

# Mutual Trust Between Leader and Subordinate and Employee Outcomes

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**Abstract** Stable and enduring cooperative relationships among people are primarily based on mutual trust. However, little evidence exists about the effects of mutual trust between supervisor and subordinate on work outcomes. To understand better the dynamics of trust in supervisor–subordinate relationships, we examined how mutual trust between supervisor and subordinate is associated with work outcomes. Based on a sample of 247 subordinate–supervisor pairs, multilevel analyses revealed a positive effect of perceived mutual trust on task performance and interpersonal facilitation after controlling for trust in leader and felt trust. In addition, task performance and interpersonal facilitation increased as trust in leader and felt trust or trust in subordinate both increased.

**Keywords** Mutual trust · Trust in leader · Felt trust · Task performance · Interpersonal facilitation

## Introduction

The concept of trust has been receiving increasing attention in organizational research in the last two decades (Balliet and Van Lange 2013; Colquitt et al. 2007; Ferrin 2013; Schoorman et al. 2007). Trust is an important element in supervisor–subordinate relationships (Brower et al. 2009; Dirks and Ferrin 2002; McAllister 1995; Serva et al. 2005). Trust in leadership has been linked to high task performance, more citizenship behaviors, and positive attitudes toward their jobs and organizations (Colquitt et al. 2007; Dirks and Ferrin 2002). Also, when subordinates trust their supervisors, they are more willing to accept their supervisor’s influence (Dirks and Ferrin 2002), which can enhance the effects of ethical climate on employees’ work attitudes and behaviors (Mulki et al. 2006) since ‘leaders are a key ethical guidance source for employees’ (Ötken and Ceneci 2012, p. 528).

Although most empirical research to date has focused on subordinates’ trust in their supervisors, several researchers (e.g., Brower et al. 2000; Lau and Lam 2008; Salamon and Robinson 2008) have distinguished between trust in leader and felt trust (or being trusted). Felt trust refers to subordinates’ perceptions of how much their supervisors trust them (Lester and Brower 2003). The researchers found that felt trust is positively associated with task performance and organizational citizenship behaviors (Lester and Brower 2003). From a social exchange perspective, this two-factor conceptualization of trust perceptions is useful because it demonstrates the importance of the dyadic multiple aspects of trust between subordinates and supervisors, such that effective supervisors should manage both how much subordinates trust them and how much subordinates feel that they are trusted (Brower et al. 2000).

However, as noted by several researchers (e.g., Brower et al. 2009; Schoorman et al. 2007), one of the limitations

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of the trust literature is the unidirectional conceptualization of trust because trust between subordinates and supervisors can be mutual. Mutual trust refers to complementary trust experienced or expressed by subordinates and supervisors toward each other at a given point in time (Deutsch 1958; Serva et al. 2005). Mutual trust can exist when both a supervisor and a subordinate have roughly the same level of trust for each other, and when each perceives that the other is aware of his/her intent and his/her trust (Serva et al. 2005, p. 627). Indeed, trust researchers (e.g., Brower et al. 2009; Schoorman et al. 2007; Serva et al. 2005) have distinguished mutual trust from trust in leader and felt trust in that one party can trust the other without being trusted in return. Brower et al. (2009) also posit that mutual trust have a positive effect on employee outcomes above and beyond the effects of trust in leader and felt trust (or being trusted). In addition, although organizational researchers have argued that the development of mutual trust is necessary for stable and enduring cooperative relationships and for people to work together more effectively, little direct evidence exists on the effects of mutual trust (Brower et al. 2009).

The present study extends prior trust research in several important ways. First, we examine how mutual trust is associated with work outcomes. Brower et al. (2009) demonstrated that trust in leader (assessed by subordinates) and trust in subordinate (assessed by supervisors) jointly affect individually directed citizenship behaviors. However, as they noted, these interaction effects of actual trust cannot assure that mutuality is perceived, and thus we still have little understanding of how perceived mutual trust is related to work outcomes. We address this issue by assessing perceived mutual trust (i.e., asking subordinates to assess their perceived mutual trust), and by examining the marginal predictive validity of perceived mutual trust over trust in leader and felt trust or trust in subordinate. We expect that perceived mutual trust will explain additional variance in employee outcomes beyond the former established unidirectional conceptualizations of trust (i.e., trust in leader and felt trust or trust in subordinate).

In addition, mutual trust can be indirectly assessed by combining trust in leader and felt trust or trust in subordinate (Brower et al. 2009). If both constituent elements of trust are high, employees would perceive high mutual trust with their supervisors. To some extent, this operationalization captures a different phenomenon from the direct approach. While the direct approach (i.e., assessing mutual trust) captures only the degree of mutuality (i.e., low vs. high), the indirect approach (i.e., assessing trust in leader and felt trust or trust in subordinate) could distinguish different types of lack of mutuality (i.e., low in trust in leader and felt trust or trust in subordinate), high in trust in leader but low in felt trust or trust in subordinate, and low

in trust in leader but high in felt trust or trust in subordinate. For example, Brower et al. (2009) found a significant interaction between trust in leader and trust in subordinate. Specifically, when both trust in leader and trust in subordinate were high, the highest level of individual-directed organizational citizenship behavior occurred. However, they did not examine how different types of incongruence (i.e., low trust in leader and high trust in subordinate vs. high trust in leader and low trust in subordinate) relate to employee outcomes. By employing the indirect approach and distinguishing different types of lack of mutuality, we can capture the potential complexity of the joint effects of trust in leader and felt trust or trust in subordinate (Brower et al. 2000). It allows us to test whether employee outcomes increase, decrease, or remain constant as trust in leader exceeds felt trust or trust in subordinate, or vice versa.

To summarize, little research has focused on how mutual trust between supervisor and subordinates is related to employee outcomes. To help develop theory in this area, we propose a model wherein perceived mutual trust between supervisor and subordinates, trust in leader, and felt trust or trust in subordinate are independently or jointly related to employee outcomes. We conceptualize employee outcomes as both task performance and interpersonal facilitation (i.e., cooperative, considerate, and helpful acts that assist co-workers' performance; Van Scotter and Motowidlo 1996).

