THE CROSS-CULTURAL GENERALIZABILITY OF PARADOXICAL LEADER BEHAVIOR THEORY

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CERTIFICATE OF ORIGINALITY

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_____ (signed)

Shuisheng SHI (Name of Student)

Abstract

This thesis tested and extended a timely but understudied paradoxical leadership theory, namely, the paradoxical leader behavior theory (hereafter, "PLB theory"), by examining the validity of the PLB measure and the predictions and theoretical mechanisms of the theory. Specifically, the author first investigated whether the hypothesized second-order factor measurement model of PLB developed in the Chinese context and the main predictions of the PLB theory can be replicated in the Chinese context and the Western culture. The author then hypothesized and tested four potential mechanisms through which PLB may influence employee work performance: psychological empowerment, role clarity, learning orientation, and supervisory fairness. Results from two large samples of Chinese and Western employees in the pilot study suggested that the hypothesized measurement model fitted well with the data, and the factor loadings were invariant across the Chinese and the Western sample. Weak evidence, however, was found for the predictive validity of PLB. Results of Primary Study 1 conducted in the Chinese context indicated that supervisory fairness mediated the relationships between PLB and most performance criteria. However, results of Primary Study 2 conducted in the US context showed that the effect of PLB was mainly channelled by employees' psychological empowerment. This cross-cultural research fleshes out the newly developed theory on leadership paradox and motivates future effort on this topic.

Keywords: Paradoxical leader behaviors, measurement invariance, supervisory fairness

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Table of Contents

List of Figures

List of Tables

CHAPTER 1

STATEMENT OF THE PROBLEM

Scholars have long recognized that contractions and tensions are inherent in organizations. In a recent review, Schad, Lewis, Raisch, and Smith (2016) reported an averaged growth rate of 10 percent per year of studies on organizational tensions from 1990 to 2014. Examples abound such as the simultaneous demands of exploration and exploitation in leading for innovation, competition and cooperation in organization strategy, and empowerment and control in people management. While traditional contingency approach rooted in the either/or logic treats tensions as dilemmas or trade-offs and attempts to disentangle the oppositional elements and cope with them using fit and alignment strategies, an alternative approach rooted in the both/and thinking treats tensions as paradoxes—"persistent contradiction between independent elements" (Schad, Lewis, Raisch, & Smith, 2016: 10). This paradox approach posits that the contradictory elements are interdependent and evolving, and that contradictory elements and tensions should be studied as a whole rather than being disentangled and handled independently. The paradox approach allows scholars to capture the synergistic part between contradictory elements in a tension and thus provides new ways of theorizing and studying organizational tensions (Farjoun, 2010).

Tensions in people management are important objects of organizational tension studies. In the past several decades, scholars have examined tensions, for example, between control and autonomy in leading people (Brown & Eisenhardt,

1997; De Vries, Pathak, & Paquin, 2011; Warner, 2007), democratic leadership and discipline (Denis, Langley, & Sergi, 2012; Lawrence, Lenk, & Quinn, 2009). Yet few studies have attempted to develop a structured framework of typical tensions in leadership. This challenge was taken recently by Zhang, Waldman, Han, and Li (2015). According to Zhang et al. (2015), leaders in today's dynamic and changing environment always face simultaneous and contradictory demands from the organization and employees, and effective leaders must engage in seemingly contradictory behaviors in order to cope with tensions between structural needs and individual needs. The authors developed the construct of paradoxical leader behavior (PLB), defined as "leader behaviors that are seemingly competing, yet interrelated, to meet competing workplace demands simultaneously and over time" (Zhang et al., 2015: 539). Based on the yin-yang philosophy (paradoxical cognition), the authors attempted new measures by using the "both-and" terminology to describe paradoxical leadership items and identified five categories of behaviors reflecting paradoxical leadership: treating subordinates uniformly while allowing individualization (UI), combining self-centeredness with other-centeredness (SO), maintaining decision control while allowing autonomy (CA), enforcing work requirements while allowing flexibility (RF), and maintaining both distance and closeness (DC). An example item is "puts all subordinates on an equal footing, but considers their individual traits or personalities". They posited that paradoxical leadership is an integrated larger whole, and thus it is best to use the "both-and" terminology to describe these leadership behaviors.

This newly developed PLB construct provides a timely theorizing tool to examine tensions in leaders' contradictory behaviors. Moreover, initial evidence suggests that PLB can explain employees' work outcomes and work attitudes even after controlling for alternative leadership measures such as transformational leadership (Zhang et al., 2015). These findings are encouraging, given that transformational leadership perhaps is the most effective leadership style known so far. PLB theory, however, is at its early stage, and more theoretical and empirical work await to be done to test and revise the theory. In this thesis, I further build the theory based on the mechanisms suggested in Zhang et al.'s (2015) original writing. Below I discuss several key issues related to PLB theory and provide a justification and overview of this thesis.

A Critique of the Existing Literature

Conceptualization and Operationalization of PLB

Under the hierarchical structure, supervisors occupy a unique controlling role at a higher position and subordinates are assigned homogeneous subordinate roles. As this hierarchical structure is necessary for effective organizational functioning, supervisors are required to maintain this function by meeting the structural demands. On the other hand, although subordinates are assigned homogeneous subordinates roles, they are human beings who may have diverse needs and who expect supervisors to respond to their personalized needs. Supervisors, therefore, are confronting inevitable competing demands from the organization and subordinates. To cope with these competing demands, leaders inevitably engage in behaviors that featured by five types of tensions. In line with the both/and approach, Zhang et al.

(2015) used the "both-and" terminology to describe and measure these tensions. From the traditional either/or approach, however, the PLB item response characteristics are seen as double-barreled such that it is difficult to interpret the meaning of the lower end of this scale. The authors suggested that this is what the both/and approach deviate from the either/or approach and they tried to address this concern empirically by showing that the so-called double-barreled items fit the data better than the split items. In a follow-up study on PLB and innovation in a Chinese sample, Zhang, Law, and Zhang (2016) reported that the second-order factor model fitted the data well, but they did not report other details such as whether alternative models fit well with the data or not. Aside from this study, no studies have examined the psychometric properties of PLB measures. Hence, it remains unknown whether the items can be understood and whether the measurement model can be replicated in other contexts.

Predictions of PLB Theory

In demonstrating the usefulness of the PLB construct, Zhang et al. (2015) examined the effects of PLB on several important attitudinal and behavioral outcomes: affective commitment, turnover intention, leader effectiveness, task performance, and organizational citizenship behavior (OCB), and found that, after controlling for alternative leadership measures, PLB was positively related to affective commitment, leader effectiveness, task performance and OCB and was negatively related to turnover intention. Although these relations are not stated formally in PLB theory, they can also be treated as predictions of the theory. To

date, only one study has examined the relationship between PLB and employee task performance (She & Li, 2017). The rest predictions are yet to be replicated.

PLB theory states formally that PLB is positively associated with employee work role performance – proficient behavior, adaptive behavior, and proactive behavior. Zhang et al. (2015) found among Chinese samples that PLB had a cross-level positive effect on individual proficient behavior, adaptive behavior, and proactive behavior. However, as the theory speaks to the leadership-performance relationship at the individual level, this cross-level effect did not provide a strong support to the theory. Also, in testing the PLB-work role performance relationship, Zhang et al. (2015) did not control for alternative leadership measures, and thus whether PLB can explain additional variance in work role performance beyond transformational leadership remains unknown. If PLB doesn't have incremental validity beyond transformational leadership, the usefulness of this new construct and PLB theory would be greatly questioned.

Finally, a good theory specifies not only the relationships among constructs but also the reasons why they are related (Whetten, 1989). Thus, it is critical to know how individual's PLB perceptions influence individual's work role performance. In the theory, the mechanisms through which PLB influences work role performance remains unclear, although Zhang et al.'s (2015) writing implied that psychological empowerment, role clarity, and learning orientation may be the possible mediators. These mechanisms, however, are yet to be tested. Besides, it is likely that PLB may influence employee performance through other mechanisms which are not considered in the original theory. She and Li (2017) was among the few exceptions

to examine other possible mechanisms. They theorized and found that in a Chinese sample employee relational identification mediated the positive relationship of PLB to employee task performance.

Cultural Differences in PLB

Cultural psychologists suggest that people in different cultures may differ in their cognition and thinking (e.g., Andriopoulos & Lewis, 2009; Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010). For example, the yin-yang philosophy may shape Chinese people's cognition which allows them to accept and even embrace contradictions. An effective leader in Chinese culture is one who can meet both the structural needs of the organizational hierarchy and the individualized needs of employees simultaneously. The underlying philosophy and the yin-yang-style behavior pattern is accepted and effective in the Chinese context but is unlikely to be received and enacted as such in the West. As in the west, people think in an "either-or" way (Lewis, 2000; Smith & Lewis, 2011), and this paradoxical cognition may not be shared by western people. Because the construct of PLB was originally developed in the Chinese context, it may be a culture-specific construct. To date, no studies have tested PLB theory in the Western context, and thus it remains unknown whether the PLB measures and the predictions of PLB theory hold in the Western cultures.

Justifications for the Present Thesis

The recently developed PLB theory is a promising start, and yet much work needs to be done to further test and refine this theory. Specifically, four issues seen as critical to future research are identified: (1) the validity of the PLB scale; (2) the

stability of predictions of PLB theory; (3) the untested premises of the theory; and (4) alternative mechanisms underlying the PLB-performance relationship.

The first and obvious step concerns the validation of the PLB measures. As PLB theory was newly developed in the Chinese context, it remains unknown whether the PLB measures are stable in the Eastern culture and whether they can capture conceptually similar leadership behaviors in the Western culture. To validate the measurement of the core construct is a necessary step towards a good theory and it contributes to the new theory by paving a road for further efforts to test and refine the theory.

Second, if the factor structure of PLB measures can be replicated in the Chinese culture and the Western culture, then it would be useful to know whether the predictions of PLB theory hold in another sample from the same cultural context and in samples from a different Western culture. These replication efforts can help us to assess the utility of the PLB construct and the generalizability of PLB theory.

The third step is to put the premises, or the implied mechanism, of PLB theory into an empirical test. Zhang et al. (2015) implied that empowerment, role perceptions, and learning are the major mechanisms that explain how PLB affects employee performance, yet these premises have not been tested. Testing the premises in samples from different cultures will further refine PLB theory.

Lastly, there may be other mechanisms through which PLB may influence employee performance. Future research can extend PLB theory by examining the effects of PLB on employee performance from these alternative perspectives.

These unsolved issues surrounding PLB theory promoted the present study. The objectives of this thesis are:

1. To validate the PLB measures in the Eastern and the Western cultures.

2. To examine the validity of PLB theory in predicting a representative range of leadership effectiveness criteria in the Eastern and the Western cultures.

3. To build the theory that was suggested by Zhang et al.'s (2015) regarding the mechanisms underlying the PLB in both cultures.

To achieve these objectives, this thesis will examine four specific research questions:

1. Can we replicate the factor structure of PLB in the Eastern context and the Western context?

2. Can we replicate the PLB predictions in both contexts?

3. Do psychological empowerment, role clarity, and learning orientation mediate the relationship between PLB and employee performance in both contexts?

4. Does supervisory fairness perception mediate the relationship between PLB and employee performance in both contexts?

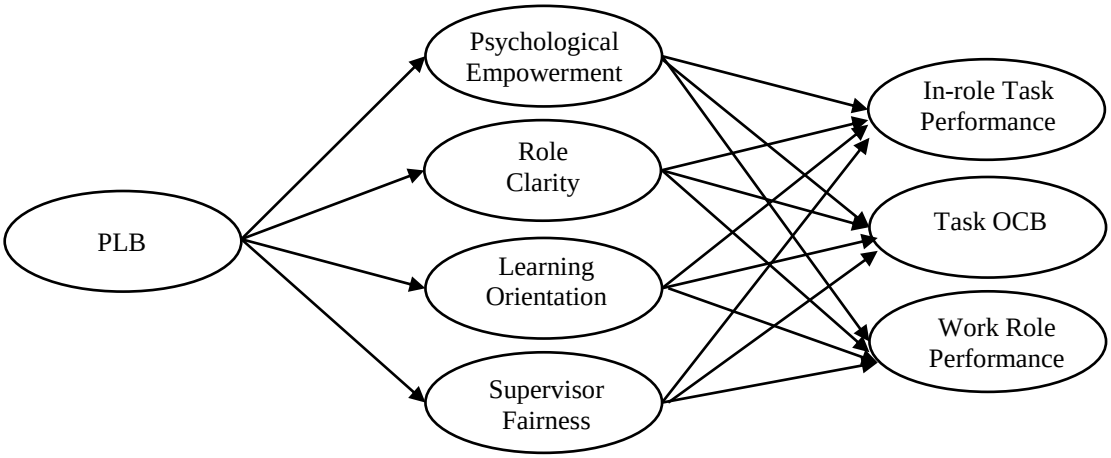
The rest of the dissertation is devoted to answering the above research questions, and it is organized as follows. Chapter 2 reviews the paradoxical leadership literature and outlines the research hypotheses. Chapter 3 describes the methodology and specific methods used to examine the research questions. Chapter 4 reports the results. Finally, Chapter 5 discusses the implications of research findings and gives answers to the research questions.

CHAPTER 2

LITERATURE REVIEW AND THEORY DEVELOPMENT

This chapter is divided into two sections. The first section provides a brief history of paradoxical leadership research as well as the background for the theoretical framework of this thesis. In the second section, I first elaborate on the implied mechanisms (psychological empowerment, role clarity, and learning orientation) underlying the PLB-performance relationship. I then propose supervisor fairness as a culture-sensitive mechanism underlying the PLB-performance relationship. Figure 1 shows the theoretical framework proposed to answer the third and fourth research questions.

FIGURE 1
The Research Model



A Brief History of Paradoxical Leadership Research

Traditional leadership style theories posit that leaders can be depicted using a set of similar behaviors, and traditional contingency leadership theories suggest that certain leadership styles can be matched with certain contexts to produce effective leadership (Fiedler, 1965). Unlike these traditional views, a paradoxical perspective focuses more on the paradoxical nature of leadership and aims for a holistic understanding of tensions among contradictory leadership behaviors. The recognition of paradoxes of leadership can be dated back to the 1960-70s (Bass, 1960; Burns, 1978; Maruyama, 1976). Early thoughts on paradoxical leadership attempted to describe leadership in terms of seemingly competing behaviors and functions. Mintzberg (1973) suggested that managers need to perform ten leadership functions, with some of them contradicts with others. Yukl (1981) identified nineteen competing leadership behaviors. Bass (1981; 2000) observed that effective leaders seem to draw from a large pool of behavioral repertoire and they tend to show more of all behaviors than ineffective leaders.

The first testable model of paradoxical leadership was proposed by Quinn (1984). In his model of leadership roles, Quinn outlined eight leadership roles (i.e., innovator role, broker role, producer role, director role, coordinator role, monitor role, facilitator role, and mentor role) and organized them in a circular pattern along two dimensions: stability versus flexibility, and internal focus versus external focus. This model posits that a high level of leadership tends to be able to reconcile the tensions among the competing roles. Building on Quinn's model of leadership roles, Denison, Hooijberg, and Quinn (1995) introduced behavioral complexity theory,

positing that effective leaders are characterized as the cognitive and behavioral complexity to perform contrary behaviors to deal with complex demands. According to this theory, behavioral complexity consists of two components: repertoire and differentiation. Behavioral repertoire refers to the portfolio of leadership functions that a leader can perform, whereas behavioral differentiation refers to a leader's ability to contingent the performance of the functions on contexts. Unfortunately, following up studies to further test and refine these theories are few (see Hooijberg, 1996 for an exception). A possible reason, perhaps, may concern the complexity of testing the model given the difficulty in deriving testable hypotheses and the complexity of the measurement method.

The last few decades have witnessed a growing interest in paradox related to leadership. For example, scholars have examined leaders who are both humble and narcissistic (Owens, Wallace, & Waldman, 2015; Smith & Lewis, 2011; Zhang, Ou, Tsui, & Wang, 2017), who exercise control while allowing autonomy (Brown & Eisenhardt, 1997; De Vries, Pathak, & Paquin, 2011; Warner, 2007), exhibit both authoritarian and transformational behaviors (Shi, Huang, & Zhou, 2015), and show both benevolence and authority (Chan, Huang, Snape, & Lam, 2013; Farh, Cheng, Chou, & Chu, 2006). Findings generally suggest that paradoxical leadership is positively associated with performance criteria. There is wide consensus that paradoxical tensions are prevalent in organizations (see Schad, Lewis, Raisch, & Smith, 2016 for a review), that leaders may have "bright side" and "dark side" traits (Judge, Piccolo, & Kosalka, 2009), and that the successful management of these

tensions requires leaders to behave paradoxically (Lewis, Andriopoulos, & Smith, 2014; Smith & Lewis, 2011; Smith, Lewis, & Tushman, 2016).

Several approaches have been suggested to deal with the paradoxical nature of leadership. The ambidextrous approach suggests that leaders switch between contradictory dualities as the situation demands. Taking leading for creativity and innovation for example, research suggests that creativity requires a series of opposing thoughts, goals and behaviors (Andriopoulos, 2003; Gotsi, Andropoulos, Lewis, & Ingram, 2010; Miron-Spektor & Erez, 2017) and leading for creativity and innovation is challenging for leaders because innovation involves paradoxical demands from both exploration and exploitation. Exploration refers to the pursuit of new ideas while exploitation refers to the utilizing of existing ideas and capabilities. The ambidextrous approach suggests that leaders switch between exploration and exploitation as the situation demands (Benner & Tushman, 2003; Bledlow, Frese, Anderson, Erez, & Farr, 2009; Gong, Zhou, & Chang, 2013; Lewis, Welsh, Dehler, & Green, 2002; Rosing, Frese, & Bausch, 2011; Zacher & Rosing, 2015). Specifically, ambidextrous leadership theory posits that a leader who has the ability to excel in both exploration and exploitation and to switch flexibly between the two is more effective than focusing on either of the two leadership styles (Zacher & Rosing, 2015). Empirical studies found that ambidextrous leadership was an important predictor of creativity and innovation at the individual or collective level (e.g., Gibson & Birkinshaw, 2004; Zacher, Robinson, & Rosing, 2016; Zacher & Rosing, 2015; Zacher & Wilden, 2014). A possible shortcoming of this approach, as

suggested by Gibson and Birkinshaw (2004), is that switching between exploration and exploitation may be exhausting and leaders may feel stressed.

Another approach deviates from the unity of command principle by proposing a dual leadership solution to paradoxical demands (Alvarez, Svejenova, & Vives, 2007; Arena, Ferris, & Unlu, 2011; Arnone & Stumpf, 2010; Eckman, 2006; Hunter, Cushenbery, & Jayne, 2017). This line of research suggests that letting two leaders rather than a single leader taking the conflicting roles will reduce the role conflict (Eckman, 2006) and stress experienced by the leaders.

PLB theory represents an approach to embracing tensions. This theory was developed by Zhang et al. (2015) in the Chinese context and it is the most recent and the most important advance in the paradoxical leadership literature (Barkema, Chen, George, Luo, & Tsui, 2015). At the core of PLB theory is the construct of paradoxical leader behavior (PLB), or "leader behaviors that are seemingly competing, yet interrelated, to meet competing workplace demands simultaneously and over time" (Zhang et al., 2015: 539). Compared with the prior conceptualizations of paradoxical leadership, Zhang et al.'s more structured and comprehensive conceptualization consisted of five categories of contradictory leader behaviors aimed at meeting organizations' structural demands and followers' individual needs simultaneously and over time. In specific, Zhang et al. built on prior theories and research and identified five categories of behaviors reflecting paradoxical leadership: treating subordinates uniformly while allowing individualization (UI), combining self-centeredness with other-centeredness (SO), maintaining decision control while allowing autonomy (CA), enforcing work

requirements while allowing flexibility (RF), and maintaining both distance and closeness (DC).

A featuring characteristic of PLB construct is the double-barreled response items designed to capture the tension between opposing behaviors. According to Putnam's (1986) categorization, PLB may capture the paradoxical tensions of the mixed message between leaders' opposing behaviors, i.e., the inconsistency between behaviors. Prior research on leadership paradox has exclusively followed the traditional paradigm of examining seemingly competing leadership styles for joint effects (e.g., Chan, Huang, Snape, & Lam, 2013; Farh, Cheng, Chou, & Chu, 2006; Shi, Huang, & Zhou, 2015), and Zhang et al.'s (2015) study was among the first to conceptualize paradoxical leader behavior as a single construct and to propose a measurement approach that explicitly details the seemingly opposite behavior patterns (see Waldman & Bowen, 2016 for a similar conceptualization). This novel measurement method is much more simple than the earlier methods used in behavioral complexity research (Denison, Hooijberg, & Quinn, 1995), although it may inevitably bear some limitations. Notably, Zhang et al. (2015) reported some evidence for the hypothesized second-order latent model of PLB and for the discriminant validity of PLB compared to other known leadership factors.

Another merit of PLB theory concerns the specificity of its predictions. Grounded in traditional Chinese yin-yang philosophy, PLB theory predicts that paradoxical leader behaviors may affect employee work role performance (i.e., proficient behavior, adaptive behavior, and proactive behavior). Again, Zhang et al. (2015) found that PLB was related positively and significantly to subordinate

proficient behavior, adaptive behavior, and proactive behavior in a set of samples of Chinese leaders. They also demonstrated the predictive validity of PLB on several important attitudinal and behavioral outcomes beyond the effects of other common leadership dimensions (e.g., transformational leadership and LMX) in the Chinese context.

PLB theory seems not only interesting but also important, yet it has not been tested and refined. As few exceptions, Zhang, Law, and Zhang (2016) observed 562 Chinese employees working in technical and R&D teams to study PLB and innovation. She and Li (2017) found among a sample of 220 Chinese employees that PLB had a positive indirect effect on followers' task performance via relational identification. Despite the initial supportive empirical evidence reported by Zhang et al. (2015), scholars have yet to assess the validity of the PLB measures and the predictions of the theory by using samples outside of China. Consequently, we do not know whether the concept and measurement, as well as the predictions of paradoxical leadership theory, hold in contexts outside of China. Below I discuss how culture may affect leadership effectiveness.

PLB Theory and Cultural Contexts

The influence of leader behaviors on subordinate outcomes may differ across cultures. The norm and value tradition in cultural psychology research attempts to understand cultural differences from the perspective of people' values, more specifically, power distance, individualism-collectivism, masculinity-femininity, uncertainty avoidance, and long-term-short-term orientation (Hofstede, 1980; Hofstede & Bond, 1984). Among the five cultural values, individualism-collectivism

and power distance are especially important in the effectiveness of leadership, because they concern how people view themselves in relation to the group or the authority. Empirical studies have well documented that people in different cultures hold different values and norms and these differences influence their understanding of leadership and responses to leadership (e.g., Fu, Kennedy, Tata, Yukl, Bond, Peng, & Cheosakul, 2004; House, Hanges, Javidan, Dorfman, & Gupta et al., 2004; Tsui, Wang, Xin, Zhang, & Fu, 2004). For example, when asked about traits that characterize ideal leaders, people from different cultures reported different sets of leader traits (House, Hanges, Javidan, Dorfman, & Gupta et al., 2004).

Another line of cultural psychology research focuses on the cultural differences in cognition. With respect to the effectiveness of paradoxical leadership, cultural differences in paradoxical mindsets, or the extent to which people tend to accept and embrace paradox, seem to play a more important role than cultural values, because paradoxical mindsets speak directly to how people comprehend and respond to paradoxes. Different philosophies endorsed in the Eastern and Western culture may account for the different cognition styles. In the Eastern culture, people's worldview is shaped by the yin-yang philosophy of Taoism, which posits that Tao, or the unnamable, is the origin of all being and that everything has an active element which is able to produce it and a passive element out of which it is produced. The former active element is called Yang, and the latter passive element is called Yin (Fung, 1948). The Taoism further dictates that everything is ever changeable, and the most fundamental law governing the changes of things is that "when a thing reaches one extreme, it reverts from it" (Fung, 1948: 97). This

philosophy may be illustrated by a famous text from a classic work of Taoism—"It is upon calamity that blessing leans, upon blessing that calamity rests" (Fung, 1948: 97). In summary, the Taoism embraces opposites and views them as a bigger whole. In the Western culture, people's cognitions are shaped by Aristotle's formal logic and Hegelian logic (see Li, 2012; 2016 for a detailed discussion). When dealing with paradox, the Western people tend to polarize the two components into either/or categories and deal with them separately (Lewis, 2000; Smith & Lewis, 2011). A leadership theory closely related to the either/or thinking is the contingency leadership theory, positing that leaders need to match their leadership behaviors with the contexts and the best leadership is that which fits well with the context.

