Effects of relational schema congruence on leader-member exchange

Chou-Yu Tsai a,⁎, Shelley D. Dionne b, An-Chih Wang c, Seth M. Spain b, Francis J. Yammarino b, Bor-Shiuan Cheng d

a Department of Management, College of Business and Economics, California State University, Los Angeles, United States
b Center for Leadership Studies, School of Management, State University of New York, Binghamton, United States
c Institute of Human Resource Management, National Sun Yat-Sen University, Taiwan
d Department of Psychology, National Taiwan University, Taipei, Taiwan

ABSTRACT

Drawing on social exchange processes in leader-member exchange (LMX), we posit that expressive relational schema (ERS) and instrumental relational schema (IRS), which refer to knowledge structures in social exchange processes, act as antecedents of follower-rated LMX. Specifically, we discuss how leader-follower relational schema congruence/incongruence forms follower-rated LMX. Using polynomial regression models, we analyze 205 leader-follower dyads and test the congruent/incongruent effects on follower-rated LMX. The findings show that ERS congruence has a positive effect on follower-rated LMX, while IRS congruence has a negative effect on follower-rated LMX. Results also demonstrate that ERS incongruence impairs more follower-rated LMX than does ERS congruence, and IRS incongruence and IRS congruence have the same follower-rated LMX. Implications for LMX theory and research are discussed.

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Leader-member exchange
Relational schema
Congruence
Implicit leadership theory
Polynomial regression

Introduction

Over the past 40 years, leader-member exchange (LMX) theory has amassed considerable research attention and become a fruitful research topic in regard to understanding dyadic leadership in the workplace (Gerstner & Day, 1997; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Ilies, Nahrgang, & Morgeson, 2007). Derived from the vertical dyadic linkage approach (Dansereau, Graen, & Haga, 1975), LMX theory depicts the extent to which a leader and a follower exchange resources and support beyond what is expected based on the formal employment contract (Liden, Bauer, & Erdogan, 2004; Sparrowe & Liden, 1997). In low-quality LMX, the exchange between a leader and follower is based mainly on formally agreed-on, immediate, and balanced reciprocation of tangible assets (Blau, 1986). In contrast, in high-quality LMX, the exchange between a leader and follower is characterized by mutual trust, respect, obligation, and liking (Graen & Uhl-Bien, 1995). Research has provided substantial evidence that LMX can predict a wide range of attitudinal and behavioral outcomes, such as citizenship behaviors (Ilies et al., 2007), job performance (Bauer, Erdogan, Liden, & Wayne, 2006), and various follower consequences (see meta-analyses by Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Gerstner & Day, 1997).

While outcome-oriented results of LMX have been widely studied, Gerstner and Day (1997) called for more research on the antecedents of LMX. In this regard, one key research stream focuses on the cognitive determinants of LMX (e.g., schemas, implicit theories; Engle & Lord, 1997; Epitropaki & Martin, 2005; Huang, Wright, Chiu, & Wang, 2008). Investigations of how information

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is cognitively processed offer a means to understand the source of a leader’s influence and how leadership is socially constructed within a leader-follower dyad (Dinh et al., 2014; Epitropaki, Sy, Martin, Tram-Quon, & Topalas, 2013; Lord & Dinh, 2014; Lord & Maher, 1991). For instance, Epitropaki and Martin (2005) examined the role of implicit leadership theories (i.e., individual leadership schemas) in the LMX process. Their research showed that followers can have better LMX ratings when the difference between the actual perception of their leaders and the leadership schemas endorsed by followers is smaller. Research by Engle and Lord (1997) indicated that both leaders and followers may rely on different cognitive schemas (e.g., leaders rely on performance schemas, whereas followers rely on implicit leadership theories) to process social information, to interpret the others’ behaviors, and to make related social judgments. Additionally, research from Huang et al. (2008) and Zhou and Schriesheim (2010) examine how schemas influence cognitive evaluation, with leaders’ evaluations of work-related issues and followers’ evaluations of social-related issues. As such, prior research on the cognitive determinants of LMX highlights the importance of cognitive schemas in LMX processes in regard to how leaders and followers perceive, interpret, and create expectations from their interactions.

Although the initial findings on the antecedents of LMX highlight the importance of cognitive factors in both leadership and followership, a few issues remain unresolved, which we seek to address here. First, prior leadership research has focused mainly on individual-level cognitive schemas for a leader or follower. Although these implicit cognitive schemas for how a leader or a follower should be or behave play an essential role in the development of exchange relationships between leaders and followers, relational or dyad-level schemas, or a knowledge structure about how a leader-follower relationship should be, may be more proximal to LMX. Prior research findings not only lend support for distinct cognitive contents of an LMX process (i.e., work-related and social-related), but also provide insight into how differences in relational schemas may be at the core of understanding LMX incongruence (i.e., a leader and follower perceive LMX differently).

Knowledge structures usually refer to cognitive schemas, which include scripts, plans, categories, implicit theories, prototypes, or heuristics (Foti & Lord, 1987; Lord & Shondrick, 2011; Shondrick, Dinh, & Lord, 2010). Different information and knowledge (Fiske & Taylor, 2008) are stored and represented abstractly in different schemas, which may provide people with cognitive categories to represent complexities through prototypical characteristics. In this manner, the content of a knowledge structure (schema) is important because the identification of specific schema content may help researchers identify which phenomenon it represents (Walsh, 1988, 1995). Because key premises of LMX are built on social exchange theory (Blau, 1986), the content of how people store supervisor-subordinate exchange relations in their schemas may play an important role in leader-follower reciprocal interactions. As such, this study focuses on the impact of relational schemas (Baldwin, 1992, 1997), a knowledge structure of a social exchange process, held by both leaders and followers, on follower-rated LMX quality.

We choose to focus on follower-rated LMX because of three theoretical concerns: First, follower-rated LMX has positive effects on many important follower outcomes (e.g., job performance; see Bauer et al., 2006). Second, power asymmetry within the relationship between a leader and follower may leave the follower with fewer options for the improvement of an LMX relationship (Galinsky, Magee, Inesi, & Gruenfeld, 2006). Third, follower-rated LMX is the primary reported source within LMX literature (see Gooty, Serban, Thomas, Gavin, & Yammarino, 2012; Gooty & Yammarino, 2016), meaning that results based on follower-rated LMX are more readily incorporated into the existing LMX literature. Thus, investigating follower-rated LMX may reveal a significant view of a follower’s psychological mechanism within the complicated leader-follower dyadic dynamic.

Incorporation of relational schemas into LMX processes represents an advancement of the LMX literature in several ways. First, dyad-level schema research and its association with LMX is scant (for a review, see Epitropaki et al., 2013), and, yet, the role that relational schemas (Baldwin, 1992, 1997) play in dyadic-based leadership theory (e.g., LMX) provides a potentially important theoretical alignment of the level-of-analysis issues related to leader-follower processes. Thus, movement from individual-level implicit theories about a leader or follower toward more interactive-based relational schemas seems particularly important for interpreting the leader-follower processes within LMX.

Second, prior research assumes that similarity in cognitive schemas relates to favorable LMX quality regardless of the schema content (Lord & Maher, 1991). We assert that different relational schemas, such as expressive (i.e., beliefs that leaders and followers should be emotionally attached to each other) and instrumental (i.e., beliefs that leader-follower relationships are nothing more than a purely economic exchange) (see Baldwin, 1992, 1997), could potentially influence the LMX experience in different ways, even when leaders and followers hold similar views.