## Review of Past Research and Current Hypotheses Development

### Trust: Past Research

While there is no universally accepted definition of trust (Burke et al. 2007), interpersonal trust usually refers to the willingness of one party to rely on another in an interpersonal relationship (e.g., Mayer et al. 1995; Zand 1972). That is, interpersonal trust can be defined as 'a psychological state comprising of the intention to accept vulnerability based upon positive expectations of the intentions or behaviors of another' (Rousseau et al. 1998, p. 395). Given the importance of trust in supervisor at work (Dirks and Ferrin 2002), researchers and practitioners alike have invested considerable effort in examining the effects of trust in leader on employee outcomes (Colquitt et al. 2007).

McAllister (1995) identifies two elements of trust: affective and cognitive. Affective trust is based on the interpersonal care and emotional bonds between truster and trustee, whereas cognitive trust reflects beliefs about the trustee's ability, reliability, and integrity. Empirical evidence has shown that both affective and cognitive trust

have important impacts on employee outcomes. For example, in Dirks and Ferrin's (2002) meta-analytic study, cognitive trust in leader promotes job performance, altruism, job satisfaction, and organizational commitment, but reduces intent to quit, and affective trust in leader is found to be related to job performance, organizational citizenship behavior, and organizational commitment. However, according to Schoorman et al. (2007), one limitation of these studies is the unidirectional conceptualization of trust, particularly in the context of trust between supervisor and subordinate.

Felt trust (i.e., subordinates' feeling of being trusted by their supervisors), which is another unidirectional trust in leader-subordinate relationships, has received increasing attention from trust researchers (e.g., Brower et al. 2000; Ferrin et al. 2006; Lau and Lam 2008; Lau et al. 2007; Lester and Brower 2003; Salamon and Robinson 2008). Brower et al. (2000) distinguished between supervisors' trust in subordinates and employees' trust in leader, which can be measured from either the supervisor's perspective or the employee's perspective, respectively, and argued that supervisors' trust in employees and employees' trust in leader may or may not converge. They also theorized that when supervisors engage in risk-taking behaviors, such as delegation, employees obtain cues about how much the supervisor trusts them, and this felt trust could have positive outcomes for subordinates and organizations.

Theoretically, mutual trust is distinct from trust in leader and felt trust. For example, a subordinate can trust his or her supervisor, but may not be trusted by that supervisor, or a subordinate may feel that his or her supervisor trusts him or her but may not trust that supervisor. Mutual trust can exist when both a supervisor and a subordinate trust each other, and when each perceives that the other is aware of his/her intent and his/her trust (Serva et al. 2005).<sup>1</sup> In short, mutual trust can be an important and discrete element of trust in supervisor-subordinate relationships. However, research on mutual trust between subordinates and supervisors is lacking. Thus, we need to examine the kinds of social contexts that can enhance employees' perceived mutual trust with their supervisors and how the perceived mutual trust is related to work outcomes.

Another important issue in mutual trust concerns the assessment for mutual trust, which can be assessed in several ways. First, we examine the convergence in actual

trust levels as reported by the trustor, such as supervisor trust toward subordinate (assessed by supervisors) and subordinate trust toward supervisor (assessed by subordinates). This approach allows us to construct actual mutual trust, but cannot assure that mutuality is perceived by each trustor (e.g., Brower et al. 2009). Second, as some researchers (e.g., Zand 1972) had done, we can measure mutual trust by manipulating levels (high vs. low) of mutual trust. This approach, however, ignores circumstances in which trust levels do not converge, although examining 'the effects of shared trust and unbalanced trust' is important (Brower et al. 2009, p. 343). We can also assess mutual trust in both direct and indirect manners. These approaches entail employees reporting perceived mutual trust between them and their supervisors (i.e., direct approach), or assessing trust in leader and felt trust (being trusted from their supervisors, i.e., indirect approach) and examining the effects of the convergence and divergence between trust in leader and felt trust on work outcomes. As Brower et al. (2009) suggested, 'developing a direct measure of perceived mutual trust may prove useful in understanding the effects of mutual trust beyond actual trust levels' (p. 344), and the combined effects of trust in leader and felt trust represent a promising area for future research. To address these issues, we assess perceived mutual trust and test the marginal predictive validity of perceived mutual trust over trust in leader and felt trust. In addition, we examine how employees react and behave when they perceived that their trust in leader relative to felt trust was (1) both low, (2) both high, (3) more high, or (4) less high.

### Perceived Mutual Trust and Work Outcomes

A highly perceived mutual trust between subordinates and leaders indicates an effective social exchange relationship that promotes high task performance and organizational citizenship behavior among subordinates (Cropanzano and Mitchell 2005). When mutual trust between subordinates and leaders is high, both parties value common interests, mutual reliance, and close cooperation (Doz et al. 2002). As a result, supervisors tend to provide immense support to their subordinates. As a reciprocal response, subordinates are more likely to work hard to meet their supervisor's performance standards and expectations. In a mutually trusting relationship, both parties are also willing to engage in a more open and effective communication (Mohr and Nevin 1990), which enables subordinates to obtain a better understanding of their supervisor's expectations on their tasks and to achieve high task performance. In addition, employees with a mutually trusting relationship with their supervisors are more attached to the organization (cf. Spreitzer and Mishra 2002), and thus are more willing to engage in cooperative and helpful acts toward their co-

<sup>1</sup> Mutual trust is also different from reciprocal trust, referring to 'the trust that results when a party observes the actions of another and reconsiders one's attitudes and subsequent behaviors based on those observations' (Serva et al. 2005, p. 627). Reciprocal trust is not a distinct type of trust, but rather a dynamic process through which trust grows and diminishes between parties, whereas mutual presents a static picture of complementary trust between parties (Serva et al. 2005).

workers, such as information and knowledge sharing and free mentoring (Dirks 1999; Wu et al. 2009).

Given that perceived mutual trust can enjoy the benefits from both trust in a leader and felt trust, it should generate a positive effect on work outcomes beyond the effects of trust in leader and felt trust. Consistent with this view, Brower et al. (2009, p. 331) stated that “mutual trust produces more favorable outcomes than does the additive trust of both parties or the trust of each party alone.” Therefore, we predict the following:

**Hypothesis 1** Perceived mutual trust is positively related to (a) task performance and (b) interpersonal facilitation after controlling for trust in leader and felt trust.