Accumulating empirical evidence suggests that people in the Eastern culture tend to have a stronger paradoxical mindset, which allows them to tolerate and embrace contradictions easier (e.g., Andriopoulos & Lewis, 2009; Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010) than people in the Western culture. There are some evidence suggesting that Chinese people, compared to Americans are more likely to describe themselves using opposing traits such as "both cooperative and competitive" (Chen, Xie, & Chang, 2011; Keller, Loewenstein, & Yan, 2017; Lu, Au, Jiang, Xie, & Yam, 2013) and both good and bad (Spencer-Rodgers, Peng, Wang, & Hou, 2004). The paradox literature also suggests that cultural differences in paradoxical mindsets may shape the way people make sense of paradoxical tensions (e.g., Bartunek, 1988; Lüscher & Lewis, 2008; Westenholz, 1993).

The above discussions suggest that PLB theory may not hold in the Western contexts. As Zhang et al. (2015) explained, paradoxical leadership includes holistic and integrative thinking, which are both prevalent in Chinese culture where yin-yang and Taoism philosophies are fundamental (Li, 2016; Ma & Tsui, 2015; Peng & Nisbett, 1999), and where individuals are comfortable with paradoxes. Therefore, in China, leaders are more likely to act paradoxically, and followers are more likely to observe, understand, and embrace paradoxical leadership. In contrast, people in the Western culture are thought to be more analytical and/or dialectical and uncomfortable with paradox or inconsistency. They are likely to perceive inconsistent leader behaviors as unfair (De Cremer, 2003) and detrimental (Uchino, Birmingham, & Berg, 2010). They may even prefer unfair treatment over sporadically fair treatment (Duffy, Ganster, Shaw, Johnson, & Pagon, 2006; Matta, Scott, Colquitt, Koopman, & Passantino, 2017). If so, we can logically assume that Westerners will have different understandings of PLB items, so Eastern predictions of paradoxical leadership theory may fail to hold. To date, however, most empirical studies on paradoxical leadership have used Chinese samples (e.g., She & Li, 2017; Zhang, Law, & Zhang, 2016; Zhang, Ou, Tsui, & Wang, 2017; Zhang et al., 2015).

Knowing the mechanisms through which PLB influences employees may help us better theorize and understand the role of cultures here. In their initial theorizing, Zhang et al. (2015) proposed empowerment, role perceptions, and learning as the main mechanisms linking PLB to employee outcomes. The authors argued that paradoxical leader behaviors make employees more flexible, more learning oriented, and feel more empowered; therefore, employees are expected to perform better. Yet

these mechanisms seem to be culture free. On the other hand, traditional Western views such as fairness theory suggest that paradoxical leader behaviors may be perceived to be inconsistent and unfair, which, in turn, may hinder employee performance. It is useful to examine a culture-sensitive mechanism which may lead to different predictions about the effects of PLB. In the below sections, I outline these mediation hypotheses to be tested to answer our 3rd and 4th research questions.

An Empowerment Explanation of the PLB-Performance Link

Drawing on psychological empowerment theory, I argue that paradoxical leadership may influence performance indirectly through psychological empowerment. Psychological empowerment is about individuals' psychological experience of empowerment at work, which is defined as "intrinsic task motivation manifested in four cognitions reflecting an individual's orientation to his or her work role: meaning, competence, self-determination, and impact" (Spreitzer, Janasz, & Quinn, 1999: 512). A second-order latent model was hypothesized for this construct, with all the four dimensions reflecting an active orientation to work roles (Spreitzer, 1995). The first dimension, meaning, refers to the extent to which one feels that his or her work role requirements fit his or her values and beliefs (Brief & Nord, 1990). The second dimension, competence, also referred as work self-efficacy, reflects the extent to which one feels confident that he or she is capable of successfully performing his or her work tasks (Gist & Mitchell, 1992). The third dimension, self-determination, refers to the extent to which one feels that he or she has choices in making his or her own decisions and initiating actions (Deci & Ryan, 1985; Spector,

1986). The last dimension, impact, assesses the extent to which one feels that he or she has a positive influence on important work outcomes (Ashforth, 1989).

Paradoxical Leadership and Psychological Empowerment

Leadership has been identified as an important contextual antecedent of psychological empowerment (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007; Kark, Shamir, & Chen, 2003; Kirkman & Rosen, 1999; Kraimer, Seibert, & Liden, 1999; Spreitzer, 2008). Psychological empowerment concerns how individuals think about themselves in relation to their work environments (Bandura, 1989), and thus this perception is likely to be influenced by leadership behaviors, given leaders' critical influence in shaping the work environment (Liden, Sparrowe, & Wayne, 1997; Yukl, 2010). As there is no existing theoretical or empirical work on the relationship of PLB to psychological empowerment, I mainly draw on relevant research and theorizing to explain why PLB may enhance psychological empowerment. I begin with the first dimension of PLB—assigning equal workloads to followers and tailoring tasks to individuals' capabilities. The person-job fit literature suggests that when individuals feel there is a good fit between the work requirements and their abilities, they tend to be more confident in completing their work tasks, or to have higher self-efficacy (e.g., Greguras & Diefendorff, 2009); therefore, tailing tasks to individuals' capabilities may enhance followers' feeling of self-efficacy. But if leaders assign more work than followers can take, followers may feel overwhelmed and incapable. Assigning equal workloads to followers, therefore, may also contribute to followers' feeling of self-efficacy and empowerment.

The second dimension of PLB states that paradoxical leaders maintain their central influence but also share recognition and leadership with followers. The self-efficacy literature suggests that social recognition is an important source of self-efficacy (e.g., Bandura, 1997), and thus when recognized by the organization or co-workers, followers may develop a higher self-efficacy. It is obvious that empowering behaviors are positively related to followers' feeling of psychological empowerment, and this assertion indeed has been supported by empirical evidence (e.g., Ahearne, Mathieu, & Rapp, 2005; Zhang & Bartol, 2010). However, if leaders require followers to take over the leaders' central responsibilities and power, followers whose abilities and experiences generally do not meet the requirements of the leadership position, are likely to feel incompetent in performing the leadership role and are less likely to feel they can have positive impacts. Taken together, followers are likely to report the highest level of psychological empowerment when leaders both maintain central influence and share leadership with followers.

Third, paradoxical leaders may enhance followers' feeling of competence and self-determination by letting followers make their own decisions about lesser issues and work details while controlling the big issues and overall work process. On one hand, letting followers make their own decisions about specific work processes and details may increase individuals' feeling of self-determination (Spector, 1986). On the other hand, controlling the big issues and overall process may help promote work efficiency (Gibbons, 1992) and thus make followers feel more competent in completing their tasks. It may also make followers feel safe about experimenting with their own decisions and thus enhance their feeling of competent and self-

determination. As decisions on big issues always involve great risks, however, followers may feel restricted and incompetence at work when asked to make decisions about these big issues.

Fourth, paradoxical leaders may enhance followers' feeling of self-determination and impact by enforcing work requirements while allowing flexibility. Paradoxical leaders clarify work requirements but do not micromanage followers' work, thus followers will have the autonomy to decide how to carry out their jobs efficiently and correctly. They also allow followers to make mistakes in completing the task, thus followers may have the opportunity to develop new skills and feel more competent.

Fifth, paradoxical leaders may enhance followers' intrinsic task motivation in their work by keeping a close relationship with followers. A follower who has a close relationship with the leader may receive more information and support from his or her leader (Graen & Uhl-Bien, 1995). As a result, he or she may feel more competent in completing his or her tasks (Walumbwa, Cropanzano, & Goldman, 2011).

In summary, paradoxical leaders create a microenvironment where followers enjoy more autonomy in decisions making, are more confident in performing their work roles, have larger impacts on the work environment, and experience more meaning from their work.

Psychological Empowerment and Performance

In their initial theorizing, Zhang et al. (2015) used work role performance (Griffin, Neal, & Parker, 2007) to evaluate job performance, partly because

uncertainty has been dominating the workplace (Bordia, Hobman, Jones, Gallois, & Callan, 2004; Hui & Lee, 2000). I followed them to include work role performance in my discussion of the effects of paradoxical leadership and psychological empowerment below. However, because work role performance is a relatively new construct which has been rarely used in prior leadership research, it may be difficult to compare the effects of PLB. Therefore, I also include traditional measures of job performance, namely, task performance and organizational citizenship behavior (OCB), as the outcome variables.

Work role performance is defined in terms of the goals of managing uncertainty and interdependence that an effective organization must meet. Individual work role performance has three subdimensions: task proficiency, task adaptivity, and task proactivity. Task proficiency, or proficient behavior, refers to "the degree to which an employee meets the known expectations and requirements of his or her role as an individual" (Griffin, Neal, & Parker, 2007: 331). In other words, it concerns the role requirements that can be formalized and are not embedded in a social context. This conceptualization is closely related to the traditional concept of in-role task performance. Task adaptivity, or adaptive behavior, refers to "the degree to which individuals cope with, respond to, and/or support changes that affect their roles as individuals" (Griffin, Neal, & Parker, 2007: 331), and task proactivity refers to "the extent to which individuals engage in self-starting, future-oriented behavior to change their individual work situations, their individual work roles, or themselves" (Griffin, Neal, & Parker, 2007: 332). The adaptivity and proactivity subdimensions are important when the work roles involve dealing with uncertainty

and interdependence. The authors, however, did not explicitly define the relationship between the overall construct of work role performance and its three dimensions. I followed Zhang et al. (2015) and treated the three dimensions as separate constructs.

Below I explain why psychological empowerment may relate positively to each performance behavior, starting with task proficiency. By definition, individuals who feel more empowered have stronger intrinsic motivation at work (Spreitzer, Janasz, & Quinn, 1999). Individuals who are more intrinsically motivated are expected to perform better on their formalized work roles because they tend to view their work as more meaningful and they tend to be more confident that they can complete their works. Ample evidence provides strong support to the positive relationship between intrinsic task motivation and work proficiency, or task proficiency (see Cerasoli, Nicklin, & Ford, 2014 for a recent review).

Second, individuals who feel more empowered are likely to perform better in terms of task adaptivity. As suggested in the psychological empowerment theory, empowered individuals feel more confident and enjoy higher autonomy in determining how to carry out their jobs, and these are especially important for adapting well to changes at work. Sudden and unpredicted changes in the internal and/or external environment usually require individuals to deal with them and deal with them quickly. When encountering these changes at work, individuals who feel more competent and have more job autonomy are more likely to hold positive attitudes toward the changes and thus perform well in adjusting their work behaviors to deal with the changes than those who feel less empowered.

Next, empowered individuals are more likely to perform better in terms of task proactivity. Empowered individuals hold an active orientation toward work roles such that they are motivated to and feel able to shape their work roles and work environments (Spreitzer, 1992). The impact and self-efficacy related cognitions, in particular, may relate more closely to proactive behaviors. Specifically, individuals who feel that they can make a difference may be more likely motivated to initiate change-orientated behaviors, and those who have higher self-efficacy are more likely to perform well on these things. As proactive behaviors also involve risks (Griffin, Neal, & Parker, 2007), individuals who feel less competent and less impactful may be reluctant to engage in the challenging change-orientated behaviors.

Finally, it has been well documented that psychological empowerment is positively associated with both in-role task performance and citizenship behaviors (see Seibert, Wang, & Courtright, 2011 for a meta-analytic review). Because in-role task performance is conceptually similar to task proficiency, the reasons why psychological empowerment is associated with task proficiency may also work here. Empowered individuals are more likely to engage in voluntary citizenship behaviors because they see their work as more meaningful and wish to make a difference in the work environment (Spreitzer, 2008). When the organization is featured as high task interdependent, a stronger relationship between psychological empowerment and citizenship behavior may be expected.

Taken together, I expect psychological empowerment to mediate the effects of paradoxical leader behaviors on various performance constructs. Stated formally:

Hypothesis 1: *Paradoxical leader behavior (PLB) has a positive indirect effect on subordinates' (a) proficient behavior, (b) proactive behavior, (c) adaptive behavior, (d) in-role task performance, and (e) OCB via psychological empowerment.*

A Role Perception Explanation of the PLB-Performance Link

Drawing on role theory, I expect that paradoxical leadership may also exert its influence on follower performance via role clarity. Role clarity refers to the degree to which an individual is clear about the authority he or she has and others' expectations and requirements associated with his or her work role (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Low role clarity, or high role ambiguity, means individuals have ambiguous perceptions of their work goals, authorities to make decisions, work procedures, criteria of being judged, and knowledge of the consequences of their behaviors (Rizzo, House, & Lirtzman, 1970). Employees inevitably face some extent of role ambiguity; the more uncertain the organizational contexts, the more ambiguity they tend to experience.

Paradoxical Leadership and Role Clarity

Paradoxical leadership is likely associated with higher role clarity. First, the third dimension of paradoxical leadership, maintaining decision control while allowing autonomy, suggests that paradoxical leaders make it clear to followers that supervisors rather than followers should control important issues and make important decisions, and that followers may participate in decision making on important issues. It may require a context of control for autonomy to have a relevant impact on the organization (Feldman, 1989). On one hand, by differentiating the

different roles of supervisors and followers in decision making, paradoxical leaders are likely to increase followers' perceptions of role clarity. On the other hand, followers who are allowed to participate in decision making may have the opportunity to discuss with supervisors regarding their work goals and procedures and develop a congruent understanding of the role prescriptions (Teas, Wacker, & Hughes, 1979; Walker, Churchill, & Ford, 1975).

Second, the fourth dimension of PLB states that paradoxical leaders clarify work requirements and set higher requirements for follower performance. Hence, followers know clearly what their supervisors are expecting from them, which contributes to their perceptions of role clarity. The second element of this dimension, allowing for flexibility, at the same time, will increase role clarity because followers are more likely to engage in experimenting behaviors and by doing so may gain a clearer understanding of the procedures and the consequences of various behaviors.

Third, the fifth dimension suggests that paradoxical leaders recognize the distinction between supervisors and followers and differentiate supervisor role from follower role. They make it clear to their followers that their official work roles as supervisors must be respected and be held up at work. By clarifying and formalizing the role boundaries, leaders may increase followers' perceptions of role clarity (Pearce, 1981). The second element of this dimension suggests that paradoxical leaders develop close relationships with followers. Followers who have close relationships with supervisors are likely to have high-quality communications with supervisors, as suggested by LMX theory (Graen & Uhl-Bien, 1995). For instance, they may have more opportunities to seek feedback and get more accurate feedback

from supervisors, which have been found to be positively associated with role clarity (Ashford & Cummings, 1985; Callister, Kramer, & Turban, 1999; Wanberg & Kammeyer-Mueller, 2000).

Role Clarity and Performance

Followers with higher role clarity are likely to perform more effectively. One important premise of role theory is that people need to be able to anticipate the consequences of their behaviors. If one cannot anticipate the consequences of his or her work behaviors, he or she will experience excessive uncertainty, which in turn will hinder his or her work performance. Followers with low role clarity, by definition, do not have a clear knowledge about their work goals, responsibilities, and the behaviors that may lead to the achievement of these goals. In other words, they do not know exactly what they are expected to accomplish and how to accomplish their jobs. Research suggests that lack of clarity may result in stress and frustration because followers may experience cognition overload when they must spend their mental energy in dealing with the uncertainty in their prescribed roles and finding the appropriate ways to accomplish their jobs (Fisher & Gitelson, 1983; Jackson & Schuler, 1985). Cognition overload may further reduce followers' work motivation and self-efficacy beliefs (Jackson & Schuler, 1985), which are the two critical determinants of effective performance.

Below I discuss how role clarity may relate to work role performance, task performance, and citizenship performance in greater detail. It is rather straightforward to reason that followers with higher role clarity tend to perform more efficiently, because they know clearly their work roles and the efficient and effective

ways to perform these roles, and because they are motivated to and able to perform their prescribed roles. Role clarity has been found to be a strong predictor of task proficiency (e.g., Griffin, Neal, & Parker, 2007). Further support was found for the positive relationship between role clarity and task proficiency in several meta-analytic reviews (Abramis, 1994; Jackson & Schuler, 1985; Tubre & Collins, 2000). Therefore, I expect role clarity to be positively associated with task performance and task proficiency.

Role clarity may relate positively to task adaptivity for several reasons. In the environment featured as high work interdependence, a clear understanding of one's work role may also suggest a better understanding of their work roles in relation to others' work roles, such as their direct supervisor's role and co-workers' role. Followers who have a clear understanding of their own work roles and others' roles may be more sensitive in detecting changes that may affect their roles as individuals in the work environment, and they are likely to be more capable of forming a quick judgement about whether or not they need to adapt to the changes in order to achieve their abstract goals and general responsibilities. The second reason concerns followers' abilities in adapting to changes. Research suggests that followers with higher role clarity tend to feel more confident about their competence in accomplishing their work tasks (e.g., Beauchamp & Bray, 2001). In addition, as those who have higher role clarity experience less uncertainty in their prescribed roles, they may have more mental energy when changes occur in the environment. Both suggest that followers with higher role clarity tend to cope better with the

changes in the work environment. Indeed, Griffin, Neal, and Parker (2007) found that role clarity was positively related to task adaptivity.

Role clarity may relate positively to task proactivity. With clear work goals and responsibilities in mind, followers reporting higher role clarity are more capable of identifying the problems in their work procedures, work environment or in themselves that may hinder the achievement of their work goals and the fulfillment of their responsibilities. What's more, followers with higher role clarity also tend to have higher self-efficacy (Beauchamp & Bray, 2001), and thus it is easier for them to think of and come up with better ways to complete their core tasks. It is also likely that followers with higher role clarity are more motivated to engage in proactive behavior than those who have ambiguous role perceptions. Considering that proactive behaviors may involve risks and may have some negative consequences (Glaser, Stam, & Takeuchi, 2016), followers who have higher confidence in their competence are more willing to engage in these behaviors.

Role clarity may be positively associated with citizenship performance. Citizenship behaviors generally benefit collective performance, but not one's own performance. Motivation thus is critical in predicting followers' citizenship behaviors. As work roles are typically interdependent in an organization, I expect that followers with high role clarity may see the big picture depicting the links of their own roles to others' roles and the whole organization functioning. As a result, they will be motivated to engage in citizenship behaviors for the sake of collective interest. Also, given that it takes time and other resources to perform citizenship behaviors (Bolino, Hsiung, Harvey, & LePine, 2015; Bolino, Klotz, Turnley, &

Harvey, 2013), engaging in citizenship behaviors sometimes may even hurt one's own task performance (Bolino & Grant, 2016). In this respect, I expect that followers with an ambiguous role, who tend to have lower self-efficacy, are motivated to focus more on their in-role tasks and are reluctant to perform citizenship behaviors. Conversely, followers who know clearly their role requirements and criteria have a more realistic sense of determining when and how to engage in citizenship behaviors without sacrificing task performance (Whitaker, Dahling, & Levy, 2007). Research has generally shown that role clarity has a positive relationship with citizenship performance (e.g., Bolino & Turnley, 2005; Salamon & Deutsch, 2006; Whitaker, Dahling, & Levy, 2007), and several meta-analytic reviews provide detailed descriptions of the relation (Podsakoff, MacKenzie, & Bommer, 1996; Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

In sum, theory and empirical evidence suggest that role clarity may be a mediator of the paradoxical leadership-performance link. Stated formally:

Hypothesis 2: *Paradoxical leader behavior (PLB) has a positive indirect effect on subordinates' (a) proficient behavior, (b) proactive behavior, (c) adaptive behavior, (d) in-role task performance, and (e) OCB via role clarity.*

An Employee Learning Explanation of the PLB-Performance Link

Drawing on goal orientation theory, I argue that followers' learning goal orientation may partly explain the paradoxical leadership-performance relationship. Aside from leadership, another factor that may affect work motivation is goals. Different people may have different goals with respect to tasks. In her seminal work on goal orientation, Dweck (1986) coined the term "goal orientation" as the goal that

one implicitly pursues and identified two distinct orientations in achievement situations: learning goal orientation and performance goal orientation. Learning goal orientation refers to a goal that is oriented to the development of skill, knowledge, and competence, while performance goal orientation refers to a goal that is oriented toward demonstrating competence and avoiding failure. There is a strong consensus that performance goal orientation and learning orientation are distinct dimensions rather than the two ends of the same continuum. Notably, although Dweck (1986) seemed to imply that an individual's goal orientations are relatively stable and treat them as individual difference variables, both theory and empirical evidence suggest that goal orientation are malleable and can be influenced by situational factors (Ames & Archer, 1988; Button, Mathieu, & Zajac, 1996; Duda & Nicholls, 1992; Dweck & Leggett, 1988; Kozlowski, Gully, Brown, Salas, Smith, & Nason, 2001; Murayama & Elliot, 2009; VandeWalle, Brown, Cron, & Slocum, 1999), such as leadership (Boggiano & Barrett, 1985; Coad & Berry, 1998; Kohli, Shervani, & Challagalla, 1998; Sujan, Weitz, & Kumar, 1994) and reward structure (Ames, Ames, & Felker, 1977). That is, goal orientations may be made stronger or more salient by situational cues that signal whether the goals are desired and emphasized. In line with prior research (e.g., Amabile, 1983; Ames & Archer, 1988; Broedling, 1977; Button, Mathieu, & Zajac, 1996; Coad & Berry, 1998), I contend that learning goal orientation can be conceptualized as both a trait-like individual difference variable and a state-like situational variable. In this thesis, I adopted the state approach because our focus is on state learning orientation as an outcome associated with leader behaviors. State learning goal orientation (hereafter, "learning

orientation"), in this thesis, is defined as the degree to which an individual pursues development of skill, knowledge, and competence as his or her goal in the achievement situation. It represents a malleable psychological state at a particular point in time.

Paradoxical Leadership and Learning Orientation

Leaders may play an important role in directing followers' goal orientations because leaders are important authorities at work. Paradoxical leaders, in specific, may have a positive influence on followers' learning orientation. First, learning plays an important role in one's career development because development of new knowledge, skills, and competence prepares an individual for new work roles, positions of greater responsibilities. Research suggests that career development is as important as, if not more important than, compensation in motivating people to work and that it plays an important role in people's turnover decisions (Hom, Lee, Shaw, & Hausknecht, 2017). Given that paradoxical leaders, by definition, are attending to followers' needs and interests, it is likely that paradoxical leaders will value followers' needs for career development in general and their learning orientation in specific. Paradoxical leaders may highlight the importance of followers' learning goal for their career development and intentionally provide more learning opportunities to support followers' learning goals. This argument may be supported by the fact that paradoxical leaders give followers the autonomy to make their own decisions about how to get the task done, which signals that the leaders value followers' learning goal. Also, paradoxical leaders allow followers to experiment with new ways to accomplish their tasks and show their tolerance to mistakes. Thus,

followers who are supervised by such leaders are more likely to be learning oriented. On the other hand, by making clear task goals and setting higher performance standards, which are important for organizations, paradoxical leaders provide followers a concrete context for leaning such that followers will know what knowledge and competence are most useful to develop. The possible positive work outcomes resulted from learning may further enhance followers' learning orientation.

Second, paradoxical leaders may provide a role model for followers who may also face paradoxes, for example, competing demands from different projects in their dynamic work environment, or competing demands from work and family in their life domain. Paradoxical leaders are those who behave in order to meet competing needs of the organization and followers, but this does not necessarily mean they can always achieve these goals. As resources are always limited and demands faced are competing, it is always challenging to meet both structural needs and followers' individual needs simultaneously. Leaders may need to experiment and find their ways to handle this complicated issue; for example, they may need to learn to be flexible and adaptive enough to strike a balance between the competing needs. As a result, followers who work with such leaders are expected to be influenced and become more learning oriented.

Learning Orientation and Performance

The basis of learning orientation is the incremental theory which posits that people's competence can be developed (Payne, Youngcourt, & Beaubien, 2007). Learning orientation has been associated with work effort and persistence in face of

setbacks (Dweck, 1986). A follower who is lower in learning orientation is more likely to withdraw their effort and sacrifice the work requirements in face of failures. In contrast, a follower who is higher in learning orientation will work hard and be more resilient in face of difficulties and failures. Therefore, I expect that learning orientation will be positively related to task proficiency and in-role task performance.