Third, to better understand the effects of cognitive congruence between leaders and followers, we employ a framework from self-other agreement research (Atwater, Wang, Smither, & Fleenor, 2009; Atwater & Yammarino, 1992; Fleenor, Smither, Atwater, Braddy, & Sturm, 2010) and test our assertions using polynomial regression and response surface methodology (Edwards, 2007; Edwards & Parry, 1993), which not only offers a rigorous test of congruence effects but also enables a direct comparison between congruence and incongruence (for a review, see Edwards, 2002). Therefore, understanding the consequences of congruence and/or incongruence amid differing types of relational schemas between leaders and followers can enhance our understanding of LMX relations and ratings. We consider the implications of leader-follower relational schema congruence as an antecedent of follower-rated LMX through field research using leader-follower dyads in business organizations.

Theoretical development and hypotheses

**Leader-member exchange theory**

Leader-member exchange (LMX) is rooted in role theory (Graen & Scandura, 1987), which contends that active role-taking, role-making, and role-routinization processes for leader and follower move the de facto relationship away from a contractually
defined one and toward a more mutually satisfying relationship. LMX theory has evolved to rely heavily on social exchange theory (Blau, 1986), which defines LMX as the quality of the follower’s exchange relationship with the leader (Erdogan & Liden, 2002; Liden, Sparrowe, & Wayne, 1997; Liden et al., 2004; Sparrowe & Liden, 1997). LMX focuses on both dyadic exchanges between leader and follower and mutual attributes and processes in leader-follower interactions. LMX theory asserts that leaders develop differential relationships with their followers (Martin, Thomas, Charles, Epitropaki, & McNamara, 2005; Schriesheim, Neider, & Scandura, 1998; Yammarino & Dansereau, 2008). For example, followers with high-quality LMX relations with their leaders are more likely to experience balanced feelings of mutual obligation, loyalty, and reciprocity (Graen & Uhlenberg, 1995). In contrast, followers with low-quality LMX relations with their leader are more likely to experience economic exchange based on formally agreed-upon, immediate, and balanced tangible asset reciprocation (Liden et al., 1997; Sparrowe & Liden, 1997).

Because LMX theory emphasizes dyadic social interactions, the underlying cognitive mechanisms involved in social interactions between leaders and followers should be carefully assessed (Lord & Dinh, 2014; Lord & Shondrick, 2011). According to information-processing theory, human knowledge structures play important roles in social-information processing (Fiske & Taylor, 2008; Lord & Maher, 1991). Knowledge structures can facilitate individuals to select and encode social information to form perceptions about outside events efficiently (Walsh, 1988, 1995). In addition, knowledge structures may facilitate individuals to interpret perceptions, to provide appropriate responses, and even to influence other individuals’ performance (Shih, Ambady, Richeson, Fujita, & Gray, 2002). By combining these two functions, knowledge structures may provide individuals with not only the tools to effectively process social information but also adaptive behavior strategies during social interactions. Therefore, it is important, from a theoretical perspective, to examine the role of knowledge structures in leader-follower interactions.

**Relational schema**

A relational schema is interpersonal knowledge that is used to process social information and to demonstrate proper social behaviors (Baldwin, 1992, 1997). People use relational schemas as cognitive maps to help them navigate their social world (Baldwin, 1992). One schema, for example, concerns how one behaves when meeting someone for the first time. In this situation, one reaches out his or her hand and asks, “How are you?” A relational schema provides people with behavior scripts to properly guide their behaviors during social interactions and with interpretations of other people’s social behavior. Thus, a relational schema includes declarative and procedural parts (Baldwin, 1992).

In terms of the declarative part of a relational schema, a knowledge structure helps people make sense of, and interpret, social and organizational information or situations. Meanwhile, the procedural part of a relational schema contains behavior scripts, which are hypothesized to guide appropriate behavior within a specific social context (Anderson, 1983; Foti & Lord, 1987; Gioia & Manz, 1985; Gioia & Poole, 1984). Baldwin (1997) depicted a relational schema as a mental representation of “if-then” interpersonal expectations between self and others. For instance, if someone says “hello,” then the other person should respond by also saying “hello.” If-then interpersonal expectations guide an individual’s behavior within the dyadic relationship.

In relational schemas, the knowledge structure of dyadic relations is emphasized, rather than a focus on the “self” or “other” in isolation (Baldwin, 1992). That is, the content of a relational schema is hypothesized to include images of both self and others, along with behavioral scripts for an expected pattern of interaction, derived through generalization from repeated similar interpersonal experiences (Baldwin, 1992). Based on this definition, how a person represents outside social relations in his or her knowledge structures may determine the content of a relational schema. As such, it is important to investigate the content of relational schemas by examining how external social relations are internally represented in a person’s knowledge structure.

**Expressive and instrumental relational schemas**

Characterized within LMX are exchange-based relations between leader and follower (Liden et al., 2004; Sparrowe & Liden, 1997), where relations begin as forms of social and/or economic exchanges. In this exchange, leaders can offer support and encouragement as followers take on new roles (i.e., social support), or leaders can request that followers provide work based on the reporting relationship and control of rewards (i.e., economic). The conceptually and theoretically distinct nature of these two forms of exchange between leaders and followers may indicate that the relational schema surrounding these interactions may differ as well. As such, we examine two different types of cognitive schemas (Baldwin, 1992, 1997): expressive relational schemas associated with social support, and instrumental relational schemas associated with economic support.

Similar to Song, Tsai, and Law (2009), who noted organizations can engage in both forms of exchange, we assert that leaders can engage in both forms of exchange as well. To fit the roles assigned by organizations, both leaders and followers may use relational schemas as a basis for interpreting the behaviors of their dyad partners and as a foundation for generating their behaviors through social and economic exchange processes (Lord & Maher, 1991). Therefore, examining both forms of relational schema congruence in the leader-follower exchange relationship is important.

An important consideration is that we view expressive relational schemas and instrumental relational schemas in parallel to relational and transactional contracts (Rousseau & Parks, 1993), or social and economic exchanges (Blau, 1964). Notably, social and economic exchanges (Song et al., 2009) and relational and transactional contracts (Rousseau & Parks, 1993) have been examined in the context of organizational-individual relations. However, our focus on the dyadic nature of the relational schema congruence shifts the focus directly to the dyadic leader-follower LMX relationship. This proximal relationship may be more pertinent
to both the leader and the follower, which supports the relevance of congruent or incongruent relational schemas. Moreover, we assert that expressive relational schemas within leader-follower relations will yield different patterns in regard to follower-rated LMX than will instrumental relational schemas within leader-follower relations.

Relational schema congruence

According to LMX theory (Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995), both leaders and followers may contribute to the interaction within a leader-follower dyad. Because relational schemas determine a person’s perceptions and corresponding social behaviors, it is important to discuss the effects of relational schema combinations between leaders and followers in their dyadic relationships. A congruent leader-follower relational schema combination may enhance the reciprocal social information processing (perception) and trigger the expected social response behaviors from both parties (Lord & Maher, 1991). Therefore, people with similar relational schemas may communicate more easily and may better understand one another’s behaviors (Engle & Lord, 1997). Thus, this cognitive familiarity within the leader-follower dyad likely increases the efficiency and the quality of exchange.

In contrast, if leaders and followers have an incongruent relational schema combination, causing differing perceptions and expected social response behaviors, some obstacles may occur in their interactions and hinder the efficiency and the quality of their exchange process. For instance, a leader and follower may have an incongruent relational schema regarding the leader’s role as a mentor to the follower. As such, the implications of leader-follower relational schema congruence influence LMX quality.