### Effect of Matched Trust on Work Outcomes

Another concern of mutual trust is to consider employees’ trust in leader and felt trust independently, and to examine how match and mismatch of trust in leader and felt trust affect work outcomes (Brower et al. 2009, p. 344). We expect that employees are more likely to show positive work behaviors when their trust in leader is congruent to their felt trust at high (vs. low) levels. Previous research has demonstrated that trust in leader and felt trust have a positive relationship with various work outcomes. For example, in their meta-analysis study, Dirks and Ferrin (2002) and Colquitt et al. (2007) show that trust in leader results in higher job performance, more organizational citizenship behavior, and higher organizational commitment. When employees believe in their supervisors’ characters, they are less likely to worry about their vulnerability in the hierarchical relationship, and are more willing to reciprocate the care and consideration expressed by the supervisors with desired behaviors based on the norm of reciprocity (Gouldner 1960). On the other hand, Lester and Brower (2003) demonstrated that employees’ perceptions of being trusted by their supervisors are positively related with employee performance, organizational citizenship behavior, and satisfaction. Similarly, a longitudinal study conducted by Salamon and Robinson (2008) proposed that when employees felt trusted by their supervisor, they tend to act responsibly and do not violate the expectations of the trusting party, and showed that employees’ collective felt trust was positively related to organizational performance. Extrapolating from these arguments and findings, we expect task performance and contextual performance to increase as both trust in leader and felt trust increase from low to high. This argument is aligned with the existing person–supervisor fit studies suggesting that a higher level fit between subordinate and supervisor is generally associated with better work outcomes (e.g., Kristof-Brown et al. 2005; Van Vianen et al. 2011).

In addition, a high match between trust in leader and trust in subordinate (the extent to which supervisors trust their subordinates) can promote work outcomes. Brower et al. (2009) theorized and found a synergistic interaction between trust in subordinate and trust in leader. Specifically, they found that the positive relationship between subordinate’s trust in leader and individual-directed organizational citizenship behavior became stronger when supervisor’s trust in subordinate is high rather than low. We extend Brower et al. by proposing that a high versus low match between trust in subordinate and trust in leader has a higher positive impact on work outcomes. Taken together, we propose the following hypotheses.

**Hypothesis 2a** Task performance and interpersonal facilitation will increase as trust in leader and felt trust both increase.

**Hypothesis 2b** Task performance and interpersonal facilitation will increase as trust in leader and trust in subordinate both increase.

### Effect of Mismatched Trust on Work Outcomes

We expect that employees are less likely to show positive work behavior when their trust in leader is not congruent to their felt trust. If subordinates trust their supervisors but do not feel trusted, they may think that their good wills are not appropriately reciprocated, and hence become reluctant to exert a high amount of energy and effort, according to the norm of reciprocity (Gouldner 1960). Moreover, their ability, benevolence, and integrity are not recognized by supervisors as much as they are willing to be vulnerable to their supervisors, and subordinates’ self-efficacy is likely to be adversely affected (Gist 1987). As a result, although high trust in leader makes subordinates feel responsible for their work outcomes (Piccolo and Colquitt 2006), the weakened self-efficacy due to lack of felt trust may neutralize such a motivating effect.

On the other hand, when felt trust exceeds trust in leader, subordinates may also experience some mixed feelings about their supervisors which may affect their work behaviors. When felt trust is higher than trust in leader, they generally feel obligated to reciprocate for being trusted by their supervisors, but at the same time they do not believe that their supervisors have a genuine concern for their needs, and thus are not sure if their supervisors will take advantage of their hard work. Also, even they appreciate their supervisors to assign important tasks to them and give autonomy (thus felt high trust), subordinates may attribute it to their supervisor’s lack of expertise and competency (thus relatively low trust in leader), which puts the subordinates into a dilemma. It implies that a mismatch between trust in leader and felt trust results in worse work

outcomes than when they are matched, irrespective of whether trust in leader is higher than felt trust and vice versa. Taken together, we predict:

**Hypothesis 3a** Task performance and interpersonal facilitation will increase as felt trust increases toward trust in leader and will decrease as felt trust exceeds trust in leader.

We also propose that a mismatch between trust in leader and trust in subordinate cannot highly promote work outcomes. When trust in subordinate is lower than trust in leader, subordinates may not receive the necessary autonomy and authority from their supervisors to contribute to their works in an extraordinary way. Trust in leader drives subordinates to put effort and take initiative, but subordinates also need a compatible degree of discretion to fully actualize the potential benefits associated with their high motivation. As trust in subordinate increases toward trust in leader, supervisors become more likely to empower their subordinates (Spreitzer and Quinn 2001), which enables better task and contextual performance. However, when trust in subordinate exceeds trust in leader, subordinates do not have enough motivation to exercise the discretion delegated by their supervisors, and thus may not fully utilize the discretion to benefit their work outcomes. Thus, we hypothesize:

**Hypothesis 3b** Task performance and interpersonal facilitation will increase as trust in subordinate increases toward trust in leader and will decrease as trust in subordinate exceeds trust in leader.

## Method

### Sample and Procedure

We obtained data from a Chinese restaurant chain that has 46 branches across China. We presented the questionnaires to the company management and made few minor changes after receiving their feedback. The participants in each branch included one supervisor (i.e., the hall manager) and his or her subordinates. There are several roles among the subordinates including cashier, food serving, quality control, customer service, and duty manager. Participation was voluntary, and the respondents were assured of the confidentiality of their responses. The participants completed the questionnaires during their working hours. We sent out 46 questionnaires to supervisors and 276 questionnaires to their subordinates. Two weeks later, we received 45 questionnaires from the supervisors and 264 from the subordinates. In total, we received 247 matched subordinate-supervisor questionnaires with complete data, which translated to a response rate of 89.5 %. The response rate is

quite high mainly because the vice president of the restaurant, who was a former student of one of the authors, was very cooperative for this project. Moreover, the authors promised to share the results with the participants.

To use pre-validated measures, the survey items were originally in English and translated into Chinese following the commonly used back-translation procedure (Brislin 1986). Two bilingual individuals independently translated the survey from English to Chinese, and the third bilingual individual translated the Chinese survey back to English. All translators were unaware of the study hypotheses. During the procedure, words or phrases in the Chinese version that did not match the English version exactly were back-translated following Brislin (1986).

Female respondents accounted for 53 % of the subordinates. The average age of the subordinates was 22.8 years ( $SD = 3.0$ ), and their average years of education received was 11.2 ( $SD = 4.5$ ). The average organizational tenure was 1.6 years ( $SD = 1.6$ ), and the average tenure with the immediate supervisor was 1.0 year ( $SD = .9$ ). Female supervisors accounted for 55 %, and the average age of the supervisors was 28.3 years ( $SD = 2.5$ ).