Theory and research also suggest that learning orientation is positively related to a variety of adaptive behaviors (e.g., Bell & Kozlowski, 2002; Butler, 1993; Button, Mathieu, & Zajac, 1996; Kozlowski, Gully, Brown, Salas, Smith, & Nason, 2001; VandeWalle, Brown, Cron, & Slocum, 1999). Followers higher in learning orientation tend to view changes in the work environment as an opportunity to learn rather than a threat, and thus they are more willing to embrace the changes and adapt to them. Empirical findings are consistent with this reasoning. Gong and Fan (2006) found in a sample of 165 international students that learning orientation was positively associated with social self-efficacy and cross-cultural adjustment. Evidence from the marketing literature also tends to support the above relationship. Researchers in this area found that salespeople reporting higher learning orientation showed more adaptive selling (Sujan, Weitz, & Kumar, 1994).

Research on learning orientation also suggests a positive relationship between learning orientation and proactive behavior. As discussed earlier, proactive behaviors may involve possible negative consequences and thus are challenging and risky (Glaser, Stam, & Takeuchi, 2016). A follower higher in learning orientation tends to have higher self-efficacy in face of challenges (Kanfer, 1990; Phillips &

Gully, 1997) and hold a more positive view towards challenges. Followers higher in learning orientation are driven by the motivation to learn and are not afraid of failure and mistakes. Instead, they tend to focus more on the opportunities to learn from challenges and thus they are more likely to initiate changes at work to deal with the challenges. Conversely, followers lower in learning orientation tend to focus more on the possible negative consequences of proactive behaviors and will be less motivated to take the challenges proactively. There is direct supportive evidence showing that learning orientation promotes salespeople's willingness to change their sales strategies (Ames & Archer, 1988; Dweck & Leggett, 1988). There is also some indirect yet relevant evidence suggesting that learning orientation was associated with more experimentation, risk-taking behavior, and creativity (Hirst, van Knippenberg, & Zhou, 2009; Hirst, van Knippenberg, Chen, & Sacramento, 2011).

Citizenship behaviors take time and other resources and generally does not contribute to one's own work role performance. Despite this, followers driven by learning motivations may be willing to perform citizenship behaviors, because by doing so they may develop their social skills, gain fresh knowledge about the organization or others' jobs, and learn some new skills from others. In contrast, followers who are lower in learning orientation may tend to see citizenship as a burden and thus are expected to perform fewer citizenship behaviors than their counterparts.

Finally, accumulating empirical findings in respect of the effects of learning orientation at higher level of analysis may also provide support to our reasoning; for example, research has shown that team learning orientation was positively related to

collective performance (Bunderson & Sutcliffe, 2003) and team adaptability (LePine, 2005; Porter, 2005; Porter, Webb, & Gogus, 2010). In summary, I hypothesize the following:

Hypothesis 3: *Paradoxical leader behavior (PLB) has a positive indirect effect on subordinates' (a) proficient behavior, (b) proactive behavior, (c) adaptive behavior, (d) in-role task performance, and (e) OCB via learning orientation.*

A Fairness Theory Perspective on PLB

Paradoxical tensions between the contradictory elements of PLB manifest themselves in the form of mixed messages and system contradictions. It is likely that these inconsistent behaviors and mixed messages may be associated with fairness perception. However, no efforts have been made to understand the effect of paradoxical leadership on performance from a fairness perspective (see Sparr, van Knippenberg, & Kearney, 2016 for an exception). Drawing on fairness heuristic theory, I expect that overall supervisory fairness will mediate the relationship of paradoxical leadership to employee performance. Combining the fairness and culture literature, I further posit that the indirect effect differs in the Chinese culture and the Western culture.

Paradoxical Leadership and Supervisory Fairness

Organizational justice literature suggests that individuals form fairness perceptions toward not only specific events but also social entities such as supervisors, co-workers, and organizations. These two lines of research represent two different yet associated paradigms in the organizational justice research: the event paradigm and the entity paradigm (Cropanzano, Byrne, Bobocel, & Rupp,

2001). This thesis adopted the entity paradigm and studied fairness perceptions toward supervisors instead of studying justice types/dimensions (i.e., distributive justice, procedure justice, and interpersonal justice) that focus on decision-making events. The first reason is that PLB was defined as leader behaviors displayed over-time rather than specific decisions, and thus it is appropriate to study employees' overall fairness perceptions of supervisors. Second, researchers suggested that it is useful to match the specific level of the justice constructs based on the outcome of interest. As the outcome of interest in this thesis is employee performance, which is global and general, it is more appropriate to model overall fairness perceptions than specific justice dimensions (Colquitt & Shaw, 2005). A final reason is that researchers suggested that overall fairness can capture individuals' justice experiences better than specific justice types and may be the more proximal driver of individuals' attitudes and behaviors (Ambrose & Schminke, 2009; Colquitt & Shaw, 2005; Lind, 2001).

Supervisory fairness refers to one's overall judgment of the extent to which his or her supervisor adhere to the justice rules. Fairness heuristic theory offers a useful perspective to understand the process through which individuals judge and react to fairness (Lind, 2001). This theory posits that motivated by reducing the uncertainty of being exploited, employees will draw information in the environment to form a quick holistic fairness judgment of an entity, which will be used to determine whether to trust the entity and respond accordingly. If the entity is judged to be fair, then individuals will trust the entity and respond in positive ways.

Paradoxical leader behaviors involve contradictory or inconsistent behaviors and convey justice-relevant information, which may affect individuals' overall supervisor fairness perceptions. A close examination of the scale items further suggests that paradoxical leadership is mainly about how supervisors treat subordinates and how decisions are usually made. Research suggests that distributive justice, procedure justice, and interactional justice are the elements from which employee draw information to form the overall fairness perception. Therefore, rules used to assess procedure justice and interactional justice are likely to be used in forming overall supervisory fairness perception. A highly relevant justice rule here is the consistency rule, defined as a justice rule which "dictates that allocative procedures should be consistent across persons and over time" (Leventhal, 1980: 40). In specific, the rule of consistency requires that similar, if not the same, procedures should be applied in allocating resources to all eligible recipients. It also dictates that the procedures should be kept stable over time (Leventhal, 1980). As suggested by the definition, paradoxical leaders treat individuals differently and their behaviors change over time. Therefore, PLB violated the consistency rule which dictates that the same procedures should be applied to all subordinates and the procedures should be kept stable.

However, cultural differences in people's cognition and mindset may influence their views and perceptions of inconsistencies. People in the Eastern culture are characterized as having strong paradoxical mindsets, defined as "the extent to which one is accepting of and energized by tensions" (Miron-Spektor, Ingram, Keller, Smith, & Lewis, 2018: 26). They tend to not only accept and feel

comfortable with paradoxical tensions (Keller, Loewenstein, & Yan, 2017) but also value the tensions (Miron-Spektor, Ingram, Keller, Smith, & Lewis, 2018). The psychology literature suggests that people in the Eastern culture tend to report less consistent self-beliefs across situations and roles (Church et al., 2008; Spencer-Rodgers, Boucher, Mori, Peng, & Wang, 2009) and even at any given time (Choi & Choi, 2002; Spencer-Rodgers, Boucher, Mori, Peng, & Wang, 2009; Wong, Rindfleisch, & Burroughs, 2003). Since people in the Eastern culture even have contradictory self-concepts, they may likely to tolerate and accept the contradictory elements in leaders' behaviors. A good leader in the Eastern culture may be expected to excel in performing both his or her role as a manager to meet organizational needs and the role of a supervisor to meet subordinates' needs. In assessing his or her supervisor's fairness, people in the Eastern culture may not rely much on the consistency rule. Therefore, paradoxical leaders are not likely to be judged as unfair in the Eastern culture.

In contrast, people in the western culture have different cognition structures, and their minds are characterized as "either/or" rather than "both/and". People in the Western culture may find it difficult to embrace two competing ends at the same time and live with paradoxical tensions. Rather, they have a high need for consistency, tend to feel uncomfortable about inconsistency (Peng & Nisbett, 1999) and are motivated to search for consistency. They tend to rely more on the consistency rule in assessing supervisory fairness. Indeed, research suggests that participants in the Western culture perceive inconsistent leader behaviors as unfair (De Cremer, 2003) and detrimental (Uchino, Birmingham, & Berg, 2010). They may

even prefer unfair treatment over sporadically fair treatment (Duffy, Ganster, Shaw, Johnson, & Pagon, 2006; Matta, Scott, Colquitt, Koopman, & Passantino, 2017).

Supervisory Fairness and Performance

Fairness heuristic theory further suggests that people will use the fairness perception as a device to decide whether to trust the entity or not (Lind, 2001). Although fairness heuristic was argued to be relatively stable, recent longitudinal studies suggested that overall fairness perception may change over time (e.g., Holtz & Harold, 2009). Perceived fairness may influence individual job performance, although it may not be a very strong motivational force (Leventhal, 1980). Indeed, empirical studies found a positive relationship of overall fairness to job performance (Ambrose & Schminke, 2009; Aryee, Walumbwa, Mondejar, & Chu, 2015; Barclay & Kiefer, 2012).

There are at least two pathways through which overall supervisory fairness may affect employee performance. The first pathway is the trust mechanism explicitly suggested in fairness heuristic theory. According to this theory, when an individual perceives his or her supervisor as fair, he or she will trust the supervisor (Lind, 2001). This can be at least partly explained by the social exchange argument: fairness, which signals an investment in the relationship, enhances the trustee's confident expectation that the trustor will engage in behaviors that benefit him or her and thus reduces his or her concerns about the possibility of being exploited (Colquitt, Greenberg, & Scott, 2005; Cropanzano & Mitchell, 2005; Walumbwa, Cropanzano, & Hartnell, 2009). Trust has been found to be positively related to employee job performance (Aryee, Budhwar, & Chen, 2002; Begley, Lee, & Hui,

2006; Colquitt, Scott, & LePine, 2007; Dirks & Ferrin, 2002; Konovsky & Pugh, 1994; Mayer & Gavin, 2005; Pillai, Schriesheim, & Williams, 1999).

The other mechanism concerns the need satisfaction argument, which suggests that fairness may meet people's important psychological needs, namely, need for autonomy, need for competence, and need for relatedness, which in turn, increases intrinsic motivation (Aryee, Walumbwa, Mondejar, & Chu, 2015). Empirical evidence suggests that overall fairness is positively related to need satisfaction (Mayer, Bardes, & Piccolo, 2008) and injustice is negatively related to need satisfaction (Lian, Ferris, & Brown, 2012). Fair leaders not only meet subordinates' needs directly but also provide a good environment for individuals to meet their needs themselves by working in the organization (Aryee, Walumbwa, Mondejar, & Chu, 2015). When these needs are satisfied, employees will be more intrinsically motivated to achieve the performance goal.

The trust argument and need-satisfaction argument above may also hold for OCB. Overall supervisory fairness was found to relate positively to OCB (see Fassina, Jones, & Uggerslev, 2008 for a meta-analytic review). Like psychological empowerment discussed earlier, need satisfaction and intrinsic motivation may account for the relationship of supervisor fairness to proficient behavior, adaptive behavior, and proactive behavior. Taken together, I hypothesize the following:

Hypothesis 4: *Paradoxical leader behavior (PLB) has a positive indirect effect on subordinates' (a) proficient behavior, (b) proactive behavior, (c) adaptive behavior, (d) in-role task performance, and (e) OCB via supervisory fairness in the Chinese culture.*

Hypothesis 5: *Paradoxical leader behavior (PLB) has a negative indirect effect on subordinates' (a) proficient behavior, (b) proactive behavior, (c) adaptive behavior, (d) in-role task performance, and (e) OCB via supervisory fairness in the Western culture.*

CHAPTER 3

METHOD

This chapter describes the methodology used to answer our research questions. The general methodology adopted in this thesis was a quantitative method, where empirical survey data were collected to test the hypothesis statistically where necessary. This chapter is divided into three sections. The first section describes the design of a pilot study conducted to answer the first and the second research questions by evaluating the PLB construct and measures; this pilot study paves the road for the two major studies in the following sections. The second section presents the design of a major study conducted to test the hypotheses in the Chinese context, and the third section describes the design of a study conducted to test the theory and hypotheses in the Western culture. The two primary studies together serve to answer our third and fourth research questions.

Pilot Study

PLB has been defined as a second-order factor model and validated using five Chinese samples in Zhang et al.'s (2015) original study. Despite the initial supportive empirical evidence, scholars have yet to assess the validity of the PLB measures. Consequently, we do not know whether the concept and measurement hold in other contexts. In other words, it is unknown whether the PLB scale is invariant across cultures, and at which level can researchers compare the results yielded from different samples. I stressed the need to replicate the PLB measures first before putting the theory into a test. In this pilot study, I sampled employees

from different cultures to assess the validity of the PLB construct by validating the PLB measures and testing the PLB predictive model.

Sample and Procedure

Two datasets were collected for this pilot study: one from the Chinese culture and the other from the Western culture. The Chinese one was collected from two middle schools in Guangdong province of China. One school had about 15,000 students, and the other had about 8,000 students. Teachers were placed in teaching groups based on subject and grade they taught. I invited 874 teachers who were not team leaders to participate in a paper-pencil survey in which they rated their team leaders' behaviors and their own attitudes and behaviors. The survey was a two-wave design, with leadership behaviors rated at Time 1 and outcome variables reported at Time 2. A total of 767 teachers returned their questionnaires during Phase 1, and the response rate was 87.7%. After deleting the incomplete questionnaires, I got 711 usable responses. About six months after Time 1, teachers were invited to participate in the Phase 2 questionnaire, and 591 of them responded. The final sample was a matched two-phase sample of 502 teachers working in 104 teaching teams. They averaged 36.9 years old; 61.7% were women.

I recruited western participants through Prolific (https://prolific.ac/), a platform which helps researchers find the participants. To be eligible for participating in my study, workers had to have the United Kingdom, or the United States, or Ireland, or Canada, as their current country of residence and had to have jobs where they were working under others' supervision. This resulted in 4499 active and eligible workers. The Phase 1 survey was made accessible to those 4499

eligible workers, with the goal of collecting 400 responses. About two weeks later, those 400 workers who participated in the Phase 1 survey were invited to complete the second survey. After careless responses were removed, the final sample included 380 participants: 61.3% from the United States, 7.1% from the United Kingdom, 5% from Canada, and 6.6% from other countries. Participants averaged 31.9 years old; 41.1% were women.

Measures

At Time 1, I measured paradoxical leadership as well as several alternative leadership, including transformational leadership, transactional leadership, and leader-member exchange (LMX). The same leadership measures used in Zhang et al. (2015) were used here, except for transformational leadership, where I replaced the 20-item full scale (Bass & Avolio, 1995) with a 12-item short scale (core transformational leadership scale, Podsakoff, MacKenzie, Moorman, & Fetter, 1990).

At Time 2, I measured organizational commitment, turnover intentions, leader effectiveness, task performance, organizational citizenship behavior, work role performance (i.e., proficient behavior, proactive behavior, and adaptive behavior) as well as two control variables (i.e., power distance and relational orientation). Demographic data were also collected at Time 2.

In collecting the Chinese data, I followed the standard translation-back translation approach (Brislin, Lonner, & Thorndike, 1973) to generate all the measures that were not originally developed in Chinese. Instead of translating the PLB scales by ourselves, I requested the Chinese version of the PLB measures from

Zhang et al. (2015), and I made two minor revisions to the Chinese version according to my understanding of the English measures (see Appendices for the Chinese scale). This allows us to minimize the error in the translation-back translation processes and enables us to better compare our results with Zhang et al.'s (2015).

Paradoxical leader behavior (T1). I measured paradoxical leader behavior using the 22-item scale (Zhang et al., 2015). A sample item: "Uses a fair approach to treat all subordinates uniformly, but also treats them as individuals." Subordinates rated how frequently their leaders engage in the behaviors on a five-point scale (1 = never, 5 = always). The alpha coefficient was .88 in the Chinese sample and .93 in the Western sample.

Transformational leadership (T1). I used a 12-item scale (Podsakoff, MacKenzie, Moorman, & Fetter, 1990) to measure transformational leadership. Example items include: "My supervisor has a clear understanding of where we are going"; "My supervisor provides a good model for me to follow" (1 = never, 5 = always). The alpha coefficients in the Chinese and Western samples were .94 and .95, respectively.

Transactional leadership (T1). Following Zhang et al. (2015), I used a five-item scale (Waldman, Ramirez, House, & Puranam, 2001) to measure transactional leadership. For example: "My supervisor takes actions if mistakes are made" (1 = never, 5 = always). The alpha coefficients were .73 in the Chinese sample and .78 in the Western sample.

Leader-member exchange (T1). I used a seven-item scale (Graen & Uhl-Bien, 1995; Henderson, Wayne, Shore, Bommer, & Tetrick, 2008) to measure leader-member exchange. A sample item was: "My supervisor understands my job problems and needs well" (1 = strongly disagree, 5 = strongly agree). The alpha coefficients were .87 in the Chinese sample and .90 in the Western sample.

Organizational commitment (T2). I used six items (Meyer, Allen, & Smith, 1993) to measure affective commitment. For example, "I really feel as if this organization's problems are my own" (1 = strongly disagree, 7 = strongly agree). The alpha coefficients were .95 in the Chinese sample and .93 in the Western sample.

Turnover intentions (T2). I used Bluedorn's (1982) staying/leaving index to measure turnover intentions. A sample item: "I often think about quitting my job at this organization" (1 = strongly disagree, 7 = strongly agree). The alpha coefficients were .84 in the Chinese sample and .92 in the Western sample.

Leader effectiveness (T2). I used four items (Rodan & Galunic, 2004) to measure leader effectiveness. For example, "My supervisor has met my expectations in his/her roles and responsibilities" (1 = strongly disagree, 7 = strongly agree). The alpha coefficients were .67 in the Chinese sample and .93 in the Western sample.

Proficient behavior (T2). I used three items (Griffin, Neal, & Parker, 2007) to measure proficient behavior. For example, "Completed your core tasks well using the standard procedures" (1 = not at all, 5 = very often). The alpha coefficients were .84 in the Chinese sample and .81 in the Western sample.

Adaptive behavior (T2). I used three items (Griffin et al., 2007) to measure adaptive behavior. For example, "Coped with changes to the way you have to do your core tasks" (1 = not at all, 5 = very often). The alpha coefficients were .87 in the Chinese sample and .78 in the Western sample.

Proactive behavior (T2). I used three items (Griffin et al., 2007) to measure proactive behavior. For example, "Made changes to the way your core tasks are done" (1 = not at all, 5 = very often). The alpha coefficients were .90 in the Chinese sample and .91 in the Western sample.

Task performance (T2). I used four items (Shaw, Duffy, Johnson, & Lockhart, 2005) to measure in-role task performance: "How good is the quality of your performance?" (0 = very poor, 100 = very good), "How efficiently do you do your work?" (0 = very inefficiently, 100 = very efficiently), "When changes are made to your work procedures, how quickly do you adjust to them?" (0 = very slowly, 100 = very quickly), and "How well do you cope with situations that demand flexibility?" (0 = very poorly, 100 = very well). In the Chinese version, the items were restated in statements and Likert-type scale (1 = strongly disagree, 5 = strongly agree) was used. The alpha coefficients were .87 in the Chinese sample and .78 in the Western sample.

Organizational citizenship behavior (T2). I used five items (Farh, Hackett, & Liang, 2007) to measure OCB. For example, "Initiates assistance to coworkers who have a heavy workload" (1 = not at all, 5 = to a very great extent). The alpha coefficients were .87 in the Chinese sample and .86 in the Western sample.

Control variables. Following Zhang et al. (2015), I measured power distance and relational orientation at Time 2 as controls. Power distance was assessed using the six-item measure developed by Dorfman and Howell (1988). The alpha coefficients were .85 in the Chinese sample and .65 in the Western sample. Relational orientation was assessed using the seven-item scale developed by Vos, van der Zee, and Buunk (2012). The alpha coefficients were .87 in the Chinese sample and .87 in the Western sample.

Analytic Strategy

Exploratory factor analysis (EFA) was first conducted to explore the factor structure of PLB, followed by correlations and reliabilities of PLB dimensions. Next, a series of confirmatory factor analysis (CFA) was performed to test the second-order model hypothesized by Zhang et al. (2015).

To examine whether the translated English scale and the Chinese scale measured the same construct, and to examine at which level I can compare the results obtained from Western and Chinese cultures, I tested measurement invariance of PLB across both cultures at three levels: configural, weak measurement, and strong measurement invariances. Next, I followed Zhang et al. (2015) and conducted the usefulness analysis to evaluate the incremental validity of PLB beyond alternative leadership measures. I regressed a variable (e.g., organizational commitment) on an alternative leadership measure (e.g., transformational leadership) and then entered PLB in the regression to see whether PLB could explain additional variance in the variable. I also reversed the consequences and tested whether the alternative leadership measure could explain

additional variance in the variable beyond the effect of PLB. Finally, I used hierarchical regression to analyze the effects of PLB on employee outcomes.

Primary Study 1

The purpose of this primary study is three-folded. The first purpose is to replicate the predictions about the main effects of PLB on employee performance, using the validated PLB scale in different Chinese contexts. The second one is to test the proposed yet not tested mechanisms (i.e., psychological empowerment, role clarity, and learning orientation) underlying the effects of PLB on employee performance. The third purpose is to advance the paradoxical leader behavior theory by testing supervisory fairness as an alternative mechanism.

I used a multi-source multi-wave survey design, with the leadership constructs assessed at Time 1, mechanisms assessed at Time 2, and outcomes assessed at Time 3. Zhang et al. (2015) used a three-week time lag survey design. To make the results of this study of comparable to their ones, I decided to set the time lag between different waves of surveys to about one month. At Time 1, subordinates were asked to rate their supervisor's leadership behaviors. About one month later, they were asked to complete a survey consisted of psychological measures. One month after Time 2, supervisors were asked to rate their subordinates' performance on work role performance scales and widely used task performance and OCB measures.

Sample and Procedure

This study was conducted in five hospitals in a small northern city in China. I first requested from each hospital the staff list that contains employee name, department, and demographics. I then identified supervisors and nurses for each

department and sent the supervisor-subordinate dyadic list back to the hospitals for confirmation. The final list consisted of 134 supervisors and 1665 nurses: 42 supervisors and 630 nurses from the first hospital, 16 supervisors and 130 nurses from the second hospital, 41 supervisors and 470 nurses from the third hospital, 18 supervisors and 240 nurses from the fourth hospital, and 17 supervisors and 195 nurses from the fifth hospital.

These nurses and nurse supervisors on the list were invited to complete a three-wave online survey: two subordinate surveys and one supervisor survey. The Phase 1 nurse questionnaire mainly consisted of leadership measures, including paradoxical leadership, transformational leadership, transactional leadership, and leader-member exchange. I got 1329 unique responses from nurses, and the response rate was about 79.8%.

About one month later, I invited the nurses to complete the Phase 2 online survey consisted of psychological empowerment, role clarity, learning orientation, and supervisory fairness. To encourage participation, I mailed some small gifts to the nurses and their supervisors before the commence of the Phase 2 data collection. At Phase 2, I got 1229 responses and the response rate was about 73.8%.

One month after the phase 2 data collection, the 134 supervisors were invited to complete a supervisor questionnaire, where they were asked to rate how the nurses they were supervising had performed in the past one month. The supervisor questionnaire consisted of measures of work role performance, task performance, and OCB. Supervisors were told to rate no more than ten nurses in their own caring team, and if there are more than ten nurses in the team, the ones who completed the

Phase 1 and Phase 2 nurse questionnaires will be given higher priority and would be put on the list. If more than ten nurses have participated in the prior surveys, I just randomly selected ten and put them on the list. I mailed the hard-copy name list to the supervisors and asked them to rate the 1065 nurses on the list. The 134 supervisors provided their ratings of 1050 nurses.

The matched sample consisted of 808 subordinates who completed all the two nurse surveys and whose performance was rated by their supervisors. After removing cases that either paradoxical leadership or transformational leadership had no inter-item variance, I got a final sample of 535 subordinates working in 118 teams, which I used in our analysis. About 2.1% of the subordinates completed the high schools, 26.4% held associate bachelor degrees, and 71.4% held bachelor degrees. About 86 percent of them were married and the averaged supervisor-subordinate dyadic tenure was about 6 years.