We consider relational schema congruence as an antecedent of follower-rated LMX. Congruence issues within leader-follower dyads have been highlighted and well documented within the self-other agreement literature (Atwater & Yammarino, 1992; Atwater et al., 2009; Fleenor et al., 2010). Therefore, to clearly evaluate relational schema congruence, we apply a self-other agreement approach to specify different congruent/incongruent relational schema combinations between a leader and follower. Based on the self-other agreement model, there are two sets of congruent leader-follower relational schema combinations, high-high and low-low; and two sets of incongruent leader-follower relational schema combinations, low-high and high-low. In the following sections, we present leader-follower relational schemas with a leader’s relational schema noted first, followed by a follower’s relational schema (e.g., a high-low relational schema combination means a leader’s high rating and a follower’s low rating). Table 1A demonstrates the leader-follower expressive relational schema combinations investigated, whereas Table 1B demonstrates the leader-follower instrumental relational schema combinations investigated.

Relational schemas are established through social learning processes (Medin, Ross, & Markman, 2002; Meindl, 1995; Miller & Dollard, 1941). One critical concern regarding relational schema and LMX quality is whether schema influences LMX quality or whether LMX quality influences schema. Related to this issue, Epitropaki and Martin (2004, 2005) documented empirical findings indicating that once schemas are established, they tend to endure and be resistant to change. The stability of schemas over time may come from two characteristics of human cognitive operations (Rumelhart, 1980; Rumelhart & Norman, 1978). First, people tend to use a developed schema to interpret external events even in the presence of conflicting evidence (Lord & Maher, 1991). That is, an established schema can guide a person’s attention to select stimuli that are consistent with the schema and to ignore the stimuli that are inconsistent with the schema. Second, a schema represents a general abstraction of a particular situation that includes large sets of related information. In that vein, a person needs to actively compare substantial conflict information with the whole content of a schema. This cognitive redefinition places a significantly increased load on mental efforts (Poole, Gioia, & Gray, 1989), and as such, may be avoided. Therefore, in general, schemas tend to be stable and resistant to change over time.

Effects of relational schema congruence on follower-rated LMX

Expressive relational schema

An expressive relational schema is a cognitive structure that defines dyadic relationships as sharing more affective and extra-role exchange behaviors. If leaders and followers both share high ratings of expressive relational schemas, they may perceive and interpret reciprocal social behaviors via affective interactions. The corresponding behavioral strategies generated by expressive relational schemas engender more willingness to devote time and energy to engage in affective and extra-role social exchange. A

<table>
<thead>
<tr>
<th>Leader’s ERS</th>
<th>Follower’s ERS</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
<td>A leader and follower share willingness not to engage in affective and extra-role exchanges.</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>A leader is not willing to engage in affective and extra-role exchanges. A follower is not willing to engage in affective and extra-role exchanges.</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>A leader is willing to engage in affective and extra-role exchanges. A follower is willing to engage in affective and extra-role exchanges.</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>A leader and follower share willingness to engage in affective and extra-role exchanges.</td>
</tr>
</tbody>
</table>

Table 1A

Combinations of expressive relational schemas between leader and follower.

Note. ERS = expressive relational schema.

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leader and a follower who know each other’s expectations will tend to demonstrate appropriate behaviors to enhance the expressive exchange between them. In a sense, the interaction patterns of a high-high congruent leader and follower may contribute to the feeling of being satisfied with each other’s psychological needs and, thus, have a positive impact on follower-rated LMX.

Conversely, a low-low expressive relational congruence characterized by less affective and extra-role exchange behaviors may not engender satisfaction of each other’s needs and limit follower-rated LMX. Moreover, within LMX one of the key dimensions of quality is an affective relations component (Dienesch & Liden, 1986; Liden & Maslyn, 1998). Although congruency on a low scale has matching expectations of limited expressive relations, prior research indicates an affective relationship component is important in a quality LMX rating from a follower’s perspective (Dienesch & Liden, 1986). Thus, we are not suggesting a low-low expressive relational congruence yields a poor LMX rating, but rather a lower LMX rating than a high-high congruence, which does share an affective relational component. Therefore, we posit:

**Hypothesis 1.** A high-high leader-follower expressive relational schema combination is associated with higher follower-rated LMX than is a low-low leader-follower expressive relational schema combination.

**Instrumental relational schema**

An instrumental relational schema provides individuals with the social knowledge needed to reach a basic economic goal during a reciprocal exchange, which is more representative of interactions that exist in a low-quality LMX leader-follower dyad (Liden et al., 1997; Sparrowe & Liden, 1997). When a leader and follower both have high ratings of instrumental relational schemas (high-high combination), they perceive and interpret reciprocal social behaviors only via economic intentions. The corresponding behavior strategies associated with instrumental relational schemas suggest that both leaders and followers are willing to devote time and energy only in the interest of reaching the goal of economic exchange. In this sense, an instrumental relational schema may have a negative impact on the reciprocal social relationship. For example, a follower with a high instrumental relational schema may reduce his or her task involvement and be less motivated to put extra effort into interactions with his or her leaders, and a leader with a high instrumental relational schema may simply emphasize work relations based solely on the employment contract and may not make an extra effort to interact with his or her follower.

Moreover, consider that although high-high instrumental relational congruence agrees on the predominance of economic transactions that define relations, there is no indication that translates to agreement on the terms of the economic transaction. Rather the dyad only agrees on the economic approach to the relationship, with a limited potential for other views. This economic transactional approach may cause disagreement if, for example, the leader and follower differ significantly on the value of tasks. Conversely, a leader and follower both low on instrumental relational schemas may not be as concerned with primarily economic intentions and, thus, may be willing to devote time and energy into relations outside of the economic goal. Therefore, we offer the following:

**Hypothesis 2.** A high-high leader-follower instrumental relational schema combination is associated with lower follower-rated LMX than is a low-low leader-follower instrumental relational schema combination.

**Effects of relational schema incongruence on follower-rated LMX**

A discussion of the incongruent effects of relational schemas may advance our understanding of whether the two incongruent leader-follower relational schema combinations (i.e., leader-follower low-high and high-low combinations) are different from the congruent leader-follower relational schema combination (Edwards & Parry, 1993). According to Engle and Lord (1997), when leaders and followers have congruent schemas, they may perceive similarity and identification with each other; share a common understanding, which generates behaviors aligned with mutual expectations, and share similar interpretations toward behaviors; and eventually have more automatic and intuitive social interactions. Conversely, when leaders and followers have incongruent levels of schemas, a leader or a follower may face difficulty in perceiving, understanding, and responding to a mutual-exchange relationship.

Prior research on cultural differences and diversity in the workplace (e.g., Kimmel, 1994; Sanchez-Burks, 2002; Sanchez-Burks, Bartel, & Blount, 2009; Sanchez-Burks, Nisbett, & Ybarra, 2000) indicated that people with different relational schemas have
difficulty anticipating each other’s behaviors and intentions. As such, less coordinated behaviors and fewer effective communication strategies may perpetuate incongruent relational schema workgroups. For instance, Sanchez-Burks et al. (2000) stated that people with more socioemotional-oriented relational schemas have different job foci and prefer not to work with more task-oriented relational schema people. As a result, workgroups composed of members with incongruent relational schemas may have a higher probability of intergroup prejudice and group conflicts. Similarly, in the current research, we propose that leaders and followers with incongruent relational schema combinations may not be able to make precise social judgments regarding one another’s intentions. Therefore, anticipating one another’s actions and engaging in productive communication may be difficult.

Following this rationale, we suggest relational schema incongruence may have negative effects on LMX quality. Moreover, we predict the two different types of relational schemas discussed in the current study, expressive and instrumental, may yield similar patterns of incongruent effects on follower-rated LMX.

Expressive relational schema

We propose followers with high levels of expressive relational schemas tend to exert extra effort that goes beyond their leaders’ original expectations. Leaders with low levels of expressive relational schemas, however, may not respond to followers’ devotion to the relationship with affective support and trust, because the leader does not view expressive relationships between leaders and followers as ideal. As a result, leaders’ reluctance to offer as much affective resource as their followers provide may prevent follower-rated LMX from becoming stronger, especially given that schemas are fairly stable (Rumelhart, 1980; Rumelhart & Norman, 1978).

