



# Revisiting the mediating role of trust in transformational leadership effects: Do different types of trust make a difference?

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## ABSTRACT

This study examines the mediating effects of cognitive and affective trust on the relationship between follower perceptions of transformational leadership behavior and their work outcomes. Using data obtained from 318 supervisor–subordinate dyads from a manufacturing organization located in mainland China, structural equation modeling results revealed that affective trust fully mediated the relationships between transformational leadership and the work outcomes of followers, including their affective organizational commitment, organizational citizenship behaviors (OCBs), and job performance. In contrast, cognitive trust negatively mediated the relationship between transformational leadership and follower job performance, and had insignificant effects on their affective organizational commitment and organizational citizenship behaviors. These findings highlight the importance of affective trust as a mechanism which translates transformational leadership into positive work outcomes for the organization.

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## 1. Introduction

Over the last three decades a great deal of research has examined the direct effects of transformational leadership on follower work outcomes including job performance, creativity and organizational citizenship behaviors (OCBs) (Burke, Sims, Lassara, & Salas, 2007; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). However, it is only in recent years that leadership researchers have begun to unravel the psychological mechanisms which underlie such relationships (e.g., Avolio, Zhu, Koh, & Puja, 2004; Walumbwa & Hartnell, 2011). One mechanism central to the process of effective transformational leadership is the development of follower trust in the leader (Jung & Avolio, 2000; Kark, Shamir, & Chen, 2003; Podsakoff, Mackenzie, Moorman, & Fetter, 1990). Trust has been typically used to measure the quality of social exchange between follower and leader (Pillai, Schriesheim, & Williams, 1999; Schaubroeck, Lam, & Peng, 2011). Previous empirical studies have found that trust fully mediates the impact of transformational leadership on organizational citizenship behaviors (OCBs) (Pillai et al., 1999; Podsakoff et al., 1990), and job performance (Jung & Avolio, 2000). However, these studies have typically conceptualized trust as a uni-dimensional measure, and neglected the fact that it may consist of more than one dimension.

Recent developments in the literature indicate that there are two types of trust, one of which is exchange-based or relational in nature and the other character-based or cognitive in nature (Dirks & Ferrin, 2002; McAllister, 1995; Wang, Tomlinson, & Noe, 2010; Yang & Mossholder, 2010; Yang, Mossholder, & Peng, 2009). Affective trust refers to the trust which is based on emotional ties between two parties in a relationship that results from the mutual exhibition of care and concern (Dirks & Ferrin, 2002;

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McAllister, 1995). It is generally agreed that affective trust is a good proxy for the process of social exchange, given it measures the extent to which both parties in a relationship engage in the reciprocated exchange of care and concern (Dirks & Ferrin, 2002; Schaubroeck et al., 2011; Yang et al., 2009). Cognitive trust, on the other hand, refers to that which is based on an instrumental evaluation by the follower of the salient personal characteristics of the leader such as their integrity, competence, reliability and dependability (Dirks & Ferrin, 2002; Schaubroeck et al., 2011). In other words, cognitive trust influences employee attitudes by making them feel more confident in their supervisor's ability and qualification to guide their task performance (Mayer, Davis, & Schoorman, 1995). This should lead employees to judge their work experiences in a favorable light, and encourage them to engage in behavior that benefits the organization.

However, there is also preliminary evidence to suggest that unlike affective trust, cognitive trust may also lead to over-dependence or reliance of the follower on the leader and result in the tendency of followers to engage in free-riding or social loafing behavior (Kark et al., 2003; Ng & Chua, 2006). This suggests that whereas affective trust might positively influence work outcomes such as job performance in a positive way, cognitive trust may have negative outcomes, given that job performance requires employees to act on their own initiative and not rely on their supervisor's ability. As previous studies examining the mediating effects of trust on the relationship between transformational leadership and follower outcomes at the individual level have typically used measures of trust which combine affective and cognitive dimensions (Jung & Avolio, 2000; Pillai et al., 1999; Podsakoff et al., 1990; Rubin, Bommer, & Bachrach, 2010), we believe that, due to the fact that these two types of trust are of a different nature (McAllister, 1995), they could have very different effects on the dynamic relationships between leadership and follower outcomes. The combination of two rather different types of trust into one general construct by previous researchers means we are unable to fully understand the dynamic and complex roles played by different types of trust on follower responses to leadership behavior.

Although recent work by Schaubroeck et al. (2011) has found that cognitive and affective trust at the group level mediate the impact of transformational leadership on team performance, no attempt has been made to examine the underlying individual level psychological processes which link transformational leadership to follower work outcomes. In the present study we examine the differential effects of cognitive and affective trust at the individual level on the relationship between transformational leadership and follower work outcomes. In addition to examining how both dimensions of trust link transformational leadership to job performance, we also seek to understand how they mediate the impact of transformational leadership on the organizational commitment and OCBs of followers which measure their work attitudes and extra-role behavior. We believe it is appropriate to examine the mediating effects of affective and cognitive trust at the individual level as they were originally conceptualized as individual level constructs and because growing research has shown leadership to have differential effects at the individual and group levels (Dansereau, Yammarino, & Kohles, 1999; Waldman & Yammarino, 1999). In addition, we feel that examining the impact of trust on follower work outcomes at the individual level is appropriate given the sample we used in the present study was taken from an industrial context in which team size is relatively large and performance is typically measured at the individual rather than the group level.

This study makes a further contribution by examining the possible negative effects of transformational leadership on subordinate work outcomes through the development of high levels of cognitive trust. Although previous studies investigating the processes by which transformational leadership weaves its effects on subordinate work outcomes through trust-based mechanisms these studies have typically adopted constructs which measure affective trust or combine items which measure affective and cognitive trust (Jung & Avolio, 2000; Pillai et al., 1999; Podsakoff et al., 1990; Rubin et al., 2010). More specifically, in light of previous work, we argue that although both affective and cognitive trust may mediate the relationship between transformational leadership and the follower work outcomes of affective organizational commitment and OCBs in a positive way, the development of high levels of cognitive trust by transformational leaders may lead followers to over-depend on their leader and increase their propensity to engage in free-riding or social loafing behavior, or to reduce personal work initiative and motivation, and negatively impact on their performance. We argue this phenomenon of over-dependence is more likely to operate at the individual level and so therefore is not evident in previous work looking at team level measures of trust and performance (e.g., Schaubroeck et al., 2011). The findings of this study should enable us to better understand and advise managers as to how they might better leverage the effects of transformational leadership to promote desired work outcomes through the development of trust.

