory of emotion, social exchange theory of emotion, and emotional labor theory. Social-functional theory of emotion argues that emotions serve valuable functions in the maintenance and establishment of interpersonal relationships (Fischer & Manstead, 2008). Therefore, it was expected that those who are able to understand and regulate emotion effectively (i.e., those high on emotional intelligence) would maximize the interpersonal functions of emotion and create a strong interpersonal relationship with their leaders/followers. Social exchange theory of emotion also supports the important role of EI in the maintenance of strong LMX relationships via the ability to induce positive emotions that act as a “social glue” in interpersonal relationships and the ability to avoid negative emotions that act as “social repellant” in interpersonal relationships (Lawler & Thye, 2007). Therefore, the ability to induce positive emotions and avoid negative emotions (i.e., the ability to regulate emotion) was expected to be important for the establishment and maintenance of the LMX relationship. Finally, emotional labor theory suggests that the emotion regulation strategies chosen by high EI individuals (i.e., deep acting) appear authentic

(conveying loyalty and trust) and do not drain one's resource pool (leaving more resources available for task-related contributions to the LMX relationship), whereas the emotion regulation strategies employed by individuals low on EI (i.e., surface acting) appear inauthentic and result in a greater drain on one's resource pool, again suggesting EI is an important antecedent of LMX.

The results of Studies 1 and 2 did not support the theoretical proposition that EI is an antecedent of LMX. In Study 1, a sample of 587 employed individuals completed an online survey, and after controlling for the cognitive ability and Big Five personality traits, the hypothesized relationship between EI and LMX was not statistically significant ( $\beta = -.09$ ). However, Study 1 only investigated the effect of follower EI on follower LMX provisions (an actor effect), leaving potential partner effects of EI on LMX unknown. Study 2 attempted to investigate the partner effects of EI on LMX in a sample of hospital workers and employees of a property management firm, and although the data did not produce statistically significant actor or partner effects, the partner effects of EI on LMX approached significance, suggesting that these effects are worth examining in future studies with adequate sample sizes. In sum, it is not yet clear whether the predictions implied by the social-functional theory of emotion (Fischer & Manstead, 2008) or social exchange theory of emotion (Lawler & Thye, 2007) are upheld in empirical relationships between EI and LMX; future research is necessary to confirm whether the ability to understand and regulate emotions capitalizes on the social functions of emotion proposed by both theories, and whether this creates benefits for the LMX relationship.

Interestingly, while the current paper appears to suggest EI is not an important antecedent of LMX, the findings of Study 1 indicate that EI is an important antecedent of job satisfaction and behavioral engagement (even after controlling for Big Five personality traits and cognitive ability). Previous meta-analytic findings have suggested that ability-model EI is not a unique predictor of task performance after controlling for Big Five personality traits and cognitive ability (Joseph & Newman, 2010). However, the results of the current study suggest that if the criterion space is expanded to include task performance, OCB, and withdrawal, EI may offer valuable prediction of behavioral engagement, even after controlling for Big Five personality and cognitive ability. The high modification indices of the

EI-LMX mediation model (Figure 16) relating EI directly to withdrawal may reflect that the ability to understand and regulate emotion affords individuals high on EI the capacity to handle frustrating situations that would normally cause employees to withdraw. That is, EI (the ability to understand and regulate emotion) may act as a buffer against the frustration caused by daily stressors in the workplace that cause withdrawal. These findings suggest future studies would benefit from examining EI's relationship with an expanded criterion space, focusing not only on task performance, but also withdrawal, OCB, and job satisfaction.

#### LMX as a Mediator of Emotional Intelligence Effects

Although the current study found support for the relationship between EI and work outcomes (i.e., job satisfaction and behavioral engagement), because of the lack of a statistically significant relationship between EI and LMX provisions in both Study 1 and Study 2, the findings do not support LMX as a mediator of the relationship between EI and work outcomes. However, LMX did appear to strongly and independently predict one's own job satisfaction and behavioral engagement in Study 1 and Study 2. This is consistent with previous meta-analytic findings that LMX is related to job satisfaction, task performance, OCB, and withdrawal (Gerstner & Day, 1997; Hackett et al., 2003; Ilies et al., 2007). These findings suggest that the effort one puts into the LMX relationship may result in benefits that support one's own task performance, citizenship behavior, and reduced withdrawal behavior. Wilson et al.'s (2010) theory of the resources exchanged in the LMX relationship provides a theoretical explication of what these benefits might be. From the follower perspective, a follower's contribution to the LMX relationship may induce a leader to provide positional resources to the follower, such as the assignment of interesting tasks to the follower and the exchange of valuable information with the follower. These benefits may then enhance a follower's behavioral engagement. Similarly, Wilson et al.'s (2010) theory of the resources exchanged in LMX relationships suggests that leaders who contribute to the exchange relationship receive important benefits from the follower that could subsequently enhance their own behavioral engagement. This set of benefits includes information-related resources (e.g., lateral information from other departments or peers), status-related resources (e.g., positive word-of mouth that

influences the leader's status in the organization), and service resources (e.g. follower task or citizenship performance that directly impacts the leader's performance). Future empirical work should investigate the longitudinal nature of these proposed exchanges to determine whether the actor effects found in the current study [i.e., one's own LMX contributions are related to one's own behavioral engagement (Study 1 and Study 2) and job satisfaction (Study 1 only)] are actually mediated by the resources/benefits proposed by Wilson et al. (2010). That is, future research should measure these benefits and resources directly to determine *how* LMX causes enhanced job satisfaction and behavioral engagement.

### LMX Reciprocity

Although the current study proposed that the match between follower contributions and leader contributions to the LMX relationship would be related to leader and follower behavioral engagement and job satisfaction, the results of these empirical tests were inconsistent. Study 1 found no evidence for LMX reciprocity effects in predicting follower job satisfaction, follower behavioral engagement, or leader behavioral engagement. Specifically, in predicting leader behavioral engagement, the relationship between LMX provisions and behavioral engagement appeared to be fully captured by the main effects of follower LMX provisions on leader behavioral engagement. This finding reiterates the need to empirically explore the benefits that are accrued from the LMX relationship that influence job performance (i.e., the mediators of the LMX provisions-behavioral engagement link) in order to clarify how LMX provisions positively impact one's effortful contribution to the work role. In contrast, when predicting follower behavioral engagement, although there was no evidence for a reciprocity effect, I did find support for an incongruence effect, where follower LMX provisions and leader LMX provisions can act as substitutes for each other in predicting follower outcomes. Specifically, it doesn't appear to matter whether a follower receives LMX provisions from the leader or contributes LMX provisions to the leader; as long as one of these conditions is satisfied, there is a positive impact on follower behavioral engagement. This finding may be better understood by considering the psychological contract, which is defined as "an individual's belief regarding the terms and conditions of a reciprocal exchange agreement between that focal person and another party" (Rousseau, 1989, p. 123), between the leader and follower. Specifically, it



may be the case that as long as the required socio-emotional needs implied in the psychological contract are met, there are positive implications for behavioral engagement. For example, if the relational contract between a leader and follower implies that the follower should supply LMX resources to the leader, but the leader need not supply LMX resources to the follower, then a lack of leader LMX provisions would not necessarily be detrimental to follower behavioral engagement because these provisions are not expected to be exchanged. This may happen when the leader has a large number of followers and the leader is not expected to actively contribute ample resources to the exchange relationship with each follower. Nevertheless, in these situations, the psychological contract between the leader and follower may still be fulfilled and the LMX relationship may be considered strong, even though leader LMX provisions are low. In this case, the follower may still receive the benefits accrued through the LMX bond that positively influence behavioral engagement.

Similarly, in cases where the follower provides few contributions to the LMX relationship while the leader provides ample contributions to the LMX relationship, the psychological contract may be fulfilled (from the follower's perspective) if the contract implies that the follower need not provide these LMX provisions. This type of relational contract may exist in situations where an employee may not like, respect, or be loyal toward his/her supervisor, but as long as the supervisor is contributing LMX provisions to the relationship, the employee feels obligated to put forth effort into his/her work role. In sum, the terms of the psychological contract may specify that either follower, leader, or both follower and leader LMX provisions are expected to be contributed to the LMX relationship. This may explain why leader and follower LMX provisions appear to act as substitutes for one another in predicting follower behavioral engagement in Study 1; as long as the implied terms of the psychological contract are fulfilled (i.e., high leader LMX provisions, high follower LMX provisions, or both), follower behavioral engagement is increased (nonlinearly). A better understanding of this nonlinear relationship between LMX provisions and follower behavioral engagement is critical for the advancement of LMX theory because previous considerations of the relationship between LMX and work behavior have treated the

relationship as linear, while the current paper suggest nonlinear effects explain additional variance in these outcomes.

### The Actor-Partner Interdependence Model

The current paper provides initial support for part of the APIM (Study 1) although the accuracy of the full APIM in explaining relationships among leader and follower EI, LMX, job satisfaction, and behavioral engagement remains virtually untested due to the extremely limited sample size of Study 2. Because the sample size of Study 2 was so limited, I refrain from interpreting any implications from the test of the APIM based on Study 2 data and suggest future research is necessary to critically evaluate the APIM.