In the reverse scenario, where followers possess low expressive relational schema and leaders possess high relational schema, follower-rated LMX also may be lower than the situation where leaders and followers have congruent expressive relational schema. Because of incongruency in leader-follower expressive relational schema, a follower may struggle to enact satisfactory relations with a leader who has expectations of extra-role efforts, and a follower may find difficulty in anticipating leader needs, coordinating behavior, and/or communicating effectively with the leader. A low expressive relational schema follower may be frustrated by the effort involved in relating to a leader’s high expressive relational schema, and therefore, expressive relational schema incongruence between leaders and followers may be associated with lower quality follower-rated LMX as compared to expressive relational schema congruence between leaders and followers.

Priming experiments within schema research revealed people prefer social interactions that are consistent with their accessible relational schemas (Sanchez-Burks et al., 2000). Moreover, people rated interactions more favorably when they matched primed relational schemas (Hansen, 1989), possibly related to better anticipation of one another’s actions, and ease of coordinating behaviors and communications via schema-consistent interactions (Ibarra, 1992; Shaw, 1990). Thus, we propose at any given level of expressive relational schema (i.e., either low levels or high levels), expressive relational schema incongruence between leaders and followers may be associated with lower quality follower-rated LMX as compared to expressive relational schema congruence between leaders and followers. As such, we posit:

**Hypothesis 3.** Expressive relational schema incongruence between leaders and followers is associated with lower follower-rated LMX than is expressive relational schema congruence between leaders and followers.

Instrumental relational schema

Unlike expressive relational schemas that emphasize active engagement in interactions with intangible benefits (e.g., social and emotional support), we propose instrumental relational schemas emphasize short-term economic exchanges with tangible rewards (e.g., salary) between leaders and followers, as tangible rewards can be easily recognized and calculated for two interacting parties. Given the economic exchange focus of instrumental relational schema, a dissonance between expectations and receiving may elicit asymmetrical effort from either a leader or a follower, which may decrease LMX quality. For example, a follower with high-level instrumental relational schemas may focus his or her responses to a leader’s task assignments on short-term objectives, while his or her leader with low-level instrumental relational schemas may be willing to offer extra resources and support to benefit their dyadic interactions. In dealing with a leader that deviates from a short-term focus with clear tangible exchanges, the economic, short-term, exchange-minded follower may experience frustration with the lack of clarity regarding the terms of the exchange, thus rating the LMX relationship lower.

Similarly, a follower with low-level instrumental relational schemas may not hold strong short-term, transactional expectations, and in doing so, offer additional resources to the transaction-minded leader. In this scenario, the follower in the dyad may be willing to offer something more than economic exchange; however, the leader maintains a more transactional, instrumental schema in regard to leader-follower relations, viewing follower offers as unremarkable. This may discourage a follower that is low instrumental, and as such, result in lower follower-rated LMX. Moreover, these incongruencies may persist, given that schemas are fairly stable (Rumelhart, 1980; Rumelhart & Norman, 1978).

Similar to the assertion used for expressive relational schema, we assert people prefer social interactions that are consistent with their accessible relational schemas (Sanchez-Burks et al., 2000). Thus, at any given level of instrumental relational schemas (i.e., either low levels or high levels), we propose instrumental relational schema incongruence between leaders and followers may be associated with lower quality follower-rated LMX as compared to instrumental relational schema congruence between leaders and followers. As such, we offer the following:

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Hypothesis 4. Instrumental relational schema incongruence between leaders and followers is associated with lower follower-rated LMX than is instrumental relational schema congruence between leaders and followers.

Method

Sample and procedure

We contacted human resources managers in 28 business organizations in Taipei, Taiwan, to solicit their help in distributing matching questionnaires to randomly identified leaders and their corresponding followers. The industries represented in the current sample comprised manufacturing (33%), service (32%), and financial (35%). The main effect of industry type was non-significant on all follower-rated variables including (1) expressive relational schema, $F(2, 202) = 0.93, p = 0.40$; (2) instrumental relational schema, $F(2, 202) = 0.23, p = 0.80$; and (3) leader-member exchange, $F(2, 202) = 0.30, p = 0.75$; and on all leader-rated variables including (1) expressive relational schema, $F(2, 202) = 0.09, p = 0.92$; and (2) instrumental relational schema, $F(2, 202) = 1.95, p = 0.15$. Similarly, the main effect of business organization was non-significant on all follower-rated variables including (1) expressive relational schema, $F(27, 177) = 1.02, p = 0.44$; (2) instrumental relational schema, $F(27, 177) = 0.87, p = 0.65$; and (3) leader-member exchange, $F(27, 177) = 0.97, p = 0.51$; and on all leader-rated variables including (1) expressive relational schema, $F(27, 177) = 1.05, p = 0.41$; and (2) instrumental relational schema, $F(27, 177) = 1.18, p = 0.26$. There were no differences in the variables of interest across industry type and business organization. Therefore, data were pooled for analyses.

We asked human resource managers in business organizations to randomly identify leaders and followers in their organizations, and invited identified leaders and followers to participate in data collection. We originally targeted 230 leader-follower dyads from 28 business organizations and, subsequently, received 213 leader-follower reports. For each organization, three to 14 leaders, with one to three followers, were included in the data set. After matching surveys for leaders and followers, the final sample comprised 205 matched leader-follower reports, with 133 leaders and 205 followers, representing an overall response rate of 89%

All respondents, including leaders and followers, were Taiwanese. In the follower sample, 44% were male, 62% had a college degree or better, the mean tenure was 7.18 years, and the mean age was 33.6. In the leader sample, 67% were male, 75% had a college degree or better, the mean tenure was 12.44 years, and the mean age was 43.2. The average dyadic tenure with the current leader reported by the follower was 2.56 years.

Measures

We measured all constructs using well-validated instruments from past research and achieved acceptable reliabilities (i.e., above 0.70; see Table 2). We collected all measures at the individual level, using leaders and followers as sources of information and referents. We used a 6-point Likert-type scale, ranging from 1 (strongly disagree) to 6 (strongly agree) to avoid the central tendency bias found among Chinese-based samples (Yang & Chiu, 1987). The language used in this research was Chinese, and we applied translation/back-translation procedures (Brislin, 1986) to translate the English-based measures into Chinese.