## 2. Literature review

### 2.1. Transformational leadership

Out of a large number of theories of leadership, transformational leadership has been the most widely researched over the last three decades. This theory was developed and popularized by Bass (1985), based on the seminal work of Burns (1978). He conceptualizes transformational leadership as having four separate dimensions, namely idealized influence, intellectual stimulation, inspirational motivation and individualized consideration (Bass, 1985; Bass & Avolio, 1994). Transformational leaders provide idealized influence when they act as role models, exhibiting the kind of behavior that is widely admired in society. This generally includes exemplary ethical behavior, the implicit adoption of personal goals that are not self-centered, and a willingness and ability to pursue these goals even though doing so may incur personal cost and self-sacrifice. Such behavior generates respect for, and trust in, the leader and makes followers more proud of their organization and keener to work harder to promote its goals (Bass & Avolio, 1994). Intellectual stimulation refers to the degree to which leaders stimulate and encourage creativity in their followers by nurturing and developing independent and innovative thought (Bass & Avolio, 1994). Transformational leaders encourage followers to ask questions, think deeply about their jobs, and figure out better ways of executing their prescribed tasks. For such leaders, learning is

perceived to be valuable, problems are seen as opportunities to learn, and all employees are viewed as sources of solutions and new ideas. Inspirational motivation refers to the degree to which leaders are able to provide followers with a sense of purpose in their job that will generate additional, goal-directed energy for the organization (Bass, 1985). They do this by creating a new vision, mobilizing commitment to that vision, setting clear and plausible strategies for attaining the vision, communicating these clearly and precisely to followers, and generating optimism amongst followers that, with realistic effort, the goals can be achieved and the vision attained (Avolio, 1999). Individualized consideration describes the extent to which leaders instill in followers an appreciation that the leaders genuinely care for them and their well-being (Judge & Piccolo, 2004). Leaders do this by such actions as keeping communication lines open, mentoring individual followers when appropriate, listening attentively to their concerns and needs and pro-actively taking steps to address these (Avolio, 1999; Bass, 1998).

## 2.2. Transformational leadership, trust and follower work outcomes

There has been considerable research done on examining the impact of transformational leadership behavior on follower work outcomes such as job performance or OCBs (Judge & Piccolo, 2004; Lowe et al., 1996; Walumbwa & Hartnell, 2011). Empirical studies and meta-analyses have typically reported significant relationships between transformational leadership and the work outcomes of followers in different geographic and industrial locations (Avolio et al., 2004; Jung & Avolio, 1999; Kirkman, Chen, Farh, Chen, & Lowe, 2009). Social exchange theory (Blau, 1964) has been widely used to explain the influence of transformational leadership on follower work outcomes (Dirks & Ferrin, 2002). It asserts when the leader treats their followers well, they reciprocate by exerting greater effort on behalf of the organization (Organ, 1988). Trust in the leader has been widely used by researchers to measure the quality of social exchange between the leader and follower (Lavelle, Rupp, & Brockner, 2007). Trust has been defined as 'a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another' (Rousseau, Sitkin, Burt, & Camerer, 1998). The extent to which followers are prepared to subject themselves to the actions of the leader depends on how they are treated by their leader. Transformational leaders should engender higher levels of trust in followers as they exhibit support, encouragement, concern and respect for their followers (Dirks & Ferrin, 2002; Jung & Avolio, 2000).

With high levels of trust in the leader, followers typically exert stronger efforts to finish their work tasks on time and are more likely to engage in behaviors that help the organization even when it is not their specified role to engage in those behaviors (Burke et al., 2007; Organ, Podsakoff, & MacKenzie, 2006). For example, prior research (e.g., Organ et al., 2006) found that followers in a trusting relationship reciprocate in the form of enhanced job attitudes, performance and OCBs. Similar findings of a positive relationship between trust in the leader and follower work outcomes were uncovered through meta-analytical work by Dirks and Ferrin (2002). Although trust in the leader has been consistently found to be an influential mediator on the relationship between transformational leadership and follower outcomes, uni-dimensional measures of trust using cognitive elements alone or ones combining affective and cognitive elements have typically been adopted in previous studies (Jung & Avolio, 2000; Pillai et al., 1999; Podsakoff et al., 1990). Researchers have failed to incorporate recent developments in the literature which have suggested there are two main dimensions of trust, cognitive and affective, only the latter of which captures the social exchange mechanism (Dirks & Ferrin, 2002; McAllister, 1995).

In order to understand more completely the potential impact of trust on follower responses to transformational leadership, McAllister's (1995) two dimensional model of trust, comprising cognitive and affective trust, is adopted as the theoretical basis of this study. It was chosen for the fact that it has been empirically tested and validated in a wide variety of industrial and geographic settings (Schaubroeck et al., 2011; Wang et al., 2010; Yang & Mossholder, 2010; Yang et al., 2009), and been the subject of meta-analytical work (Dirks & Ferrin, 2002). It also shares many similarities with prominent transformational models of trust (Lewicki & Bunker, 1996; Rousseau et al., 1998; Shapiro, Sheppard, & Cheraskin, 1992), given its cognitive dimension captures deterrence or knowledge-based definitions of trust, and its affective dimension captures identification or relationship-based definitions of trust. Although other operational measurements of trust have been developed in the literature (Mayer et al., 1995), these are typically one-dimensional, encompassing only cognitive elements of trust, and have been shown to exhibit weaker reliability than McAllister's (1995) two dimensional model of trust (Mayer & Davis, 1999).

Cognitive trust arises from a trustor's objective assessment of the key characteristics possessed by the other party, such as their ability, competence, integrity and reliability (Dirks & Ferrin, 2002; Mayer et al., 1995; Yang et al., 2009). It hinges on the follower's personal appraisal of the leader i.e. whether or not the leader has shown competence, reliability and integrity in the past (Ng & Chua, 2006). Evidence suggests that failure of the trustee to meet expectations regarding such characteristics provides a rational basis for the trustor to withhold trust (McAllister, 1995).