Measures

All the key variables in this study were conceptualized as latent variables and were measured using multiple items. The same leadership measures as used in the pilot study were used here. All items were in Chinese, and the standard translation-back translation approach (Brislin, Lonner, & Thorndike, 1973) was followed if translations are needed.

Measures—independent variables

Independent variables were paradoxical leader behavior and transformational leadership. The same scales as used in the pilot study were used here. The alpha coefficients for PLB and transformational leadership were .92 and .95, respectively.

Measures—mediators

Psychological empowerment (T2). This variable was measured with a 12-item scale (Spreitzer, 1995). Example items included "The work I do is very important to me", "I am confident about my ability to do my job", "I have significant autonomy in determining how I do my job", "My impact on what happens in my department is large". The alpha coefficient was .92.

Role clarity (T2). This variable was measured with a 6-item scale (Schuler, Aldag, & Brief, 1977; Rizzo et al., 1970). Example items included "I have clear, planned goals and objectives for my job", "I know what my responsibilities are". The alpha coefficient was .94.

State learning orientation (T2). This variable was measured with an 8-item scale (Sujan, Weitz, & Kumar, 1994). Minor revisions were made. Example items included "I am always learning something new from the people I work with", "I give a lot of effort to learn new things for my job here". The alpha coefficient was .76.

Overall supervisory fairness (T2). This variable was measured with three items (Ambrose & Schminke, 2009). An example item was "Overall, I'm treated fairly by my supervisor". The alpha coefficient was .91.

Measures-dependent variables

Dependent variables were proficient behavior, proactive behavior, adaptive behavior, task performance, and OCB, and they were measured at Time 3. The same scales as used in the pilot study were used here. The alpha coefficients for each scale were reported in the correlation table in Chapter 4.

Analytic Strategy

The data were collected from individuals who were nested in teams and hospitals. Therefore, the variance of an individual-level variable has two components: the within-group variance and the between-group variance. Since the theoretical model is at the individual level, the correct strategy to test the theoretical model is to examine the within-group effect of the level-1 predictors on dependent variables via mediators.

Because the traditional three-step (Baron & Kenny, 1986) to test the mediation effect requires that individual responses are independent, it is not appropriate to use this strategy. In this study, I used hierarchical linear modeling (HLM) to analyze the clustered data and test the hypotheses. In specific, I used three-level HLM (HLM3) to test our model here because our data involves three levels, namely, hospital level, team level, and individual level. To allow direct comparison of my results and that of Zhang et al. (2015), I first reported the regression results when not controlling for transformational leadership. I then reported the regression results when transformational leadership was controlled for and made decisions about hypotheses tests based on these results.

Primary Study 2

Sample and Procedure

Data were collected from Amazon Mechanical Turk (https://requester.mturk.com/), another widely used online platform for recruiting research participants. This platform allows researchers to recruit western individual participants easily and at low cost. Many published studies in the psychology and marketing disciplines had sampled MTurk workers.

The design of this study is a three-wave self-report survey, with a time lag of two weeks. Similar as in Study 1, the Phase 1 survey mainly consisted of leadership measures, the Phase 2 of psychological mechanisms, and the Phase 3 of performance measures. To be eligible to participate in our study, Mechanical Turk workers must be American citizens, must have an approval rating of 90% or higher, and must have a supervisor. This was done by using the qualification function in the MTurk system.

The Phase 1 survey was launched with the goal of getting 600 useable responses. To ensure that all participants do have a supervisor at the time of being surveyed, I highlighted this requirement in the description of the online-task (or HIT as called in MTurk), asking them only to take our survey if they do have a supervisor. I also let participants report whether they have a supervisor at the beginning of the survey. If the answer is no, then the participant will be directed to the end of the survey and will be told that he/she will not be paid. My goal was achieved on the next day. The participants completed our Phase 1 online survey in exchange for a $1.4 USD payment.

About two weeks later, I published the Phase 2 survey on MTurk, making it available to only those 600 participants who completed the Phase 1 survey. I sent invitation emails to these MTurk workers using MTurk API, telling them that the Phase 2 survey was available on MTurk and encouraging them to participate in the follow-up survey. To encourage participation, I promised 1.4 US dollars for completing the survey and another 1.4 US dollars to the top 40 participants who gave the most effort and performed the best. Among these 600 participants, 493

participated in the Phase 2 survey, and the response rate of the Phase 2 survey was 82.2%. The Phase 2 data collection lasted for five days.

Two weeks after the Phase 2 survey, I invited these 496 MTurk workers who completed the Phase 2 survey to participate in the Phase 3 survey. To filter out careless responses, I used the following attention check question in the Phase 3 questionnaire: "For this question, please select strongly agree to demonstrate your attention". Among the 393 workers responded, 13 failed to pass the attention check question, resulting in 380 usable responses.

I further removed 70 cases that had no inter-item variance for paradoxical leadership and transformational leadership, resulting in a final sample of 310 matched responses. The mean age of the participants was 40.28 years (SD = 10.27). About 50.3% of these participants were female. 24.8% of participants graduated from high school or equivalent, 54.2% held a university degree, 20.6% held a graduate or post-graduate degree, and the rest 0.3% completed some high school.

Measures

Measures were the same as used in Primary study 1, except for transformational leadership, which was assessed using the 20-item scale developed by Bass and Avolio (1995). An example item was "talks about his/her most important values and beliefs" (1 = never, 5 = always). The alpha coefficients for each scale were reported in the correlation table (Table 31). All data were self-reported.

Analytic Strategy

Hierarchical regressions were used to test the mediation effect. This strategy was justified given that the data for this study were collected from MTurk workers who were independent of each other and thus there was no level issue. In other words, all the variance of any variable resided at the individual level.

I used PROCESS, an SPSS macro developed by Hayes (2013), to assist our analysis. This macro has been used in several recently published scholarly paper (e.g., Ali, Ryan, Lyons, Ehrhart, & Wessel, 2016; Barber, Taylor, Burton, & Bailey, 2017; Jiang, Hu, Hong, Liao, & Liu, 2016). In specific, the model 4 in the macro was used to test our proposed mediation effects, and the four mediators were entered together into the equations. Similar as what I did in Study 1, I reported the regression results when not controlling for transformational leadership for comparison purposes, but I used the regression results when transformational leadership was controlled for as the basis for decision making in hypothesis testing.

CHAPTER 4

RESULTS

The design of three empirical studies is presented in the previous chapter. This chapter reports the results and findings from these three studies. This chapter is also divided into three sections. The first section reports the results of factor analysis and replications of the PLB predictive model, the second section reports the results from a field study in which I tested the hypotheses among a Chinese sample, and the third section reports the results of testing the hypotheses among a US sample.

Results – Pilot Study

Factor Analysis Results

Chinese sample. Table 1 shows the items, factors, factor loadings, and the percentage of variances explained. The EFA yielded five distinct factors that explained 63.4% of the total variance of the data. Items 1-5 had high loadings on the first factor: treating subordinates uniformly while allowing individualization (UI). Items 6-10 had high loadings on the second factor: combining self-centeredness with other-centeredness (SO). Items 11-14 had high loadings on the third factor: maintaining decision control while allowing autonomy (CA). Items 15-18 had high loadings on the fourth factor: enforcing work requirements while allowing flexibility (RF). Items 19-22 had high loadings on the fifth factor: maintaining both distance and closeness (DC). Each of the 22 items had high loading on one of the five factors, and the pattern of the factor loadings was the same as Zhang et al. (2015) reported.

TABLE 1
Factor Analysis Results of the Paradoxical Leader Behavior Scale, Pilot Study (Chinese Sample)

Factors and Items		EFA Loadings					CFA Loading
Treating subordinates uniformly while allowing individualization (UI)							.70
1.	Uses a fair approach to treat all subordinates uniformly, but also treats them as individuals.	**.78**	.15	.11	.01	.08	.72
2.	Puts all subordinates on an equal footing, but considers their individual traits or personalities.	**.84**	.16	.08	.07	.12	.83
3.	Communicates with subordinates uniformly without discrimination, but varies his or her communication styles depending on their individual characteristics or needs.	**.82**	.20	.07	.08	.09	.83
4.	Manages subordinates uniformly, but considers their individualized needs.	**.71**	.21	.01	.14	.19	.69
5.	Assigns equal workloads, but considers individual strengths and capabilities to handle different tasks.	**.60**	.34	.09	.17	.11	.60
Combining self-centeredness with other-centeredness (SO)							.54
6.	Shows a desire to lead, but allows others to share the leadership role.	.20	.04	.05	**.69**	.10	.61
7.	Likes to be the center of attention, but allows others to share the spotlight as well.	.07	.03	.08	**.79**	.04	.60
8.	Insists on getting respect, but also shows respect toward others.	.11	.18	.10	**.72**	.13	.73
9.	Has a high self-opinion, but shows awareness of personal imperfection and the value of other people.	.01	.07	.16	**.72**	.05	.63
10.	Is confident regarding personal ideas and beliefs, but acknowledges that he or she can learn from others.	.25	.31	.06	**.55**	.15	.64
Maintaining decision control while allowing autonomy (CA)							.83
11.	Controls important work issues, but allows subordinates to handle details.	.17	.17	.08	.07	**.74**	.65
12.	Makes final decisions for subordinates, but allows subordinates to control specific work processes.	.17	.21	.09	.07	**.77**	.69
13.	Makes decisions about big issues, but delegates lesser issues to subordinates.	.05	.13	.15	.20	**.74**	.64
14.	Maintains overall control, but gives subordinates appropriate autonomy.	.24	.48	.10	.16	**.52**	.75
Enforcing work requirements while allowing flexibility (RF)							.89
15.	Stresses conformity in task performance, but allows for exceptions.	.23	**.68**	.15	.13	.23	.72
16.	Clarifies work requirements, but does not micromanage work.	.35	**.73**	.07	.05	.22	.81
17.	Is highly demanding regarding work performance, but is not hypercritical.	.31	**.76**	.15	.07	.13	.78
18.	Has high requirements, but allows subordinates to make mistakes.	.11	**.70**	.08	.13	.15	.57
Maintaining both distance and closeness (DC)							.38
19.	Recognizes the distinction between supervisors and subordinates, but does not act superior in the leadership role.	.08	.25	**.73**	.02	.08	.66
20.	Keeps distance from subordinates, but does not remain aloof.	.03	.05	**.83**	.14	.11	.76
21.	Maintains position differences, but upholds subordinates' dignity.	.06	.01	**.83**	.19	.06	.81
22.	Maintains distance from subordinates at work, but is also amiable toward them.	.07	.08	**.85**	.09	.11	.80
% Variance explained		15.4	12.9	12.7	12.1	10.3	

Note: n = 711. The extraction method for EFA is principal component analysis. The rotation method is varimax with Kaiser normalization. The standardized CFA loadings are reported.

As Table 2 shows, the lower order factors had good reliabilities, from .77 to .86. Zhang et al. (2015) reported that the correlation coefficients among lower order factors ranged from .41 to .68 in one sample and from .48 to .57 in another, but the lower order factors were not highly correlated in our sample. Correlation coefficients ranged from .15 to .57 in our sample, tending to refute PLB as a second-order construct.

TABLE 2

Correlations among the PLB Dimensions and Alternative Leadership Measures, Pilot Study (Chinese Sample)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. PLB	3.77	.51	(.88)								
2. PLB -UI	4.09	.65	.68***	(.86)							
3. PLB -SO	3.41	.75	.68***	.28***	(.77)						
4. PLB -CA	3.75	.67	.72***	.43***	.35***	(.78)					
5. PLB -RF	3.98	.67	.75***	.57***	.33***	.57***	(.81)				
6. PLB -DC	3.63	.99	.63***	.15***	.28***	.30***	.28***	(.85)			
7. TAL	3.30	.72	.48***	.41***	.51***	.29***	.34***	.12**	(.73)		
8. TFL	3.90	.72	.68***	.63***	.41***	.49***	.70***	.23***	.49***	(.94)	
9. LMX	3.68	.58	.52***	.48***	.31***	.38***	.50***	.19***	.38***	.61***	(.87)

Note: n = 705 (listwise). Coefficient alpha reliabilities are reported on the main diagonal where appropriate. PLB = paradoxical leader behavior; TAL = transactional leadership; TFL = transformational leadership; LMX = leader-member exchange.

** $p < .01$

*** $p < .001$ (two-tailed)

Table 3 shows the fit of the hypothesized second-order model and several alternative models. The second-order model fit the data well (CFI = .90, TLI = .89, SRMR = .06, RMSEA = .07). The average variance extracted for five factors in the second-order factor model were: AVE_{UI} = .55, AVE_{SO} = .41, AVE_{CA} = .47, AVE_{RF} = .53, AVE_{DC} = .58, where two dimensions did not reach the criterion of .50 but were close. The second-order model was significantly better than the first-order four-factor, three-factor, two-factor, and one-factor models, as evidenced by the

significant changes in chi-square ($\Delta\chi^2$). However, the second-order model was significantly worse than the first-order five-factor model ($\Delta\chi^2[5] = 46.51$, $p < .001$).

TABLE 3

Confirmatory Factor Analysis Results of Paradoxical Leader Behavior Scale, Pilot Study (Chinese Sample)

Model	χ^2	*df*	$\Delta\chi^2$	*CFI*	*TLI*	*SRMR*	*RMSEA*
Second-order factor model	845.14	204		.90	.89	.06	.07
First-order, five-factor model	798.63	199	46.51 (5)***	.91	.89	.06	.07
One-factor model	3075.05	209	2229.91 (5)***	.56	.51	.11	.14
First-order, four-factor model (UI + RF, SO, CA, DC)	1273.94	203	428.80 (1)***	.84	.81	.07	.09
First-order, four-factor model (UI + CA, SO, RF, DC)	1338.82	203	493.68 (1)***	.83	.80	.08	.09
First-order, four-factor model (CA + RF, UI, SO, DC)	1005.13	203	159.99 (1)***	.88	.86	.06	.08
First-order, three-factor model (UI + RF + CA, SO, DC)	1568.34	206	723.20 (2)***	.79	.77	.08	.10
First-order, three-factor model (CA + RF, UI + DC, SO)	2137.13	206	1291.99 (2)***	.70	.67	.11	.12
First-order, three-factor model (CA + DC, UI + RF, SO)	2074.32	206	1229.18 (2)***	.71	.68	.12	.11
First-order, three-factor model (CA + UI, DC + RF, SO)	2323.15	206	1478.01 (2)***	.68	.64	.11	.12
First-order, two-factor model (CA + RF + SO, UI + DC)	2642.54	208	1797.40 (4)***	.63	.59	.12	.13
First-order, two-factor model (CA + RF, UI + DC + SO)	2732.07	208	1886.93 (4)***	.61	.57	.11	.13
First-order, two-factor model (CA + RF + UI, SO + DC)	2299.38	208	1454.24 (4)***	.68	.64	.11	.12

Note: n = 711.

*** $p < .001$ (two-tailed)

TABLE 4

Confirmatory Factor Analysis Results for Scale Validation of Paradoxical Leader Behavior, Pilot Study (Chinese Sample)

Model	χ^2	*df*	$\Delta\chi^2$	*CFI*	*TLI*	*SRMR*	*RMSEA*
Two-factor model: PLB and TAL	612.76	34		.73	.65	.11	.16
One-factor model: PLB and TAL merged	787.84	35	175.08 (1)***	.65	.55	.10	.18
Two-factor model: PLB and TFL	1968.70	118		.79	.76	.08	.15
One-factor model: PLB and TFL merged	2051.41	119	82.71 (1)***	.78	.75	.08	.15
Two-factor model: PLB and LMX	488.20	53		.87	.84	.06	.11
One-factor model: PLB and LMX merged	809.00	54	320.80 (1)***	.78	.73	.08	.14

Note: n = 693. PLB = paradoxical leader behavior; TAL = transactional leadership; TFL = transformational leadership; LMX = leader-member exchange.

*** $p < .001$ (two-tailed)

I also followed Zhang et al. (2015) and used the dimensional scores of PLB and item scores of alternative leadership measures to test the discriminate validity of PLB. As Table 4 shows, the three two-factor models were significantly better than their respective one-factor models, suggesting that PLB was distinct from transactional leadership, transformational leadership, and LMX.

Western sample. In conducting exploratory factor analysis (EFA), I fixed the number of factors to be five and got very similar factor loading as Zhang et al. (2015) originally hypothesized and found. These five factors explained 64.2% of the total variance of the data. For ease of comparison, I reorganized the factor loadings of the items and presented them in Table 5.

As Table 6 shows, all the reliabilities of lower-order factors were above .70, ranging from .71 to .89. The correlation coefficients among lower-order factors ranged from .48 to .73, which tends to support hypothesizing a second-order factor underlying the five lower-order factors. I conducted a series of confirmatory factor analysis to evaluate and compare the fit of the hypothesized second-order model and several representative alternative models.

TABLE 5

Factor Analysis Results of the Paradoxical Leader Behavior Scale, Pilot Study (Western Sample)

Factors and Items		EFA Loadings					CFA Loading
Treating subordinates uniformly while allowing individualization (UI)							.86
1.	Uses a fair approach to treat all subordinates uniformly, but also treats them as individuals.	**.75**	.30	.27	.06	.06	.83
2.	Puts all subordinates on an equal footing, but considers their individual traits or personalities.	**.77**	.24	.19	.14	.01	.81
3.	Communicates with subordinates uniformly without discrimination, but varies his or her communication styles depending on their individual characteristics or needs.	**.76**	.26	.13	.10	.11	.79
4.	Manages subordinates uniformly, but considers their individualized needs.	**.80**	.24	.18	.08	.11	.84
5.	Assigns equal workloads, but considers individual strengths and capabilities to handle different tasks.	**.72**	.09	.18	.15	.15	.71
Combining self-centeredness with other-centeredness (SO)							.97
6.	Shows a desire to lead, but allows others to share the leadership role.	.53	.01	.33	.14	.39	.58
7.	Likes to be the center of attention, but allows others to share the spotlight as well.	.13	.16	.09	.13	.85	.42
8.	Insists on getting respect, but also shows respect toward others.	.39	**.46**	.14	.27	.23	.68
9.	Has a high self-opinion, but shows awareness of personal imperfection and the value of other people.	.43	**.52**	.09	.12	.37	.70
10.	Is confident regarding personal ideas and beliefs, but acknowledges that he or she can learn from others.	.52	**.50**	.23	.17	.12	.78
Maintaining decision control while allowing autonomy (CA)							.75
11.	Controls important work issues, but allows subordinates to handle details.	.12	.30	**.71**	.08	.03	.70
12.	Makes final decisions for subordinates, but allows subordinates to control specific work processes.	.21	.27	**.72**	.05	.04	.74
13.	Makes decisions about big issues, but delegates lesser issues to subordinates.	.17	.05	**.76**	.13	.13	.62
14.	Maintains overall control, but gives subordinates appropriate autonomy.	.34	.22	**.69**	.12	.12	.81
Enforcing work requirements while allowing flexibility (RF)							.97
15.	Stresses conformity in task performance, but allows for exceptions.	.27	.35	.32	.17	.38	.62
16.	Clarifies work requirements, but does not micromanage work.	.38	.29	.34	.33	.27	.57
17.	Is highly demanding regarding work performance, but is not hypercritical.	.13	**.71**	.23	.11	.08	.60
18.	Has high requirements, but allows subordinates to make mistakes.	.27	**.75**	.16	.11	.06	.69
Maintaining both distance and closeness (DC)							.92
19.	Recognizes the distinction between supervisors and subordinates, but does not act superior in the leadership role.	.51	.53	.16	.21	.01	.74
20.	Keeps distance from subordinates, but does not remain aloof.	.10	.11	.05	**.83**	.05	.48
21.	Maintains position differences, but upholds subordinates' dignity.	.42	.40	.19	**.52**	.03	.77
22.	Maintains distance from subordinates at work, but is also amiable toward them.	.12	.14	.17	**.80**	.19	.54
% variance explained		21.7	13.6	12.9	9.5	6.5	

Note: n = 380. The extraction method for EFA is principal component analysis. The rotation method is varimax, with Kaiser normalization. The standardized CFA loadings are reported.

TABLE 6

Correlations among the PLB Dimensions and Alternative Leadership Measures, Pilot Study (Western Sample)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. PLB	3.44	0.68	(.93)								
2. PLB -UI	3.61	0.88	.87***	(.89)							
3. PLB -SO	3.21	0.79	.88***	.73***	(.77)						
4. PLB -CA	3.71	0.77	.75***	.54***	.56***	(.81)					
5. PLB -RF	3.40	0.78	.84***	.64***	.67***	.59***	(.71)				
6. PLB -DC	3.29	0.86	.81***	.59***	.65***	.48***	.64***	(.75)			
7. TAL	3.24	0.85	.48***	.45***	.41***	.31***	.40***	.38***	(.78)		
8. TFL	3.45	0.94	.79***	.72***	.70***	.58***	.67***	.58***	.59***	(.95)	
9. LMX	3.56	0.85	.79***	.76***	.67***	.57***	.67***	.57***	.50***	.82***	(.90)

Note: n = 380 (listwise). Coefficient alpha reliabilities are reported on the main diagonal where appropriate. PLB = paradoxical leader behavior; TAL = transactional leadership; TFL = transformational leadership; LMX = leader-member exchange.

*** $p < .001$ (two-tailed)

TABLE 7

Confirmatory Factor Analysis Results of Paradoxical Leader Behavior Scale, Pilot Study (Western Sample)

Model	χ^2	*df*	$\Delta\chi^2$	*CFI*	*TLI*	*SRMR*	*RMSEA*
Second-order factor model	454.59	204		.94	.93	.05	.06
First-order, five-factor model	440.91	199	13.68 (5) *	.94	.93	.04	.06
One-factor model	836.00	209	381.41 (5) ***	.84	.82	.06	.09
First-order, four-factor model (UI + RF, SO, CA, DC)	564.48	203	109.89 (1) ***	.90	.90	.05	.07
First-order, four-factor model (UI + CA, SO, RF, DC)	706.35	203	251.76 (1) ***	.87	.85	.06	.08
First-order, four-factor model (CA + RF, UI, SO, DC)	550.89	203	96.30 (1) ***	.91	.90	.05	.07
First-order, three-factor model (UI + RF + CA, SO, DC)	768.10	206	313.51 (2) ***	.86	.84	.06	.09
First-order, three-factor model (CA + RF, UI + DC, SO)	671.03	206	216.44 (2) ***	.88	.87	.06	.08
First-order, three-factor model (CA + DC, UI + RF, SO)	731.22	206	276.63 (2) ***	.87	.85	.06	.08
First-order, three-factor model (CA + UI, DC + RF, SO)	714.98	206	260.39 (2) ***	.87	.86	.06	.08
First-order, two-factor model (CA + RF + SO, UI + DC)	742.25	208	287.66 (4) ***	.86	.85	.06	.08
First-order, two-factor model (CA + RF, UI + DC + SO)	708.28	208	253.69 (4) ***	.87	.86	.06	.08
First-order, two-factor model (CA + RF + UI, SO + DC)	787.41	208	332.82 (4) ***	.85	.84	.06	.09

Note: n = 380.

* $p < .05$

*** $p < .001$(two-tailed)

As Table 7 shows, the second-order model fit the data well (CFI = .94, TLI = .93, SRMR = .05, RMSEA = .06) and was significantly better than all alternative models except the first-order five-factor model. Similar to the results from the Chinese sample, the second-order model was significantly worse than the first-order five-factor model ($\Delta\chi^2[5] = 13.68$, $p < .05$). In addition, the average variances extracted for five factors in the second-order factor model were not large ($AVE_{UI} = .64$, $AVE_{SO} = .41$, $AVE_{CA} = .52$, $AVE_{RF} = .39$, $AVE_{DC} = .42$): three dimensions failed to reach the criterion of .50.

TABLE 8
Confirmatory Factor Analysis Results for Scale Validation of Paradoxical Leader Behavior, Pilot Study (Western Sample)

Model	χ^2	*df*	$\Delta\chi^2$	*CFI*	*TLI*	*SRMR*	*RMSEA*
Two-factor model: PLB and TAL	103.83	34		.96	.95	.06	.08
One-factor model: PLB and TAL merged	456.26	35	352.43 (1)***	.76	.69	.10	.18
Two-factor model: PLB and TFL	692.69	118		.88	.87	.05	.12
One-factor model: PLB and TFL merged	874.60	119	181.91 (1)***	.85	.82	.06	.13
Two-factor model: PLB and LMX	132.09	53		.97	.96	.03	.06
One-factor model: PLB and LMX merged	229.12	54	97.03 (1)***	.94	.92	.04	.09

Note: n = 365.
PLB = paradoxical leader behavior; TAL = transactional leadership; TFL = transformational leadership; LMX = leader-member exchange.
*** $p < .001$(two-tailed)

The high correlations between PLB and alternative leadership measures prompted me to examine whether PLB, as measured, can be differentiated from alternative leadership measures such as transformational leadership, transactional leadership, and leader-member exchange. As Table 8 shows, the three two-factor models were significantly better than their respective one-factor models. PLB was

distinct from transactional leadership, but it was not easily differentiated from transformational leadership and LMX.