## Measures

### *Trust in Leader*

We adopted the measures for affect- and cognition-based trust of McAllister (1995) to measure trust in leader. We changed the referent in several items from “We” or “both” to “I” to distinguish between “trust in leader” and “mutual trust.” We also changed the referent in several items from “most people” or “other work associates” to “I” to assess trust in leader of the focal person and revised the other terms accordingly. Example items include “I can freely share my ideas, feelings, and hopes with my supervisor,” “I can talk freely to my immediate supervisor about difficulties I am having at work” (affect-based trust), “I consider my supervisor to be trustworthy,” and “I see no reason to doubt my supervisor’s competence and preparation for the job” (cognition-based trust). Employees rated their trust in leader on a seven-point scale (1 = *strongly disagree* and 7 = *strongly agree*).

### *Felt Trust*

We employed the items used to assess trust in leader but changed the referent for the subject from “I” to “My immediate supervisor” and revised the other terms accordingly to measure felt trust. Example items include “My immediate supervisor can freely share his/her ideas, feelings, and hopes with me,” “My immediate supervisor can talk freely to me about difficulties he/she is having at

work” (affect-based trust), “My immediate supervisor considers me to be trustworthy,” and “My immediate supervisor sees no reason to doubt my competence and preparation for the job” (cognition-based trust). Employees rated their felt trust on a seven-point scale (1 = *strongly disagree* and 7 = *strongly agree*).

#### *Trust in Subordinate*

We assessed trust in subordinate with the items used to assess trust in leader by changing the referent for the subject to “this subordinate.” Example items include “I can freely share my ideas, feelings, and hopes with this subordinate,” “I can talk freely to this subordinate about difficulties I am having at work” (affect-based trust), “I consider this subordinate to be trustworthy,” and “I see no reason to doubt this subordinate’s competence and preparation for the job” (cognition-based trust). Supervisors rated their trust in their subordinates on a seven-point scale (1 = *strongly disagree* and 7 = *strongly agree*).

#### *Perceived Mutual Trust*

We adopted the measures for affect- and cognition-based trust of McAllister (1995) to measure trust in leader. We changed the referent for the subject to “My immediate supervisor and I” to measure the extent to which the subordinate and his/her immediate supervisor trust each other and revised the other terms accordingly. Example items include “My immediate supervisor and I can freely share our ideas, feelings, and hopes,” “My immediate supervisor and I can talk freely to each other about difficulties we are having at work” (affect-based trust), “My immediate supervisor and I consider each other to be trustworthy,” and “My immediate supervisor and I see no reason to doubt each other’s competence and preparation for the job” (cognition-based trust). Employees rated their perceived mutual trust on a seven-point scale (1 = *strongly disagree* and 7 = *strongly agree*).

#### *Task Performance*

To assess task performance, we used the three-item measure of Kim et al. (2009). The supervisors were asked to assess their subordinates’ task performance by responding to: ‘fulfilling specific job responsibilities,’ ‘meeting performance standards and expectations,’ and ‘completing assigned duties’ (1 = *strongly disagree* and 7 = *strongly agree*).

#### *Interpersonal Facilitation*

We adopted the seven-item scale of Van Scotter et al. (2000) to assess interpersonal facilitation. Interpersonal

facilitation reflects the helpful, considerate, and cooperative aspects of contextual performance (Van Scotter et al. 2000). Supervisors were asked to assess the interpersonal facilitation of their subordinates on a seven-point scale (1 = *strongly disagree* and 7 = *strongly agree*). Example items include ‘This subordinate supports or encourages a co-worker with a personal problem’ and ‘This subordinate encourages others to overcome their differences and get along’.

#### *Control Variables*

We controlled for sex, age, organizational tenure, and educational level in the current study consistent with previous studies (Amabile 1988; George and Zhou 2007; Madjar et al. 2002). We also controlled for the length of the relationship between the respondents and their respective immediate supervisors, which can affect trust, felt trust, mutual trust, and work outcomes (Wasti and Tan 2010).

#### **Analytical Strategies**

Given the multilevel nature of the data (i.e., the data are nested within supervisors because one supervisor assessed several subordinates), we conducted hierarchical linear modeling (HLM) using HLM 6.08 to test the research hypotheses (Raudenbush et al. 2004). We included an intercept-only model at the supervisor level in all analyses to control for any possible confounding effects of supervisor-level factors on the relationships we tested. Thus, we used two-level models in which subordinates are at Level 1 and supervisors are at Level 2.

In addition, we tested how felt trust or trust in subordinate and trust in leader jointly affected work outcomes using polynomial regression analysis (Edwards and Parry 1993). A general expression for the equation that tests the congruence model is as follows (after controlling for sex, age, education, organizational tenure, and dyad tenure):

$$\text{Work outcomes} = b_0 + b_1F + b_2T + b_3F^2 + b_4FT + b_5T^2 + e, \quad (1)$$

where  $F$  and  $T$  represent felt trust or trust in subordinate and trust in leader, respectively.

The results from Eq. 1 were used to test our hypotheses as follows. Hypotheses 2a and 2b, which predict how work outcomes changes as felt trust or trust in subordinate and trust in leader both increase from low to high, can be tested by setting  $T$  equal to  $F$  in Eq. 1 (Edwards and Parry 1993):

$$\begin{aligned} \text{Work outcomes} &= b_0 + b_1F + b_2F + b_3F^2 + b_4F^2 \\ &+ b_5F^2 + e = b_0 + (b_1 + b_2)F \\ &+ (b_3 + b_4 + b_5)F^2 + e. \end{aligned} \quad (2)$$

If  $b_1 + b_2$  would be positive and significant, and  $b_3 + b_4 + b_5$  would not differ from zero, then Hypotheses 2a and 2b are supported.

Hypotheses 3a and 3b, which predict that work outcomes are low when felt trust or trust in subordinate is lower or higher than trust in leader, can be tested by setting  $T$  equal to  $-F$  in Eq. 1 (Edwards and Parry 1993):

$$\begin{aligned} \text{Work outcomes} &= b_0 + b_1F - b_2F + b_3F^2 - b_4F^2 + b_5F^2 + e \\ &= b_0 + (b_1 - b_2)F + (b_3 - b_4 + b_5)F^2 + e. \end{aligned} \quad (3)$$

If Hypotheses 3a and 3b are supported,  $b_1 - b_2$  would be positive, and  $b_3 - b_4 + b_5$  would be negative and significant.