In contrast, affective trust is based on the emotional bond the trustor has developed with the trustee. It results from the trustor's realization that the trustee genuinely cares about the trustor and acts with the other party's welfare in mind (Colquitt, Scott, & LePine, 2007). Affective trust develops over time as the two parties engage in a process of social exchange through the display of mutual concern and care for each other (McAllister, 1995; Rempel, Holmes, & Zanna, 1985). Both dimensions of trust are associated with competing theoretical explanations of how trust is developed; the character-based and social exchange-based perspectives. Cognitive definitions of trust are associated with the character-based perspective since they capture perceptions about the leader's character that may influence the vulnerability of the subordinate to him or her (Dirks & Ferrin, 2002). In contrast, affective definitions of trust are logically related to the social exchange-based perspective, given they focus on the exchange of socio-emotional benefits between individuals (McAllister, 1995).

### 3. Hypothesis development

#### 3.1. Transformational leadership and trust in the leader

Although previous studies have found a strong relationship between transformational leadership and trust in the leader, previous studies have typically neglected the multidimensionality of the trust construct (Jung & Avolio, 2000; Pillai et al., 1999; Podsakoff et al., 1990; Yukl, 1998). In the following sections we seek to explain how transformational leadership, as espoused by Bass and his associates, should influence the affective and cognitive trust of subordinates.

A transformational leader who provides idealized influence by acting as a role model should elicit higher levels of trust in their followers (Jung & Avolio, 2000). The exhibition of exemplary behavior and a willingness to put group goals over personal benefits by the leader should serve to strengthen the emotional bond between the leader and follower, resulting in higher levels of affective trust. In addition, a leader that demonstrates a willingness to sacrifice individual benefits for group goals, and maintains consistency between their spoken words and deeds, should enhance follower perceptions of their integrity and reliability, and engender higher levels of cognitive trust (Avolio & Bass, 1995; Kirkpatrick & Locke, 1996).

Likewise, a transformational leader, who displays intellectual stimulation, should engender higher levels of trust in their followers. By stimulating and encouraging creativity, the leader empowers their followers to get involved in the process of decision making, and enables them to influence decisions which may impact them. This provides a signal to the follower that the leader respects them and is prepared to enter into a social exchange (Avolio & Bass, 1995). This should in turn strengthen the emotional bond between the two parties and lead to higher levels of affective trust. Such behavior is also likely to engender cognitive trust as it should enhance follower perceptions as to the competence, integrity and dependability of their leader.

The display of inspirational motivation by a transformational leader through the creation of a common vision that group members can identify with, and ensuring attainment of that vision, should heighten the trust of the followers (Avolio, 1999). When followers have a clear understanding as to their leader's vision for the organization and how their individual actions can contribute to their achievement, they will be more willing to enter into a process of social exchange (Pillai et al., 1999). This should lead to higher levels of affective trust. Affective trust should also develop due to followers' better understanding and taking on the values of an inspirational leader, which should enhance the emotional bond between them (Lewicki, Stevenson, & Bunker, 1997). In addition, if the leader is able to achieve fulfillment of their vision, this should heighten the perceptions amongst followers that their leader is a competent, trustworthy and dependable supervisor who can accomplish organizational goals smoothly, which will consequently engender cognitive trust.

The provision of individualized consideration by a transformational leader should elicit higher levels of trust in their followers. As affective trust results from the follower's attribution that the leader genuinely cares about them and acts with their interests in mind, transformational leaders who exhibit concern for the welfare, needs and job security of followers will serve to strengthen the emotional bond with their followers, and induce higher levels of affective trust (Dirks & Ferrin, 2002; Jung & Avolio, 2000). Leaders who exhibit individualized consideration are also likely to enhance follower perceptions of the leader's character as regards the extent they are competent, reliable, and of integrity, resulting in higher levels of cognitive trust. To summarize, we propose the following hypotheses:

**H1a.** Transformational leadership has a positive effect on follower affective trust.

**H1b.** Transformational leadership has a positive effect on follower cognitive trust.

#### 3.2. The mediating effects of affective and cognitive trust on the relationship between transformational leadership and follower work outcomes

The direct relationships between transformational leadership and follower outcomes, such as organizational commitment, OCBs, and job performance, have been well supported by empirical and meta-analytic findings (Lowe et al., 1996; Walumbwa & Hartnell, 2011; Wang, Oh, Courtright, & Colbert, 2011). In this study we seek to distinguish between the mediating effects of affective and cognitive trust on the relationship between transformational leadership and three work outcomes, namely affective organizational commitment, OCBs, and job performance. These three outcomes can provide a full measurement of a follower's effectiveness in work-related settings as organizational commitment measures individual attitudes, OCBs measure individual behaviors, and job performance directly measures individual work effectiveness. Organizational commitment is defined as the relative strength of an employee's identification and involvement with a particular organization (Steers, 1977), OCB refers to those extra-role behaviors not explicitly required by one's job but beneficial to organizational effectiveness (Organ, 1988), and job performance refers to the degree to which an individual can accomplish his/her work effectively in terms of both quantity and quality.

Although trust in the leader has been found to mediate the impact of transformational leadership on follower work outcomes (Jung & Avolio, 2000; Podsakoff et al., 1990; Yukl, 1998), to our knowledge no research has distinguished between the mediating effects of both affective and cognitive trust on the relationship between transformational leadership behaviors and follower work outcomes at the individual-level. However, as indicated above, there is growing evidence of a link between transformational leadership behaviors and both types of trust at the group level (Schaubroeck et al., 2011), as well as the potential mediating effects of affective and cognitive trust on follower responses to leadership behavior (Yang & Mossholder, 2010; Yang et al., 2009). Despite this, there is a disagreement as to whether affective and cognitive dimensions of trust mediate the impact of leadership



styles on the work outcomes of followers in similar or differential ways at the individual-level. Although Schaubroeck et al. (2011) find that both dimensions of trust mediate the relationship between transformational leadership and team work outcomes positively, recent work suggests that things may be different at the individual-level (Kark et al., 2003; Ng & Chua, 2006). There is preliminary evidence to suggest that although transformational leadership may elicit higher levels of affective and cognitive trust, improve employee attitudes and enhance extra-role behavior towards the organization, cognitive trust may negatively impact on job performance given it may lead subordinates to over depend or rely too much on the capability of their supervisor (Kark et al., 2003; Ng & Chua, 2006). In the following sections we weigh up the competing arguments and propose hypotheses.