Table 2
Means, standard deviations, coefficient alpha reliabilities, and correlations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>10</th>
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<tbody>
<tr>
<td>Demographics</td>
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</tr>
<tr>
<td>1. Follower age</td>
<td>33.59</td>
<td>6.64</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>2. Follower education level</td>
<td>2.68</td>
<td>0.81</td>
<td>-0.22</td>
<td></td>
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<tr>
<td>3. Leader age</td>
<td>43.24</td>
<td>8.40</td>
<td>0.54</td>
<td>-0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Leader education level</td>
<td>3.04</td>
<td>0.80</td>
<td>-0.11</td>
<td>0.41</td>
<td>-0.25</td>
<td></td>
<td></td>
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<tr>
<td>5. Dyadic tenure</td>
<td>2.56</td>
<td>2.40</td>
<td>0.23</td>
<td>-0.16</td>
<td>0.06</td>
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<tr>
<td>Follower-rated</td>
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<td></td>
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<tr>
<td>6. LMX</td>
<td>3.53</td>
<td>0.62</td>
<td>0.13</td>
<td>0.01</td>
<td>0.06</td>
<td>-0.06</td>
<td>0.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.85)</td>
</tr>
<tr>
<td>7. ERS</td>
<td>4.21</td>
<td>0.74</td>
<td>0.13</td>
<td>-0.18</td>
<td>0.08</td>
<td>-0.08</td>
<td>0.01</td>
<td>0.36</td>
<td></td>
<td></td>
<td></td>
<td>(0.80)</td>
</tr>
<tr>
<td>8. IRS</td>
<td>2.99</td>
<td>0.90</td>
<td>-0.30</td>
<td>0.13</td>
<td>-0.26</td>
<td>0.15</td>
<td>-0.12</td>
<td>-0.26</td>
<td>-0.35</td>
<td></td>
<td></td>
<td>(0.84)</td>
</tr>
<tr>
<td>Leader-rated</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9. ERS</td>
<td>4.51</td>
<td>0.76</td>
<td>0.19</td>
<td>-0.03</td>
<td>0.27</td>
<td>-0.18</td>
<td>0.15</td>
<td>0.14</td>
<td>0.16</td>
<td>-0.19</td>
<td></td>
<td>(0.83)</td>
</tr>
<tr>
<td>10. IRS</td>
<td>2.47</td>
<td>0.82</td>
<td>-0.22</td>
<td>0.16</td>
<td>-0.29</td>
<td>0.07</td>
<td>-0.09</td>
<td>-0.10</td>
<td>-0.16</td>
<td>0.21</td>
<td>-0.30</td>
<td>(0.79)</td>
</tr>
</tbody>
</table>

Note. $N = 205$ for all variables. Reliability coefficients are reported in parentheses along the diagonal. Age and dyadic tenure are reported in number of years. Education level is coded 1 = high school degree, 2 = vocational school degree, 3 = bachelor's degree, 4 = master's degree, and 5 = doctorate. LMX = leader-member exchange, ERS = expressive relational schema, IRS = instrumental relational schema. Tests of significance were two-tailed.

+$p < 0.10$.

* $p < 0.05$.

** $p < 0.01$.
Leader-member exchange

LMX was measured using Graen and Uhl-Bien's (1995) seven-item LMX instrument, with followers providing subjective ratings. A sample item in the follower survey is, “How well does your leader understand your job problems and needs?” The Cronbach’s alpha for follower-rated LMX (α = 0.85) was acceptable.

Our nested data structure from 205 employees, embedded in 133 groups and 28 business organizations, could cause concern for potential cross-level effects on follower-rated LMX (see Gooty & Yammarino, 2011). To test the potential effects on follower-rated LMX at the organizational and group levels, we conducted several random coefficient modeling (RCM) analyses to see whether follower-rated LMX varies among different organizations and groups. We used the R program (R Core Team, 2014) and applied the multilevel package (Bliese, 2013) to run related analyses.

First, in terms of the organizational effect on follower-rated LMX, the ICC1 value (ICC1 = 0.00) indicated that follower-rated LMX has almost zero between-organization variance (Bliese, 2000). We then ran a comparison between a model with a random intercept and a model without a random intercept (Bryk & Raudenbush, 1992; Hofmann, 1997). The results showed that the model with the random intercept did not significantly fit better than did the model without the random intercept ($\chi^2 (1) = 0.00, p = 0.97$). This result indicated there is no significant intercept variation in terms of follower-rated LMX score across 28 business organizations.

Second, in terms of the group effect on follower-rated LMX, the ICC1 value (ICC1 = 0.24) indicated that follower-rated LMX has substantial between-group variance (Bliese, 2000). In addition, the ICC2 value (ICC2 = 0.32) indicated that the overall group-mean reliability is quite low (below 0.70). We then ran a comparison between a model with a random intercept and a model without a random intercept (Bryk & Raudenbush, 1992; Hofmann, 1997). The results showed that the model with the random intercept did not significantly fit better than the model without the random intercept ($\chi^2 (1) = 2.79, p = 0.10$). This result indicated there is no significant intercept variation in terms of follower-rated LMX score across 133 groups.

Overall, the combined RCM results for the (lack of) organizational- and group-level effects allowed us to conclude that it is acceptable to treat and analyze follower-rated LMX at the individual level (even though the 205 followers were nested within 133 groups and 28 organizations). The embedding of followers within groups and organizations did not appear to have a meaningful impact on follower-rated LMX in this study.

Relational schema

Leader and follower relational schemas were measured using Tsai, Cheng, Chou, Jiang, and Cheng’s (2009) 10-item relational schema instrument. This scale was first developed based on Baldwin’s (1992, 1997) definition and tested in Chinese settings. Given that we also collected data from Taiwan, the use of this scale was consistent with prior research settings. The instrument has two subscales: five items are used to assess an expressive relational schema (ERS), and five items are used to assess an instrumental relational schema (IRS). Table 3 presents the items used to measure ERS and IRS. The Cronbach’s alphas for follower-rated ERS (α = 0.80) and IRS (α = 0.84) were acceptable, and the Cronbach’s alphas for leader-rated ERS (α = 0.83) and IRS (α = 0.79) also were acceptable.

Control variables

Research suggests LMX quality may be related to similarity in leader and follower demographic characteristics, such as age and education level (Tsui & O'Reilly, 1989). We controlled for both leader and follower age and education level in our analyses. Additionally, we controlled for dyadic tenure in each leader-follower dyad to partial out a potential familiarity effect (DiNenesh & Liden, 1986), which may influence follower-rated LMX.

Table 3

<table>
<thead>
<tr>
<th>Measures of expressive and instrumental relational schema.</th>
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<tbody>
<tr>
<td><strong>Expressive relational schema</strong></td>
</tr>
<tr>
<td>Supervisors and subordinates should be emotionally attached</td>
</tr>
<tr>
<td>to each other.</td>
</tr>
<tr>
<td>Supervisors and subordinates should share their feelings,</td>
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<tr>
<td>happy or sad.</td>
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<tr>
<td>Subordinates and supervisors should work like close partners</td>
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<tr>
<td>who share everything.</td>
</tr>
<tr>
<td>Subordinates and supervisors should freely share their ideas</td>
</tr>
<tr>
<td>and feelings.</td>
</tr>
<tr>
<td>Subordinates and supervisors should be good friends who help</td>
</tr>
<tr>
<td>and trust each other.</td>
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</table>

Note. Respondents were asked to choose the extent to which they agreed with the item, from 1 (strongly disagree) to 6 (strongly agree).

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Analytic strategy

**Polynomial regression analysis**

We used polynomial regression analyses (Edwards & Parry, 1993; Shanock, Baran, Gentry, Pattison, & Heggestad, 2010) to test the congruent effects of relational schemas between leaders and followers on follower-rated LMX at the individual level. Congruent effects of relational schemas on follower-rated LMX were observed by comparing LMX ratings between low-low and high-high leader-follower relational schema combinations (i.e., Hypotheses 1 and 2; see Table 1A and B). We adopted response surface methodology (Edwards, 2007) to conduct hypothesis testing in the current study.

Independent variables were mean-centered for the polynomial regression analysis. Follower-rated LMX quality was regressed on a centered leader relational schema, a centered follower relational schema, the square of a centered leader relational schema, the product of a centered leader relational schema and centered follower relational schema, and the square of a centered follower relational schema. The equation used to test these relationships using polynomial regression is shown below:

\[ Z = b_0 + b_1L + b_2F + b_3L^2 + b_4LF + b_5F^2 \]

where \( Z \) is follower-rated LMX quality, \( L \) is the centered leader relational schema, and \( F \) is the centered follower relational schema; and \( b_0 \) is the constant, \( b_1 \) is the unstandardized coefficient for the centered leader relational schema, \( b_2 \) is the unstandardized coefficient for the centered follower relational schema, \( b_3 \) is the unstandardized coefficient for the squared centered leader relational schema, \( b_4 \) is the unstandardized coefficient for the product of the centered leader and follower relational schema, and \( b_5 \) is the unstandardized coefficient for the squared centered follower relational schema. In addition, we controlled for leader and follower age, education level, and dyadic tenure with corresponding leader in the model.