## Results

We conducted confirmatory factor analyses (CFAs) using AMOS 20 (Arbuckle 2011) to examine the discriminant validity for the key variables. To reduce the large number of parameters for accurate estimates, we used three parcels for all variables (except for the task performance that has only three items) to maintain appropriate parameter-to-sample size ratios (e.g., Turban et al. 2013; Wang et al. 2014). First, we conducted CFAs to test the discriminant validity of trust in leader, felt trust, and mutual trust. The six-factor model (i.e., cognitive and affective trust in leader, cognitive and affective felt trust, and cognitive and affective mutual trust) indicates a relatively good fit with the data ( $\chi^2 = 315.22$ ,  $df = 120$ ,  $p < .01$ ; RMSEA = .08; CFI = .95; TLI = .92) and fits the data better than the three-factor model that combines the cognitive and affective dimensions of each type of trust ( $\chi^2 = 655.61$ ,  $df = 132$ ,  $p < .01$ ; RMSEA = .12; CFI = .85; TLI = .81), the two-factor model that combines different types of trust based on cognitive and affective aspects ( $\chi^2 = 510.86$ ,  $df = 134$ ,  $p < .01$ ; RMSEA = .10; CFI = .89; TLI = .86), and the one-factor model ( $\chi^2 = 761.42$ ,  $df = 135$ ,  $p < .01$ ; RMSEA = .13; CFI = .82; TLI = .78). We also conducted CFAs for cognitive- and affective-related trust dimensions separately. The three-factor model for cognitive-related trust dimensions ( $\chi^2 = 62.99$ ,  $df = 24$ ,  $p < .01$ ; RMSEA = .08; CFI = .98; TLI = .96) fits better than the one-factor model ( $\chi^2 = 164.51$ ,  $df = 27$ ,  $p < .01$ ; RMSEA = .14; CFI = .92; TLI = .87). Similarly, the three-factor model for affective-related trust dimensions ( $\chi^2 = 78.38$ ,  $df = 24$ ,  $p < .01$ ; RMSEA = .08; CFI = .96; TLI = .93) fits better than the one-factor model ( $\chi^2 = 150.18$ ,  $df = 27$ ,  $p < .01$ ;

RMSEA = .13; CFI = .92; TLI = .86). In addition, we conducted CFAs for the supervisor-assessed outcomes (i.e., task performance and interpersonal facilitation). The two-factor model ( $\chi^2 = 23.27$ ,  $df = 8$ ,  $p < .01$ ; RMSEA = .08; CFI = .98; TLI = .97) fits better than the one-factor model ( $\chi^2 = 125.49$ ,  $df = 9$ ,  $p < .01$ ; RMSEA = .22; CFI = .87; TLI = .78). Taken together, these results support the discriminant validity of the different types of trust and the supervisor-assessed outcomes.

Table 1 presents the means, standard deviations, correlations, and reliabilities for all variables. The reliabilities of all variables were acceptable for research purposes and ranged from .78 to .90. Cognitive and affective mutual trust were positively correlated to task performance ( $r = .33$ ,  $p < .01$  and  $r = .31$ ,  $p < .01$ , respectively) and interpersonal facilitation ( $r = .25$ ,  $p < .01$  and  $r = .12$ ,  $p < .05$ , respectively).

Hypothesis 1 stated that perceived mutual trust would be positively related to (a) task performance and (b) interpersonal facilitation after controlling for trust in leader and felt trust. As shown in Models 1 and 3 in Table 2, cognitive mutual trust was positively related to task performance ( $\gamma = .20$ ,  $p < .05$ ) and interpersonal facilitation ( $\gamma = .15$ ,  $p < .05$ ) after controlling for cognitive trust in leader and cognitive felt trust. Affective mutual trust was also positively related to task performance ( $\gamma = .18$ ,  $p < .05$ ) and interpersonal facilitation ( $\gamma = .13$ ,  $p < .05$ ) after controlling for affective trust in leader and affective felt trust, as shown in Models 2 and 4 in Table 2.<sup>2</sup> Thus, Hypothesis 1 was supported.

In the above analyses, we controlled for trust in leader and felt trust because we were interested in the experiences of employees in the trust relationships with their supervisors. However, as Brower et al. (2009) noted, subordinates' felt trust may not be consistent with the manager's actual trust in the subordinate. Thus, as supplementary analyses, we tested whether perceived mutual trust would be positively related to work outcomes after controlling for trust in leader and supervisor's actual trust in subordinate. The results indicated that cognitive mutual trust had a

<sup>2</sup> We tested cognitive and affective trust separately due to high correlations among the six trust dimensions (i.e., cognitive and affective trust in leader, cognitive and affective felt trust, and cognitive and affective mutual trust). Collinearity is not necessarily a problem, but may lead us to conclude that an independent variable does not significantly explain a dependent variable when it does, or to conclude that an independent variable significantly explains a dependent variable when it does not (Preacher and Hayes 2008). As a supplementary analysis, we entered both cognitive and affective trust dimensions (i.e., all six trust dimensions) in the same regression equation. The results show that affective mutual trust explains job performance above and beyond other trust dimensions ( $\gamma = .15$ ,  $p < .05$ ). For interpersonal facilitation, no trust dimension is significantly related above and beyond other trust dimensions.

**Table 1** Means, standard deviations, correlations, and reliabilities for variables in all data

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(1) Sex	.47	.50	–														
(2) Age	22.82	3.00	.14	–													
(3) Education (years)	11.12	4.83	–.03	.17	–												
(4) Organizational tenure	1.56	1.59	.08	.05	.04	–											
(5) Tenure with supervisor	1.04	.92	.06	.16	.16	.34	–										
(6) Cognitive trust in leader	4.20	.68	–.07	.21	.10	.05	.08	(.87)									
(7) Affective trust in leader	3.81	.79	.06	.19	.08	.06	.05	.67	(.81)								
(8) Cognitive felt trust	3.86	.75	.06	.29	.09	.14	.09	.68	.66	(.89)							
(9) Affective felt trust	3.42	.81	.06	.18	.07	.00	.03	.55	.69	.68	(.84)						
(10) Cognitive trust in subordinate	5.64	.69	–.03	.10	–.04	–.03	.04	.13	.14	.19	.20	(.83)					
(11) Affective trust in subordinate	5.27	.83	.06	.10	.02	.05	.07	.08	.12	.16	.16	.63	(.75)				
(12) Cognitive mutual trust	3.99	.76	.04	.28	.07	.11	.05	.72	.68	.86	.65	.23	.17	(.90)			
(13) Affective mutual trust	3.54	.82	.09	.17	.04	.04	.00	.58	.73	.70	.83	.18	.13	.70	(.87)		
(14) Task performance	5.59	.72	–.06	.06	–.01	.01	.01	.21	.25	.29	.35	.64	.51	.33	.31	(.83)	
(15) Interpersonal facilitation	5.34	.74	.07	.06	.04	.02	.10	.11	.13	.23	.12	.58	.56	.25	.12	.60	(.89)