### Limitations and Future Directions

The small sample size of Study 2 is one of several limitations in the current paper. Another important limitation is the common source used to measure all variables in Study 1. Although common method variance cannot account for the interaction effects tested via the polynomial regression analyses in Study 1 (Evans, 1985; Siemsen et al., 2009), the main effects of LMX on job satisfaction and behavioral engagement could be influenced by common method variance. Therefore, future studies should confirm the shape of the response surfaces found in the current paper (Figures 7-15) with multi-source measurement in order to eliminate concerns that common method variance is causing the main effects between LMX and work outcomes. A third limitation involves the sample of Study 1 – that is, the employees recruited through Amazon.com’s Mechanical Turk online data collection tool are not representative of the typical U.S. sample. A majority of the respondents in Study 1 were from India (approximately 70%), and it cannot be determined whether the culture and norms of U.S. organizations are close enough to that of Indian organizations such that the current results can generalize to U.S. populations. Future studies would benefit from replicating Study 1 in an exclusively U.S. sample, or conducting cross-cultural comparisons. Finally, it should be noted that both Study 1 and Study 2 involved cross-sectional data, and the causality of the paths specified in the APIM (Figure 16 and Figure 17) might be more strongly inferred with a longitudinal design.

## Conclusions and Implications

In sum, the current paper suggests (a) EI is an important unique predictor of job satisfaction and behavioral engagement, (b) LMX is not a mediator of the relationship between EI and job satisfaction/behavioral engagement, (c) reciprocity effects of the match between leader and follower LMX provisions are not predictive of follower job satisfaction, follower behavioral engagement, or leader behavioral engagement, and (d) leader LMX and follower LMX provisions both have unexpected curvilinear relationships with follower behavioral engagement. These findings have important implications for the future of EI theory and the expanded criterion space that should be investigated in future EI studies (especially focusing on withdrawal).

## FIGURES

Figure 1. APIM Model of Leader and Follower Emotional Intelligence, LMX Perceptions, Job Satisfaction, and Behavioral Engagement

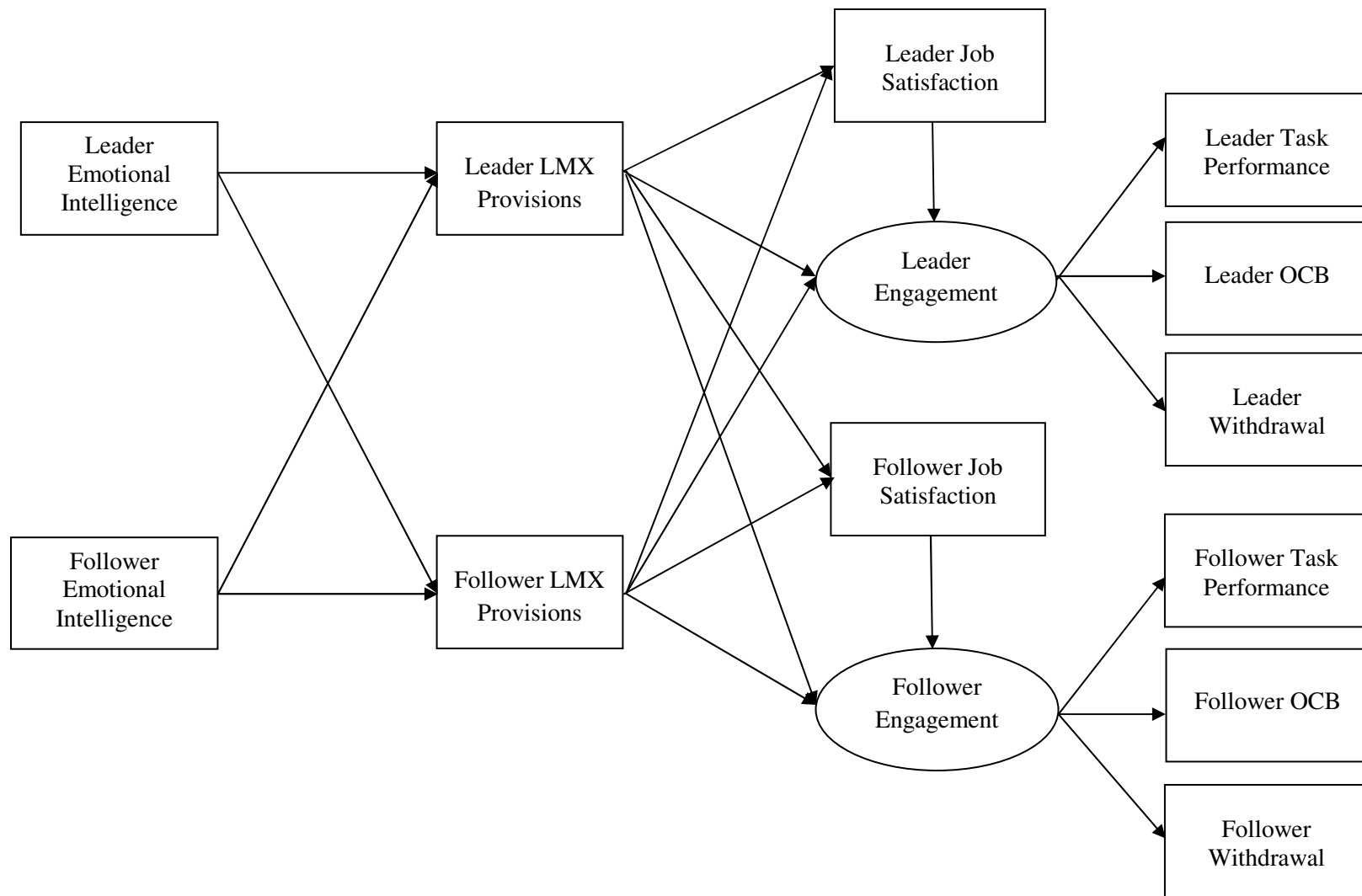


Figure 2. LMX Agreement (the relationship between the columns within each row) vs. LMX Reciprocity (the relationship between rows)

	Leader Reported	Follower Reported
Leader Provisions	I. Leader Report of Leader Provisions (e.g., I do not mind working my hardest for my subordinate.)	II. Follower Report of Leader Provisions (e.g., My supervisor does not mind working her/his hardest for me.)
Follower Provisions	III. Leader Report of Follower Provisions (e.g., My subordinate does not mind working her/his hardest for me.)	IV. Follower Report of Follower Provisions (e.g., I do not mind working my hardest for my supervisor.)

Figure 3. Basic EI-LMX Mediation Model (Follower Level of Analysis)

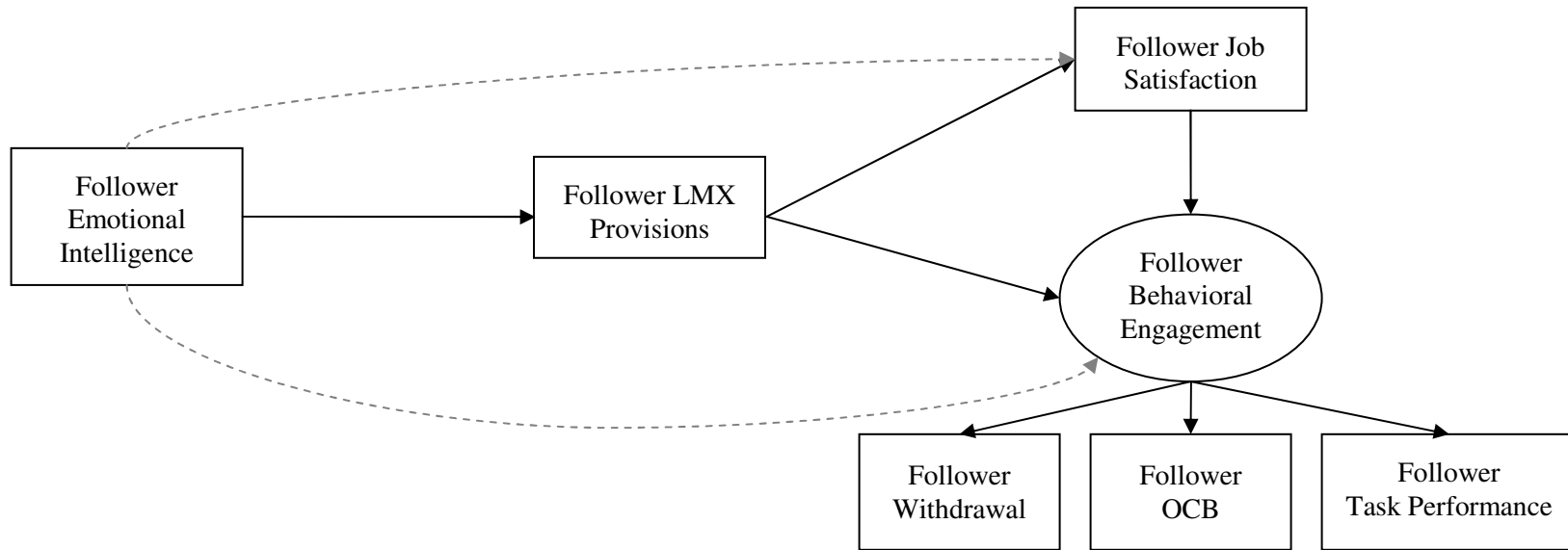


Figure 4. Hypothesized Reciprocity Effect (Hypotheses 6, 7 and 8)