Tests of Measurement Invariance

I used the hypothesized second-order factor models as baseline models (see Figure 2 and 3) and combined them into a multigroup model to establish a configural CFA model (Model 1). In the configural model, I specified the same number of factors and the same pattern of fixed factor loadings. Table 9 shows the results of the configural model. The χ^2 statistic was 1259.607 (df = 408), $p < .001$. RMSEA was .062, which is less than .08 suggested by Browne and Cudeck (1993). The 90% C.I. of RMSEA was (.058, .066). The CFI was .917, greater than .90. The SRMR was .057, less than .08. Thus the configural model fit the data very well, and the configural invariant was established.

In Model 2, all first-order factor loadings were constrained to be equal across groups. Table 9 shows the results of Model 2. RMSEA was .064, CFI was .908, SRMR was .068. As Model 2 was nested within Model 1, I computed the change in CFI (ΔCFI) between Models 1 and 2 and used the criterion of 0.01 suggested by Cheung and Rensvold (2002) to evaluate invariance across groups. Here, ΔCFI = .917 - .908 = .009, smaller than .01. These results indicated that the first-order factor loadings were invariant across the Chinese and Western groups.

FIGURE 2

Results of Second-Order Factor Model: Unstandardized Solution, Pilot Study (Chinese Group)

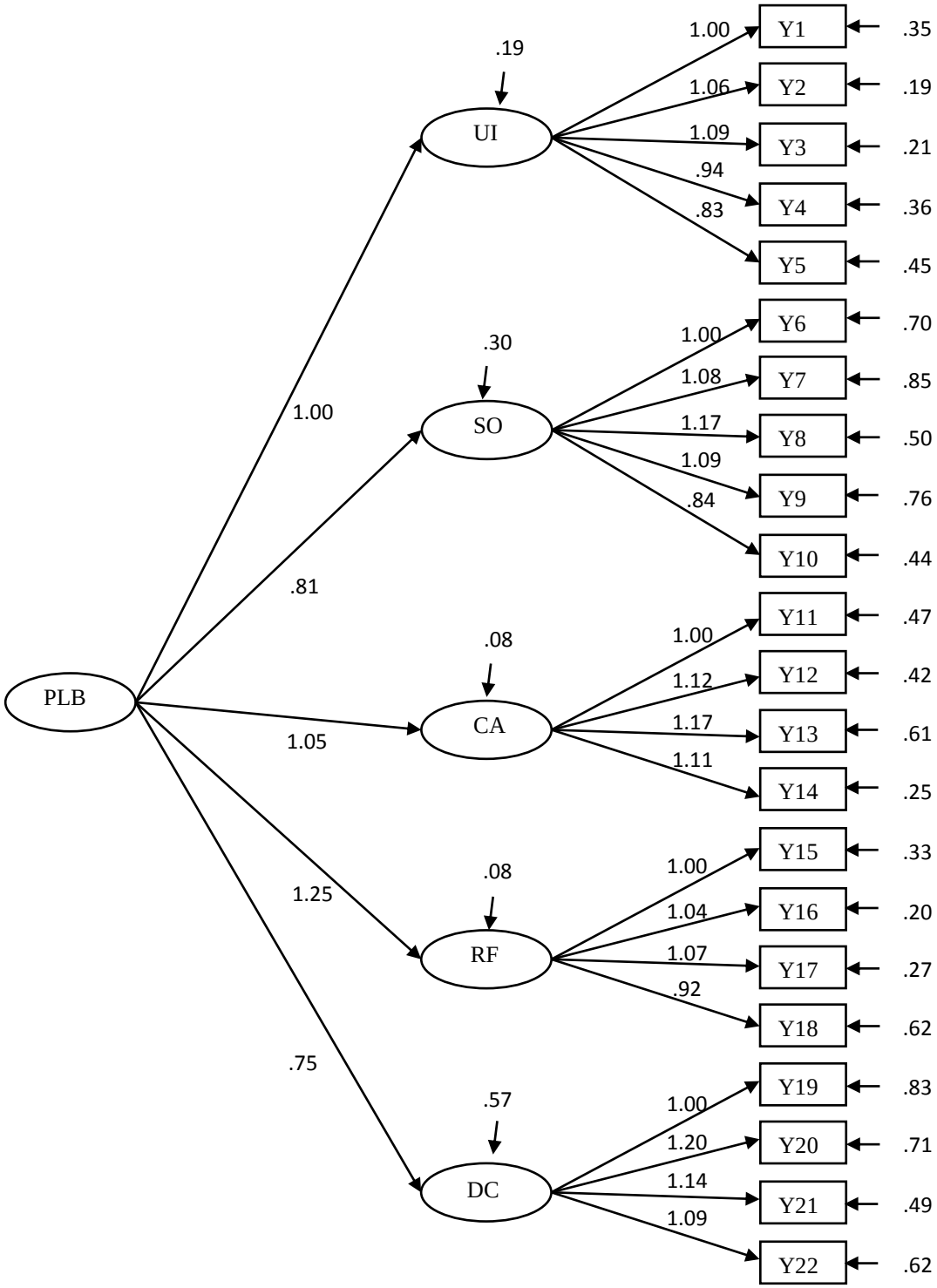


FIGURE 3

Results of Second-Order Factor Model: Unstandardized Solution, Pilot Study (Western Group)

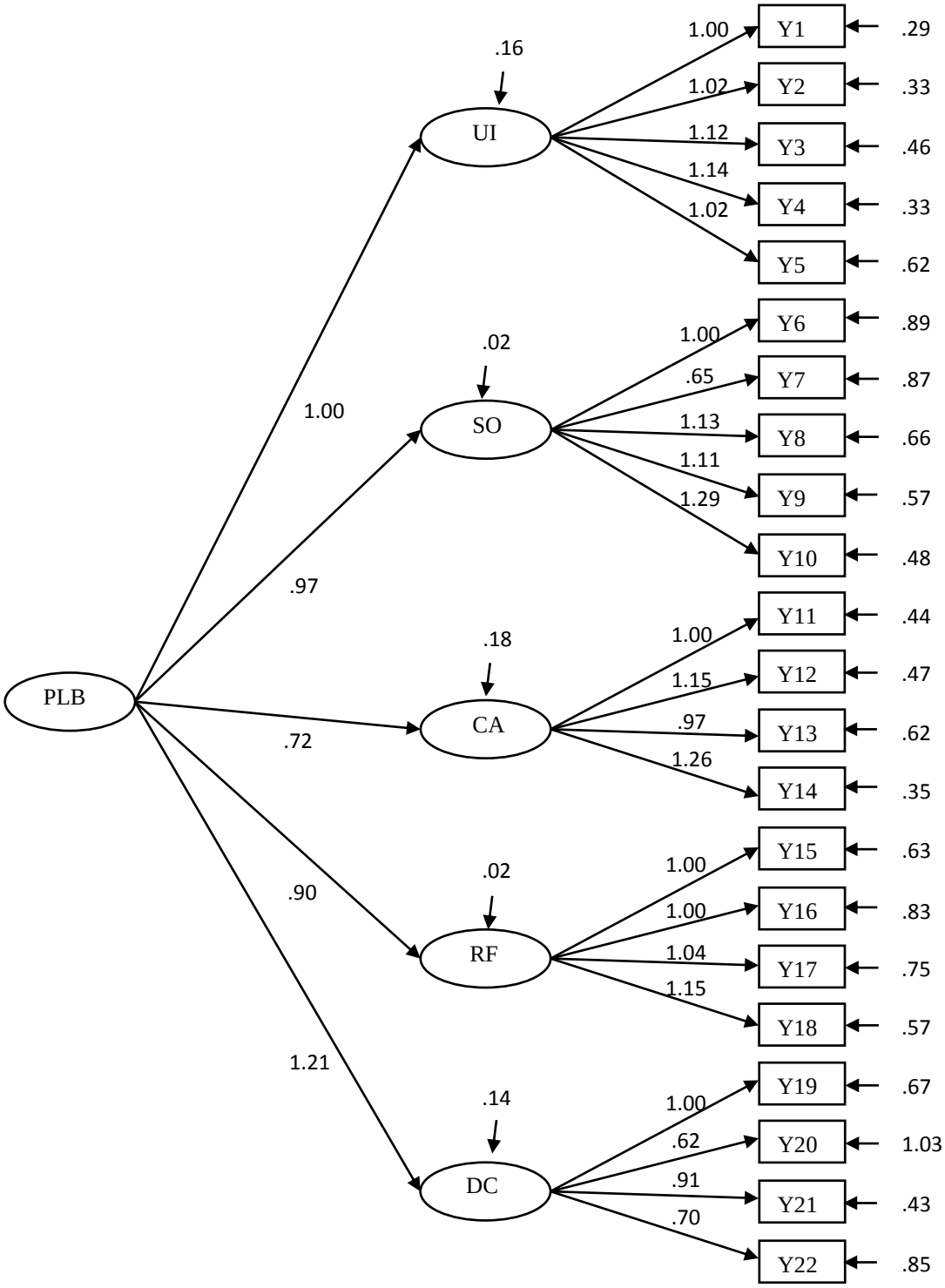


TABLE 9
Summary of Fit Statistics for Testing Measurement Invariance of Second-Order Factor Model of Paradoxical Leader Behavior, Pilot Study

Model	χ^2	*df*	*RMSEA*	90 Percent C.I.	*CFI*	*TLI*	*SRMR*	$\Delta\chi^2$	Δdf
Model 1: configural invariance	1259.61	408	0.062	(0.058, 0.066)	0.917	0.906	0.057		
Model 2: first-order factor loadings invariant	1368.45	425	0.064	(0.060, 0.068)	0.908	0.900	0.068	108.84***	17
Model 3: first- and second-order factor loadings invariant	1417.39	429	0.065	(0.061, 0.069)	0.904	0.897	0.079	48.94***	4
Model 4: first and second-order factor loadings and intercepts of measured variables invariant	1660.10	446	0.071	(0.067, 0.074)	0.882	0.878	0.086	242.71***	17
Model 5: first- and second-order factor loadings, and intercepts of measured variables and first-order factors invariant	1853.19	451	0.075	(0.072, 0.079)	0.864	0.860	0.098	193.09***	5

Note: $n_1 = 711$, $n_2 = 380$.
*** $p < .001$ (two-tailed)

In Model 3, all first- and second-order factor loadings were constrained to be equal across groups. As Table 9 shows, RMSEA was .065, CFI was .904, SRMR was .079. ΔCFI = .908 - .904 = .004, much smaller than .01. The results indicated that the first- and second-order factor loadings were invariant across the Chinese and Western groups, which means that we can meaningfully compare regression coefficients across the two groups.

In Model 4, all first- and second-order factor loadings and item intercepts were constrained to be equal across groups. As Table 9 shows, RMSEA was .071. CFI was .882, not larger than .90. SRMR was .086, not less than .08. ΔCFI = .904 - .882 = .022, not less than .01. The poor fit indicated that item intercepts were not invariant across groups. Thus, we can make no meaningful comparison of factor means across groups.

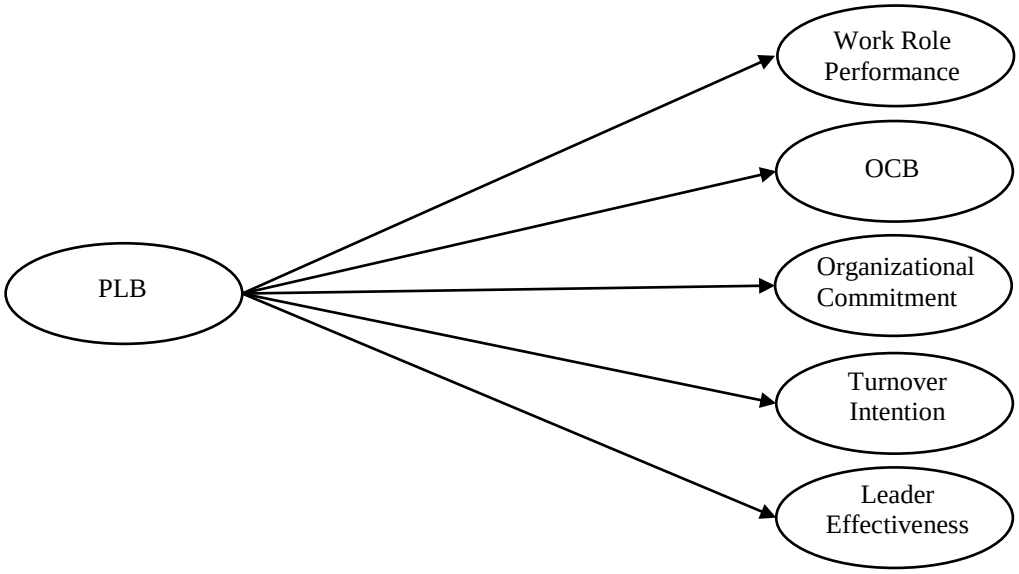
In Model 5, the first- and second-order factor loadings, and intercepts of items and first-order factors were constrained to be equal across groups. Because Model 5 was nested within Model 4, unsurprisingly, Model 5 did not fit the data well (RMSEA = .075, CFI = .864, SRMR = .098, ΔCFI = .018). Given the poor fit of Model 4 and 5, we can safely conclude that the strong measurement variance was rejected and that PLB means measured by these scales are not comparable across Chinese and Western cultures.

Replicating the PLB Predictive Models

Chinese sample. I included all the outcome variables used in Zhang et al. (2015) as criterion variables to examine whether PLB can explain employee outcomes (see Figure 4 for the PLB predictive model). As Table 10 shows, PLB was

significantly correlated with self-reported organizational commitment, turnover intentions, OCB, leader effectiveness, adaptive behavior, and proactive behavior at T2, but not task performance at T2.

FIGURE 4
The Paradoxical Leadership Behavior Predictive Model



Before testing the predictive model, I also followed Zhang et al. (2015) and conducted the usefulness analysis of the PLB scale. As the participants were nested in teaching teams in our sample, I used HLM2 to conduct the two-step usefulness analysis. At Step 1, an alternative leadership scale was entered as the predictor of a criterion variable. At Step 2, PLB was entered to see if PLB can explain additional variance in the criterion variable. Then, I reversed the consequences of entering the alternative measure and PLB scale to test whether the alternative leadership measure could explain additional variance in the variable beyond the effect of PLB.

TABLE 10
Correlations and Descriptive Statistics for All Variables, Pilot Study (Chinese Sample)

	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Age	36.69	7.96																	
2.	Gender	.61	.49	-.45**																
3.	Tenure	4.91	4.36	.43**	-.20**															
4.	Power distance	2.24	.62	.13**	-.20**	.07	(.85)													
5.	Relational orientation	5.75	.69	.22**	-.11*	.11*	-.07	(.87)												
6.	PLB	3.77	.51	-.11*	.11*	-.03	-.16**	.20**	(.87)											
7.	Transactional leadership	3.29	.72	.11*	-.07	.08	-.02	.19**	.48**	(.73)										
8.	Transformational leadership	3.91	.73	-.03	.09*	-.04	-.06	.17**	.67**	.49**	(.94)									
9.	LMX	3.69	.60	.17**	-.11*	.09	-.09	.19**	.48**	.37**	.60**	(.88)								
10.	Organizational commitment	5.81	.94	.30**	-.06	.15**	-.05	.53**	.13**	.18**	.27**	.29**	(.95)							
11.	Turnover intention	2.25	1.13	-.06	-.16**	.04	.31**	-.16**	-.14**	.05	-.17**	-.09*	-.40**	(.84)						
12.	Task performance	4.10	.56	.38**	-.23**	.20**	.09*	.31**	.08	.20**	.19**	.27**	.43**	-.02	(.87)					
13.	OCB	3.69	.63	.31**	-.16**	.17**	-.02	.40**	.15**	.22**	.23**	.34**	.48**	-.02	.49**	(.87)				
14.	Leader effectiveness	5.54	.77	.00	.08	-.03	-.12**	.27**	.28**	.12**	.40**	.28**	.32**	-.28**	.14**	.16**	(.67)			
15.	Proficient behavior	4.16	.54	.23**	-.06	.03	-.12*	.28**	.18**	.10*	.18**	.18**	.35**	-.18**	.43**	.47**	.22**	(.84)		
16.	Proactive behavior	3.88	.63	.17**	-.06	.09	-.11*	.43**	.23**	.17**	.29**	.30**	.43**	-.09	.44**	.57**	.22**	.47**	(.90)	
17.	Adaptive behavior	4.07	.55	.16**	-.05	.07	-.16**	.42**	.25**	.17**	.23**	.25**	.45**	-.19**	.47**	.51**	.26**	.54**	.65**	(.87)

Note: n = 466 (listwise). For gender, "0" = male, "1" = female. Coefficient alpha reliabilities are reported on the main diagonal where appropriate.

* $p < .05$

** $p < .01$ (two-tailed)

TABLE 11

Usefulness Analysis of Paradoxical Leader Behavior Compared to Alternative Leadership Measures, Pilot Study (Chinese Sample)

		Organizational Commitment	Leave Intention	Task Performance	OCB	Leader Effectiveness	Proficient Behavior	Adaptive Behavior	Proactive Behavior
1.	Transformational leadership	.37***	-.19*	.16***	.26***	.33***	.11**	.14**	.23***
2.	PLB	-.03	-.14	-.07	.10	.13	.16*	.23**	.15
1.	PLB	.33**	-.25*	.11	.29***	.37***	.19**	.26***	.30***
2.	Transformational leadership	.38***	-.12	.20**	.21**	.27***	.04	.03	.16**
1.	Leader-member exchange	.46***	-.19	.26***	.36***	.31***	.17***	.22***	.31***
2.	PLB	.06	-.23	-.07	.09	.24**	.12	.18**	.15*
1.	PLB	.33**	-.25*	.11	.29***	.37***	.19**	.26***	.30***
2.	Leader-member exchange	.44***	-.09	.29***	.32***	.21**	.12*	.14**	.24***
1.	Transactional leadership	.20**	.06	.15***	.18***	.13*	.06	.10*	.11*
2.	PLB	.25*	-.38**	.00	.21**	.37***	.19**	.25***	.30***
1.	PLB	.33**	-.25*	.11	.29***	.37***	.19**	.26***	.30***
2.	Transactional leadership	.11	.19*	.15**	.11*	.00	.00	.01	.01

Note: n = 502. Table entries are multiple correlations (multiple *R*). Numbers in second step are change in multiple correlations (ΔR).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 12
Regression Results Predicting Consequences of Paradoxical Leader Behavior, Pilot Study (Chinese Sample)

	Organizational Commitment	Leave Intention	Task Performance	OCB	Leader Effectiveness	Proficient Behavior	Adaptive Behavior	Proactive Behavior
Step 1: Control variables								
Age	.02**	-.03**	.02***	.01	.00	.01*	.00	.00
Gender	.23	-.37***	-.14**	-.09	.15*	-.03	-.02	-.04
Dyadic tenure	-.01	.04*	.00	.01	-.01	-.01	.00	.00
Power distance	-.01	.53***	.06	-.02	-.11*	-.13**	-.13**	-.12*
Relational orientation	.70***	-.23**	.24***	.33***	.31***	.16***	.31***	.38***
R^2 in step 1	.21	.13	.14	.14	.05	.06	.13	.16
Step 2: Independent variable								
PLB	.18*	-.10	.09	.24***	.25**	.15**	.19**	.21**
R^2 in step 2	.22	.13	.14	.16	.06	.07	.14	.18

Note: n = 502. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 13
Regression Results Predicting Consequences of Paradoxical Leader Behavior with Alternative Leadership Measures Controlled, Pilot Study (Chinese Sample)

	Organizational Commitment	Leave Intention	Task Performance	OCB	Leader Effectiveness	Proficient Behavior	Adaptive Behavior	Proactive Behavior
Step 1: Control variables								
Age	.02**	-.03**	.02**	.01	.00	.01*	.00	.00
Gender	.08	-.35**	-.13*	-.10	.12	-.03	-.03	-.05
Dyadic tenure	.00	.04*	.01	.02	.00	.00	.00	.00
Power distance	.01	.51***	.08	-.03	-.11*	-.13**	-.13**	-.11*
Relational orientation	.64***	-.21*	.19***	.27***	.26***	.13**	.28***	.34***
Transactional leadership	-.05	.23*	.05	.05	-.03	.01	.04	-.03
Transformational leadership	.24**	.26*	.07	.11	.23**	.05	.01	.12
LMX	.14	.01	.11*	.16*	.08	.06	.11	.15*
R^2 in step 1	.24	.13	.19	.21	.07	.08	.15	.19
Step 2: Independent variable								
PLB	-.16	-.11	-.12	-.01	.01	.13	.16*	.08
R^2 in step 2	.24	.13	.19	.21	.07	.08	.16	.19

Note: n = 502. Standardized Coefficients are reported here. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

Table 11 shows a summary of the usefulness analysis results. The results suggested that PLB could explain additional variance in most criterion variables, namely, organizational commitment, turnover intention, OCB, leader effectiveness, proficient behavior, proactive behavior, and adaptive behavior, beyond transactional leadership; however, PLB could not explain additional variance beyond the effects of transformational leadership or leader-member exchange in terms of most criterion variables.

I tested the PLB predictive model using HLM2. In the first step, control variables, namely, age, gender, leader-member dyadic tenure, power distance at T2, and relational orientation at T2 were entered to predict criterion variable at Level 1. In the next step, PLB was entered. Table 12 summarizes the regression results. As Table 12 shows, PLB related significantly and positively to organizational commitment (β = .18, p < .01), OCB (β = .24, p < .001), leader effectiveness (β = .25, p < .01), proficient behavior (β = .15, p < .01), proactive behavior (β = .21, p < .01), and adaptive behavior (β = .19, p < .01), but not task performance and turnover intention. However, when I also included transactional leadership, transformational leadership, and LMX as control variables, PLB failed to predict outcome variables, except for adaptive behavior (see Table 13).

Western sample. As Table 14 shows, PLB was significantly correlated with organizational commitment, turnover intentions, task performance, leader effectiveness, adaptive behavior, and proactive behavior. PLB did not correlate with OCB or proficient behavior, however.