### 3.2.1. *The mediating role of affective trust*

Prior research suggests that affective trust should mediate the relationship between transformational leadership and follower outcomes, given that it captures the process that occurs as leaders engage in social exchange with their subordinates (Yang & Mossholder, 2010). Transformational leadership behaviors should assist leaders to develop close emotional ties with their followers, engendering higher levels of affective trust. This will enable followers to perceive their leaders' actions to be genuine, enhance their experience in the workplace, and result in positive attitudes towards their job such as affective organizational commitment (Yang et al., 2009). In addition, when transformational leaders exhibit care and concern for their followers the latter should reciprocate by engaging in more in-role behaviors desired by their leader, such as improved job performance (Dirks & Ferrin, 2002). By facilitating interactions between co-workers transformational leaders should also enhance group cohesion, making followers feel more comfortable in one another's presence, and lead to a greater willingness amongst them to go above and beyond their job role to assist one another and their organization on a voluntary basis (i.e. exhibit higher levels of OCBs) (Burke et al., 2007; Konovsky & Pugh, 1994; Yang & Mossholder, 2010). This leads to the following hypotheses:

**H2.** Affective trust will have a positive mediating effect on the relationship between transformational leadership behaviors and the follower outcomes of affective organizational commitment, OCBs and job performance.

### 3.2.2. *The mediating role of cognitive trust*

Recent work also indicates that cognitive trust may mediate the relationship between leadership behavior and follower work outcomes (Mayer & Gavin, 2005; Yang & Mossholder, 2010). As highlighted in the previous section, transformational leaders who provide idealized influence, intellectual stimulation, inspirational motivation and individualized consideration should lead subordinates to have greater confidence in the ability of the leader to guide and enable their task efforts (i.e. engender higher levels of cognitive trust). When followers have high levels of cognitive trust in the leader, they will be more likely to judge their work experiences in a favorable light, and exhibit higher levels of commitment to the organization accordingly. They will also have greater confidence that their leader will not let them down and spend less time 'covering their backs' (Mayer & Gavin, 2005). This should increase the likelihood that followers will engage in OCB's, given that their attention is no longer diverted away from meeting the tasks set for them (Colquitt et al., 2007). For example, previous research has found cognitive trust to enhance the willingness of individuals to share information with their colleagues and engage in proactive feedback seeking (Mayer et al., 1995; Paswan, Pelton, & True, 2005). Based on the above arguments, we propose that:

**H3a.** Cognitive trust will have a positive mediating effect on the relationship between transformational leadership behaviors and the follower outcomes of affective organizational commitment and OCBs.

In addition to research examining the positive impact of cognitive trust, there is also a body of research which suggests that high levels of cognitive trust may lead to follower over-dependence on a transformational leader, and elicit a free-riding or social loafing tendency amongst followers (e.g., Kark et al., 2003; Ng & Chua, 2006). Although over-dependency should not engender lower commitment and reduce the willingness of the follower to engage in OCBs, it may have an adverse effect on followers' job performance, especially when there is potential for individuals to engage in free-riding behavior. Kark et al.'s (2003) found that followers' overreliance over transformational leadership might engender followers' overestimating the competence of their leader, which in turn negatively impacts on their job performance. Ng and Chua (2006) also suggest high levels of cognitive trust may also lead to a belief amongst followers that the leader will not react too negatively if they reduce their work performance. This may lead to slacking on the part of the opportunistic followers (a social loafing effect), and result in lower levels of employee performance consequentially. This is likely to be more so the case for larger teams, where the leader finds it relatively difficult to observe the work of their followers on a regular basis. This leads to the following hypothesis:

**H3b.** Cognitive trust will have a negative mediating effect on the relationship between transformational leadership behaviors and follower job performance.

## 4. Method

### 4.1. *Sample and data collection*

A total of 318 supervisor–subordinate dyads from a large garment manufacturing firm participated in our study. The firm is located in Hangzhou, Zhejiang Province, which is in the south-east of China. It is one of the largest brand garment manufacturers

in China and is involved in the design, production and marketing of women's garments. It has over 1200 retail shops in China and has three independent brands. Its manufacturing operations employ around 2500 people and its annual revenue reached over 600 million Chinese Renminbi (around 94 million U.S. dollars) in 2010.

The respondents belonged to 17 production workgroups involved in the production of garments. Each group comprised of 1 supervisor and between 12 and 28 subordinates. The production workgroup was responsible for one production line. A great deal of coordination was required between team members as they worked sequentially on the line, each specializing in a specific task. The supervisor was tasked with monitoring their work process, guiding them to enhance their work perform and motivating them to work more efficiently. The employees in this firm are typically migrant workers from poorer provinces in the country.

Data was collected during October 2010. All respondents were employed in full-time positions, and teams in which the research was to be conducted were randomly selected from lists obtained from the firm's HR department. Both supervisor and subordinate questionnaires were used in the study. Prior to their distribution the survey instruments were translated into Chinese from English by bilingual members of the research team using the back-translation procedure (Brislin, 1993). The questionnaires were then piloted on 10 supervisor–subordinate dyads from the firm. These dyads did not form part of the main sample. On the basis of feedback from the pilot study, the Chinese translation and order of some questions were changed to make the translation more precise and enhance the understanding and flow of the survey.

The questionnaires for subordinates and supervisors were administered separately. Questionnaires were distributed to all subordinates under the management of each supervisor, but their participation was made voluntary. The questionnaire for subordinates was administered in three waves. Subordinates provided their personal demographic data and ranked the transformational leadership behavior of their immediate supervisor in the first wave. In the second wave subordinates ranked their cognitive and affective trust in supervisor. Finally, they provided their ratings of affective organizational commitment in the third and final wave. Supervisor data were collected in the third week in one wave. Supervisors were required to report the OCBs and job performance of their subordinates.

Before distribution to subordinate and supervisor groups, participants were informed of the purposes of the research and promised anonymity. Both sets of questionnaires were coded to ensure that the responses of the subordinates and their direct supervisors could be matched. In total, 636 fully completed dyadic responses were returned, out of a total of 1000 distributed, indicating a response rate of 63.6%. These accounted for 318 supervisor/subordinate dyads. The sample respondents comprised 318 subordinates and 17 supervisors. Of the sampled subordinates, around 57% were female and their average tenure was just less than 11 months. Of the 17 supervisors, around 47% were female. On average they had been employed in a supervisory capacity for slightly more than 16 months.

#### 4.2. Measures

Five-point Likert scales from 1 = “strongly disagree” to 5 = “strongly agree” were used to measure all items in the survey, except for transformational leadership and the control variables.