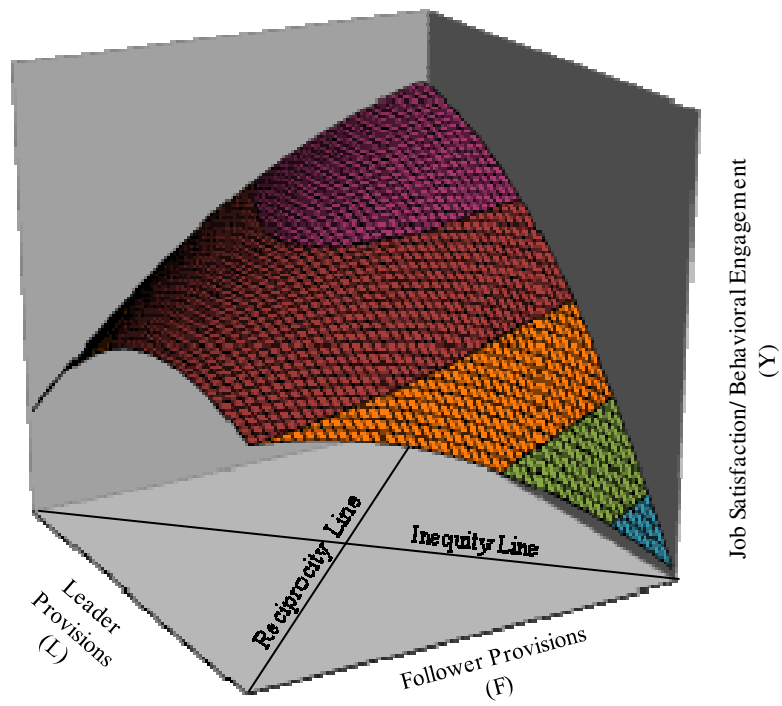


Figure 5. Example Response Surface with no Curvature along the Inequity Line

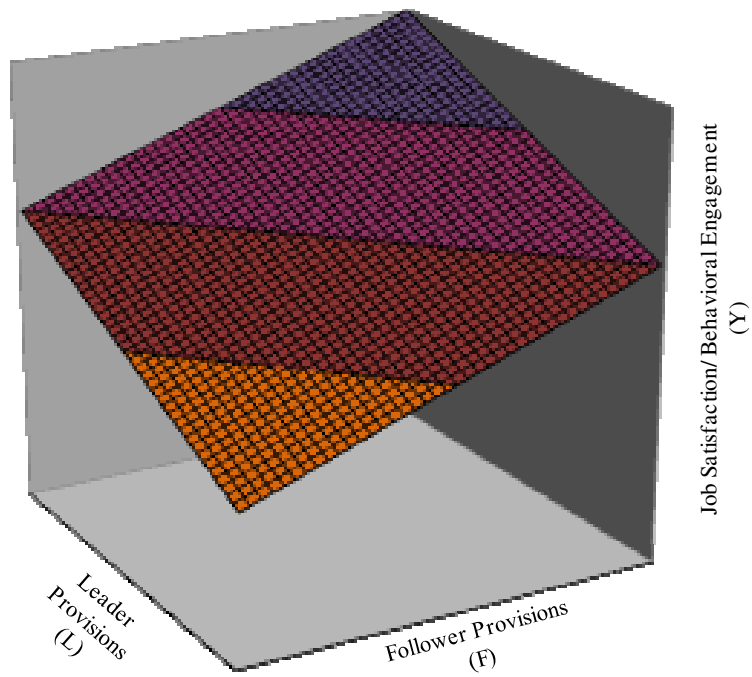




Figure 6. Example Response Surface with a Flat Slope along the Reciprocity Line

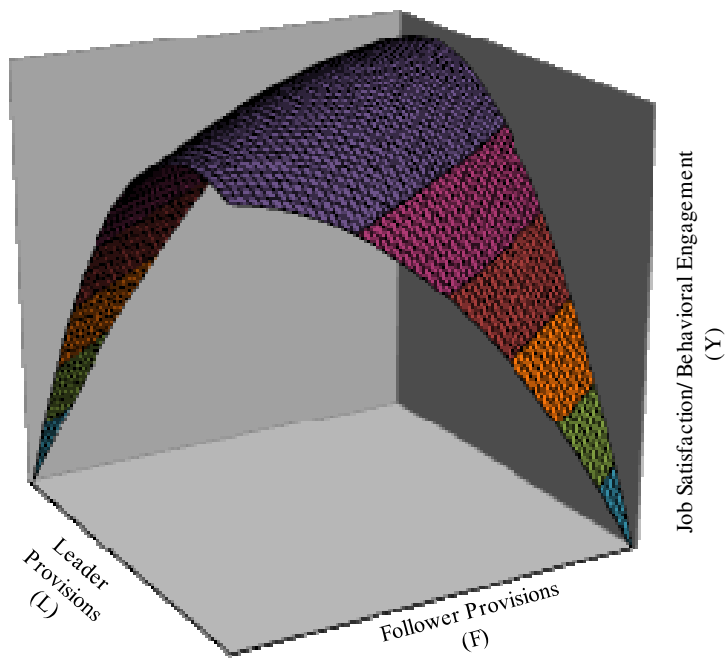


Figure 7. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Follower Job Satisfaction

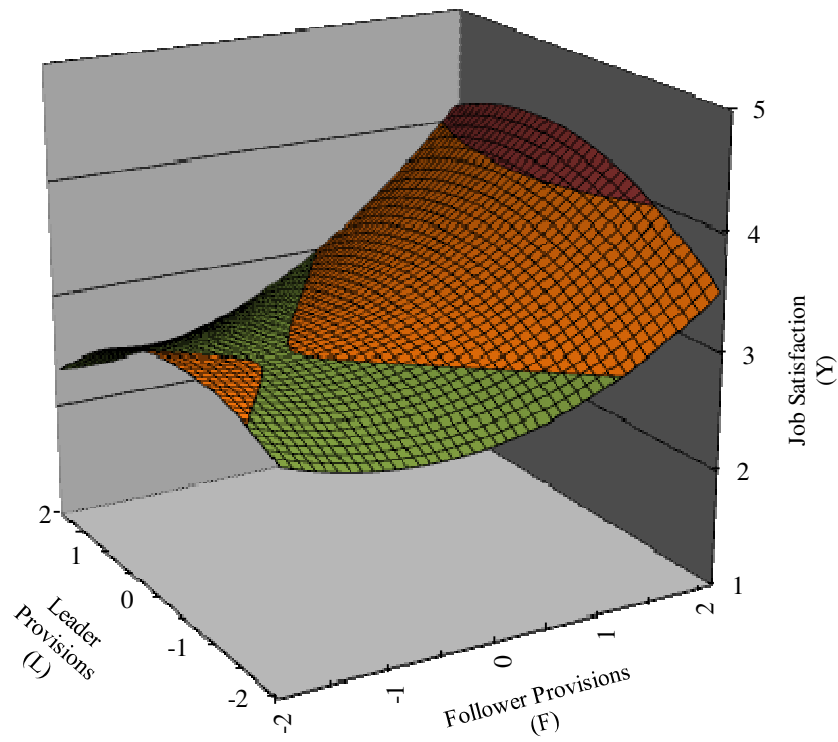


Figure 8. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Follower Behavioral Engagement

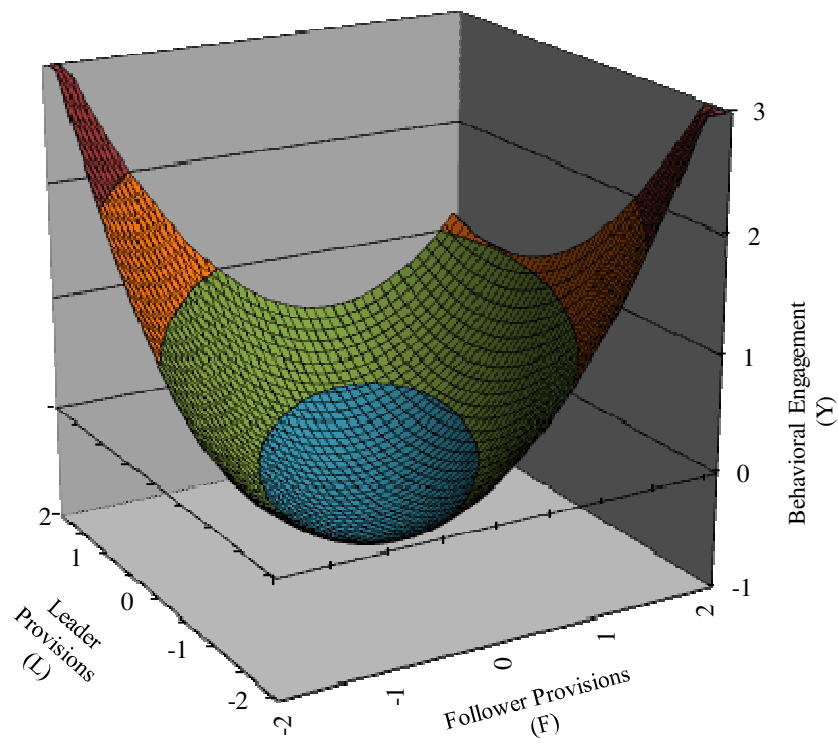


Figure 9. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Follower Task Performance