TABLE 14
Correlations and Descriptive Statistics for All Variables, Pilot Study (Western Sample)

	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Age	32.33	10.55																	
2.	Gender	0.43	0.50	.12*																
3.	Tenure	2.94	6.89	.06	.08															
4.	Power distance	2.35	0.56	.01	.01	.01	(.65)													
5.	Relational orientation	5.01	0.96	.05	.08	.01	-.13*	(.87)												
6.	PLB	3.42	0.67	.07	.00	.05	.09	.16**	(.93)											
7.	Transactional leadership	3.16	0.85	.04	.20	.07	.14*	.05	.48***	(.78)										
8.	Transformational leadership	3.41	0.93	.08	.04	.13*	.02	.18**	.78***	.58***	(.95)									
9.	LMX	3.52	0.83	.11	.07	.17**	.02	.13*	.76***	.50***	.81***	(.90)								
10.	Organizational commitment	4.03	1.54	.03	.04	.03	.06	.25***	.34***	.15**	.39***	.40***	(.93)							
11.	Turnover intention	4.20	1.73	.01	.07	.09	.10	-.13*	-.28***	-.16**	-.29***	-.36***	-.76***	(.92)						
12.	Task performance	81.00	11.36	.03	.11	.01	-.13*	.22***	.17**	.22***	.19***	.18**	.16**	.07	(.78)					
13.	OCB	3.40	0.81	.18**	.02	.02	.00	.16**	.06	.12*	.11	.01	.18**	.01	.38***	(.86)				
14.	Leader effectiveness	4.79	1.59	-.13*	.03	.01	.02	.17**	.54***	.33***	.57***	.63***	.47***	-.39***	.14*	.04	(.93)			
15.	Proficient behavior	4.43	0.53	.09	.10	.06	-.20***	.10	.11	.04	.10	.11	.04	.08	.55***	.29***	.02	(.81)		
16.	Adaptive behavior	3.61	0.79	.03	.11	.02	.05	.12*	.15*	.13*	.14*	.13*	.21***	-.20***	.49***	.24***	.11	.30***	(.78)	
17.	Proactive behavior	3.12	0.94	.01	.01	.08	.06	.20***	.13*	.12*	.13*	.06	.18**	.02	.27***	.55***	.01	.20***	.29***	(.91)

Note: n = 293 (listwise). For gender, "0" = male, "1" = female. Coefficient alpha reliabilities are reported on the main diagonal where appropriate.
* $p < .05$
** $p < .01$
*** $p < .001$ (two-tailed)

TABLE 15
Usefulness Analysis of Paradoxical Leader Behavior Compared to Alternative Leadership Measures, Pilot Study (Western Sample)

		Organizational Commitment	Leave Intention	Task Performance	OCB	Leader Effectiveness	Proficient Behavior	Adaptive Behavior	Proactive Behavior
1.	Transformational leadership	.392***	.294***	.195***	.118*	.570***	.104	.134*	.139*
2.	PLB	.004	.011	.003	.006	.018*	.017	.014	.008
1.	PLB	.330***	.272***	.165**	.065	.538***	.129*	.142*	.134*
2.	Transformational leadership	.054***	.023*	.025	.053	.054***	.001	.003	.008
1.	Leader-member exchange	.392***	.360***	.171**	.000	.628***	.124*	.124*	.061
2.	PLB	.002	.000	.008	.102	.006	.011	.020	.088*
1.	PLB	.330***	.272***	.165**	.065	.538***	.129*	.142*	.134*
2.	Leader-member exchange	.064***	.088***	.014	.037	.096***	.006	.002	.015
1.	Transactional leadership	.105**	.157**	.217***	.118*	.337***	.057	.122*	.118*
2.	PLB	.180***	.116***	.011	.000	.209***	.072*	.033	.029
1.	PLB	.330***	.272***	.165**	.065	.538***	.129*	.142*	.134*
2.	Transactional leadership	.000	.001	.063**	.053	.008	.000	.013	.013

Note: n = 293. Table entries are multiple correlations (multiple *R*). Numbers in second step are change in multiple correlations (ΔR).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 16
Regression Results Predicting Consequences of Paradoxical Leader Behavior, Pilot Study (Western Sample)

	Organizational Commitment	Leave Intention	Task Performance	OCB	Leader Effectiveness	Proficient Behavior	Adaptive Behavior	Proactive Behavior
Step 1: Control variables								
Age	-.022	-.021	-.038	.188**	-.111	.082	-.040	.025
Gender	.029	.072	.107	-.009	-.040	.079	.106	-.013
Dyadic tenure	.029	-.075	.002	.007	-.005	.065	-.006	-.087
Power distance	.087	-.119*	-.105	.025	.042	-.192**	-.034	.089
Relational orientation	.255***	-.148*	.193**	.170**	.174**	.073	.109	.213***
ΔR^2	.071**	.042*	.069**	.060**	.046*	.065**	.028	.055**
Step 2: Independent variable								
PLB	.299***	-.257***	.128*	.042	.530***	.098	.124*	.112
ΔR^2	.086***	.064***	.016*	.002	.271***	.009	.015*	.012
Overall R^2	.157	.106	.085	.062	.317	.074	.043	.067

Note: n = 293.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 17

Regression Results Predicting Consequences of Paradoxical Leader Behavior with Alternative Leadership Measures Controlled, Pilot Study (Western Sample)

	Organizational Commitment	Leave Intention	Task Performance	OCB	Leader Effectiveness	Proficient Behavior	Adaptive Behavior	Proactive Behavior
Step 1: Control variables								
Age	.025	-.064	-.028	.184***	-.050	.089	-.032	.029
Gender	.020	.072	.152**	-.002	-.004	.100	.133*	-.007
Dyadic tenure	-.039	-.012	-.017	.017	-.114*	.048	-.023	-.091
Power distance	.108*	-.132*	-.141*	.010	.049	-.199***	-.053	.080
Relational orientation	.194***	-.104	.170**	.152**	.083	.061	.090	.192***
Transactional leadership	-.124*	.072	.248***	.097	-.027	.050	.126	.057
Transformational leadership	.206	.008	-.030	.260*	.170*	-.021	.006	.183
LMX	.280**	-.393***	.065	-.270**	.507***	.098	.058	-.126
ΔR^2	.225***	.163***	.134***	.099***	.429***	.078**	.054*	.074**
Step 2: Independent variable								
PLB	.015	-.044	-.035	.015	.077	.022	.048	.128
ΔR^2	.000	.001	.000	.000	.002	.000	.001	.005
Overall R^2	.225	.164	.134	.099	.431	.078	.055	.079

Note: n = 293. Standardized Coefficients are reported here.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

Table 15 shows a summary of the usefulness analysis results. Usefulness analysis results suggested that PLB could not explain additional variance beyond the effects of transformational leadership or leader-member exchange, but it could explain additional variance in most criterion variables, namely, organizational commitment, turnover intention, leader effectiveness, and proficient behavior, beyond transactional leadership. These findings were different from Zhang et al.'s (2015) where PLB was found to explain small additional variance in organizational commitment, turnover intention, task performance, OCB, and leader effectiveness. The high correlation between PLB and transformational leadership (r = .78, p < .001) and LMX (r = .76, p < .001) may at least partly account for our findings. I used hierarchical regression to test our model. In the first step, I entered control variables: age, gender, leader-member dyadic tenure, power distance, and relational orientation. In the next step, I entered PLB. Table 16 summarizes regression results.

As Table 16 shows, PLB related significantly and positively to organizational commitment (β = .299, p < .001), task performance (β = .128, p < .05), leader effectiveness (β = .530, p < .001), adaptive behavior (β = .124, p < .05), and related significantly and negatively to turnover intentions (β = .257, p < .001). However, when I also included transactional leadership, transformational leadership, and LMX as control variables, PLB failed to predict outcome variables (see Table 17).

Results – Primary Study 1

This section reports the results from Primary Study 1 (n =535), the Chinese sample. I first reported the descriptive information of the variables. I then showed

the correlations among all the study variables. Finally, I provided details of the regression results about the mediation effects.

Descriptive Information

Table 18 reports the descriptive information. As the table shows, the mean scores of variables were a little above the middle point of the measurement scale and the standard error was modest.

Correlations among Study Variables

The Pearson's bivariate correlation coefficients among all study variables are reported in Table 18. As shown in the table, paradoxical leadership correlated positively with all the mediators and four out of five performance indicators. Transformational leadership, however, was not correlated with most performance variables. This may provide some initial support to the assertion that paradoxical leadership has incremental validity above and beyond transformational leadership.

TABLE 18
Descriptive Statistics, Reliability, and Correlations, Study 1

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	33.21	6.48														
2. Education	3.70	.51	.14**													
3. Work tenure under the current supervisor	5.96	4.14	.47**	.36**												
4. Transformational leadership (T1)	3.61	.85	-.13**	-.03	-.03	(.95)										
5. Paradoxical leadership (T1)	3.39	.63	-.11*	.05	.00	.77**	(.92)									
6. Psychological empowerment (T2)	5.03	.82	.07	.05	.08	.25**	.18**	(.92)								
7. Role clarity (T2)	5.57	.86	.12**	.06	.12**	.23**	.14**	.71**	(.94)							
8. State learning orientation (T2)	5.28	.74	.04	.00	.05	.24**	.16**	.51**	.58**	(.76)						
9. Overall supervisory fairness (T2)	5.26	1.16	-.02	-.01	.04	.52**	.49**	.48**	.49**	.47**	(.91)					
10. Leader-rated proficient behavior (T3)	4.15	.69	.09*	.09*	.13**	.03	.08	.00	.00	.05	.09*	(.96)				
11. Leader-rated proactive behavior (T3)	3.86	.80	.03	.09*	.07	.04	.11*	.03	.03	.05	.16**	.74**	(.95)			
12. Leader-rated adaptive behavior (T3)	4.01	.72	.03	.08	.08	.05	.13**	.01	.00	.07	.14**	.82**	.84**	(.92)		
13. Leader-rated task performance (T3)	4.09	.72	.09*	.06	.11**	.07	.12**	.03	.01	.05	.17**	.80**	.78**	.85**	(.94)	
14. Leader-rated OCB (T3)	3.82	.78	.04	.05	.06	.13**	.16**	.02	.00	.02	.19**	.69**	.78**	.74**	.74**	(.93)

Note: n = 526-535. Coefficient alpha reliabilities are reported on the main diagonal where appropriate.

* $p < .05$

** $p < .01$ (two-tailed)

Paradoxical leadership and transformational leadership were correlated at .77, meaning that these two variables shared more than 50 percent of the total variance. The high correlations among the five leader-rated performance variables are expected. As performance variables are the dependent variables in our model, high correlations among performance variables are not a big concern.

Main Effects

Table 19 through Table 23 report the unstandardized regression coefficients. Although the main effects were not hypothesized, paradoxical leadership was found to relate positively to supervisor ratings of employee behaviors, including proficient behavior (β = .17, p < .01), proactive behavior (β = .20, p < .001), adaptive behavior (β = .21, p < .001), task performance (β = .21, p < .001), and OCB (β = .27, p < .001).

Mediation Results

As shown in Model 2 in Table 19, the first components of the indirect effects were all significant. PLB related positively to psychological empowerment (β = .24, p < .01), role clarity (β = .22, p < .01), learning orientation (β = .19, p < .01), and supervisory fairness (β = .91, p < .001). Model 3 in Table 19 through 23 reports the second component of the indirect effects. As shown in these tables, psychological empowerment, role clarity, and learning orientation were not related to any outcome variables. Supervisory fairness was positively related to subordinate proactive behavior (β = .09, p < .05), adaptive behavior (β = .08, p < .05), task performance (β = .11, p < .01) and OCB (β = .14, p < .001), but not proficient behavior.

TABLE 19
Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Proficient Behavior

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proficient Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.00	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00
Education	.02	.02	.03	.03	-.10	-.10	-.02	-.02	.22**	.22**	.22**
Dyadic tenure	.01	.01	.03	.02	.01	.01	.03	.02	.03**	.03**	.03**
Independent variables											
PLB		.24**		.22**		.19**		.91***		.17**	.14*
Psychological empowerment											.02
Role clarity											-.01
Learning orientation											.01
Supervisor fairness											.03
R^2	.00	.02	.02	.04	.02	.03	.00	.15	.04	.05	.05

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$ (two-tailed)

TABLE 20
Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Proactive Behavior

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proactive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.00	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00
Education	.02	.02	.03	.03	-.10	-.10	-.02	-.02	.29***	.29***	.29***
Dyadic tenure	.01	.01	.03	.02	.01	.01	.03	.02	.03**	.03**	.03*
Independent variables											
PLB		.24**		.22**		.19**		.91***		.20***	.12*
Psychological empowerment											-.01
Role clarity											.03
Learning orientation											-.03
Supervisor fairness											.09*
R^2	.00	.02	.02	.04	.02	.03	.00	.15	.03	.04	.05

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 21
Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Adaptive Behavior

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Adaptive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.00	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00
Education	.02	.02	.03	.03	-.10	-.10	-.02	-.02	.23**	.23**	.24**
Dyadic tenure	.01	.01	.03	.02	.01	.01	.03	.02	.03**	.03**	.03**
Independent variables											
PLB		.24**		.22**		.19**		.91***		.21***	.15*
Psychological empowerment											.00
Role clarity											-.04
Learning orientation											.01
Supervisor fairness											.08*
R^2	.00	.02	.02	.04	.02	.03	.00	.15	.03	.05	.06

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 22
Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Task Performance

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Task Performance		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.00	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00
Education	.02	.02	.03	.03	-.10	-.10	-.02	-.02	.23**	.23**	.23**
Dyadic tenure	.01	.01	.03	.02	.01	.01	.03	.02	.04***	.04***	.04**
Independent variables											
PLB		.24**		.22**		.19**		.91***		.21***	.13*
Psychological empowerment											-.02
Role clarity											-.05
Learning orientation											-.02
Supervisor fairness											.11**
R^2	.00	.02	.02	.04	.02	.03	.00	.15	.04	.07	.08

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 23
Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on OCB

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		OCB		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.00	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00
Education	.02	.02	.03	.03	-.10	-.10	-.02	-.02	.22**	.23**	.22**
Dyadic tenure	.01	.01	.03	.02	.01	.01	.03	.02	.03**	.03**	.03**
Independent variables											
PLB		.24**		.22**		.19**		.91***		.27***	.16**
Psychological empowerment											.03
Role clarity											-.06
Learning orientation											-.07
Supervisor fairness											.14***
R^2	.00	.02	.02	.04	.02	.03	.00	.15	.02	.05	.07

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 24
Summary of Indirect Effects of PLB on Performance Behaviors, Study 1

Outcomes	Mediators	Decomposed Effects				Indirect Effects		
		a (SE)	*b (SE)*	*C (SE)*	*C' (SE)*	*Boot ab (SE)*	*Lower*	*Upper*
Proficient behavior	Psychological empowerment	.24 (.07)**	.02 (.05)	.17 (.05)**	.14 (.05)*	.01 (.01)	-.02	.03
	Role clarity	.22 (.07)**	-.01 (.05)	.17 (.05)**	.14 (.05)*	.00 (.01)	-.03	.02
	Learning orientation	.19 (.06)**	.01 (.05)	.17 (.05)**	.14 (.05)*	.00 (.01)	-.02	.02
	Supervisor fairness	.91 (.08)***	.03 (.03)	.17 (.05)**	.14 (.05)*	.03 (.03)	-.03	.08
Proactive behavior	Psychological empowerment	.24 (.07)**	-.01 (.05)	.20 (.05)***	.12 (.06)*	.00 (.01)	-.03	.02
	Role clarity	.22 (.07)**	.03 (.06)	.20 (.05)***	.12 (.06)*	.01 (.01)	-.02	.04
	Learning orientation	.19 (.06)**	-.03 (.05)	.20 (.05)***	.12 (.06)*	.00 (.01)	-.03	.01
	Supervisor fairness	.91 (.08)***	.09 (.04)*	.20 (.05)***	.12 (.06)*	.08 (.04)*	.01	.16
Adaptive behavior	Psychological empowerment	.24 (.07)**	.00 (.05)	.21 (.05)***	.15 (.06)*	.00 (.01)	-.03	.03
	Role clarity	.22 (.07)**	-.04 (.05)	.21 (.05)***	.15 (.06)*	-.01 (.01)	-.04	.01
	Learning orientation	.19 (.06)**	.01 (.05)	.21 (.05)***	.15 (.06)*	.00 (.01)	-.02	.02
	Supervisor fairness	.91 (.08)***	.08 (.04)*	.21 (.05)***	.15 (.06)*	.07 (.04)*	.00	.15
Task performance	Psychological empowerment	.24 (.07)**	-.02 (.05)	.21 (.05)***	.13 (.06)*	-.01 (.01)	-.03	.02
	Role clarity	.22 (.07)**	-.05 (.05)	.21 (.05)***	.13 (.06)*	-.01 (.01)	-.04	.01
	Learning orientation	.19 (.06)**	-.02 (.05)	.21 (.05)***	.13 (.06)*	.00 (.01)	-.03	.02
	Supervisor fairness	.91 (.08)***	.11 (.04)**	.21 (.05)***	.13 (.06)*	.10 (.04)*	.03	.18
OCB	Psychological empowerment	.24 (.07)**	.03 (.05)	.27 (.05)***	.16 (.06)**	.01 (.01)	-.02	.03
	Role clarity	.22 (.07)**	-.06 (.05)	.27 (.05)***	.16 (.06)**	-.01 (.01)	-.04	.01
	Learning orientation	.19 (.06)**	-.07 (.05)	.27 (.05)***	.16 (.06)**	-.01 (.01)	-.04	.01
	Supervisor fairness	.91 (.08)***	.14 (.04)***	.27 (.05)***	.16 (.06)**	.13 (.04)*	.06	.21

Note: Unstandardized regression coefficients are reported, standard errors shown in parentheses. a = first-stage effect of predictor X on mediator (M); b = second-stage effect of M on Y, controlling for X; c = total effect of X on Y; c' = direct effect of X on Y.

I used bootstrapping in Rmediation to estimate the mediation effect. Table 24 summaries the mediation results for all the models. Hypothesis 1 through 3 posit that psychological empowerment, role clarity, and learning orientation will mediate the positive relationship of paradoxical leadership to subordinate performance. As shown in Table 24, however, the mediating relationships were not significant. One possible reason is that these mediators were not related to subordinate performance.

Hypothesis 4 posits that paradoxical leadership has a positive indirect effect on subordinate performance through supervisory fairness in the Chinese context. As Table 24 shows, supervisory fairness mediated the positive relationship of paradoxical leadership to most performance behaviors, including proactive behavior, adaptive behavior, task performance, and OCB.

I moved on to more rigorous tests of the hypotheses by examining whether paradoxical leadership has incremental validity above and beyond transformational leadership. Besides the original control variables, I entered transformational leadership in the model as control variables and ran the regression. Table 25 through 29 show the results. As shown in Model 2 in the tables, controlling for transformational leadership, paradoxical leadership related positively to subordinate proficient behavior ($\beta = .17$, $p < .05$), proactive behavior ($\beta = .17$, $p < .05$), adaptive behavior ($\beta = .23$, $p < .01$), task performance ($\beta = .18$, $p < .05$), and OCB ($\beta = .19$, $p < .05$). These results provide strong evidence for the assertion that paradoxical leadership, as a new construct, can predict subordinate performance.

The regression results indicated that, after controlling for subordinates' age, education level, dyadic tenure, and transformational leadership at T1, paradoxical

leadership was positively related to supervisory fairness at T2 (β = .44, p < .001) (see model 2 in the column of supervisory fairness), but not psychological empowerment, role clarity, or learning orientation. They also indicated that, after controlling for age, education, tenure, and transformational leadership, supervisory fairness was positively related to proactive behavior (β = .09, p < .05), adaptive behavior (β = .08, p < .05), task performance (β = .11, p < .01), and OCB (β = .13, p < .001).

TABLE 25
Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Proficient Behavior (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proficient Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.01	.02*	.02*	.01	.01	.01	.01	.00	.00	.00
Education	.05	.05	.06	.07	-.07	-.06	.08	.05	.23**	.22**	.22
Dyadic tenure	.01	.01	.02	.02	.01	.01	.02	.02	.03**	.03**	.03
Transformational leadership	.25***	.25**	.25***	.27**	.25***	.30***	.73***	.49***	.09*	-.01	-.03
Independent variables											
PLB		.00		-.03		-.09		.44***		.17*	.16*
Psychological empowerment											.02
Role clarity											-.01
Learning orientation											.01
Supervisor fairness											.03
R^2	.04	.04	.06	.06	.07	.07	.17	.19	.04	.05	.05

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 26

Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Proactive Behavior (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proactive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.01	.02*	.02*	.01	.01	.01	.01	.00	.00	.00
Education	.05	.05	.06	.07	-.07	-.06	.08	.05	.30***	.29***	.29***
Dyadic tenure	.01	.01	.02	.02	.01	.01	.02	.02	.03**	.03**	.03*
Transformational leadership	.25***	.25**	.25***	.27**	.25***	.30***	.73***	.49***	.12**	.03	-.02
Independent variables											
PLB		.00		-.03		-.09		.44***		.17*	.13
Psychological empowerment											-.01
Role clarity											.03
Learning orientation											-.03
Supervisor fairness											.09*
R^2	.04	.04	.06	.06	.07	.07	.17	.19	.04	.04	.05

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 27

Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Adaptive Behavior (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Adaptive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.01	.02*	.02*	.01	.01	.01	.01	.00	.00	.00
Education	.05	.05	.06	.07	-.07	-.06	.08	.05	.25**	.23**	.23**
Dyadic tenure	.01	.01	.02	.02	.01	.01	.02	.02	.03**	.03**	.03**
Transformational leadership	.25***	.25**	.25***	.27**	.25***	.30***	.73***	.49***	.11**	-.02	-.05
Independent variables											
PLB		.00		-.03		-.09		.44***		.23**	.19*
Psychological empowerment											.00
Role clarity											-.04
Learning orientation											.01
Supervisor fairness											.08*
R^2	.04	.04	.06	.06	.07	.07	.17	.19	.04	.05	.06

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 28
Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on Task Performance (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Task Performance		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.01	.02*	.02*	.01	.01	.01	.01	.00	.00	.00
Education	.05	.05	.06	.07	-.07	-.06	.08	.05	.25**	.24**	.23**
Dyadic tenure	.01	.01	.02	.02	.01	.01	.02	.02	.04***	.04***	.04**
Transformational leadership	.25***	.25**	.25***	.27**	.25***	.30***	.73***	.49***	.13**	.03	.00
Independent variables											
PLB		.00		-.03		-.09		.44***		.18*	.12
Psychological empowerment											-.02
Role clarity											-.05
Learning orientation											-.03
Supervisor fairness											.11**
R^2	.04	.04	.06	.06	.07	.07	.17	.19	.06	.07	.08

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 29

Hierarchical Linear Modelling Results, Study 1: Indirect Effect of PLB on OCB (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		OCB		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.01	.02*	.02*	.01	.01	.01	.01	.00	.00	.00
Education	.05	.05	.06	.07	-.07	-.06	.08	.05	.25**	.24**	.23**
Dyadic tenure	.01	.01	.02	.02	.01	.01	.02	.02	.03**	.03**	.03**
Transformational leadership	.25***	.25**	.25***	.27**	.25***	.30***	.73***	.49***	.19***	.08	.05
Independent variables											
PLB		.00		-.03		-.09		.44***		.19*	.12
Psychological empowerment											.02
Role clarity											-.06
Learning orientation											-.07
Supervisor fairness											.13***
R^2	.04	.04	.06	.06	.07	.07	.17	.19	.05	.06	.07

Note: level-1 units = 535, level-2 units = 118, level-3 units = 5. R^2 was calculated using the formula suggested by Snijders and Bosker (2012).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 30
Summary of Indirect Effects of PLB on Performance Behaviors (Controlling for Transformational Leadership), Study 1

Outcomes	Mediators	Decomposed Effects				Indirect Effects		
		a (SE)	*b (SE)*	*C (SE)*	*C' (SE)*	*Boot ab (SE)*	*Lower*	*Upper*
Proficient behavior	Psychological empowerment	.00 (.10)	.02 (.05)	.17 (.07)*	.16 (.07)*	.00 (.01)	-.012	.012
	Role clarity	-.03 (.10)	-.01 (.05)	.17 (.07)*	.16 (.07)*	.00 (.01)	-.011	.012
	Learning orientation	-.09 (.09)	.01 (.05)	.17 (.07)*	.16 (.07)*	.00 (.01)	-.016	.012
	Supervisor fairness	.44 (.12)***	.03 (.03)	.17 (.07)*	.16 (.07)*	.01 (.01)	-.013	.044
Proactive behavior	Psychological empowerment	.00 (.10)	-.01 (.05)	.17 (.08)*	.13 (.08)	.00 (.01)	-.011	.011
	Role clarity	-.03 (.10)	.03 (.06)	.17 (.08)*	.13 (.08)	.00 (.01)	-.017	.013
	Learning orientation	-.09 (.09)	-.03 (.05)	.17 (.08)*	.13 (.08)	.00 (.01)	-.009	.02
	Supervisor fairness	.44 (.12)***	.09 (.04)*	.17 (.08)*	.13 (.08)	.04 (.02)*	.004	.087
Adaptive behavior	Psychological empowerment	.00 (.10)	.00 (.05)	.23 (.07)**	.19 (.08)*	.00 (.01)	-.011	.011
	Role clarity	-.03 (.10)	-.04 (.05)	.23 (.07)**	.19 (.08)*	.00 (.01)	-.012	.017
	Learning orientation	-.09 (.09)	.01 (.05)	.23 (.07)**	.19 (.08)*	.00 (.01)	-.016	.012
	Supervisor fairness	.44 (.12)***	.08 (.04)*	.23 (.07)**	.19 (.08)*	.04 (.02)*	.001	.081
Task performance	Psychological empowerment	.00 (.10)	-.02 (.05)	.18 (.07)*	.12 (.07)	.00 (.01)	-.011	.011
	Role clarity	-.03 (.10)	-.05 (.05)	.18 (.07)*	.12 (.07)	.00 (.01)	-.013	.019
	Learning orientation	-.09 (.09)	-.03 (.05)	.18 (.07)*	.12 (.07)	.00 (.01)	-.009	.02
	Supervisor fairness	.44 (.12)***	.11 (.04)**	.18 (.07)*	.12 (.07)	.05 (.02)*	.011	.098
OCB	Psychological empowerment	.00 (.10)	.02 (.05)	.19 (.07)*	.12 (.07)	.00 (.01)	-.011	.011
	Role clarity	-.03 (.10)	-.06 (.05)	.19 (.07)*	.12 (.07)	.00 (.01)	-.014	.02
	Learning orientation	-.09 (.09)	-.07 (.05)	.19 (.07)*	.12 (.07)	.01 (.01)	-.008	.028
	Supervisor fairness	.44 (.12)***	.13 (.04)***	.19 (.07)*	.12 (.07)	.06 (.02)*	.017	.11

Note: Unstandardized regression coefficients are reported, standard errors shown in parentheses. a = effect of predictor X on mediator M; b = effect of mediator M on outcome Y, controlling for X; c = total effect of X on Y; c' = direct effect of X on Y.

