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Cooperative and Competitive Orientation among Chinese People: Scale Development and Validation

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ABSTRACT Chinese people are known to be strong in dialectical thinking – a cognitive tendency toward the acceptance of contradiction. Based on this finding, we conceptualized cooperative and competitive orientation as two distinct constructs that represent individual beliefs about and attitudes toward the nature of their relationship with others. We hypothesized that as stable individual differences, cooperative and competitive orientation would have differential effects on people's cognition and behaviour. Adopting a contextualization approach to Chinese management research, we developed a seven-item cooperative orientation scale and a six-item competitive orientation scale that demonstrated high reliabilities and validities. A laboratory experiment using the response latency method showed that people scoring higher on cooperative orientation responded significantly faster toward words of a cooperative nature, whereas people scoring higher on competitive orientation responded significantly faster toward words of a competitive nature. A field survey in multiple Chinese organizations further showed that cooperative and competitive orientation had differential effects on employee task performance and organizational citizenship behaviour beyond the effects of the personality differences. The theoretical and practical implications of this study are discussed in the context of work groups in Chinese organizations and beyond.

KEYWORDS China, competitive orientation, contextualization, cooperative orientation, scale development

INTRODUCTION

While cooperation is essential for organizations to grow, competition is a driving force that keeps employees striving for personal and professional growth. The pervasive use of work teams in modern organizations requires employees to simultaneously cooperate and compete with their team members. Due to the interdependent nature of teamwork, members must cooperate with one another to effectively complete tasks, whereas at the individual level, the need to constantly outperform others and improve one's own performance remains strong. A teamwork context

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thus represents a typical mixed-motive situation (Komorita & Parks, 1995) in which a conflict exists within a person between maximizing individual interest and maximizing collective interest. The emergence of the hybrid word 'co-opetition' succinctly captures the coexistence of the motivation for cooperation and competition (Brandenburger & Nalebuff, 1996).

A review of the traditional Western research on cooperation and competition reveals that cooperation is often defined as the opposite of competition, and most researchers take a one-dimensional view and conceptualize cooperation and competition as two ends of one continuum (e.g., Deutsch, 1949a,b; Rapoport & Chammah, 1965). On the other hand, scholars have observed that Chinese people seem to view cooperation and competition as two independent concepts that do not lie at the opposite ends of a single dimension (e.g., Fang, Wang, & Bai, 1992; Sui & Zhao, 2003; Wang, Peng, & Wu, 2008). This is due to their strong cognitive tendency toward acceptance of contradiction – a form of dialectical thinking (Peng & Nisbett, 1999). Taking this independence view as our departure, we define cooperative and competitive orientation as two distinct concepts that represent individuals' different beliefs about and attitudes toward the nature of their relationship with others. The purpose of this study is threefold: (i) to investigate the meanings of cooperative and competitive orientation as two individual trait/state constructs in the Chinese context; (ii) to develop scales to measure them; and (iii) to report validation studies that demonstrate the utility of these new scales.

In the following pages, we first propose that due to cultural upbringing the Chinese are especially capable of cognitively reconciling the seemingly mutually exclusive meanings of cooperation and competition. Next, we discuss the need to develop a scale to measure individual cooperative and competitive orientation in the Chinese context, adopting the contextualization approach proposed by Farh, Canella, and Lee (2006). We then report the results from three studies that demonstrate the psychometric properties of the new scales, and discuss the theoretical and empirical implications of our findings.

COOPERATION AND COMPETITION IN THE CHINESE CONTEXT

Cooperative and Competitive Orientation as Distinct Constructs

The construct of cooperation/competition has received much attention from researchers in social psychology and organizational behaviour in the West (Argyle, 1991; Bornstein, 1992; Deutsch, 1949a,b; Johnson & Norem-Hebeisen, 1977, 1979; Kelley & Stahelski, 1970; Liebrand, 1984; McClintock & Liebrand, 1988; Mead, 1976; Messick & McClintock, 1968; Parks, 1994; Rapoport & Suleiman, 1993). The majority of this research advocates a one-dimensional view of cooperation and competition and treats them as two ends of a continuum. For example, Kelley

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and Stahelski (1970) posit that there exist two types of individuals – cooperators and competitors, who possess stable differences in their inclination to cooperate and compete. Furthermore, cooperators and competitors have different views of the world and of others. While competitors tend to view others as similar beings, and all similar to themselves, cooperators tend to view others as different or varied. Similarly, Johnson and Norem-Hebeisen (1977, 1979) distinguished between three types of attitudes labelled as cooperative, competitive, and individualistic. Their study showed that students with cooperative attitudes had higher levels of self-esteem and better mastery and retention of learning materials compared to students with competitive attitudes. Scholars in management research have taken a similar view of cooperation/competition. For example, one approach emphasizes the psychological motives, in the tradition of Mead, who defines cooperation as 'the act of working together to one end' and competition as 'the act of seeking to gain what another is endeavoring to gain at the same time' (Mead, 1976: 8), implying the inclination of not working together. Another approach to cooperation and competition emphasizes the social situations as defined by how participants' goals are related to each other (Deutsch, 1949a,b). A situation is cooperative if the goals are promotively interdependent whereas a situation is competitive if the goals are contriently interdependent. Embedded in this approach is the assumption that cooperation is the opposite of competition.