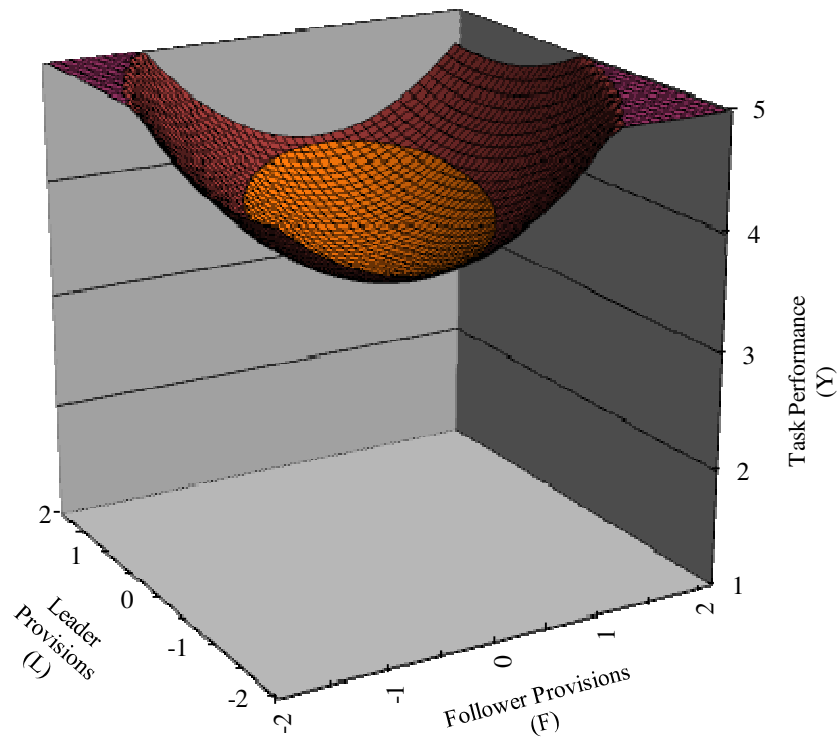


Figure 10. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Follower Organizational Citizenship Behavior

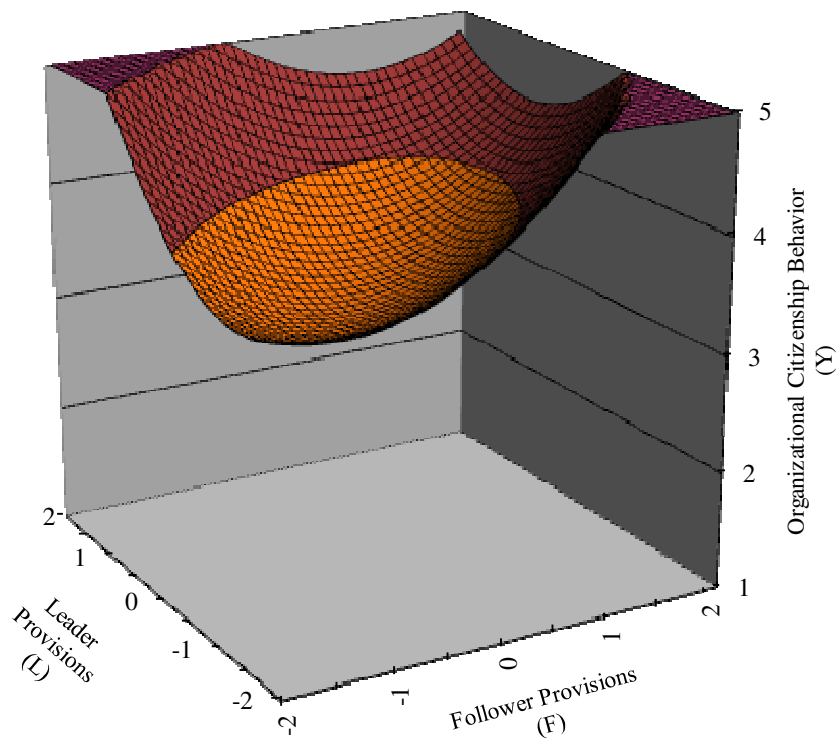


Figure 11. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Follower Withdrawal

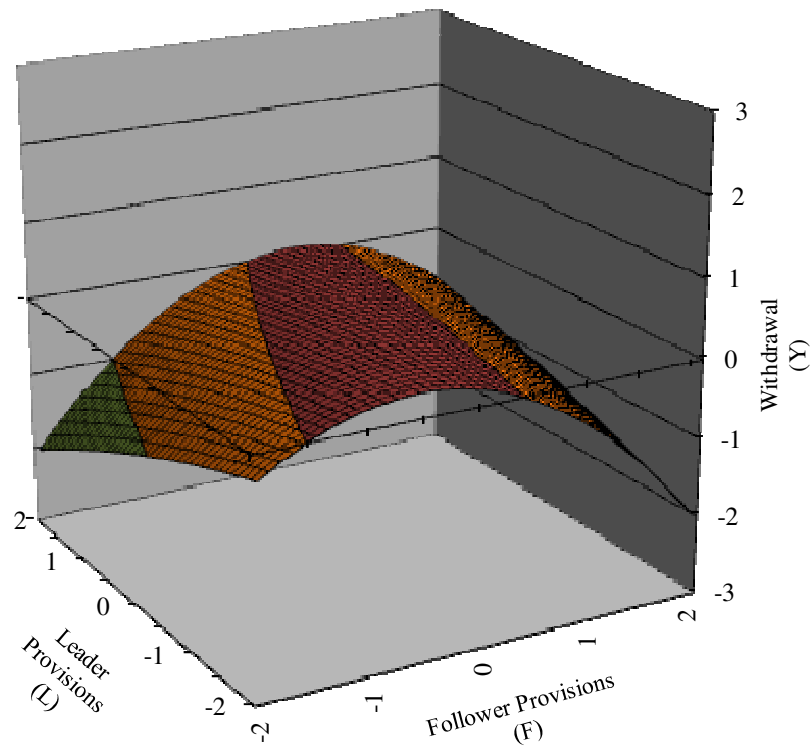


Figure 12. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Leader Behavioral Engagement

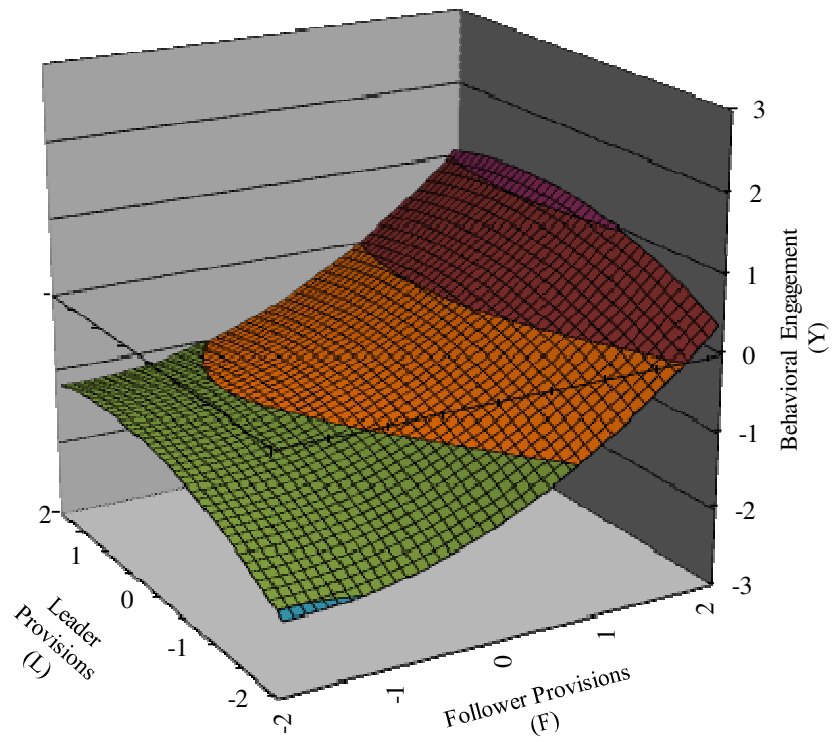


Figure 13. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Leader Task Performance

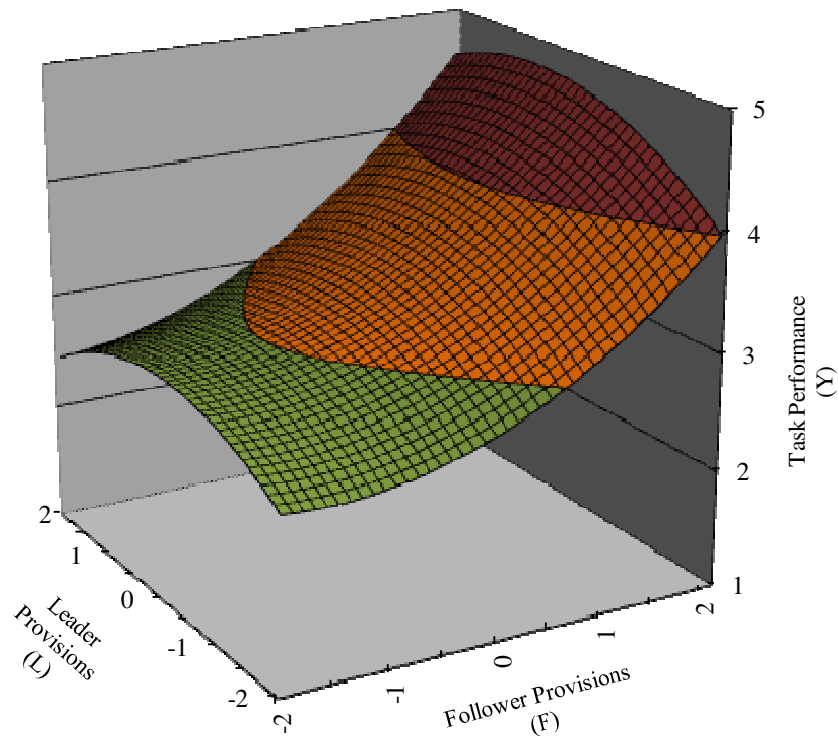




Figure 14. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Leader Organizational Citizenship Behavior