Table 30 provides a summary of the regression coefficients and standard errors of the two components of the indirect effects and the calculated mediation effect. Not surprisingly, the mediation effects of psychological empowerment, role clarity, and learning orientation were not significant. Therefore, Hypothesis 1 through 3 were not supported. Supervisory fairness was found to mediate the effects of paradoxical leadership on proactive behavior (estimate = .04, and 95% confidence interval = [.004, .087]), adaptive behavior (estimate = .04, and 95% confidence interval = [.001, .081]), task performance (estimate = .05, and 95% confidence interval = [.011, .098]), and OCB (estimate = .06, and 95% confidence interval = [.017, .110]), although the mediation effect reduced comparing with not controlling for transformational leadership. Thus, Hypothesis 4 was supported.

Results– Primary Study 2

This section reports the results from Primary Study 2 (n = 310), including the descriptive information, Cronbach's alpha of each scale, correlations among all study variables, and regression results. In reporting these results, I made some simple comparisons between the results of the Chinese and the USA sample; deeper discussion of the results can be found in the next chapter.

Descriptive Information

The descriptive information of all study variables is found in Table 31. As the table shows, the mean of our independent variables, mediators, and dependent variables were a little above the middle point of the scale, and the standard error was considerable large.

TABLE 31
Descriptive Statistics, Reliability, and Correlations, Study 2

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	40.28	1.27															
2. Gender	.50	.50	.06														
3. Education	2.95	.68	-.14*	-.09													
4. Dyadic tenure	4.59	4.28	.26**	.03	-.09												
5. Transformational leadership (T1)	3.41	.79	-.03	.05	.08	.02	(.95)										
6. Paradoxical leadership (T1)	3.48	.71	.07	-.05	.07	-.04	.78**	(.93)									
7. Psychological empowerment (T2)	3.94	.60	.08	.10	.09	.03	.45**	.43**	(.85)								
8. Role clarity (T2)	4.19	.61	.16**	.04	-.05	.00	.38**	.34**	.49**	(.85)							
9. State learning orientation (T2)	3.89	.62	.06	.01	.02	-.11	.40**	.36**	.50**	.38**	(.82)						
10. Overall supervisory fairness (T2)	4.16	.91	.04	.02	.06	-.10	.66**	.66**	.41**	.49**	.36**	(.95)					
11. Self-reported proficient behavior (T3)	4.53	.57	.31**	.15*	-.06	.02	.15**	.14*	.22**	.55**	.21**	.28**	(.82)				
12. Self-reported proactive behavior (T3)	3.16	.97	-.11	-.07	.04	-.02	.26**	.20**	.33**	.12*	.31**	.10	-.04	(.90)			
13. Self-reported adaptive behavior (T3)	3.72	.81	.08	.06	-.12*	.06	.27**	.24**	.31**	.35**	.37**	.20**	.27**	.50**	(.81)		
14. Self-reported task performance (T3)	86.61	1.17	.31**	.04	-.03	.05	.15**	.17**	.27**	.53**	.34**	.24**	.55**	.18**	.42**	(.82)	
15. Self-reported OCB (T3)	3.71	.79	.12*	.05	-.02	.06	.30**	.20**	.47**	.26**	.34**	.19**	.20**	.46**	.36**	.30**	(.85)

Note: n = 308 (listwise). For gender, "0" = male, "1" = female. Coefficient alpha reliabilities are reported on the main diagonal where appropriate.

* $p < .05$

** $p < .01$ (two-tailed)

Cronbach's alpha was calculated for each scale. As shown in the table, Cronbach's alpha for paradoxical leadership in this sample is .93. Cronbach's alpha for other variables ranged from .81 to .95, above the suggested criteria of .70. This suggests that all the scales used had good internal consistency and that random error in the measurement model should not be a problem. Thus, it is justified to move on to more sophisticated statistical analysis.

Correlations among Study Variables

Table 31 also shows the Pearson's bivariate correlation among all the study variables. A listwise deletion procedure was used in generating the table, and the sample size for the analysis was 308. As shown in the table, transformational leadership, the independent variable in this study, was positively related to the four mediators and the five performance behavior variables. Our correlational analysis lent some initial support for the hypothesized positive relationships between the study variables. Notably, however, paradoxical leadership was found to be highly correlated with transformational leadership ($r = .78$, $p < .01$), the purported control variable in this study. Because multicollinearity may bias the estimate of the relationship of the independent variable to dependent variable, some post hoc collinearity diagnostic analysis was conducted to assess the impact of the multicollinearity for each regression.

The correlations may also provide some justifications for the inclusion of control variables in the regression analysis. As shown in the table, some of the control variables (i.e., age, gender, education) were significantly correlated with performance outcomes, thus including these control variables in the model may

provide a more accurate estimation of the relationships between independent variables and dependent variables.

Main Effects

The results of the test of main effects are presented in model 2, Table 32 through 36, in the performance column. The results indicated that, after controlling for demographics, paradoxical leadership related positively to subordinate proficient behavior (β = .10, p < .05), proactive behavior (β = .29, p < .001), adaptive behavior (β = .29, p < .001), task performance (β = 2.15, p < .01), and OCB (β = .23, p < .001).

In terms of incremental validity, results in Model 2, Table 38 through 42 showed that, after controlling for transformational leadership, paradoxical leadership was not related to proficient behavior, proactive behavior, adaptive behavior, task performance, and OCB. Therefore, paradoxical leadership had no incremental validity above and beyond the effect of transformational leadership.

Mediation Results

As shown in Model 2, Table 32, the first-stage effects of paradoxical leadership on mediators were positive and significant: paradoxical leadership was positively related to psychological empowerment (β = .36, p < .001), role clarity (β = .29, p < .001), learning orientation (β = .31, p < .001), and supervisory fairness (β = .84, p < .001). While the positive relationships of paradoxical leadership to psychological empowerment, role clarity, learning orientation were expected, it was surprising that paradoxical leadership was positively related to supervisory fairness, which contradicted our hypothesis.

As for the second component of the indirect effects, results in Model 3, Table 32 showed that role clarity at T2 was positively related to proficient behavior at T3 (β = .49, p < .001), but psychological empowerment, learning orientation, or supervisory fairness were not. Model 3 in Table 33 indicated that psychological empowerment (β = .43, p < .001) and learning orientation at T2 (β = .33, p < .001) related positively to self-reported proactive behavior at T3. Model 3 in Table 34 indicated that role clarity (β = .28, p < .01) and learning orientation at T2 (β = .32, p < .001) related positively to self-reported adaptive behavior at T3. Model 3 in Table 35 indicated that role clarity (β = 7.79, p < .001) and learning orientation at T2 (β = 3.33, p < .001) related positively to self-reported task performance at T3. Model 3 in Table 36 indicated that psychological empowerment (β = .53, p < .001) and learning orientation at T2 (β = .19, p < .05) related positively to self-reported OCB.

Table 37 provides a summary of the indirect effects of paradoxical leadership on performance. Results from the SPSS macro, PROCESS, showed that the indirect effect of paradoxical leadership on proficient behavior through role clarity was significant based on 5000 bootstrap samples for bias-corrected bootstrap 95% confidence intervals (estimate = .14, bias corrected 95% CI = [.08, .23]). The indirect effect of paradoxical leadership on proactive behavior through psychological empowerment was significant (estimate = .16, and 95% CI = [.07, .26]), as was the indirect effect through learning orientation (estimate = .10, and 95% CI = [.03, .21]). The indirect effects of paradoxical leadership on adaptive behavior through role clarity was significant (estimate = .08, and 95% CI = [.03, .16]), as was the indirect effect through learning orientation (estimate = .10,

and 95% CI = [.05, .18]). Role clarity and learning orientation were also found to mediate the effect of paradoxical leadership on task performance, and the estimates for mediation effect were 2.28 (95% CI = [1.25, 4.07]) and 1.05 (95% CI = [.48, 1.90]), respectively. The indirect effects of paradoxical leadership on OCB through psychological empowerment and learning orientation were significant, and the estimates for these mediation effects were .19 (95% CI = [.12, .29]) and .06 (95% CI = [.01, .13]), respectively. To state more directly, PLB was found to have indirect effects on proactive behavior and OCB through psychological empowerment. PLB was also found to influence proficient behavior, adaptive behavior, and task performance indirectly through role clarity. Learning orientation mediated the effects of PLB on all criterion variables except proficient behavior. Supervisory fairness, however, was not found to mediate any relationships of PLB to criterion variables.

TABLE 32
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Proficient Behavior

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proficient Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01*	.01	.00	.01	.00	.02***	.02***	.01***
Gender	.13	.15*	.04	.06	.01	.03	.04	.10	.15*	.15*	.13*
Education	.10*	.07	-.02	-.04	.02	.00	.08	.02	-.01	-.02	.01
Dyadic tenure	.00	.01	-.01	.00	-.02*	-.02*	-.02	-.02	-.01	-.01	.00
Independent variables											
PLB		.36***		.29***		.31***		.84***		.10*	-.07
Psychological empowerment											-.07
Role clarity											.49***
Learning orientation											.03
Supervisor fairness											.05
R^2	.03	.21	.03	.14	.02	.15	.02	.44	.11	.13	.38
ΔR^2	.03	.18***	.03	.11***	.02	.13***	.02	.42***	.11***	.02*	.25***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 33
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Proactive Behavior

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proactive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01*	.01	.00	.01	.00	-.01	-.01*	-.01**
Gender	.13	.15*	.04	.06	.01	.03	.04	.10	-.13	-.11	-.16
Education	.10*	.07	-.02	-.04	.02	.00	.08	.02	.03	.01	-.02
Dyadic tenure	.00	.01	-.01	.00	-.02*	-.02*	-.02	-.02	.00	.01	.01
Independent variables											
PLB		.36***		.29***		.31***		.84***		.29***	.17
Psychological empowerment											.43***
Role clarity											-.05
Learning orientation											.33***
Supervisor fairness											-.15
R^2	.03	.21	.03	.14	.02	.15	.02	.44	.02	.06	.18
ΔR^2	.03	.18***	.03	.11***	.02	.13***	.02	.42***	.02	.04***	.12***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 34
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Adaptive Behavior

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Adaptive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01*	.01	.00	.01	.00	.00	.00	.00
Gender	.13	.15*	.04	.06	.01	.03	.04	.10	.07	.09	.05
Education	.10*	.07	-.02	-.04	.02	.00	.08	.02	-.13	-.15*	-.14*
Dyadic tenure	.00	.01	-.01	.00	-.02*	-.02*	-.02	-.02	.01	.01	.01
Independent variables											
PLB		.36***		.29***		.31***		.84***		.29***	.14
Psychological empowerment											.10
Role clarity											.28**
Learning orientation											.32***
Supervisor fairness											-.08
R^2	.03	.21	.03	.14	.02	.15	.02	.44	.02	.09	.22
ΔR^2	.03	.18***	.03	.11***	.02	.13***	.02	.42***	.02	.06***	.13***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 35
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Task Performance

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Task Performance		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01*	.01	.00	.01	.00	.32***	.31***	.23***
Gender	.13	.15*	.04	.06	.01	.03	.04	.10	.40	.54	.17
Education	.10*	.07	-.02	-.04	.02	.00	.08	.02	.14	-.02	.41
Dyadic tenure	.00	.01	-.01	.00	-.02*	-.02*	-.02	-.02	-.09	-.07	.02
Independent variables											
PLB		.36***		.29***		.31***		.84***		2.15**	-.62
Psychological empowerment											-1.08
Role clarity											7.79***
Learning orientation											3.33***
Supervisor fairness											-.20
R^2	.03	.21	.03	.14	.02	.15	.02	.44	.10	.12	.36
ΔR^2	.03	.18***	.03	.11***	.02	.13***	.02	.42***	.10***	.02**	.24***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 36
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on OCB

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		OCB		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01*	.01	.00	.01	.00	.01	.01	.00
Gender	.13	.15*	.04	.06	.01	.03	.04	.10	.06	.08	-.01
Education	.10*	.07	-.02	-.04	.02	.00	.08	.02	.00	-.02	-.06
Dyadic tenure	.00	.01	-.01	.00	-.02*	-.02*	-.02	-.02	.01	.01	.01
Independent variables											
PLB		.36***		.29***		.31***		.84***		.23***	-.02
Psychological empowerment											.53***
Role clarity											.00
Learning orientation											.19*
Supervisor fairness											-.01
R^2	.03	.21	.03	.14	.02	.15	.02	.44	.02	.06	.24
ΔR^2	.03	.18***	.03	.11***	.02	.13***	.02	.42***	.02	.04***	.19***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 37
Summary of Indirect Effects of PLB on Performance Behaviors, Study 2

Outcomes	Mediators	Decomposed Effects				Indirect Effects		
		a (SE)	*b (SE)*	*C (SE)*	*C' (SE)*	*Boot ab (SE)*	*Lower*	*Upper*
Proficient behavior	Psychological empowerment	.36 (.04)***	-.07 (.06)	.10 (.04)*	-.07 (.05)	-.03 (.02)	-.08	.01
	Role clarity	.29 (.05)***	.49 (.05)***	.10 (.04)*	-.07 (.05)	.14 (.04)*	.08	.23
	Learning orientation	.31 (.05)***	.03 (.05)	.10 (.04)*	-.07 (.05)	.01 (.02)	-.02	.04
	Supervisor fairness	.84 (.06)***	.05 (.04)	.10 (.04)*	-.07 (.05)	.04 (.04)	-.04	.13
Proactive behavior	Psychological empowerment	.36 (.04)***	.43 (.11)***	.29 (.08)***	.17 (.10)	.16 (.05)*	.07	.26
	Role clarity	.29 (.05)***	-.05 (.10)	.29 (.08)***	.17 (.10)	-.02 (.03)	-.08	.05
	Learning orientation	.31 (.05)***	.33 (.10)***	.29 (.08)***	.17 (.10)	.10 (.05)*	.03	.21
	Supervisor fairness	.84 (.06)***	-.15 (.08)	.29 (.08)***	.17 (.10)	-.13 (.07)	-.26	.02
Adaptive behavior	Psychological empowerment	.36 (.04)***	.10 (.09)	.29 (.06)***	.14 (.08)	.04 (.03)	-.03	.10
	Role clarity	.29 (.05)***	.28 (.09)**	.29 (.06)***	.14 (.08)	.08 (.03)*	.03	.16
	Learning orientation	.31 (.05)***	.32 (.08)***	.29 (.06)***	.14 (.08)	.10 (.03)*	.05	.18
	Supervisor fairness	.84 (.06)***	-.08 (.07)	.29 (.06)***	.14 (.08)	-.07 (.07)	-.20	.06
Task performance	Psychological empowerment	.36 (.04)***	-1.08 (1.04)	2.15 (.78)**	-.62 (.92)	-.39 (.41)	-1.27	.34
	Role clarity	.29 (.05)***	7.79 (.97)***	2.15 (.78)**	-.62 (.92)	2.28 (.70)*	1.25	4.07
	Learning orientation	.31 (.05)***	3.33 (.91)***	2.15 (.78)**	-.62 (.92)	1.05 (.36)*	.48	1.90
	Supervisor fairness	.84 (.06)***	-.20 (.75)	2.15 (.78)**	-.62 (.92)	-.17 (.81)	-1.85	1.35
OCB	Psychological empowerment	.36 (.04)***	.53 (.09)***	.23 (.06)***	-.02 (.08)	.19 (.04)*	.12	.29
	Role clarity	.29 (.05)***	.00 (.08)	.23 (.06)***	-.02 (.08)	.00 (.03)	-.06	.06
	Learning orientation	.31 (.05)***	.19 (.08)*	.23 (.06)***	-.02 (.08)	.06 (.03)*	.01	.13
	Supervisor fairness	.84 (.06)***	-.01 (.06)	.23 (.06)***	-.02 (.08)	-.01 (.07)	-.15	.11

Note: Unstandardized regression coefficients are reported, standard errors shown in parentheses. a = first-stage effect of predictor X on mediator (M); b = second-stage effect of M on Y, controlling for X; c = total effect of X on Y; c' = direct effect of X on Y.

To assess whether paradoxical leadership has an indirect effect on performance behavior after controlling for transformational leadership, I included transformational leadership in the regressions as control variables. Model 2 in Table 38 through 42 show the details about the first-stage indirect effects and the second-stage indirect effects.

TABLE 38

Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Proficient Behavior (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proficient Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01**	.01*	.01	.01*	.01	.02***	.02***	.01***
Gender	.09	.12	.01	.02	-.02	-.01	-.03	.03	.13*	.13*	.13*
Education	.07	.07	-.05	-.05	-.01	-.01	.01	.00	-.02	-.02	.01
Dyadic tenure	.00	.00	-.01	-.01	-.02**	-.02*	-.03**	-.02*	-.01	-.01	.00
Transformational leadership	.34***	.21**	.30***	.26***	.32***	.26***	.76***	.46***	.12**	.12	-.02
Independent variables											
PLB		.18*		.06		.08		.43***		-.01	-.05
Psychological empowerment											-.07
Role clarity											.49***
Learning orientation											.03
Supervisor fairness											.05
R^2	.23	.24	.18	.18	.18	.19	.45	.50	.14	.14	.38
ΔR^2	.23***	.02*	.18***	.00	.18***	.00	.45***	.04***	.14***	.00	.24***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 39
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Proactive Behavior (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Proactive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01**	.01*	.01	.01*	.01	-.01	-.01	-.01*
Gender	.09	.12	.01	.02	-.02	-.01	-.03	.03	-.16	-.15	-.19
Education	.07	.07	-.05	-.05	-.01	-.01	.01	.00	.00	.00	-.03
Dyadic tenure	.00	.00	-.01	-.01	-.02**	-.02*	-.03**	-.02*	.00	.00	.00
Transformational leadership	.34***	.21**	.30***	.26***	.32***	.26***	.76***	.46***	.31***	.30**	.24*
Independent variables											
PLB		.18*		.06		.08		.43***		.02	.01
Psychological empowerment											.41***
Role clarity											-.06
Learning orientation											.30**
Supervisor fairness											-.20*
R^2	.23	.24	.18	.18	.18	.19	.45	.50	.08	.08	.19
ΔR^2	.23***	.02*	.18***	.00	.18***	.00	.45***	.04***	.08***	.00	.11***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 40

Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Adaptive Behavior (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Adaptive Behavior		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01**	.01*	.01	.01*	.01	.00	.00	.00
Gender	.09	.12	.01	.02	-.02	-.01	-.03	.03	.04	.05	.04
Education	.07	.07	-.05	-.05	-.01	-.01	.01	.00	-.15*	-.15*	-.14*
Dyadic tenure	.00	.00	-.01	-.01	-.02**	-.02*	-.03**	-.02*	.01	.01	.01
Transformational leadership	.34***	.21**	.30***	.26***	.32***	.26***	.76***	.46***	.29***	.22*	.09
Independent variables											
PLB		.18*		.06		.08		.43***		.09	.08
Psychological empowerment											.10
Role clarity											.28**
Learning orientation											.31***
Supervisor fairness											-.10
R^2	.23	.24	.18	.18	.18	.19	.45	.50	.10	.10	.22
ΔR^2	.23***	.02*	.18***	.00	.18***	.00	.45***	.04***	.10***	.00	.12***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 41
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on Task Performance (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		Task Performance		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01**	.01*	.01	.01*	.01	.32***	.32***	.22***
Gender	.09	.12	.01	.02	-.02	-.01	-.03	.03	.21	.33	.33
Education	.07	.07	-.05	-.05	-.01	-.01	.01	.00	-.06	-.06	.44
Dyadic tenure	.00	.00	-.01	-.01	-.02**	-.02*	-.03**	-.02*	-.10	-.09	.05
Transformational leadership	.34***	.21**	.30***	.26***	.32***	.26***	.76***	.46***	2.03**	1.38	-1.37
Independent variables											
PLB		.18*		.06		.08		.43***		.92	.29
Psychological empowerment											-1.00
Role clarity											7.85***
Learning orientation											3.48***
Supervisor fairness											.06
R^2	.23	.24	.18	.18	.18	.19	.45	.50	.12	.13	.37
ΔR^2	.23***	.02*	.18***	.00	.18***	.00	.45***	.04***	.12***	.00	.24***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 42
Results of Hierarchical Regression Analyses, Study 2: Indirect Effect of PLB on OCB (Controlling for Transformational Leadership)

	Psychological Empowerment		Role Clarity		Learning Orientation		Supervisor Fairness		OCB		
	Model 1	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 1**	**Model 2**	**Model 3**
Control variables											
Age	.01	.00	.01**	.01**	.01*	.01	.01*	.01	.01*	.01*	.01
Gender	.09	.12	.01	.02	-.02	-.01	-.03	.03	.04	.02	-.04
Education	.07	.07	-.05	-.05	-.01	-.01	.01	.00	-.03	-.03	-.06
Dyadic tenure	.00	.00	-.01	-.01	-.02**	-.02*	-.03**	-.02*	.00	.00	.00
Transformational leadership	.34***	.21**	.30***	.26***	.32***	.26***	.76***	.46***	.30***	.38***	.26**
Independent variables											
PLB		.18*		.06		.08		.43***		-.11	-.19
Psychological empowerment											.52***
Role clarity											-.01
Learning orientation											.16*
Supervisor fairness											-.06
R^2	.23	.24	.18	.18	.18	.19	.45	.50	.11	.11	.26
ΔR^2	.23***	.02*	.18***	.00	.18***	.00	.45***	.04***	.11***	.00	.15***

Note: n = 308.

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed)

TABLE 43
Summary of Indirect Effects of PLB on Performance Behaviors (Controlling for Transformational Leadership), Study 2

Outcomes	Mediators	Decomposed Effects				Indirect Effects		
		a (SE)	*b (SE)*	*C (SE)*	*C' (SE)*	*Boot ab (SE)*	*Lower*	*Upper*
Proficient behavior	Psychological empowerment	.18 (.07)*	-.07 (.06)	-.01 (.07)	-.05 (.06)	-.01 (.01)	-.05	.00
	Role clarity	.06 (.07)	.49 (.49)***	-.01 (.07)	-.05 (.06)	.03 (.05)	-.06	.12
	Learning orientation	.08 (.08)	.03 (.03)	-.01 (.07)	-.05 (.06)	.00 (.01)	.00	.02
	Supervisor fairness	.43 (.09)***	.05 (.05)	-.01 (.07)	-.05 (.06)	.02 (.02)	-.01	.07
Proactive behavior	Psychological empowerment	.18 (.07)*	.41 (.11)***	.02 (.13)	.01 (.12)	.07 (.04)*	.01	.17
	Role clarity	.06 (.07)	-.06 (.10)	.02 (.13)	.01 (.12)	.00 (.01)	-.05	.01
	Learning orientation	.08 (.08)	.30 (.10)**	.02 (.13)	.01 (.12)	.03 (.03)	-.01	.10
	Supervisor fairness	.43 (.09)***	-.20 (.08)*	.02 (.13)	.01 (.12)	-.09 (.04)	-.19	-.02
Adaptive behavior	Psychological empowerment	.18 (.07)*	.10 (.09)	.09 (.10)	.08 (.10)	.02 (.02)	-.01	.07
	Role clarity	.06 (.07)	.28 (.09)**	.09 (.10)	.08 (.10)	.02 (.03)	-.03	.09
	Learning orientation	.08 (.08)	.31 (.08)***	.09 (.10)	.08 (.10)	.03 (.03)	-.02	.09
	Supervisor fairness	.43 (.09)***	-.10 (.07)	.09 (.10)	.08 (.10)	-.04 (.04)	-.13	.02
Task performance	Psychological empowerment	.18 (.07)*	-1.00 (1.04)	.92 (1.29)	.29 (1.16)	-.18 (.23)	-.85	.14
	Role clarity	.06 (.07)	7.85 (.97)***	.92 (1.29)	.29 (1.16)	.49 (.75)	-.94	2.02
	Learning orientation	.08 (.08)	3.48 (.91)***	.92 (1.29)	.29 (1.16)	.29 (.30)	-.21	1.03
	Supervisor fairness	.43 (.09)***	.06 (.77)	.92 (1.29)	.29 (1.16)	.02 (.45)	-.96	.87
OCB	Psychological empowerment	.18 (.07)*	.52 (.09)***	-.11 (.10)	-.19 (.10)	.09 (.05)*	.01	.20
	Role clarity	.06 (.07)	-.01 (.08)	-.11 (.10)	-.19 (.10)	.00 (.01)	-.03	.02
	Learning orientation	.08 (.08)	.16 (.08)*	-.11 (.10)	-.19 (.10)	.01 (.02)	-.01	.06
	Supervisor fairness	.43 (.09)***	-.06 (.07)	-.11 (.10)	-.19 (.10)	-.03 (.04)	-.12	.03

Note: Unstandardized regression coefficients are reported, standard errors shown in parentheses. a = first-stage effect of predictor X on mediator (M); b = second-stage effect of M on Y, controlling for X; c = total effect of X on Y; c' = direct effect of X on Y.