Instead of directly interpreting the results from the polynomial regression analysis, we applied response surface methodology to explain LMX variation between different congruent or incongruent leader-follower relational schema combinations in the regression results. The combinations of the coefficients \( b_1 \) through \( b_5 \) from the regression analysis are used to examine a response surface pattern, and three-dimensional graphs that correspond to combinations of the regression coefficients were constructed to aid interpretation of the findings.

The line of \( L = F \), or the congruent axis, depicts the congruent relational schema combination between leader and follower. Hence, Eq. (2), which describes the LMX surface, is represented as:

\[ Z = b_0 + b_1L + b_2L + b_3L^2 + b_4L^2 + b_5L^2 \]

where, with the replacement of \( L = F \), the first principal line (the congruent axis) represents the extent of relational schema congruence between leader and follower. With the increase of the congruent axis, both levels of the leader and follower relational schema increase simultaneously. Therefore, after this substitution, we can transfer the original three-dimensional response surface (i.e., Fig. 1A and B) into a two-dimensional graph (i.e., Fig. 2A and B), which depicts follower-rated LMX differences along the congruent axis. The slope \( b_1 + b_2 \) tests whether the change of follower-rated LMX along the congruent axis is flat (slope = 0) or

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**Fig. 1.** A. Leader-follower expressive relational schema (ERS) combination as a predictor of follower-rated LMX. B. Leader-follower instrumental relational schema (IRS) combination as a predictor of follower-rated LMX.

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non-flat (slope > 0, positive, or slope < 0, negative), and curvature \((b_0 + b_4 + b_5)\) value tests whether the change of follower-rated LMX along the congruent axis is linear or curvilinear. For instance, if the slope \((b_1 + b_2)\) and curvature \((b_3 + b_4 + b_5)\) values are both positive and significant, then LMX along the congruent axis is concave upward increasing, which indicates that LMX increases sharply at a certain point on the congruent axis. Because Hypotheses 1 and 2 concern whether a flat or non-flat relationship along the line of a congruent relational schema combination exists, we examine only the slope \((b_1 + b_2)\) value to test Hypotheses 1 and 2.

The line of \(L = -F\), or the incongruent axis, depicts the comparison between relational schema congruence and incongruence, as it relates to the outcome of follower-rated LMX. Therefore, Eq. (3), which describes the follower-rated LMX change along the incongruent axis, can be represented as:

\[
Z = b_0 + (b_1 - b_2)L + (b_3 - b_4 + b_5)L^2
\]

where the second principal axis (incongruent axis) represents the incongruent relational schema combination between leader and follower. Specifically, along the incongruent axis, the leader relational schema is lower, but the follower relational schema is higher. As such, in the middle of this incongruent axis, levels of leader and follower relational schemas are the same. Again, after this substitution, we transfer the original three-dimensional response surface (i.e., Fig. 1A and B) into a two-dimensional graph, which depicts the differences in follower-rated LMX along the incongruent axis (i.e., Fig. 3A and B). The slope \((b_1 - b_2)\) tests whether the change of follower-rated LMX along the incongruent axis is flat (slope = 0) or non-flat (slope > 0, positive, or slope < 0, negative). The curvature \((b_3 - b_4 + b_5)\) value tests whether the change of follower-rated LMX along the incongruent axis is linear or curvilinear.

In the current study, we tested curvature to compare the effects of relational schema congruence and incongruence on follower-rated LMX (i.e., Hypotheses 3 and 4). The two ends of the incongruent axis represent two incongruent leader-follower combinations (i.e., low-high and high-low leader-follower combinations), whereas the middle point of the incongruent axis represents a congruent leader-follower relational schema combination (i.e., leader and follower share both middle-level relational schema). Therefore, when the curvature value is negative and significant, the two-dimensional graph shows an inverted U-shaped follower-rated LMX along the incongruent axis. This inverted U-shaped pattern indicates that relational schema incongruence (i.e., two ends of the incongruent axis) has lower quality follower-rated LMX than does relational schema congruence (i.e., the middle point of the incongruent axis). Because Hypotheses 3 and 4 concern whether a curvilinear or linear relationship along the line of incongruent relational schema combination exists, we examine only the curvature \((b_3 - b_4 + b_5)\) value to test Hypotheses 3 and 4. We used R (R Core Team, 2014) to analyze the data and applied the R “lattice” package to visually present the response surface graph (Sarkar, 2008).

Results

Means, standard deviations, and correlations of the study variables from leaders and followers are presented in Table 2. Reliability estimates (Cronbach’s alphas) are located along the diagonal.

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Fig. 2. A. Follower-rated LMX surface along congruent expressive relational schema (ERS) combination. This figure corresponds to Hypothesis 1. B. Follower-rated LMX surface along congruent instrumental relational schema (IRS) combination. This figure corresponds to Hypothesis 2.
Confi rmatory factor analyses

We conducted several confi rmatory factor analyses to examine the distinctiveness of the fi ve variables (i.e., follower-rated expressive relational schema, follower-rated instrumental relational schema, leader-rated expressive relational schema, leader-rated instrumental relational schema, and follower-rated LMX). We used the R program (R Core Team, 2014) and applied the lavaan package (Rosseel, 2012) to run and compare our confi rmatory factor analyses. The hypothesized fi ve-factor model was compared with the three-factor model (follower-rated relational schema, leader-rated relational schema, and follower-rated LMX), with the two-factor model (relational schema and follower-rated LMX), and with the one-factor model (all items loaded into one general factor). The hypothesized fi ve-factor model, \( \chi^2 (314, N = 201) = 527.66, p = 0.00, \text{RMSEA} = 0.06, \text{CFI} = 0.90, \text{TLI} = 0.89 \), shows adequate fi t and has signifi cantly better fi t than all of the alternative models, the three-factor model, \( \chi^2 (321, N = 201) = 962.66, p = 0.00, \text{RMSEA} = 0.10, \text{CFI} = 0.70, \text{TLI} = 0.67 \), the two-factor model, \( \chi^2 (323, N = 201) = 1351.53, p = 0.00, \text{RMSEA} = 0.13, \text{CFI} = 0.52, \text{TLI} = 0.48 \), and the one-factor, \( \chi^2 (324, N = 201) = 1649.01, p = 0.00, \text{RMSEA} = 0.14, \text{CFI} = 0.38, \text{TLI} = 0.33 \). These results demonstrated that variables in the current study are distinct constructs (the R code for the analysis is available upon request from the fi rst author).

Polynomial regression

For the polynomial regression results (Table 4), the control variables were entered fi rst (Model 1), and the centered leader relational schema \( (b_1) \), the centered follower relational schema \( (b_2) \), the squared centered leader relational schema \( (b_3) \), the product of the centered leader and centered follower relational schema \( (b_4) \), and the squared centered follower relational schema \( (b_5) \) were entered second (Model 2). The results from the polynomial regression analysis are found in the Model 2 column of Table 4. The tests of slope and curvature for congruent and incongruent relational schema combinations are presented in the second column of Model 2. We plotted the three-dimension response surface based on the coeffi cients in Table 4 (Fig. 1A and B).

Test of congruent effect of relational schema on follower-rated LMX

Hypothesis 1 stated a high-high leader-follower expressive relational schema combination had higher follower-rated LMX than a low-low leader-follower expressive relational schema combination. To facilitate examination of the relationship between follower-rated LMX and the congruent axis in the response surface, we transferred the original response surface (i.e., Fig. 1A) into Fig. 2A. Fig. 2A demonstrated non-flat increasing (slope = 0.32, \( p = 0.00 \)) and linear (curvature = \(-0.10, p = 0.27\)) follower-rated LMX along the leader-follower expressive relational schema congruent axis, which supported Hypothesis 1.