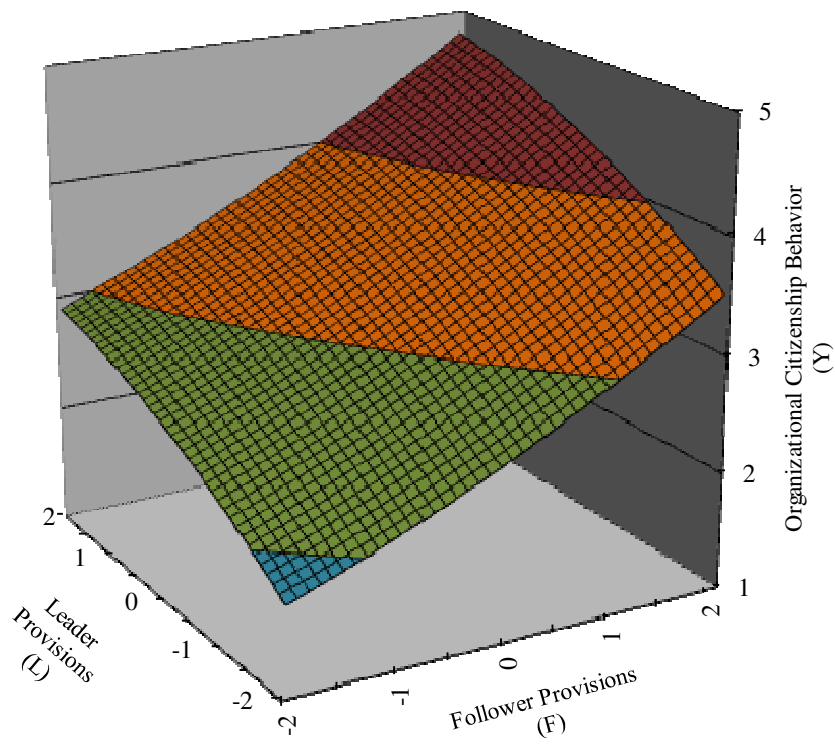


Figure 15. Response Surface Plot of Follower LMX Provisions and Leader LMX Provisions Predicting Leader Withdrawal

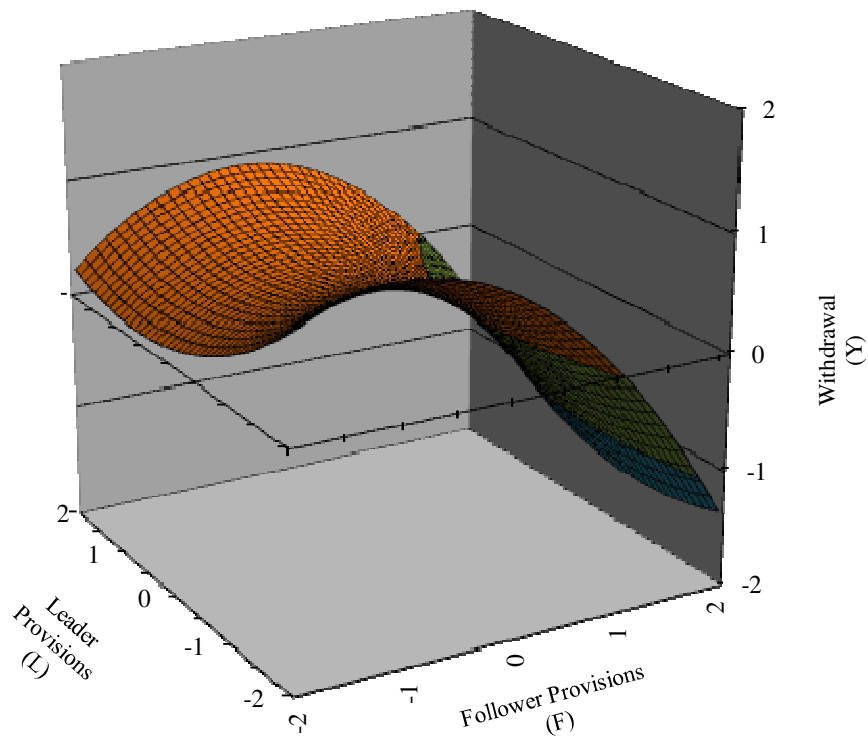
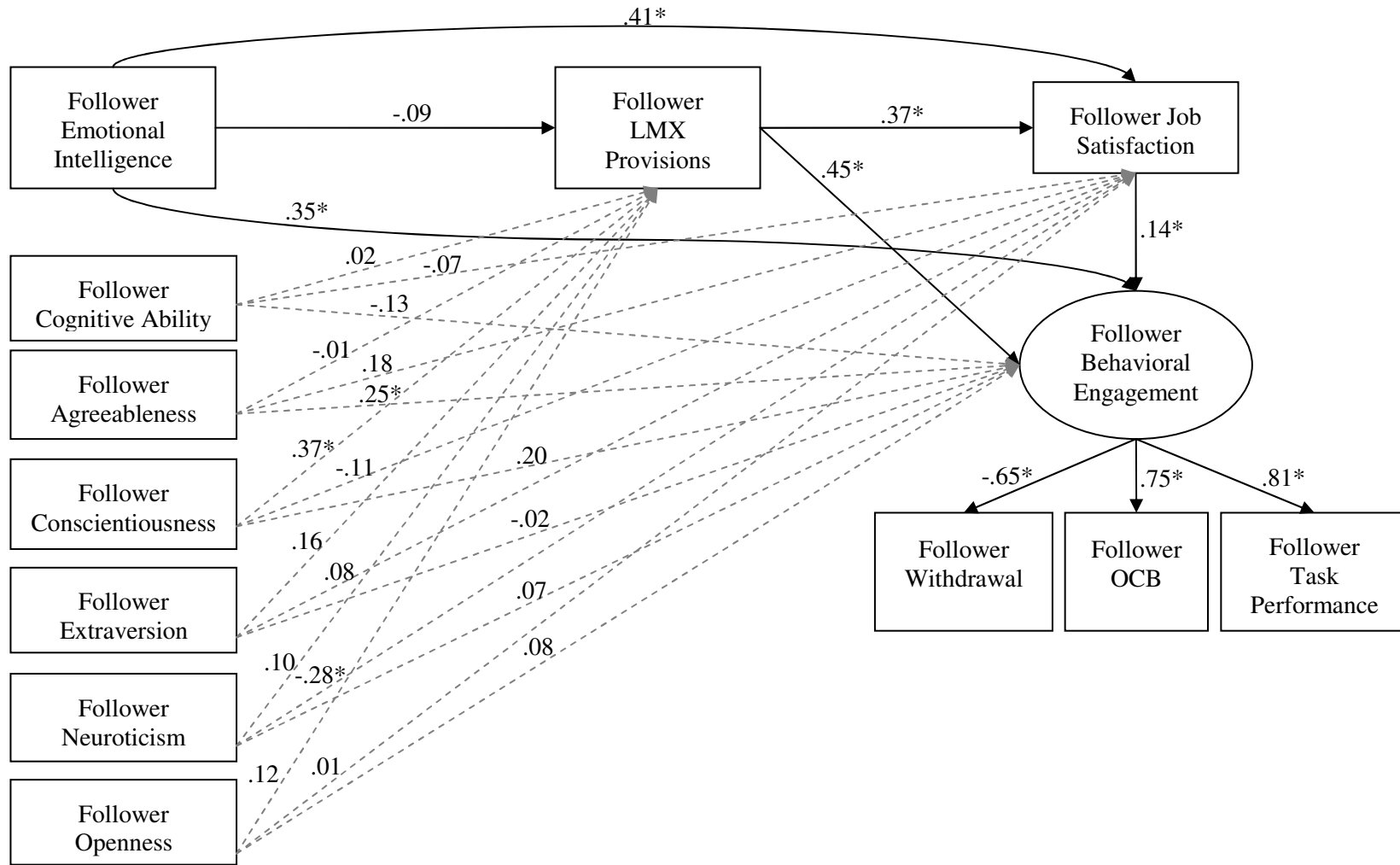
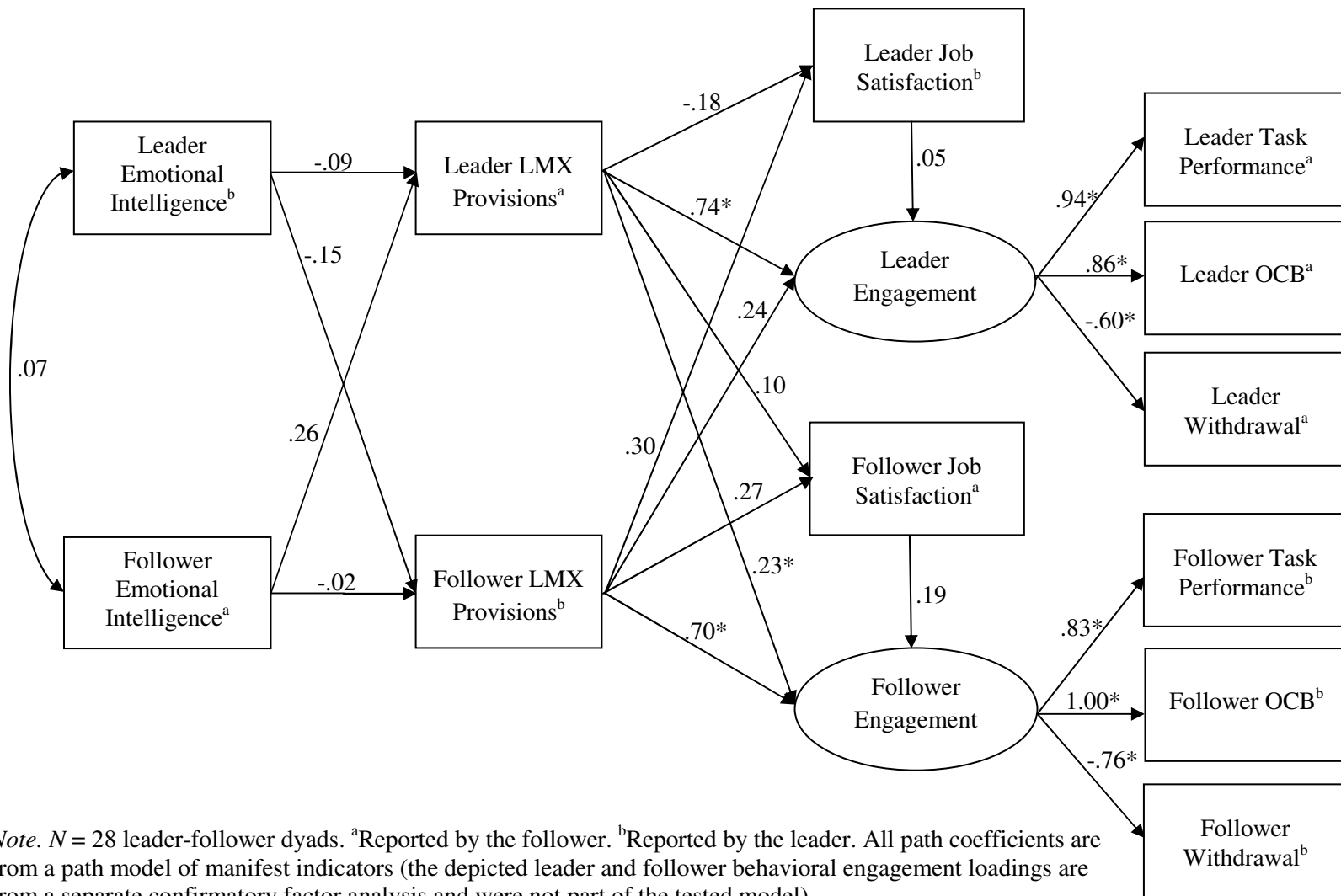