These two components of indirect effects were summarized in Table 43 together with the mediation effects calculated from them. As shown in Table 43, after controlling for transformational leadership, paradoxical leadership had indirect effect on proactive behavior and OCB through psychological empowerment; the estimates were .07 (95% CI = [.01, .17]) and .09 (95% CI = [.01, .20]), respectively. Thus, Hypothesis 1 was partially supported. However, no significant mediation effects were found for role clarity, learning orientation, and supervisory fairness. Therefore, Hypotheses 2, 3, and 5 were not supported.

Summary

The results of the pilot study provided support to the hypothesized second-order factor model of PLB in both the Chinese context and the Western context. Factor loadings of the measurement model were invariant across cultures.

The results of Study 1 conducted in the Chinese context provided no support to the mechanisms (psychological empowerment, role clarity, and learning orientation) implied in Zhang et al.'s (2015) original theory. Rather, the alternative fairness mechanism was supported. The results of Study 2 conducted in the Western context provided support to the empowerment mechanism, but not other mechanisms. No evidence suggested that role clarity or learning orientation may mediate the effect of PLB on employee performance in both the Eastern and the Western cultures.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

The results from three studies are presented in Chapter 4, but not interpreted or discussed. This chapter interprets the results and discusses the results in a larger context. This chapter is organized into four sections. In the first section, results related to the paradoxical leadership construct, the measurements, and predictive capability of PLB measures are discussed. The second section discusses the mediating role of psychological empowerment, role clarity, learning orientation, and supervisory fairness. The third section discusses the potential contributions and limitations of this thesis, and the last section concludes the thesis.

Paradoxical Leadership Construct

The pilot study used two samples from different cultures to evaluate the construct validity of paradoxical leader behavior defined by Zhang et al. (2015). Below, I first discuss the results in terms of PLB theory (Zhang et al., 2015) and then I discuss the implications of these results for paradoxical leadership study in general.

In the Chinese sample, the factor analysis illustrated that the second-order five-factor model fit the data well and thus I replicated the PLB factor structure. I also replicated the factor structure of PLB in the Western sample but found PLB to be highly correlated with and not easily differentiated from transformational leadership and LMX. When I combined the Chinese and Western samples, multigroup factor analysis showed that the PLB measure was invariant at the

configural and the metric levels. These findings suggested that Easterners and Westerners share basic cognitive understandings of paradoxical leadership behaviors and that PLB measured in Eastern and Western cultures can be compared in relationships with other variables.

In the pilot study, I found some support for the predictions of PLB theory in the East and Western contexts. The usefulness analysis suggested that, in both the Eastern and the Western samples, PLB did not predict criteria incremental to transformational leadership or LMX, but it did explain additional variance above and beyond the effects of transactional leadership. Results of more rigorous regression analysis revealed that, after controlling for demographics, power distance orientation, and relational orientation, PLB related significantly to several criterion variables in both cultural contexts, including organizational commitment, leader effectiveness, and adaptive behavior. The results also showed that PLB predicted more criterion variables in the Chinese culture than in the Western culture, suggesting that PLB may be more powerful predictors in the East than in the West. However, I found no significant relationships between PLB and nearly all criterion variables after I controlled the effects of established alternative leadership measures: transformational leadership, transactional leadership, and LMX. In this preliminary analysis, I conclude that PLB is a universal construct but has limited predictive validity, especially when applied to Western culture.

Similar conclusions about the predictability of PLB can be drawn from the results of the primary studies. The results revealed that, in both the Chinese and the Western culture, PLB and transformational leadership were highly correlated, and

that PLB predicted work-role performance above and beyond transformational leadership in Chinese culture, but not in the Western cultures. While the results of Study 1 conducted in the Chinese culture replicated Zhang et al.'s (2015) findings on the relationship of PLB to work-role performance, the results of Study 2 conducted in the US failed to, suggesting that the original PLB theory may not be generalized to the Western culture.

Lastly, taking one step back, even if we find strong evidence suggesting that the hypothesized factor structure is supported and that PLB measures can predict performance, it does not necessarily mean that PLB is the best conceptualization and operationalization of paradoxical leadership. It is important to note that paradoxical leadership can always be defined and measured in other ways. In fact, I think that the face validity of this PLB measure may be further improved by emphasizing more the tensions and contractions in defining paradoxical leadership and developing measures that can well capture the tensions and contractions. Two alternative measurement methods are to split the opposing behaviors in each item, rate them independently on a "too little/too much" rating scale (Kaiser & Overfield, 2010), or rate them on traditional scale and then use the integrative balance formula (Bobko & Schwartz, 1984; Quinn, Spreitzer, & Hart, 1992) to compute the final scores (e.g., Kaiser, Lindberg, & Craig, 2007).

Mechanisms Linking PLB to Employee Performance

This thesis provides some interesting findings of the pattern of the mediating role of psychological empowerment, role clarity, learning orientation, and supervisory fairness in PLB theory. First, it seems that different mechanisms are

operating underlying the effect of PLB on employee performance in the Chinese culture and the Western culture. In the Chinese sample, the mediating role of supervisory fairness, but not psychological empowerment, role clarity, or learning orientation, was supported. A different pattern, however, was found in the western sample, such that psychological empowerment, but not other mechanisms, was found to mediate the relationships between PLB and criterion variables. Given that fairness is a construct that is more communal oriented and psychological empowerment is more individual oriented, it is likely that cultural differences in the individualism-collectivism values may account for the different patterns of mediation effects found in this thesis.

Second, controlling for transformational leadership also allow us to test whether certain unique mechanisms are operating underlying the relationship between PLB and employee performance. In our case, as the regression results in Table 25 and Table 38 show, both PLB and transformational leadership were positively related to supervisory fairness in the Chinese sample and psychological empowerment in the Western sample. Thus, we cannot claim that PLB operates through any different mechanisms than that of transformational leadership. The appropriate conclusion to make is that PLB has some incremental validity above and beyond transformational leadership, but not through unique mechanisms.

Third, it is interesting to note the unexpected positive relationship between PLB and perceived supervisor fairness. In the Chinese sample, PLB had a positive indirect effect on employee performance via supervisory fairness. This is not very surprising, given the paradoxical cognition of Chinese people who endorse the yin-

yang philosophy. In the Western sample, PLB was found to be positively related to supervisor fairness, although the indirect effect was not significant. These surprising findings, however, contradict the predictions of fairness theory, which predicts that PLB will be negatively related to perceived supervisor fairness, especially in the Western culture. It is very difficult to imagine that people in the western culture characterized by the "either-or" thinking may endorse paradoxical behaviors and rate them as fair. The reason is unknown and awaits further research efforts, but I can provide some speculations. One possibility is that the tensions between leader's contradicting behaviors were not well captured in the current PLB scale. Another possibility is that maybe justice rule other than the consistency rule play dominated role here. Prior research suggests that the rules employees use to assess entity-based fairness may include not only traditional rules used in assessing event-based fairness but also some new rules (Hollensbe, Khazanchi, & Masterson, 2008). In their qualitative study of 33 new job entrants, Hollensbe, Khazanchi, and Masterson (2008) found that perceived supervisor support, supervisor flexibility, and traits were used by the new job entrants for assessing the fairness of their supervisors. What's more, these rules seemed to be used more frequently than traditional justice rules to forming the global judgment of supervisor fairness. However, this reasoning has not been tested empirically so that we have no confidence in it.

Contributions and Limitations

Theoretical Contributions

This thesis takes three necessary and important steps toward testing and advancing paradoxical leadership theory developed in the Chinese context. First, this

study makes a methodological contribution to PLB theory and literature by validating the PLB measures in both the Chinese context and the Western context. This helps to resolve some concerns about the PLB measures and lay the foundations for future research in different cultural contexts. By using different cultural contexts to test and compare the factor structures of the PLB scale, this research shows whether the measurement model of paradoxical leader behavior can be used to study paradoxical leadership in Western cultures and to make meaningful cross-cultural comparisons. I found that both the Chinese and the Western cultural groups showed paradoxical leader behavior and that the PLB scale captured paradoxical leadership well. Our factor analysis and tests of measurement invariance showed that the PLB scale can be used to study paradoxical leadership in Western cultures and to make meaningful cross-cultural comparisons.

The second contribution is about testing the theory, including the major predictions of PLB theory and the implied mediating role of psychological empowerment, role clarity, and learning orientation. This step helps to clarify whether the theory and original assumptions developed in the Chinese context are culturally specific and whether PLB has scientific utility in the Western context. The results of primary studies provided support to the positive effect of PLB on employee performance in the Chinese context, but not in the Western context, suggesting that the predictability of PLB may be limited in the Western cultures. Contrary to my expectations, different patterns of results were found for the three mechanisms that were hypothesized to be culture free. While no evidence suggested that role clarity or learning orientation may mediate the effect of PLB on employee

performance in both the Eastern and the Western cultures, some support was found for the mediating role of psychological empowerment, but only in the Western culture.

Finally, this study advances PLB theory by proposing and testing an alternative mechanism (i.e., supervisory fairness) underlying the effect of PLB on employee performance. The results suggested that most of the mechanisms implied in the original PLB theory were not supported and that the alternative fairness mechanism, at least in the Chinese context, may be an important pathway through which PLB influences employee performance. Therefore, this thesis challenges and advances our understanding of PLB theory.

Limitations

It is useful to note some of the methodological limitations and theoretical shortcoming of this thesis and help readers to interpret our findings in a correct manner. First, we cannot make strong conclusions about the factorial structure of PLB. Although the hypothesized second-order factor fit the data well in both Chinese and Western samples, the first-order five-factor model fit the data even better. In both samples, PLB dimensions are not highly correlated, suggesting that we may also theorize PLB as a first-order five-factor model. This opens up the possibility that PLB dimensions may have differential predictive abilities.

Second, despite generally supported factor structure of PLB scale, there are some threats to the construct validity of PLB scale. People may challenge the construct validity of PLB, positing that the scores obtained from the double-barreled item measure cannot be easily interpreted in a common way: it is unknown with

which clause an respondent are disagree when he or she reports lower scores on this scale. It may appear to those people that I am offering an empirical solution to a theoretical problem. I do not agree. I assert that any leaders who do not show both opposing behaviors frequently, by definition, are lacking in paradoxical leadership. I do think, however, that it requires good cognitive ability to well understand the double-barreled items and rate leader behaviors on the scale. Thus, poorly educated respondents may pose a threat to the construct validity. Besides, if we don't want to give up the PLB measure in the first place, empirical efforts are warranted to test it.

Third, the common method bias and the high correlation between PLB and transformational leadership may pose threats to the statistical validity of the relationships observed in our primary studies. The data of the western study (Study 2) were self-reported. As constrained by the resources available, I was not able to administrate the multi-source multi-wave survey design as used in the Chinese sample. On one hand, the results with respect to the main effects and indirect effects of PLB in the Western sample may be influenced by the common method bias. This problem, to some extent, was offset because the pattern of the mediating effect cannot be explained by common method bias. For example, the lack of support for the mediating effect of supervisory fairness cannot be explained by common method bias. On the other hand, as the research design varied across the Chinese study and the Western study, the comparability of the results yielded from these two samples was undermined. A more direct comparison could be made if the same research design had been used in these two studies. Also, when controlling for

transformational leadership, the high correlation between PLB and transformational leadership may lead to biased estimation of the effect of PLB on performance.

Fourth, the results with respect to the main effects and indirect effects suffer some threats to the internal validity and external validity. Despite that I used a time-lag design and statistical controls to strengthen the internal validity of our findings, I cannot make inferences about the causal relationship between PLB and performance variables: it is still possible that the observed relationship was caused by unmeasured third variables. Therefore, experimental studies with random assignment design are needed to rule out alternative explanations and further strengthen the internal validity of our results. A plausible threat to the external validity of our results is the convenient sampling method I used in these studies. The generalizability of my findings can be called into question.

A final limitation concerns the research design. Because my mediation model does not include culture-related variables as moderators to identify the theory's boundary conditions, I cannot provide evidence-based explanations for why the mediating relationships differ across the Chinese sample and the Western sample. The reason why psychological empowerment mediates the effect of PLB in the Western sample and why supervisory fairness plays a role in the Chinese sample is unknown. Future studies should tackle this question by exploring the boundary conditions of PLB theory.

Conclusion

This thesis seeks to advance the newly developed paradoxical leader behavior theory (PLB theory) in the leadership literature by validating the PLB measure,

testing and comparing the mechanisms through which PLB may affect employee performance in two different cultural contexts. The takeaways of this thesis are: (1) the construct of PLB is universal, and the PLB measure can be used in the Western culture to study paradoxical leadership behaviors; (2) while the original theorizing of PLB theory suggests it is a context-specific theory in the Eastern culture, this thesis find that PLB theory has some predictive capability in the Western culture and that the effect of PLB on employee performance operate through different mechanisms in the Western culture.

Appendices

Paradoxical Leader Behavior (Zhang et al., 2015)

a) Treating subordinates uniformly while allowing individualization (UI)

1. Uses a fair approach to treat all subordinates uniformly, but also treats them as individuals

   对所有下属一样公平，同时在相处方式上因人而异

2. Puts all subordinates on an equal footing, but considers their individual traits or personalities

   同等对待下属，同时会考虑每个人的个性特征

3. Communicates with subordinates uniformly without discrimination, but varies his or her communication styles depending on their individual characteristics or needs

   与下属沟通时一视同仁，但在沟通风格上因人而异

4. Manages subordinates uniformly, but considers their individualized needs

   对下属的管理具有一致性，同时会考虑个人的需要

5. Assigns equal workloads, but considers individual strengths and capabilities to handle different tasks

   给下属分配相同的工作量，同时在不同的工作任务上会考虑每个人的长处和能力

b) Combining self-centeredness with other-centeredness (SO)

6. Shows a desire to lead, but allows others to share the leadership role

   表现出领导意愿，但也允许别人分享领导角色

7. Likes to be the center of attention, but allows others to share the spotlight as well

   喜欢成为众人瞩目的中心人物，但也允许别人分享这种被瞩目的机会

8. Insists on getting respect, but also shows respect toward others

   要求别人尊重自己，但同时表明别人也值得尊重

9. Has a high self-opinion, but shows awareness of personal imperfection and the value of other people

   看上去对自己评价高，但同时表明自己并不完美，自己跟别人差不多

10. Is confident regarding personal ideas and beliefs, but acknowledges that he or she can learn from others

    对自己的想法和信念很自信，但也认为能从别人那里学到东西

c) Maintaining decision control while allowing autonomy (CA)

11. Controls important work issues, but allows subordinates to handle details

    控制工作上的重要问题，但细节交给下属决定

12. Makes final decisions for subordinates, but allows subordinates to control specific work processes

    工作上做最终决策，但不控制具体工作过程

13. Makes decisions about big issues, but delegates lesser issues to subordinates

    工作中大事上自己拍板，小事上向下属授权

14. Maintains overall control, but gives subordinates appropriate autonomy

    工作上既掌控全局，同时又对下属适当授权

d) Enforcing work requirements while allowing flexibility (RF)

15. Stresses conformity in task performance, but allows for exceptions

*对下属工作表现要求严格，但允许变通

16. Clarifies work requirements, but does not micromanage work

    *明确说明工作要求，同时不过多干涉下属的具体工作

17. Is highly demanding regarding work performance, but is not hypercritical

    对工作严格要求，但不过分挑剔

18. Has high requirements, but allows subordinates to make mistakes

    工作上要求严格，但同时允许下属犯错误

e) Maintaining both distance and closeness (DC)

19. Recognizes the distinction between supervisors and subordinates, but does not act superior in the leadership role

    有上下级的差别，但并不摆领导架子

20. Keeps distance from subordinates, but does not remain aloof

    与下属保持距离，但并不高高在上

21. Maintains position differences, but upholds subordinates' dignity

    既表现出上下级的职位差别，同时又考虑下属面子

22. Maintains distance from subordinates at work, but is also amiable toward them

    既保持上下级距离，同时又对下属很亲切

Note: For the 15th and the 16th item, minor revision of Chinese scale were made based on the original English items.

Transformational Leadership (Bass & Avolio, 1995)

1. Re-examines critical assumptions to question whether they are appropriate
2. Talks about his/her most important values and beliefs

3. Seeks differing perspectives when solving problems
4. Talks optimistically about the future
5. Instill pride in me for being associated with him/her
6. Talks enthusiastically about what needs to be accomplished
7. Specifies the importance of having a strong sense of purpose
8. Spends time teaching and coaching
9. Goes beyond self-interest for the good of the group
10. Treats me as an individual rather than just as a member of a group
11. Acts in ways that builds my respect
12. Considers the moral and ethical consequences of decisions
13. Displays a sense of power and confidence
14. Articulates a compelling vision of the future
15. Considers me as having different needs, abilities, and aspirations from others
16. Gets me to look at problems from many different angles
17. Helps me to develop my strengths
18. Suggests new ways of looking at how to complete assignments
19. Emphasizes the importance of having a collective sense of mission
20. Expresses confidence that goals will be achieved

Core Transformational Leadership (Podsakoff et al., 1990)

1. Has a clear understanding of where we are going
2. Paints an interesting picture of the future for our group
3. Is always seeking new opportunities for the organization
4. Inspires others with his/her plans for the future

5. Is able to get others committed to his/her dream
6. Leads by "doing", rather than simply by "telling"
7. Provides a good model for me to follow
8. leads by example
9. Fosters collaboration among work groups
10. Encourages employees to be "team players"
11. Gets the group to work together for the same goal
12. Develop a team attitude and spirit among employees

Transactional Leadership (Waldman, Ramirez, House, & Puranam, 2001; Bass, 1985; Bass & Avolio, 1995)

1. Takes actions if mistakes are made
2. Points out what people will receive if they do what needs to be done
3. Reinforces the link between achieving goals and obtaining rewards
4. Focuses attention on irregularities, exceptions, or deviations from what is expected
5. Talks about special commendations and/or promotions for good work

LMX (Graen & Uhl-Bien, 1995; Henderson et al., 2008)

1. I usually know how satisfied my supervisor is with what I do
2. My supervisor understands my job problems and needs well
3. My supervisor well recognizes my potential

4. Regardless of how much formal authority he/she has built into his/ her position, my supervisor is very likely to use his/ her power to help me solve problems in my work
5. Regardless of the amount of formal authority my supervisor has, he/ she is very likely to "bail me out," at his/ her expense
6. I have enough confidence in my supervisor that I would defend and justify his/ her decision if he/she were not present to do so
7. I would characterize my working relationship with my supervisor as extremely effective

Power Distance (Dorfman & Howell, 1988)

1. Managers should make most decisions without consulting subordinates
2. It is frequently necessary for a manager to use authority and power when dealing with subordinate
3. Managers should seldom ask for the opinions of employees
4. Managers should avoid off-the-job social contacts with employee
5. Employees should not disagree with management decision
6. Managers should not delegate important tasks to employees

Relational Orientation (Vos, van der Zee, & Buunk, 2012)

1. I enjoy maintaining personal relationships with others
2. I think that close others have much influence on my identity
3. It is important for me to be accepted by close others
4. I like to be absorbed in relationships

5. It is important for my self-image to have personal relations with others
6. I like to be valued by others who are important for me
7. It is important for me to maintain social relations with others

Affective Commitment (Meyer, Allen, & Smith, 1993)

1. I would be very happy to spend the rest of my career with this organization
2. I really feel as if this organization's problems are my own
3. I do not feel a strong sense of "belonging" to my organization (R)
4. I do not feel "emotionally attached" to this organization (R)
5. I do not feel like "part of the family" at my organization (R)
6. This organization has a great deal of personal meaning for me

Leave Intentions (Wang, Law, & Chen, 2002)

1. I might quit the current job and join another organization in the next year
2. I am NOT planning to stay in this organization to develop my career
3. I often think about quitting my job at this organization
4. I would be very happy to spend the rest of my career with this organization

Leader Effectiveness (Rodan & Galunic, 2004; Tsui, 1984)

1. Overall, to what extent is the manager performing his/her job the way you would like it to be performed
2. To what extent has he/she met your expectations in his/her roles and responsibilities?

3. If you had your way, to what extent would you change the manner in which he/she is doing the job
4. To what extent are you satisfied with the total contribution made by this person?

Work Role Performance (Griffin et al., 2007)

1. Carried out the core parts of your job well
2. Completed your core tasks well using the standard procedures
3. Ensured your tasks were completed properly
4. Initiated better ways of doing your core tasks
5. Come up with ideas to improve the way in which your core tasks are done
6. Made changes to the way your core tasks are done
7. Adapted well to changes in core tasks
8. Coped with changes to the way you have to do your core tasks
9. Learned new skills to help you adapt to changes in your core tasks

In-Role Task Performance (Shaw, Duffy, Johnson, & Lockhart, 2005)

1. How good is the quality of your performance?
2. How efficiently do you do your work?
3. When changes are made to your work procedures, how quickly do you adjust to them?
4. How well do you cope with situations that demand flexibility?

OCB (Farh et al., 2007)

1. Initiates assistance to coworkers who have a heavy workload
2. Helps new employees adapt to their work environment

3. Willing to offer assistance to coworkers to solve work-related problem
4. Actively raises suggestions to improve work procedures or processes
5. Actively brings forward suggestions that may help the organization run more efficiently or effectively

Psychological Empowerment (Spreitzer, 1995)

1. The work I do is very important to me
2. My job activities are personally meaningful to me
3. The work I do is meaningful to me
4. I am confident about my ability to do my job
5. I am self-assured about my capabilities to perform my work activities
6. I have mastered the skills necessary for my job
7. I have significant autonomy in determining how I do my job
8. I can decide on my own how to go about doing my work
9. I have considerable opportunity for independence and freedom in how I do my job
10. My impact on what happens in my department is large
11. I have a great deal of control over what happens in my department
12. I have significant influence over what happens in my department

Role Clarity (Schuler, Aldag, & Brief, 1977; Rizzo et al., 1970)

1. I have clear, planned goals and objectives for my job
2. I know that I have divided my time properly
3. I know what my responsibilities are

4. I know exactly what is expected of me
5. I feel certain about how much authority I have on my job
6. Explanation is clear of what has to be done

State Learning Orientation (Sujan, Weitz, & Kumar, 1994)

1. An important part of working at this school is continually improving my skills
2. For me, making mistakes is just part of the learning process
3. It is important for me to learn from each teaching experience I have
4. There is NOT much new to learn in this school (R)
5. I am always learning something new from the people I work with
6. For me, it is worth spending time learning new approaches to teaching
7. Learning how to be a better teacher is of fundamental importance to me
8. I give a lot of effort to learn new things for my job here

Overall Supervisory Fairness (Ambrose & Schminke, 2009)

1. Overall, I'm treated fairly by my supervisor
2. In general, I can count on my supervisor to be fair
3. In general, the treatment I receive from my supervisor is fair

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