Sex: 0 = female, 1 = male.  $N = 247$ . Reliabilities are in parentheses. For all correlation above |.13|,  $p \leq .05$ ; and above |.17|,  $p \leq .01$

significant relationship with interpersonal facilitation ( $\gamma = .10$ ,  $p < .05$ ) and a partial relationship with task performance ( $\gamma = .10$ ,  $p < .10$ ) after controlling for cognitive trust in leader and cognitive trust in subordinate. Affective mutual trust was positively related to task performance ( $\gamma = .19$ ,  $p < .01$ ), but not to interpersonal facilitation ( $\gamma = .01$ , *n.s.*), after controlling for affective trust in leader and affective trust in subordinate.

Hypothesis 2 stated that work outcomes (i.e., task performance and interpersonal facilitation) would increase as felt trust or trust in subordinate and trust in leader both increase. For felt trust and trust in leader, the polynomial regression results indicated that the slope of the surface along the  $T = F$  line (i.e., the matched trust line,  $b_1 + b_2$ ) was linear, positive, and significant for task performance ( $b_1 + b_2 = .67$ ,  $p < .01$  with cognitive trust,  $b_1 + b_2 = .50$ ,  $p < .01$  with affective trust) and interpersonal facilitation with cognitive trust ( $b_1 + b_2 = .43$ ,  $p < .01$ ), as shown in Table 3. Figure 1 illustrates the effects of trust in leader and felt trust on task performance. That is, task performance increased as trust in

leader and felt trust both increased from low to high. However, the slope of the surface (i.e.,  $b_1 + b_2$ ) was positive, but not significant for interpersonal facilitation with affective trust ( $b_1 + b_2 = .15$ , *n.s.*). For trust in subordinate and trust in leader, the polynomial regression results indicated that the slope of the surface along the  $T = F$  line (i.e., the matched trust line,  $b_1 + b_2$ ) was linear, positive, and significant for task performance ( $b_1 + b_2 = 1.59$ ,  $p < .01$  with cognitive trust,  $b_1 + b_2 = .98$ ,  $p < .01$  with affective trust) and interpersonal facilitation ( $b_1 + b_2 = 1.24$ ,  $p < .01$  with cognitive trust,  $b_1 + b_2 = .86$ ,  $p < .01$  with affective trust). These results indicated that task performance increased as both trust in leader and felt trust or trust in subordinate rose from low to high (for both cognitive and affective trust) and interpersonal facilitation increased as both cognitive trust in leader and cognitive felt trust or trust in subordinate moved from low to high, providing a general support for Hypothesis 2.

Hypothesis 3 proposed that work outcomes (i.e., task performance and interpersonal facilitation) would increase as felt trust or trust in subordinate increases toward trust in



**Table 2** Results for the relationships between mutual trust and employee outcomes

Variables	Task performance		Interpersonal facilitation	
	M 1	M 2	M 3	M 4
Intercept	4.30	4.33	4.60	4.75
Control variables				
Sex	-.09	-.13*	.07	.06
Age	.00	.01	-.01	.00
Education	.00	.00	.01	.01
Organizational tenure	.00	.01	.01	.02
Tenure with supervisor	-.01	-.01	.06	.06
Cognitive trust in leader	.09		-.02	
Cognitive felt trust	.04		.08	
Cognitive mutual trust	.20*		.15*	
Affective trust in leader		-.01		.01
Affective felt trust		-.14		-.02
Affective mutual trust		.18*		.13*
$\Delta R^2_{\text{within-supervisor}}^a$	.08	.10	.05	.01
$\Delta R^2_{\text{between-supervisor}}^a$	.94	.93	.95	.99
Deviance	498.22	492.38	491.28	501.07

*N* = 247 subordinates and 45 supervisors. Standardized  $\beta$  coefficients are presented. Sex: 0 = female, 1 = male

\*  $p < .05$

<sup>a</sup> These are  $R^2$  difference compared to the null model or the previous model

**Table 3** Results for trust match and mismatch effects on work outcomes

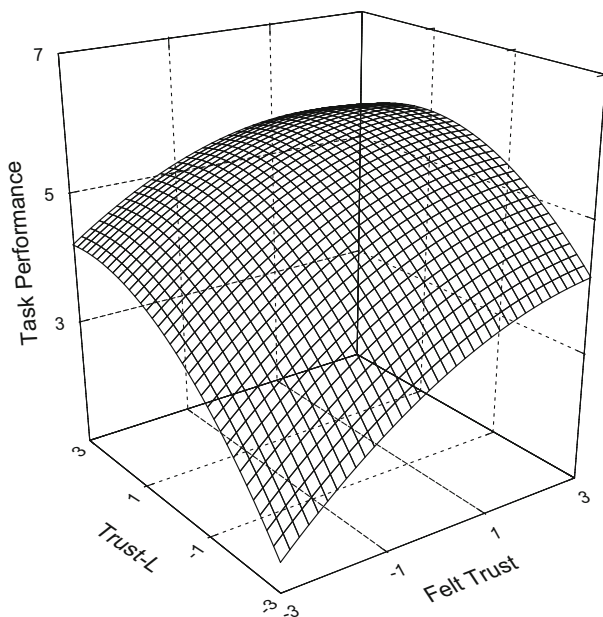
Dependent variables	<i>F</i>	<i>T</i>	$F^2$	<i>FT</i>	$T^2$	<i>F = T</i>		<i>F = -T</i>	
						$b_1 + b_2$	$b_3 + b_4 + b_5$	$b_1 - b_2$	$b_3 - b_4 + b_5$
Felt trust/trust in leader (cognitive)									
Task performance	.33*	.34*	-.06	-.04	-.09	.67**	-.19**	-.01	-.11
Interpersonal facilitation	.45**	.05	-.06	-.12	.01	.50**	-.17	.40	.07
Felt trust versus trust in leader (affective)									
Task performance	.36**	.07	-.07	-.05	-.01	.43**	-.13*	.29	-.03
Interpersonal facilitation	.12	.03	.06	-.13	.05	.15	-.02	.09	.24
Trust in subordinate/trust in leader (cognitive)									
Task performance	.92**	.67**	.24**	-.31**	-.11**	1.59**	-.18	.25	.44**
Interpersonal facilitation	.72**	.26*	.15*	-.08	-.07	.98**	.00	.46*	.16
Trust in subordinate/trust in leader (affective)									
Task performance	.88**	.36**	-.06	-.10	-.09*	1.24**	-.25**	.52**	.05
Interpersonal facilitation	.65**	.21**	.31**	-.17*	-.03	.86**	.11	.44**	.45**