##### 4.2.1. Transformational leadership

Transformational leadership behavior was measured using 20 items adapted from the Multifactor Leadership Questionnaire (MLQ) form 5X (Bass & Avolio, 1995). For each item respondents were required to rate the transformational leadership behavior of their immediate supervisor using a five-point Likert scale (1 = ‘Not at all’ and 5 = ‘Very frequently, if not always’). Consistent with previous empirical work (Avolio et al., 2004; Kark et al., 2003; Liu, Zhu, & Yang, 2010; Shin & Zhou, 2003), and because our hypotheses did not distinguish amongst them, the four sub-components of transformational leadership (idealized influence, inspirational motivation, intellectual stimulation and individualized consideration) were combined into a single, higher-order factor. The Cronbach's alpha for this scale was .87 and those of the four sub-factors ranged from .77 to .88. M-PLUS 6.0 (Muthen & Muthen, 1998–2010) was then used to conduct a second-order confirmatory factor analysis to ascertain the goodness-of-fit of the higher order factor to the data. The results show that it fitted the data extremely well ( $\chi^2 = 280.79$ ,  $df = 166$ ,  $p < .01$ , CFI = .95, TLI = .94, RMSEA = .05, SRMR = .05).

One concern is whether transformational leadership should be aggregated to the team level and be treated as a contextual variable influencing the behavior of individual followers. In this paper, transformational leadership was conceptualized at the individual level, under the assumption that followers under the same leader may differ in their perceptions of his/her leadership styles. Statistical analysis provided support for this conceptualization. The intra-class correlation coefficients were well below the values which are recommended for team constructs ( $ICC_1 = .04$ ), which indicates that there is no “membership effect” or “interdependence issue” in rating the same leader for followers within the same unit under the supervision of the leader (Bliese, 2000).

##### 4.2.2. Affective and cognitive trust

Affective and cognitive trust was self-reported by subordinates using McAllister's (1995) affect- and cognition-based trust scales. Five items were used to measure affective trust and six items to measure cognitive trust. Sample items of affective trust included ‘We have a sharing relationship,’ and ‘We can both freely share our ideas, feelings, and hopes.’ Sample items of cognitive trust were: ‘This person approaches his/her job with professionalism and dedication,’ and ‘I can rely on this person not to make my job more difficult by careless work.’ The Cronbach's alphas for affective trust and cognitive trust were .83 and .79, respectively. The intra-class correlation coefficients for affective ( $ICC_1 = .05$ ) and cognitive trust ( $ICC_1 = .05$ ) were well below the recommended

values, which indicates that there is no “membership effect” or “interdependence issue” for followers under the supervision of the same leader (Bliese, 2000).

#### 4.2.3. Affective organizational commitment

Affective organizational commitment was self-reported by subordinates. It was measured using Meyer, Allen, and Smith's (1993) 6-item scale. Sample items included 'I do not feel a strong sense of belonging to my organization' and 'I would be happy to spend the rest of my career with this organization'. The Cronbach's alpha for this scale was .75. The intra-class correlation coefficient ( $ICC1 = .05$ ) for this scale was below the recommended value, which indicates that there is no “membership effect” or “interdependence issue” for followers under the supervision of the same leader (Bliese, 2000).

#### 4.2.4. Organizational citizenship behavior (OCB)

The OCBs of subordinates were measured by supervisors using a multidimensional OCB scale developed by Farh, Earley, and Lin (1997). This scale, which includes five dimensions of OCB, has been widely used and consistently exhibited good psychometric properties in numerous studies (Chen, Aryee, & Lee, 2005; Chen & Francesco, 2003). In the present study we chose to focus on two primary dimensions of OCB, altruism and conscientiousness, included to measure interpersonal and job/task citizenship performance within the organization, through the use of two 3-item scales (Chen & Francesco, 2003; Chen et al., 2005). Sample items included 'This person is willing to help colleagues solve work-related problems' and 'This person takes one's job seriously and rarely makes mistakes'. As the items from both dimensions of OCB were highly correlated with each other all six items were included as one second-order general factor in the model rather than as two separate factors. A CFA of the OCB scales justifies the choice of using one construct to measure OCBs. The CFA results show that the goodness-of-fit indexes of a second-order confirmatory factor analysis are satisfactory ( $X^2 = 75.36$ ;  $df = 7$ ,  $p < .01$ ,  $RMSEA = .07$ ,  $CFI = .91$ ,  $TLI = .90$ ,  $SRMR = .05$ ). The Cronbach's alpha for this scale was .88. The intra-class correlation coefficient ( $ICC1 = .02$ ) for this scale was below the recommended value, which indicates that there is no “same rater effect” or “interdependence issue” for this scale amongst followers under the supervision of the same leader (Bliese, 2000).

#### 4.2.5. Job performance

A 3-item scale, taken from Heilman, Block, and Lucas (1992), was used by supervisors to rate the job performance of their subordinates. This scale has been previously validated in the Chinese organizational setting (Lam, Chen, & Schaubroeck, 2002). The items were 'This employee is very competent', 'This employee gets his/her work done very effectively' and 'This employee has performed his/her job well'. The Cronbach's alpha for this scale was .89. The intra-class correlation coefficient ( $ICC1 = .02$ ) for this scale was below the recommended value, which indicates that there is no “same rater effect” or “interdependence issue” for this scale and that the same leader did not rate followers in the same unit in a similar pattern (Bliese, 2000).

### 4.3. Evidence of construct validity

To further examine the validity of the scales utilized in this study, we utilized M-PLUS 6.0 (Muthen & Muthen, 1998–2010) to conduct confirmatory factor analysis (CFA). More specifically, we compared the fit of a model in which measures of all six factors (i.e., Transformational Leadership, Affective Trust, Cognitive Trust, Affective Organizational Commitment, OCBs, and Job Performance) were set to load on their respective factors, and more constrained models in which some factors (e.g., Cognitive Trust and Affective Trust) were set to load on a single factor. CFA results demonstrated that the hypothesized 6-factor model fit ( $X^2 = 1491.26$ ;  $df = 968$ ,  $p < .01$ ,  $RMSEA = .04$ ,  $CFI = .90$ ,  $TLI = .89$ ,  $SRMR = .06$ ) the data significantly better than all other alternative models, for example the 5-factor model combining two types of trust ( $X^2 = 1592.53$ ,  $df = 973$ ,  $p < .01$ ,  $RMSEA = .05$ ,  $CFI = .88$ ,  $TLI = .87$ ,  $SRMR = .06$ ). This provides evidence for the validity and independence of all the measurements utilized in this study.