Hypothesis 2 stated a high-high leader-follower instrumental relational schema combination had lower follower-rated LMX than a low-low leader-follower instrumental relational schema combination. To facilitate examination of the relationship between follower-rated LMX and the congruent axis in the response surface, we transferred the original response surface (i.e., Fig. 1B) into Fig. 2B. Fig. 2B demonstrated non-flat decreasing (slope = \(-0.19, p = 0.01\)) and linear (curvature = \(-0.06, p = 0.47\)) follower-rated LMX along the leader-follower instrumental relational schema congruent axis, which supported Hypothesis 2.
Hypothesis 3 stated expressive relational schema incongruence had lower quality follower-rated LMX than expressive relational schema congruence. To facilitate examination of the relationship between LMX and the incongruent axis in the response surface, we transferred the original response surface (i.e., Fig. 1A) into Fig. 3A. We thus expected an inverted U-shaped follower-rated LMX along the incongruent axis. Fig. 3A demonstrated nonlinear decreasing (curvature = −0.28, \( p = 0.01 \)) follower-rated LMX along the leader-follower expressive relational schema incongruent axis, which supported Hypothesis 3.

Hypothesis 4 stated instrumental relational schema incongruence had lower quality follower-rated LMX than instrumental relational schema congruence. To facilitate examination of the relationship between follower-rated LMX and the incongruent axis in the response surface, we transferred the original response surface (i.e., Fig. 1B) into Fig. 3B. We thus expected an inverted U-shaped follower-rated LMX along the incongruent axis. Fig. 3B demonstrated linear (slope = −0.11, \( p = 0.34 \)) follower-rated LMX along the leader-follower instrumental relational schema incongruent axis, which did not support Hypothesis 4.

Additional analyses

We report the comparison of follower-rated LMX under low-high and high-low combinations (i.e., Fig. 3A and B) to identify the contribution of leader and follower relational schema to follower-rated LMX. Following Edwards and Parry (1993), we used the slope \( (b_1 - b_2) \) values to explain the linear change of follower-rated LMX along the incongruent axis. Our results demonstrated that follower expressive relational schema has a greater influence on follower-rated LMX (slope = −0.23, \( p = 0.01 \)) than leader expressive relational schema, whereas leader and follower instrumental relational schemas equally influence follower-rated LMX (slope = 0.13, \( p = 0.12 \)). These comparisons consistently highlight the difference between expressive relational schema and instrumental relational schema pertaining to their effects on follower-rated LMX.

Discussion

Despite prior research on antecedents of LMX that demonstrate the importance of cognitive schemas in dyadic relationship, LMX research has yet to specify content related to social exchange processes and examine relational schema congruence issues between leaders and followers. In the present study, we extended theory and research on cognitive antecedents of LMX by aligning its content with social exchange processes and addressing the congruent effects of expressive relational schemas (ERS) and instrumental relational schemas (IRS) on follower-rated LMX (Table 5). The congruent effect of ERS on follower-rated LMX was positive; however, the congruent effect of IRS on follower-rated LMX was negative. Further, the results of relational schema incongruence on follower-rated LMX demonstrated that ERS incongruence impaired follower-rated LMX as compared with IRS congruence. Surprisingly, however, there was no difference related to the outcomes of follower-rated LMX quality between IRS incongruence and IRS congruence.
Our results indicate IRS congruence and incongruence invoke a similar impact on follower-rated LMX. One possible explanation could be that compared with socio-emotional exchange, economic exchange is relatively short-term and on balance between what one gets from and what one gives to the relationship (Kuvaas, Buch, Dysvik, & Haerem, 2012). In addition, exchange on tangible rewards (e.g., monetary reward) is more easily calculated and recognized by both parties. When leaders and followers have incongruent IRS combinations (i.e., either low-high or high-low condition), one party may worry about the equivalence of returns and be driven by immediate self-interest (Shore, Tetrick, Lynch, & Barksdale, 2006). In that vein, this transactional inconsistency may elevate levels of frustration in followers, resulting in lower follower-rated LMX, which is similar to the negative effect caused by IRS congruence (i.e., Hypothesis 2).

Although follower-rated LMX was impaired by both IRS incongruence and IRS congruence when both leader and follower report high levels, combined with other hypotheses, these results highlight the differences between ERS and IRS. For ERS, leaders and followers require both high and similar levels to reach a better follower-rated LMX because ERS congruence had a better follower-rated LMX than did IRS incongruence. In contrast, for IRS, seemingly low levels of IRS among leaders and followers may produce more productive relations from a follower’s perspective. In a sense, cognitive dissonance may be more critical to ERS than to IRS.

**Theoretical implications**

This research makes four contributions to the leadership literature. First, our focus on relational schema (Baldwin, 1992, 1997) extends prior cognitive schemas in LMX research (e.g., Engle & Lord, 1997; Epitropaki & Martin, 2005; Huang et al., 2008) from the individual level (e.g., a knowledge structure of an ideal leader or follower) to the dyad level (e.g., a knowledge structure of an ideal leader-follower relationship). Complementing prior research on the importance of individual-level schemas in LMX, our findings indicated that dyad-level schemas are critical to the interpersonal interactions within a leader-follower dyad, and in particular, follower-rated LMX. Thus, dyad-level specifications in LMX processes should be a significant consideration for LMX research in general.

Second, the distinct effects of ERS and IRS congruence on LMX extend individual-level assertions of positive effects caused by cognitive similarity between a leader and follower (Engle & Lord, 1997; Epitropaki & Martin, 2005; Huang et al., 2008). Our results indicated that high-level ERS congruence generated high-quality LMX, whereas high-level IRS congruence generated lower-quality LMX. Our emphasis on the alignment between content of both expressive and instrumental relational schemas and LMX processes provides a more sophisticated understanding of cognitive similarity within leader-follower dyads and its effect on follower-rated LMX. Thus, specifying content of schemas within a dyad leader-follower relation provides important insight into potential leader-follower dynamics.

Third, we responded to Epitropaki et al.’s (2013) call to incorporate a rigorous methodology to probe the congruent/incongruent issues of LMX by incorporating an analytical framework found in self-other agreement research (Atwater & Yammarino, 1992; Atwater et al., 2009; Fleenor et al., 2010). In doing so, our empirical results validated the theoretical arguments made by LMX theory that both leaders and followers may have important contributions to the interaction within a leader-follower dyad (Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995). Analysis of congruency provided a better understanding of the effects of relational schemas on reciprocal leader/follower relationships. Further, in support for the notion that dissonance in cognition may cause impairment to the exchange process (Engle & Lord, 1997; Lord & Maher, 1991), our results indicated that ERS incongruence produced lower-rated follower LMX relationships than did IRS congruence.

**Practical implications**

Results of the current study, if replicated and generalized in future work, have a number of managerial implications in terms of the role of relational schema congruence on follower-rated LMX. Our results provide evidence that relational schemas are crucial to follower-rated LMX quality such that ERS congruence has a positive effect on follower-rated LMX, whereas IRS congruence has
a negative effect on follower-rated LMX. Moreover, these lower quality follower-rated relationships are problematic for leaders. Followers experiencing less satisfying relationships with leaders may be less motivated to perform at high levels and be more likely to leave the organization (Bass, 2008). Conversely, followers experiencing high quality LMX relations are more likely to report trust in and support from leaders, and a willingness to engage in extra effort. As such, expressive relational schema congruence between a leader and follower seems to indicate the highest quality follower-rated LMX.