*N* = 247. Unstandardized regression coefficients (after controlling for age, sex, tenure with supervisor, organizational tenure, and education levels) were used. *F* and *T* represent felt trust (or trust in subordinate) and trust in leader. Columns labeled  $b_1 + b_2$  and  $b_3 + b_4 + b_5$  represent the slope of each surface along the  $F = T$  line, and columns labeled  $b_1 - b_2$  and  $b_3 - b_4 + b_5$  represent the slope of each surface along the  $F = -T$  line ( $b_1, b_2, b_3, b_4,$  and  $b_5$  are the coefficients on *F, T, F*<sup>2</sup>, *FT*, and  $T^2$ , respectively)

\*  $p < .05$ ; \*\*  $p < .01$

leader and would decrease as felt trust or trust in subordinate exceeds trust in leader. Hypotheses 3 would be supported, if  $b_1 - b_2$  is positive and  $b_3 - b_4 + b_5$  is negative and significant. However, in contrast to Hypothesis 3, for trust in leader and felt trust, the polynomial

regression results indicated that the slope of the surface along the  $T = -F$  line was flat (i.e.,  $b_1 - b_2$  was not significant nor  $b_3 - b_4 + b_5$  was significant). On the other hand, for trust in leader and trust in subordinate, the slope of the surface along the  $T = -F$  line was significantly



**Fig. 1** Estimated surfaces relating task performance to trust in leader and trust in subordinate

linear ( $b_1 - b_2 = .46$ ,  $p < .05$  for cognitive trust and interpersonal facilitation,  $.52$ ,  $p < .01$  for affective trust and task performance) or significantly concave ( $b_3 - b_4 + b_5 = .44$ ,  $p < .01$  for cognitive trust and task performance,  $.45$ ,  $p < .01$  for affective trust and interpersonal facilitation), as shown in Table 3. Taken together, Hypothesis 3 was not supported.

## Discussion

Our findings offer several important theoretical implications for research about trust and leader–member relationship, and suggest several opportunities for more in-depth research. One important implication of our findings is the insight on how trust perceptions are structured and used by employees. CFAs supported a three-factor structure, which suggests that trust in leader, felt trust, and mutual trust are distinctive constructs. Our findings support the arguments of Schoorman et al. (2007) and Serva et al. (2005) that trusting relationships can be, but are not necessarily, mutual, like in leader–member exchange (LMX). This finding means that high trust in leader or high felt trust would not guarantee high mutual trust. Overall, our refined conceptualization and measures for trust perceptions expand the nomological network of trust in leader and felt trust and suggest that mutual trust is a distinct type of trust and should be included in trust research.

Notwithstanding the conceptual distinctions among multiple trust perceptions, perhaps more important implication of our findings is that perceived mutual trust was

positively associated with task performance and interpersonal facilitation after accounting for trust in leader and felt trust or trust in subordinate. In general, these results suggest that when mutual trust with supervisors is high, employees are more likely to engage in positive work and relationship behaviors toward co-workers. Our findings contribute to current research on mutual trust (e.g., Brower et al. 2009; Schoorman et al. 2007; Serva et al. 2005) by developing a direct measure of perceived mutual trust, and by examining the marginal predictive validity of perceived mutual trust above and beyond what the constituent elements of mutual trust (i.e., trust in leader vs. trust in subordinate) explain.

Next, our results indicated that as trust in leader and felt trust or trust in subordinate increased from low to high, task performance and interpersonal facilitation significantly increased. These findings further emphasize the importance of considering both parties' perceptions in a trust relationship between supervisors and subordinates (Brower et al. 2009), suggesting that companies can maximize the potential benefits deriving from a supervisor–subordinate relationship when both of them share similar, high levels of trust toward the other. Our findings contribute to this emerging line of research that shifts attention from the formation of unidirectional trust toward the dynamics of social exchange parties (e.g., Ferrin et al. 2008; Serva et al. 2005). Our findings also extend Brower et al. (2009) by testing mutual trust based on actual trust levels (i.e., trust in leader and trust in subordinate) and subordinates' felt trust which may not be consistent with the actual trust of the supervisor in the subordinate. Moreover, we tested how trust in leader and felt trust or trust in subordinate relate to employee outcomes using polynomial regression analysis (Edwards and Parry 1993) that allows us to examine the potential complexity of the joint effects of trust in leader and trust in subordinate or subordinates' felt trust. Thus, our study provides a more comprehensive picture for the joint effects of trust in leader and felt trust, and actual trust levels (i.e., trust in leader and trust in subordinate) on employee outcomes.

It would be noteworthy that although the congruence effects of trust in leader and felt trust or trust in subordinate were significant, the incongruence effects did not occur as expected. For example, for trust in leader and felt trust, the slope of the surface along the  $T = -F$  line was flat (i.e., the incongruence did not affect employee outcomes), while trust in leader and felt trust were positively related to task performance and interpersonal facilitation, independently. These results suggest that trust in leader and felt trust somewhat complement each other, such that when either one is high, employees show relatively high task performance and interpersonal facilitation, even though the other one is low (if both are high, task performance and

interpersonal facilitation are the highest, as discussed above). On the other hand, for trust in leader and trust in subordinate, the slope of the surface along the  $T = -F$  line was significantly linear or concave for different types of trust and outcomes (i.e., the incongruence significantly affected employee outcomes). These results suggest that task performance and interpersonal facilitation increase as trust in subordinate increases toward trust in leader and continuously increase as trust in subordinate exceeds trust in leader, at an accelerating rate for some cases. These results might result from the fact that supervisors assessed both trust in subordinate and employee outcomes. Future research needs to confirm this incongruence effect for trust in leader and trust in subordinate with employee-assessed outcomes (e.g., job satisfaction) or objective measures of the work-related outcomes and to learn more about the incongruence effects of trust in leader and felt trust or trust in subordinate.