### 4.4. Analysis strategy

Structural Equation Modeling (SEM) was used to conduct hypotheses testing with M-PLUS 6.0 (Muthen & Muthen, 1998–2010) because SEM mediation models can perform better than traditional regression analyses (Iacobucci, Saldanha, & Deng, 2007). The M-PLUS program provides the correct parameter estimates and standard errors, and can deal with non-independence of ratings of transformational leadership amongst different followers within one team under the leadership of the same manager. Through the command of “type = complex,” M-PLUS provides a general way to adjust for clustering or classification in data analysis taking non-independence of observations into account. This SEM using M-PLUS enables examination of the significance of the indirect effects of multiple mediators, and provides a powerful and robust method of obtaining confidence intervals for specific indirect effects and their significance levels (Preacher & Hayes, 2008).

## 5. Results

Table 1 reports the means, standard deviations, correlations and reliability coefficients of all variables used in the study.

Prior to hypothesis testing common method variance was tested using Harman's one-factor test. The items of all four factors (e.g., transformational leadership, affective trust, cognitive trust, affective organizational commitment) measured in the subordinate

**Table 1**

Descriptive statistics, reliability coefficients and correlations amongst study variables (n = 318).

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender	1.57	.50													
2. Age	1.96	.93	-.01												
3. Education	2.00	.44	-.15*	-.11											
4. Follower tenure	10.65	11.38	.11	.15*	-.13*										
5. Leader tenure	19.01	20.81	-.04	.06	.04	.14*									
6. Group size	19.66	3.75	.09	-.02	-.04	.07	.03								
7. Uncertainty avoidance	4.10	.62	.00	.11	-.05	.02	-.05	.08	(.61)						
8. Transformational leadership	3.54	.60	.08	.13*	.02	.02	-.11*	.09	.15**	(.87)					
9. Cognitive trust	3.56	.73	.13*	.04	-.12	.03	-.01	.19**	.09	.58**	(.79)				
10. Affective trust	3.24	.81	-.01	.06	-.06	.08	-.07	.12*	.15**	.55**	.57**	(.83)			
11. Affective organizational commitment	3.44	.71	.08	.17**	-.08	.07	-.07	.01	.23**	.31**	.26**	.33**	(.75)		
12. Organizational citizenship behavior	3.39	.80	.15*	.07	-.05	-.01	-.25**	-.02	-.02	.24**	.15**	.21**	.06	(.88)	
13. Job performance	3.48	.91	.07	.06	-.05	.08	-.23**	-.02	-.06	.17**	.02	.20**	.08	.65**	(.89)

Numbers in parentheses are the Cronbach's alphas.

\* Indicates significance at the 5% level.

\*\* Indicates significance at the 1% level.

survey (one for each substantive variable) were combined into a single factor and compared with that of the four-factor model. The goodness-of-fit statistics of the one-factor model ( $X^2 = 1921.60$ ,  $df = 629$ ,  $p < .01$ ,  $RMSEA = .09$ ,  $CFI = .66$ ,  $TLI = .64$ ,  $SRMR = .08$ ) were significantly poorer than those of the four-factor model ( $X^2 = 963.76$ ,  $df = 619$ ,  $p < .01$ ,  $RMSEA = .05$ ,  $CFI = .91$ ,  $TLI = .90$ ,  $SRMR = .06$ ,  $\Delta X^2(10) = 957.84$ ,  $p < .01$ ) suggesting that common method bias is not a serious concern in our subordinate data.

### 5.1. Hypotheses testing

Several control variables were included in line with previous research (Chen & Francesco, 2003). These include the age, gender and education level of followers, the tenure of the follower in months, the size of the team and the tenure of the leader in months. Age and education were measured as dichotomous variables. To measure age the following categories were utilized: 1 = “18–20”, 2 = “21–25”, 3 = “26–30”, 4 = “31–35”, 5 = “36–40”, 6 = “41–45”, 7 = “46–50”, 8 = “>50.” Similar categories were utilized to measure education level: 1 = “primary school”, 2 = “middle school”, 3 = “high school”, 4 = “some college”, and 5 = “college”. Gender was measured as a dummy variable (1 = “female”, 2 = “male”).

Furthermore, in order to control for the effect of individual differences, we included the follower's individual perceptions of their uncertainty avoidance as a control variable. This was measured using a 4-item scale taken from Donthu and Yoo (1998) because it has been suggested that uncertainty avoidance dimension has an effect on trust formation processes through influencing norms and underlying assumptions (Doney, Cannon, & Mullen, 1998). Amongst all control variables, only team size was found to be significantly related to both the cognitive trust ( $r = .04$ ,  $p < .01$ ), and affective trust ( $r = .01$ ,  $p < .01$ ) of followers. This might result from the fact that followers in a large group think that they are more powerful as a large collective entity because they have more people in their team. This may result in them perceiving leaders as being more competent and reliable (i.e., cognitive trust), and heighten their appreciation of leaders for providing a nurturing environment for maintaining such a big team (i.e., affective trust). We conducted the analysis for both the full mediation model (i.e., without the direct effect from transformational leadership to the three outcome variables) and partial mediation model (i.e., with the direct paths from transformational leadership to the three outcome variables). The fitness indexes for the full mediation model are:  $X^2 = 1762.46$ ,  $df = 1192$ ,  $p < .01$ ,  $RMSEA = .04$ ,  $CFI = .90$ ,  $TLI = .90$ ,  $SRMR = .06$ ; and for the partial mediation model are:  $X^2 = 1755.94$ ,  $df = 1189$ ,  $p < .01$ ,  $RMSEA = .04$ ,  $CFI = .90$ ,  $TLI = .89$ ,  $SRMR = .06$ .

The chi-square for the partial mediation model ( $X^2 = 1755.94$ ,  $df = 1189$ ) was smaller than that for full mediation model ( $X^2 = 1762.46$ ,  $df = 1192$ ), but not significantly ( $\Delta X^2 = 6.52$ ,  $\Delta df = 3$ ,  $n.s.$ ). When direct paths were added from transformational leadership to each of three dependent variables, none were found to be significant. Since the addition of direct paths did not improve fit over that of the full mediation model, the latter was accepted as the better model (Yang et al., 2009). Table 2 shows the direct and indirect effects of mediation test and Fig. 1 depicts the graphical demonstration of the significant paths of the full mediation model.