Figure 16. Basic EI-LMX Mediation Model (Follower Level of Analysis)



Note.  $N = 577$ . \*  $p < .05$ . Completely standardized parameter estimates.  $\chi^2 = 2062.57$ ;  $df = 738$ ;  $RMSEA = .058$ ;  $CFI = .967$ ;  $TLI = .963$ . All exogenous factors were allowed to intercorrelate. Dashed paths represent control variables. Factor loadings and factor correlations appear in Table 2.

Figure 17. APIM Model of Leader and Follower Emotional Intelligence, LMX Perceptions, Job Satisfaction, and Behavioral Engagement



Note.  $N = 28$  leader-follower dyads. <sup>a</sup>Reported by the follower. <sup>b</sup>Reported by the leader. All path coefficients are from a path model of manifest indicators (the depicted leader and follower behavioral engagement loadings are from a separate confirmatory factor analysis and were not part of the tested model).

## TABLES

Table 1. Variations of the LMX-MDM scale (Liden & Maslyn, 1998)

Follower Report of Follower Provisions (Liden & Maslyn, 1998)	Leader Report of Leader Provisions (Greguras & Ford, 2006)	Follower Report of Leader Provisions	Leader Report of Follower Provisions
I like my supervisor very much as a person.	I like my subordinate very much as a person.	My supervisor likes me very much as a person.	My subordinate likes me very much as a person.
My supervisor is the kind of person one would like to have as a friend.	My subordinate is the kind of person one would like to have as a friend.	My supervisor thinks I am the kind of person one would like to have as a friend.	My subordinate thinks I am the kind of person one would like to have as a friend.
My supervisor is a lot of fun to work with.	My subordinate is a lot of fun to work with.	My supervisor thinks I am a lot of fun to work with.	My subordinate thinks I am a lot of fun to work with.
My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question.	My subordinate defends my work actions*, even without complete knowledge of the issue in question.	My supervisor thinks I defend his/her work actions even without complete knowledge of the issue in question.	My subordinate thinks I defend his/her work actions even without complete knowledge of the issue in question.
My supervisor would come to my defense if I were "attacked" by others.	My subordinate would come to my defense if I were "attacked" by others.	My supervisor thinks I would come to his/her defense if he/she were "attacked" by others.	My subordinate thinks I would come to his/her defense if he/she were "attacked" by others.
My supervisor would defend me to others in the organization if I made an honest mistake.	My subordinate would defend me to others in the organization if I made an honest mistake.	My supervisor thinks I would defend him/her to others in the organization if he/she made an honest mistake.	My subordinate thinks I would defend him/her to others in the organization if he/she made an honest mistake.
I do work for my supervisor that goes beyond what is specified in my job description.	I provide support and resources for my subordinate that goes beyond what is specified in my job description.	My supervisor provides support and resources for me that go beyond what is specified in my job description.	My subordinate does work for me for me that goes beyond what is specified in my job description.
I am willing to apply extra efforts, beyond those normally required, to meet my supervisor's work goals.	I am willing to apply extra efforts, beyond those normally required, to help my subordinate meet his or her work goals.	My supervisor is willing to apply extra efforts, beyond those normally required, to help me meet my work goals.	My subordinate is willing to apply extra efforts, beyond those normally required, to help me meet my work goals.
I do not mind working my hardest for my supervisor.	I do not mind working my hardest for my subordinate.	My supervisor does not mind working his/her hardest for me.	My subordinate does not mind working his/her hardest for me.
I am impressed with my supervisor's knowledge of his/her job.	I am impressed with my subordinate's knowledge of his/her job.	My supervisor is impressed with my knowledge of my job.	My subordinate is impressed with my knowledge of my job.
I respect my supervisor's knowledge of and competence on the job.	I respect my subordinate's knowledge of and competence on the job.	My supervisor respects my knowledge of and competence on the job.	My subordinate respects my knowledge of and competence on the job.
I admire my supervisor's professional skills.	I admire my subordinate's professional skills.	My supervisor admires my professional skills.	My subordinate admires my professional skills.

\*Greguras and Ford (2006) changed "work actions" from the original Liden and Maslyn (1998) scale to "decisions". Instead of adopting the Greguras and Ford modification, the original Liden and Maslyn wording was used.

Table 2. Confirmatory Factor Analysis of Study 1 Variables

Observed Variable	Factor Loading	Fit Indices	
Emotional Intelligence (MacCann & Roberts, 2008)		$\chi^2$ (df)	2118.52 (731)
STEU Parcel 1 (Items 6, 8, 9, 10, 14, 15, 20, 21, 25, 31, 38, 39, 41, 42)	.84	RMSEA/SRMR	.057/.073
STEU Parcel 2 (Items 5, 11, 18, 19, 22, 23, 28, 30, 32, 33, 34, 35, 37, 40)	.84	TLI/CFI	.967/.971
STEU Parcel 3 (Items 1, 2, 3, 4, 7, 12, 13, 16, 17, 24, 26, 27, 29, 36)	.79		
STEM Parcel 1 (Items 4, 10, 14, 16, 22, 23, 25, 28, 29, 31, 32, 33, 37, 39, 41)	.78		
STEM Parcel 2 (Items 2, 3, 6, 7, 8, 9, 11, 13, 17, 18, 20, 21, 30, 36, 42)	.77		
STEM Parcel 3 (Items 1, 5, 12, 15, 19, 24, 26, 27, 34, 35, 38, 40, 43, 44)	.74		
Cognitive Ability (Ekstrom et al., 1976)			
Diagramming Relations	.63		
Extended Range Vocabulary Parcel 1 (Items 3, 4, 8, 10, 13, 14, 16, 19)	.81		
Extended Range Vocabulary Parcel 2 (Items 1, 5, 6, 9, 15, 17, 21, 23)	.81		
Extended Range Vocabulary Parcel 3 (Items 2, 7, 11, 12, 18, 20, 22, 24)	.76		
Agreeableness (John et al., 1991)			
Agreeableness Parcel 1 (Items 1, 2, 5)	.71		
Agreeableness Parcel 2 (Items 3, 8, 9)	.76		
Agreeableness Parcel 3 (Items 4, 6, 7)	.65		
Conscientiousness (John et al., 1991)			
Conscientiousness Parcel 1 (Items 7, 8, 9)	.74		
Conscientiousness Parcel 2 (Items 1, 4, 6)	.73		
Conscientiousness Parcel 3 (Items 2, 3, 5)	.67		
Extraversion (John et al., 1991)			
Extraversion Parcel 1 (Items 2, 4, 8)	.68		
Extraversion Parcel 2 (Items 1, 5, 7)	.43		
Extraversion Parcel 3 (Items 3, 6)	.73		
Neuroticism (John et al., 1991)			
Neuroticism Parcel 1 (Items 1, 4, 5)	.78		
Neuroticism Parcel 2 (Items 3, 7, 8)	.74		
Neuroticism Parcel 3 (Items 2, 6)	.62		
Openness (John et al., 1991)			
Openness Parcel 1 (Items 2, 4, 7)	.54		
Openness Parcel 2 (Items 6, 8, 10)	.68		
Openness Parcel 3 (Items 1, 3, 5, 9)	.60		
Task Performance (Williams & Anderson, 1991)			
Task Performance Parcel 1 (Items 1, 6, 7)	.59		
Task Performance Parcel 2 (Items 2, 5)	.73		
Task Performance Parcel 3 (Items 3, 4)	.87		
OCB (Lee & Allen, 2002)			
OCB Parcel 1 (OCBI Items 1, 3, 5; OCBO Items 3, 4)	.89		
OCB Parcel 2 (OCBI Items 6, 7, 8; OCBO Items 6, 7)	.87		
OCB Parcel 3 (OCBI Items 2, 4; OCBO Items 1, 2, 5, 8)	.86		
Withdrawal (Hanisch & Hulin, 1990, 1991)			
Withdrawal Parcel 1 (Items 3, 5, 6, 9, 14)	.90		
Withdrawal Parcel 2 (Items 2, 8, 11, 12, 13)	.86		
Withdrawal Parcel 3 (Items 1, 4, 7, 10)	.85		