In addition, our study contributes to advancing the research based on relational leadership theory (Brower et al. 2000). Relational leadership theory focuses on not only leadership effectiveness, but the process of social construction through which leadership is developed and enabled (Uhl-Bien 2006). It proposes that when both supervisors and subordinates work hard for their relationship, they share a positive feeling about the relationship, which can promote beneficial work outcomes (Cogliser et al. 2009; Maslyn and Uhl-Bien 2001). Based on relationship leadership theory, researchers have become interested in the factors that influence the relational dynamics in supervisor–subordinate dyads and subsequent work outcomes. Our findings support the relationship leadership theory, and contribute to develop this line of research by demonstrating that both trust in subordinate and trust in leader play a critical role in enhancing task performance and interpersonal facilitation.

The findings in this study also offer several practical implications for organizations and managers. First, this study suggests that mutual trust in supervisor–subordinate relationships is valuable in enhancing interpersonal facilitation and task performance. Developing mutual trust between supervisors and subordinates becomes more important for managers due to the current changes in working environments such as the presence of more diverse workforces, newly emerged self-directed teams, and reliance on empowered workers (cf. Mayer et al. 1995). Managers may find usefulness in fostering mutual trust, which could be fostered by enhancing congruence in values, personal goals, and preferences with their subordinates (cf. Edwards and Cable 2009).

Second, the results suggest that effective supervisors not only need to trust their subordinates, but also learn how to let their subordinates feel that they are trusted. We found

that the correlations between felt trust reported by the subordinates and trust in subordinate reported by the supervisors were indeed not high ( $r = .19$  for cognitive trust,  $.16$  for affective trust). That is, the supervisors were not very successful in making their subordinates to perceive the same amount of trust that they have in their subordinates. Even though supervisors have high levels of trust in their subordinates, if they seldom delegate authority and power to their subordinates, their subordinates may not actually feel that their supervisors trust them, and thus could not actualize any potential benefits from high felt trust among their subordinates. Practicing empowerment, such as allowing employees to use their own judgment in solving job problems, can enhance subordinates' felt trust (Fletcher 1998; Walsh et al. 1998).

Third, our findings can benefit managers who are interested in enhancing ethical behavior in the workplace. As Mulki et al. (2006) demonstrated, trust in leadership played an important role in enhancing the impact of the ethical standards that were reflected in the organization's practices, procedures, norms, and values on employees' attitudes and behaviors. Thus, managers who can build mutually trusting relationships with their employees can effectively encourage the employees to follow organizational ethical guidelines and to engage in more ethical behaviors.

### Limitations and Future Opportunities

Similar to all studies, the current study has several limitations. First, we collected the data used in this study at a single time, which raises the question about the direction of causality. Consistent with the literature on trust (e.g., Dirks and Ferrin 2002; Lester and Brower 2003), we assumed that employees who have high trust in their leaders or who feel that their leaders trust them tend to engage in positive work behavior. However, we could not disregard that subordinates who performed well received high trust from their leaders and subsequently developed high mutual trust with their leaders. Longitudinal data collection is necessary for a rigorous test of causal direction.

Second, our hypotheses are based on social exchange theory (Blau 1964) and the norm of reciprocity (Gouldner 1960), and we did not consider the active exchange of trust between supervisors and their subordinates. Clearly, trust can be reciprocal, and existing trust can affect the trust of another party over time (Ferrin et al. 2008; Serva et al. 2005). For example, the current level of trust in leader can affect the future level of trust in subordinate. Thus, future research is necessary to investigate how trust in leader and trust in subordinate affect mutual trust over time.

Third, we did not measure any possible mediating mechanism that can explain the effects of mutual trust on employee outcomes. Although we developed these

hypotheses based on previous theories and empirical findings, future work needs to investigate the potential mediating mechanisms underlying the relationships between different types of trust and employee outcomes. As several leadership researchers have suggested, trust can be considered as an antecedent or consequence of LMX (Dulebohn et al. 2012), or is an aspect of LMX (Graen and Uhl-Bien 1995). Thus, LMX quality may play an important role in explaining employees' reactions to perceived mutual trust. Also, self-efficacy or psychological empowerment may serve as a mediator for the relationship between perceived mutual trust (or the joint effects of actual level of trust and felt trust) and employee outcomes.

Next, our study did not consider the effects of felt trust and perceived mutual trust from supervisors' perspective of employees' work behavior. Supervisors' felt trust and perceived mutual trust may affect how they interact with their subordinates and the subsequent behaviors they engage in, which will subsequently influence the subordinate's trust perceptions, LMX relationships, and employee outcomes. Future research needs to consider measuring these two bidirectional trust concepts from supervisors' perspective and to examine how bidirectional trust concepts from subordinates and supervisors affect each other, LMX relationships, and employee outcomes.

These limitations are counterbalanced by several important strengths. First, data were obtained from multiple sources (respondents and their supervisors), thereby mitigating concerns that our findings may be attributed to method variance. Second, we distinguished different types of trust perceptions conceptually and examined the distinctive antecedents of the multiple trust perceptions and the relative strengths of the associations between multiple trust perceptions and work outcomes. Moreover, we refined the trust measures that were used. As discussed previously, several researchers assessed mutual trust by examining convergence in actual trust levels, whereas we measured perceived mutual trust (i.e., a direct measure for mutual trust). This new measure is appropriate to assure that mutuality is perceived (Brower et al. 2009).

## Conclusion

The current study builds on and extends a stream of trust research, which indicates that trust in leader and felt trust are distinct and must be considered simultaneously. Our conceptual model and results imply that perceived mutual trust (rather than trust in leader and felt trust) can be more strongly related to behavioral outcomes. Also, the indirect approach demonstrates how match and mismatch of trust in leader and felt trust or trust in subordinate influence work outcomes. We call for future studies to develop a better and

more responsive theory to shed light on how supervisory and organizational practices are distinctively associated with trust in leader, felt trust, and (perceived) mutual trust. It would be also interesting to explore whether the levels of trust congruence with other social exchange parties (e.g., co-workers and organizations) are critical to enhance work outcomes.

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