Significant path coefficients were found from transformational leadership to both affective trust ( $\beta = .75$ ,  $p < .01$ ) and cognitive trust ( $\beta = .77$ ,  $p < .01$ ), providing support for Hypothesis 1a, that transformational leadership has a positive effect on follower affective trust, and Hypothesis 1b, that transformational leadership has a positive effect on follower cognitive trust.

Furthermore, as can be seen in Fig. 1, the coefficients from affective trust to affective organizational commitment ( $\beta = .32$ ,  $p < .01$ ), OCB ( $\beta = .28$ ,  $p < .01$ ) and job performance ( $\beta = .44$ ,  $p < .01$ ) were significant. This provides initial support to Hypothesis 2, which proposed that affective trust will have a positive mediating effect on the relationship between transformational leadership behaviors and the follower outcomes of affective organizational commitment, OCBs and job performance. However, the coefficients from cognitive trust to affective organizational commitment ( $\beta = .12$ ,  $p > .10$ ) and OCB ( $\beta = .01$ ,  $p > .10$ ), failed to support H3a, which



**Table 2**

Mediation of the effect of transformational leadership on follower outcomes through cognitive and affective trust.

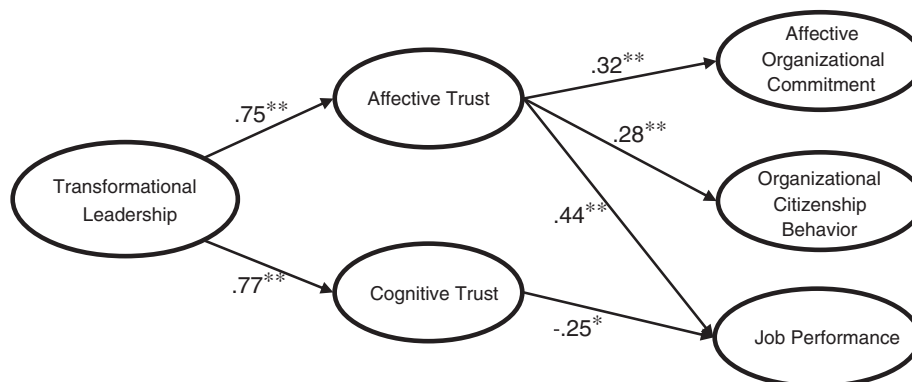
	Estimate	S.E.	Est./S.E.	p-value	Lower 5%	Upper 5%	Significant or not
<i>From TFL to commitment</i>							
Sum of indirect effect	.34	.06	6.00	.00	.25	.43	Yes
Through cognitive trust	.10	.08	1.19	.24	−.04	.23	No
Through affective trust	.24	.08	2.97	.00	.11	.38	Yes
<i>From TFL to OCB</i>							
Sum of indirect effect	.20	.08	2.66	.01	.08	.32	Yes
Through cognitive trust	−.01	.07	−.18	.86	−.13	.11	No
Through affective trust	.21	.09	2.43	.02	.07	.35	Yes
<i>From TFL to performance</i>							
Sum of indirect effect	.14	.07	1.99	.05	.02	.25	Yes
Through cognitive trust	−.19	.09	−2.11	.04	−.34	−.04	Yes
Through affective trust	.33	.10	3.18	.00	.16	.50	Yes

proposed that cognitive trust will have a positive mediating effect on the relationship between transformational leadership behaviors and follower affective organizational commitment, and OCBs. Moreover, the regression coefficient of cognitive trust on follower job performance was negative and significant ( $\beta = -.25, p < .01$ ). This provided initial support for [Hypothesis 3b](#), that argued that cognitive trust negatively mediates the relationship between transformational leadership and job performance.

We also calculated the indirect effects of transformational leadership on affective organizational commitment, OCBs, and job performance, to provide more detailed results for the mediation test, as shown in [Table 2](#). We found that the indirect effects of transformational leadership on follower affective organizational commitment (estimate = .24,  $p < .01$ ), OCBs (estimate = .21,  $p < .01$ ), and job performance (estimate = .33,  $p < .01$ ) through affective trust were significant. These results provided further support for [Hypothesis 2](#). Furthermore, we found that the indirect effect of transformational leadership on follower job performance through cognitive trust was significant and negative (estimate =  $-.19, p < .05$ ), providing further support for [Hypothesis 3b](#).

## 6. Discussion

The present study contributes to the literature on transformational leadership and trust by providing a more nuanced understanding as to the mediating role played by trust on the relationships between transformational leadership and follower work outcomes than previous studies which have typically conceptualized trust as a uni-dimensional construct. This is done through the adoption of a more finely-tuned two-dimensional conceptualization of trust, comprising measures of cognitive and affective trust as suggested by [Dirks and Ferrin \(2002\)](#). In line with our initial expectations, transformational leadership was found to lead to higher levels of both cognitive and affective trust. However, only affective trust was found to positively mediate the impact of transformational leadership on follower affective organizational commitment, OCBs, and job performance. In addition, cognitive trust negatively mediated the relationship between transformational leadership and job performance, and did not mediate the effect of transformational leadership on affective organizational commitment and OCBs. These findings suggest that it is affective trust, which is developed through the mutual exchange of concern and care between the follower and leader, and not cognitive trust, which is developed through the follower's instrumental evaluation of the leader's personal characteristics, that translates transformational leadership into positive work outcomes for the organization. These findings provide support for social



Notes: \*\*  $p < .01$ , \*  $p < .05$

Standardized values shown

**Fig. 1.** The mediating role of affective and cognitive trust on transformational leadership effects.

exchange based explanations as to how trust engenders positive work outcomes amongst followers, and are important given the lack of research into how affective and cognitive dimensions of trust influence the response of followers to transformational leadership (Dirks & Ferrin, 2002).