Table 2 (cont.).

LMX (Liden & Maslyn, 1998)										
LMX Affect Dimension										.84
LMX Loyalty Dimension										.64
LMX Contribution Dimension										.62
LMX Professional Respect Dimension										.80
Job Satisfaction (8 items from Brayfield & Rothe, 1951)										
Job Satisfaction Parcel 1 (Items 1, 2, 5)										.84
Job Satisfaction Parcel 2 (Items 4, 8)										.76
Job Satisfaction Parcel 3 (Items 3, 6, 7)										.72
Behavioral Engagement										
Task Performance										.74
OCB										.68
Withdrawal										-.57
Factor Intercorrelations										
Emotional Intelligence	1.00									
Cognitive Ability	.84	1.00								
Agreeableness	.52	.37	1.00							
Conscientiousness	.49	.38	.77	1.00						
Extraversion	-.07	-.17	.40	.57	1.00					
Neuroticism	-.18	-.14	-.62	-.69	-.56	1.00				
Openness	.39	.33	.59	.62	.59	-.24	1.00			
Behavioral Engagement	.62	.43	.76	.77	.43	-.46	.67	1.00		
LMX	.08	.05	.24	.33	.32	-.20	.32	.77	1.00	
Job Satisfaction	.47	.34	.58	.57	.36	-.49	.41	.81	.52	1.00

*Note.* STEU = Situational Test of Emotion Understanding; STEM = Situational Test of Emotion Management; OCB = organizational citizenship behavior; LMX = leader-member exchange; RMSEA = root mean square of approximation; SRMR = standardized root mean square residual; TLI = Tucker–Lewis index; CFI = comparative fit index; df = degrees of freedom. Completely standardized solutions.

Table 3. Correlation Matrix of Variables in Study 1

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
1. Leader LMX Provisions	3.63	.73	(.91)																							
2. Follower LMX Provisions	3.65	.76	.84	(.90)																						
3. Follower Task Performance	3.89	.70	.22	.26	(.81)																					
4. Leader Task Performance	3.72	.76	.48	.57	.62	(.82)																				
5. Follower OCB	3.84	.63	.48	.47	.56	.42	(.91)																			
6. Leader OCB	3.77	.73	.69	.73	.39	.68	.61	(.94)																		
7. Follower Withdrawal	-.03	.89	-.16	-.19	-.57	-.42	-.34	-.31	(.89)																	
8. Leader Withdrawal	.09	1.00	-.25	-.34	-.46	-.56	-.30	-.48	.74	(.91)																
9. Follower Job Satisfaction	3.44	.71	.34	.42	.50	.51	.43	.45	-.52	-.48	(.77)															
10. Follower Emotion Management	.36	.11	.05	.11	.61	.43	.26	.17	-.45	-.38	.41	(.83)														
11. Follower Emotion Understanding	.43	.20	.03	.10	.63	.42	.27	.18	-.52	-.47	.40	.75	(.88)													
12. Follower EI	.42	.19	.02	.09	.62	.42	.26	.18	-.51	-.47	.40	.74	1.00	(.92)												
13. Follower Agreeableness	3.60	.60	.16	.20	.48	.41	.42	.27	-.48	-.41	.49	.42	.39	.39	(.74)											
14. Follower Conscientiousness	3.57	.62	.28	.27	.54	.40	.44	.33	-.49	-.37	.47	.38	.39	.38	.58	(.78)										
15. Follower Extraversion	3.25	.59	.28	.24	.15	.15	.33	.23	-.18	-.15	.26	.00	-.02	-.02	.29	.41	(.68)									
16. Follower Neuroticism	2.81	.68	-.15	-.15	-.30	-.28	-.25	-.22	.33	.30	-.42	-.17	-.18	-.17	-.49	-.56	-.41	(.77)								
17. Follower Openness	3.54	.48	.24	.23	.41	.29	.43	.28	-.26	-.20	.30	.29	.29	.28	.41	.45	.32	-.18	(.67)							
18. Follower Cognitive Ability	13.90	6.85	.03	.09	.50	.34	.12	.13	-.38	-.35	.29	.62	.71	.70	.27	.29	-.07	-.12	.24	(.83)						
19. Follower Sex	1.37	.48	.04	.07	.19	.15	.08	.11	-.15	-.14	.15	.21	.22	.22	.17	.08	.01	-.02	.13	.17	--					
20. Follower Age	1.47	.82	.00	.01	.14	.10	.07	.06	-.10	-.08	.17	.26	.23	.23	.11	.18	-.04	-.09	.10	.21	.09	--				
21. Follower Education	3.93	.99	-.02	.00	-.06	-.02	.02	.00	.01	.00	.04	-.03	-.06	-.06	-.02	-.01	.08	-.06	.00	-.05	-.04	.00	--			
22. Follower Tenure in Organization	3.78	4.44	.03	-.01	.04	.03	.02	.02	-.03	.01	.06	.15	.11	.11	.02	.07	.00	-.01	.01	.07	-.02	.50	.07	--		
23. Follower Tenure in Position	2.66	4.05	.04	-.01	.03	.00	.01	.00	-.01	.03	-.01	.07	.06	.06	.02	.08	.02	.04	.04	.04	-.02	.34	.03	.68	--	
24. Frequency of Interaction between Leader and Follower	3.95	.60	.11	.10	.03	.06	.10	.10	-.09	-.08	.06	-.01	-.02	-.02	.08	.08	.11	-.01	.07	-.02	-.10	.04	.03	.08	.03	--
25. Length of Leader-Follower Relationship	3.24	4.80	.05	.03	.04	.05	-.05	.01	-.04	.00	.09	.10	.12	.12	.05	.11	.03	-.05	.10	.09	.06	.39	.02	.51	.41	.11

*Note.* *M* = mean; *SD* = standard deviation. *N* = 577. Correlations greater than .08 are significant. All variables are follower-reported. Cronbach's alpha is reported on the diagonal. Withdrawal scores are z-scores. Male = 1, female = 2. Follower tenure in organization, follower tenure in position, and length of leader-follower relationship are reported in years.



Table 4. Polynomial Regression Results: Follower Perceptions of LMX Reciprocity Predicting Follower Job Satisfaction, Behavioral Engagement, Task Performance, OCB, and Withdrawal

Variable	Follower Job Satisfaction		Follower Behavioral Engagement		Follower Task Performance		Follower OCB		Follower Withdrawal	
	Model 1: <i>B</i>	Model 2: <i>B</i>	Model 1: <i>B</i>	Model 2: <i>B</i>	Model 1: <i>B</i>	Model 2: <i>B</i>	Model 1: <i>B</i>	Model 2: <i>B</i>	Model 1: <i>B</i>	Model 2: <i>B</i>
Intercept ( $b_0$ )	3.20*	3.17*	-.23*	-.38*	3.74*	3.61*	3.56*	3.45*	.10*	.20*
Follower LMX provisions ( $b_1$ )	.45*	.31*	.29*	.10	.23*	.04	.20*	.13*	-.23*	-.03
Leader LMX provisions ( $b_2$ )	-.06	.01	.12	.06	.02	-.03	.23*	.12	.01	-.05
Follower LMX provisions squared ( $b_3$ )		.13		.39*		.33*		.24*		-.33*
Follower LMX provisions X Leader LMX provisions ( $b_4$ )		.07		-.32		-.21		-.30*		.19
Leader LMX provisions squared ( $b_5$ )		-.12		.23*		.15		.28*		-.03
$R^2$	.180*	.197*	.150*	.251*	.068*	.167*	.240*	.320*	.035*	.070*
Adjusted $R^2$	.177*	.189*	.147*	.244*	.064*	.160*	.238*	.314*	.032*	.061*
$\Delta R^2$		.017*		.101*		.099*		.080*		.035*

*Note.*  $N = 569$ . Coefficients are unstandardized regression coefficients. Follower behavioral engagement is a unit-weighted composite of follower task performance, follower OCB, and follower withdrawal. Job satisfaction, task performance, OCB, withdrawal, follower LMX provisions, and leader LMX provisions were all self-reported by the follower.