Although schemas are fairly stable and resistant to change in general (Rousseau, 2001; Rumelhart, 1980; Rumelhart & Norman, 1978), prior research (e.g., Bartunek, Lacey, & Wood, 1992; Epitropaki & Martin, 2004) and the connectionist model (e.g., Lord, Brown, Harvey, & Hall, 2001) have documented the potential malleability issues of schemas. For example, Epitropaki and Martin (2004) found leadership schemas are stable in a 12-month period but mentioned that the possibility of schema changes particularly if the information environment is dramatically altered (Labianca, Gray, & Brass, 2000). When the information environment changes dramatically, schemas are likely to be acquired or modified through social learning processes (Meindl, 1995; Miller & Dollard, 1941). While these change processes could be difficult for leaders and followers, leaders attempting to create positive followership experiences during exchanges may want to consider the importance of establishing congruent expressive relational schema, especially matching on high levels. This high-high congruence may be typified by mutual trust and support, and a willingness to engage in extra effort on behalf of both parties.

Following this rationale, another practical implication of this research concerns training settings within organizations. We recommend practitioners try to provide organizational environments that cultivate social knowledge in terms of using ERS rather than IRS within leader-follower dyads. Specifically, employees with high-level ERS and low-level IRS could be recognized as positive role models to facilitate social learning processes in mentoring relationships and organizational training initiatives. We hope that in doing so, over time, organizations can actively use relational schemas in generating and sustaining high-quality LMX and desirable follower outcomes.

Limitations and future research

Several limitations are associated with the current study. First, the LMX measure was limited to followers’ ratings, which may hinder our understanding of the effects of relational schema congruence on multilevel LMX constructs. Due to potential multiple theoretical levels of analysis assumptions in regard to the LMX construct, researchers’ different theoretical interests should appropriately justify different levels of analysis (Dionne et al., 2014; Gooty et al., 2012). Although the LMX construct originated at the individual level (individual-level LMX), we may study LMX constructs at higher levels of analysis (e.g., dyadic LMX and group LMX) by highlighting different theoretical entities of interests and related empirical justifications (Bliese, 2000; Gooty & Yammarino, 2016; Kozlowski & Klein, 2000; Schriesheim, Castro, & Cogliser, 1999; Yammarino & Dansereau, 2008). Thus, future research should incorporate multilevel LMX constructs into their research frameworks.

Meanwhile, research has documented leader-follower disagreement in LMX ratings (Cogliser, Schriesheim, Scandura, & Gardner, 2009; Markham, Yammarino, Murry, & Palanski, 2010; Matta, Scott, Koopman, & Conlon, 2015; Sin, Nahrgang, & Morgeson, 2009) and indicated this disagreement in LMX perceptions may be influenced by certain psychological processes (e.g., evaluation focus; Zhou & Schriesheim, 2010) or contextual factors (e.g., power asymmetry; Galinsky et al., 2006) embedded in the leader-follower relationship. Additionally, Engle and Lord (1997) suggested that leader-rated LMX may be associated with implicit performance theories, whereas follower-rated LMX may be associated with implicit leadership theories (Engle & Lord, 1997). In regard to these differences in the leader-follower dyad, relational schemas may engender different impacts on leader-rated and follower-rated LMX. For instance, considering the power asymmetry within the leader-follower dyad, a follower may have fewer options to improve a relationship or cope with negative feelings from ERS incongruence. In that vein, ERS incongruence may result in lower follower-rated LMX than leader-rated LMX. Further, Dulebohn et al. (2012) stated that most prior research focused on follower-rated LMX and lacked an understanding of leader-rated LMX. With these issues in mind, we encourage future researchers to collect both leader-rated and follower-rated LMX to advance our understanding of LMX disagreement.

Second, we examined the effects of relational schemas in regard to social exchange processes on follower-rated LMX by emphasizing the role of interpersonal behavioral scripts. In addition to the relational schemas proposed to describe dyad-level schemas, implicit leadership theories (Shondrick et al., 2010) and implicit followership theories (Shondrick & Lord, 2010; Sy, 2010) that emphasize individual-level schemas (e.g., self-schemas and other schemas) are important to understand the socially constructed processes between a leader and a follower (for a review, see Epitropaki et al., 2013). For instance, implicit followership theories (Sy, 2010) suggest what followers should do or how they should perform and may influence a leader’s evaluation of the interactions with his or her followers. Future research could further incorporate implicit leadership and followership theories into the LMX research model to specify the relationship between relational schema and implicit theories. In addition, the content of behavioral scripts and its developmental processes also need research attention. Keller (2003), using attachment theory (Bowby, 1969, 1973), suggested that early childhood experiences might shape expectations about the self in relation to leadership figures (i.e., others). As such, we encourage future research to explore the behavioral scripts in the parent-child dyad because they have the potential to provide a prototype or insights to understand the content of behavioral scripts within a leader-follower dyad.

Third, the cross-sectional design used in this study has inherent limitations that need to be addressed in future research. Specifically, researchers should apply multiple sources and cross-rater surveys to minimize concerns about single-source bias. Additionally, regarding the potential malleability issues of schemas (Engle & Lord, 1997; Epitropaki & Martin, 2004; Rousseau, 2001;
Rumelhart, 1980; Rumelhart & Norman, 1978) and the development of LMX quality over time (Graen & Uhl-bien, 1995), the appropriate assessment of causality between relational schemas and LMX may require a stronger research design. We thus encourage future researchers to utilize a longitudinal design with multiple sources and time-lagged methods to specify the causal nature of the current research model (e.g., Zhang, Wang, & Shi, 2012).

Fourth, the generalizability of our results across cultures also must be further examined. The data in this study were collected in Taiwan. Thus, the results of this study concerned congruent relational schemas only within one specific culture. People with different cultural backgrounds may have different relational schemas constructed through social learning processes (Medin et al., 2002; Meindl, 1995; Miller & Dollard, 1941). Yammarino and Jung (1998) indicated that culturally heterogeneous compositions between leaders and followers (for instance, Caucasian American leaders and Asian American followers or Asian American leaders and Caucasian American followers) have different ways of relating to each other. Osland and Bird (2000) suggested that different cultural groups have their specific behavioral scripts embedded in their schemas, which generate certain patterns of social interactions. In that vein, the inconsistent social interactions caused by cultural heterogeneity within the leader-follower dynamics may moderate the congruent or incongruent effects of relational schema on LMX quality. Future research could address these differences by including a variety of cultural background compositions between leaders and followers.

Additionally, as an initial investigation, we examined congruent/incongruent relations between ERS separately from IRS. However, their modest relatedness indicates future research may want to focus on increasing the complexity of congruency models by simultaneously assessing congruency impacts for both ERS and IRS. While that investigation exceeds the scope of the current research, there exist potentially interesting implications for follower ratings of LMX amidst multiple relational schema congruencies in operation at any given time.

Finally, we suggest future researchers extend the current research model by discussing the effects of relational schema congruence on follower work outcomes (e.g., job performance, organizational citizenship behaviors, and job satisfaction) through LMX quality. An investigation on these indirect effects of leader-follower relational schema congruence on follower work outcomes may have a two-fold theoretical contribution: First, the investigation reveals a fuller picture of the impact of cognitive congruence on follower work outcomes through the dyadic leadership process. Second, different effects reflected by different types of relational schemas (i.e., ERS and IRS) on follower outcomes may advance our understanding of the association between the content of cognitive components and related follower behaviors.

Conclusion

This research offers empirical support for viewing relational schema congruence between leaders and followers as an antecedent for predicting follower-rated LMX. Our findings indicate that relational schema congruence is an important cognitive antecedent of follower-rated LMX quality. We hope that our study stimulates future research to advance understanding of the antecedents of dyadic leadership processes from a cognitive perspective.

References


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