We also uncover the interesting finding that cognitive trust has a different type of effect on the relationship between transformational leadership and follower job performance than affective trust. This might result from the fact that affective trust has been found to improve cooperation between the follower and the leader, whereas cognitive trust may reduce co-operation because of the free-riding tendency of the follower towards the leader (Ng & Chua, 2006), especially when the team size is relatively large. This in turn may impact negatively on employee performance. Another explanation for the findings may result from the fact that followers may tend to over-rely on transformational leaders in which they have high levels of cognitive trust. This is in line with Kark et al.'s (2003) findings that transformational leadership might engender overreliance by followers on the dependability and competence of their leader, which in turn negatively impacts on their job performance. Interestingly, the study finding regarding the role of cognitive trust as a mediator between transformational leadership and follower job performance is different from what is found by Schaubroeck et al. (2011) that both dimensions of trust mediate the relationship between transformational leadership and servant leadership and team work outcomes positively. One possible explanation is that the role of cognitive trust may be different at the individual-level (Kark et al., 2003; Ng & Chua, 2006) in that cognitive trust at the individual level may reduce co-operation and self-initiative because of the free-riding tendency of the follower towards the leader (Ng & Chua, 2006), while cognitive trust at the group level might be more possibly lead group members to possess high level of group efficacy/potency, which, in turn, increases team performance (Bandura, 1997). Nevertheless, we suggest more studies should be conducted in the future to further and better understand the complex and dynamic roles of cognitive trust across different levels on leadership effectiveness.

The social context in which the present research study was conducted may also help to explain the importance of affective trust as a mediator compared to cognitive trust. Since China is a relationship-oriented culture, characterized by collectivistic values and interpersonal relationalism, individuals tend to work harder to develop and maintain relationships than in more individualistic societies (Farh, Leung, & Law, 1998; Hwang, 2000). Social relationships are characterized by strong emotional underpinnings, and grow stronger as both parties engage in a process of social reciprocity (Tan & Chee, 2005). This creates a feeling of indebtedness, which results in continued interaction between individuals within the relationship and engenders higher levels of affective trust (Chang & Chi, 2007). In such a context, trust development between leaders and their followers is unlikely to be explained by cognitive factors such as competence, integrity and trustworthiness alone. Emotional factors are likely to play a more important role in the development of trust in the Chinese organizational context than in more individualistic societies. Future research is recommended to empirically test this argument.

### 6.1. Managerial implications

Although the results of the present study establish that transformational leadership plays an important role in engendering positive work outcomes through the development of affective trust, managers should be aware that it may have a negative impact on job performance through eliciting higher levels of cognitive trust. Organizations should not simply seek to promote transformational leadership behavior without seeking to understand how it may impact on the development of affective and cognitive trust. Managers, especially those who tend to be more task-oriented, should be aware of the potential downside that might exist through developing high levels of cognitive trust. In addition, in order to decrease the chance of cognitive trust in negatively impacting follower job performance, leaders need to encourage their followers to accept personal responsibility and take the initiative rather than to over rely on the ability of the leader in accomplishing group tasks. At the same time, it is also beneficial for leaders to clarify each follower's job roles and set goals for each follower in the group (Locke & Latham, 1990), which is posited to positively influence follower job performance.

In order to enhance the work outcomes of their subordinates, managers should pay attention as to how their transformational leadership behavior might contribute to the formation of affective trust. They should focus their attention on developing a social exchange relationship through the cultivation of personal ties with their subordinates, which, in turn, will help develop affective trust. Strategies that might be utilized by leaders to enhance the process of social exchange might include the provision of individualized support and encouragement to subordinates, the empowerment of subordinates to take greater responsibility in decision making, and the engagement of subordinates in collaborative communication (Avolio & Bass, 1995; Dirks & Ferrin, 2002; Jung & Avolio, 2000; Schaubroeck et al., 2011). Training programs targeting the use of such strategies by managers in the workplace might be useful in eliciting follower work outcomes associated with affective trust (Yang et al., 2009).

In addition, our findings provide important implications for subordinates. In order to maintain high levels of performance it is essential for subordinates to maintain a strong personal relationship (i.e. develop affective trust) with their manager. It would be helpful for them to identify the key work-related and personal interests of their manager and seek to develop shared interests with them. However, at the same time subordinates should be careful about becoming over-reliant on their manager and be pro-active in the workplace. They should be prepared to put forward their own ideas without encouragement from the supervisor in order to contribute to organizational effectiveness.

### 6.2. Limitations and suggestions for future research

Before examining potential areas of future research it is important to highlight a number of limitations with the present study. First, its cross-sectional nature means it is difficult to ascertain the true direction of causality between the variables used in the

study. For example, followers who have greater trust in their leader may rate the transformational leadership of their leader more favorably. To address this issue, future studies may adopt a longitudinal study design, which, at the same time, can help examine the incremental developmental processes of follower trust in leaders.

Second, the sample used in this study was drawn from a single organization in the Chinese manufacturing industry. Future work should be conducted in a larger number of organizational and industrial contexts to determine the generalizability of the findings from the present study. Cross-cultural studies may also be conducted to throw light on the extent to which the impact of trust on follower responses to transformational leaders is culturally bound, in particular to the differences between affective and cognitive trust. It is of particular interest to examine whether our findings are replicable in more individualistic cultures in which interpersonal relationships are less important to organizational effectiveness.

Thirdly, multi-level analysis might be used in future work in order to aggregate follower evaluations of transformational leadership behavior up to the team level. The relatively large numbers of subordinates per supervisor and small number of supervisors in our sample prevented us from doing this. Therefore, it is recommended that future studies will benefit from collecting data from a larger and more diverse sample, in terms of age, education and work experience.

Future research might also investigate possible factors that might moderate the mediating effect of affective trust on the relationship between transformational leadership and follower work outcomes. These factors might include the length of time of leader and follower has worked together, follower personality, regulatory focus and individually-held cultural values (Ng & Chua, 2006). This will enable researchers to seek the answer to whom, and under what type of contexts or environments, cognitive and affective trust will mediate the relationship between transformational leadership and follower work outcomes. In future studies researchers might also consider how affective and cognitive trust might mediate the impact of other leadership styles on follower work outcomes. It might be of particular interest, to investigate how trust might play a role in mediating the impact of more transactional styles of leadership on performance outcomes in an industrial setting such as the manufacturing industry, where performance-related reward systems are in widespread use.

## 7. Conclusion

Research into transformational leadership has grown in volume over the past three decades. Despite this, researchers have only started to pay attention to the mechanisms through which transformational leadership translates into follower work outcomes of benefit to organizations. The present study contributes to the existing literature by highlighting the importance of trust, especially affective trust, in explaining why transformational leaders are able to get their followers to exhibit greater commitment, work harder for their employers and engage in more fruitful organizational citizenship behaviors. It also makes a significant contribution to the previous body of literature by highlighting the fact that transformational leaders who engender high levels of cognitive trust may have a negative impact on the work performance of their followers.

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