\*  $p < .05$ .

Table 5. Polynomial Regression Results: Follower Perceptions of LMX Reciprocity Predicting Leader Behavioral Engagement, Task Performance, OCB, and Withdrawal

Variable	Leader Behavioral Engagement		Leader Task Performance		Leader OCB		Leader Withdrawal	
	Model 1:	Model 2:	Model 1:	Model 2:	Model 1:	Model 2:	Model 1:	Model 2:
	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
Intercept ( $b_0$ )	-.64*	-.66*	3.36*	3.34*	3.29*	3.29*	.35*	.40*
Follower LMX provisions ( $b_1$ )	.73*	.59*	.58*	.46*	.49*	.46*	-.57*	-.38*
Leader LMX provisions ( $b_2$ )	.09	.19*	-.01	.07	.27*	.30*	.15	.01
Follower LMX provisions squared ( $b_3$ )		.16		.12		.03		-.26*
Follower LMX provisions X Leader LMX provisions ( $b_4$ )		-.01		.04		.01		.09
Leader LMX provisions squared ( $b_5$ )		-.11		-.11		-.04		.11
$R^2$	.428*	.437*	.327*	.336*	.545*	.546*	.118*	.132*
Adjusted $R^2$	.426*	.432*	.324*	.331*	.544*	.542*	.114*	.124*
$\Delta R^2$		.009*		.009*		.001		.014*

*Note.*  $N = 566$ . Coefficients are unstandardized regression coefficients. Leader behavioral engagement is a unit-weighted composite of follower task performance, follower OCB, and follower withdrawal. Task performance, OCB, withdrawal, follower LMX provisions, and leader LMX provisions were all self-reported by the follower.

\*  $p < .05$ .

Table 6. Response Surface Characteristics: Follower Perceptions of LMX Reciprocity Predicting Follower Job Satisfaction, Behavioral Engagement, Task Performance, OCB, and Withdrawal

	Shape along Reciprocity Line		Shape along Inequity Line		Lateral Shift	Rotation
	$b_1 + b_2$	$b_3 + b_4 + b_5$	$b_1 - b_2$	$b_3 - b_4 + b_5$	$ b_2  -  b_1 $	$ b_5  -  b_3 $
Follower Job Satisfaction	.32*	.08*	.30	-.06	-.30	-.01
Follower Behavioral Engagement	.16*	.30*	.04	.94*	-.04	-.16
Follower Task Performance	.01	.27*	.07	.69*	-.01	-.18
Follower OCB	.25*	.22*	.01	.82*	-.01	.04
Follower Withdrawal	-.08	-.17*	.02	-.55	.02	-.30*

*Note.* The reciprocity line refers to the line along which follower LMX provisions are equal to leader LMX provisions ( $F = L$ ). The inequity line refers to the line along which follower LMX provisions are not equal to leader LMX provisions ( $L = -F$ ).  $b_1$ ,  $b_2$ ,  $b_3$ ,  $b_4$ , and  $b_5$  refer to unstandardized coefficients presented in Table 4.

\*  $p < .05$ .

Table 7. Response Surface Characteristics: Follower Perceptions of LMX Reciprocity Predicting Leader Behavioral Engagement, Task Performance, OCB, and Withdrawal

	Shape along Reciprocity Line		Shape along Inequity Line		Lateral Shift	Rotation
	$b_1 + b_2$	$b_3 + b_4 + b_5$	$b_1 - b_2$	$b_3 - b_4 + b_5$	$ b_1  -  b_2 $	$ b_3  -  b_5 $
Leader Behavioral Engagement	.78*	.04	.40*	.06	.40*	.05
Leader Task Performance	.53*	.05	.39*	-.03	.39*	.01
Leader OCB	.76*	.00	.16	-.02	.16	-.01
Leader Withdrawal	-.37*	-.06	-.39	-.24	.37	.15

*Note.* The reciprocity line refers to the line along which follower LMX provisions are equal to leader LMX provisions ( $F = L$ ). The inequity line refers to the line along which follower LMX provisions are not equal to leader LMX provisions ( $L = -F$ ).  $b_1$ ,  $b_2$ ,  $b_3$ ,  $b_4$ , and  $b_5$  refer to unstandardized coefficients presented in Table 5.

\*  $p < .05$ .

Table 8. Correlation Matrix of Variables in Study 2

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.
1. Leader LMX Provisions	4.23	.79	(.95)																								
2. Follower LMX Provisions	4.14	.68	.54	(.93)																							
3. Follower Task Performance	4.41	.74	.51	.72	(.91)																						
4. Leader Task Performance	4.44	.79	.83	.54	.54	(.92)																					
5. Follower OCB	4.19	.76	.60	.78	.84	.63	(.95)																				
6. Leader OCB	4.35	.77	.72	.52	.57	.85	0.65	(.97)																			
7. Follower Withdrawal	-0.77	.74	-.52	-.74	-.66	-.67	-0.74	-.54	(.92)																		
8. Leader Withdrawal	-0.92	.71	-.35	-.39	-.32	-.33	-0.35	-.35	.39	(.92)																	
9. Follower Engagement	0.71	.92	.60	.81	.93	.66	0.96	.65	-.84	-.38	--																
10. Leader Engagement	0.86	.87	.79	.59	.59	.92	0.68	.94	-.65	-.58	.70	--															
11. Follower Job Satisfaction	4.48	.87	.24	.32	.17	.39	0.50	.34	-.56	-.30	.43	.41	(.90)														
12. Leader Job Satisfaction	4.64	.44	-.02	.21	.25	.08	0.26	-.02	-.10	-.21	.24	.08	-.03	(.88)													
13. Follower EI	0.64	.09	.25	-.03	.17	.07	.21	.18	-.01	-.09	.16	.14	-.07	.09	(.69)												
14. Leader EI	0.64	.10	-.07	-.15	-.13	-.10	-.05	.04	.16	-.17	-.11	.02	.18	-.05	.07	(.67)											
15. Follower Sex	1.89	.31	.10	.29	.49	.07	.32	.14	-.02	.00	.33	.10	-.16	-.05	.19	-.22	--										
16. Leader Sex	1.89	.31	-.16	.09	.10	-.06	-.01	-.07	.04	-.38	.03	.05	-.06	.28	-.02	.01	.25	--									
17. Follower Age	3.46	1.00	.18	.12	-.17	.03	.16	-.01	-.07	-.35	.03	.10	.24	.02	.09	.22	-.19	.05	--								
18. Leader Age	3.11	1.13	-.16	.06	.02	.04	.16	-.04	-.24	-.19	.14	.05	.42	.15	-.12	-.10	-.17	.34	.31	--							
19. Follower Tenure in Organization	8.19	8.51	.27	.12	.29	.24	.15	.18	-.13	-.02	.21	.20	-.06	-.04	.03	.34	.12	.02	.07	-.01	--						
20. Leader Tenure in Organization	7.89	6.41	.00	-.13	.05	.08	.07	.01	.00	.13	.05	.00	.04	-.02	.03	.19	.02	-.02	-.07	.09	.34	--					
21. Follower Tenure in Position	4.62	5.22	.24	-.15	.04	.19	-.13	.11	.02	.07	-.05	.12	-.36	-.14	.29	.02	-.03	-.21	-.01	-.26	.44	.40	--				
22. Leader Tenure in Position	4.45	4.03	-.17	-.30	-.28	-.07	-.07	-.24	.05	.42	-.15	-.26	.20	-.12	-.08	.03	-.20	-.20	.07	.29	-.02	.74	.13	--			
23. Follower-Reported Frequency of Interaction with Leader	3.89	.88	.11	.25	-.06	.06	.17	.02	-.18	-.02	.10	.04	.36	.00	-.03	.08	.09	.09	.06	.05	-.09	-.21	-.45	.06	--		
24. Leader-Reported Frequency of Interaction with Follower	3.96	.88	-.04	.24	-.16	-.07	.11	-.16	-.19	.11	.03	-.14	.31	.11	-.10	-.04	-.15	-.15	.02	-.03	-.33	-.24	-.45	.17	.76	--	
25. Follower-Reported Length of Relationship with Leader	4.69	3.87	.12	-.17	.05	.06	.11	.12	.13	.14	.03	.04	-.04	-.07	.40	.28	.06	-.18	.02	-.17	.25	.81	.53	.51	-.13	-.23	--
26. Leader-Reported Length of Relationship with Follower	5.88	5.28	.09	-.22	.14	.08	-.04	.11	.14	.05	.00	.07	-.33	-.09	.17	.25	.11	-.06	-.10	-.15	.59	.77	.76	.31	-.40	-.55	.76

Table 8 (cont.).

*Note.*  $M$  = mean;  $SD$  = standard deviation.  $N = 28$ . Correlations greater than .37 are significant. All variables were self-reported except LMX provisions, task performance, OCB, withdrawal, and behavioral engagement. Cronbach's alpha is reported on the diagonal. Withdrawal scores are z-scores. Male = 1, female = 2. Follower tenure in organization, follower tenure in position, and length of leader-follower relationship are reported in years.

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