While viewing cooperation/competition as two opposing forces might be deeply rooted in European American ways of thinking, derived from a lay version of Aristotelian logic that tends to polarize contradictory perspectives, the Chinese way of dealing with seeming contradictions is quite different. The *Yin Yang* philosophy, for example, assumes that everything exists in the mystical integration of *yin* and *yang*, entities that are opposed to one another and yet also connected in time and space as a whole. It advocates a dialectical or compromise approach – retaining basic elements of opposing perspectives by seeking a 'middle way' (Peng & Nisbett, 1999). Dialectical thinking is a cognitive tendency toward acceptance of contradiction, and this tendency has been found to be much stronger in Chinese than in Americans (Peng & Nisbett, 1999; Spencer-Rodgers, Boucher, Mori, Wang, & Peng, 2009). Cooperation and competition, viewed as opposite to each other in the West, are therefore likely to be perceived as coexisting rather than opposing by Chinese people.

Supporting the Chinese dialectical view of cooperation and competition, in their study of horizontal–vertical individualism and individual cooperative decision making, Chen and Li (2005) found that the stereotypically 'collective' Chinese in fact scored significantly higher on vertical individualism, an orientation wanting to be better than others; but significantly lower on horizontal individualism, an orientation to maximize personal interest (cf. Triandis, 1995) than did Australians. Moreover, the Chinese were found to make more competitive decisions than did the 'individualistic' Australians (e.g., Hofstede, 1980) in mixed-motive business

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situations where people were facing a conflict between maximizing individual interest and maximizing collective interest. This intriguing finding suggests that there is more complexity involved in an individual orientation than simply labelling it as either collectivistic or individualistic. Combining this finding with previous cross-cultural studies on individualism–collectivism (for a review, see Oyserman, Coon, & Kemmelmeier, 2002), it appears that the Chinese are not only collectivistic, but also vertically individualistic: there is the coexistence of a strong collectivistic/cooperative orientation and a strong individualistic/competitive orientation in the Chinese. This indicates that the Chinese may have a cognitive framework that accepts cooperative and competitive orientation to be distinct constructs that are not necessarily negatively related to each other.

Further supporting evidence came from Keller and Lowenstein's (2010) research. Using a cultural consensus model analysis, Keller and Lowenstein (2010) studied how people in the U.S. and China categorized workgroup cooperation and how similar or different their categories were. They found that while there was substantial cross-national agreement, most Americans and most Chinese had opposite views about the relationship between cooperation and competition. In particular, for a majority of those in the U.S., competition within the group indicated non-cooperation and no competition within the group indicated cooperation, whereas for a majority of those in China, competition within the group indicated cooperation and no competition within the group indicated non-cooperation.

Further, while cooperation and competition may be universal constructs at the abstract level, their content can be quite different in different cultural contexts. For example, in the study exploring how people in the U.S. and China categorize workgroup cooperation and how similar or different their categories are, Keller and Lowenstein (2010) found that the same behaviour, for example delayed responses to emails, was categorized as non-cooperative by the Americans whereas the Chinese viewed it as cooperative because they interpreted the reason for the delay to be a need for discussion time to reach consensus before replying. Similarly, while Americans working for a large corporation viewed 'sticking to deadlines' as cooperative acts, Chinese working for a small venture categorized 'demonstrating flexibility about deadlines' as cooperative. Therefore, the extent to which a behaviour indicates cooperation or competition varies according to the cultural context in which it occurs.

To reflect the meanings of cooperation and competition in the Chinese context to describe an individual trait/characteristic, we define cooperative orientation and competitive orientation as stable individual differences regarding peoples' beliefs about and attitudes toward the nature of their relationship with others. In particular, cooperative orientation is defined as an individual's view of others as interdependent partners and his/her willingness to work with others to achieve common goals. A competitive orientation is defined as an individual's view of others as means for self-development and to demonstrate self-worth.

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A Contextualization Approach to Developing Chinese Scales of Cooperative and Competitive Orientation

Farh et al. (2006) described four approaches to scale development in Chinese management research: the translation approach, the adaptation approach, the de-contextualization approach, and the contextualization approach. The contextualization approach is often referred to as the indigenous approach in which researchers follow a process of presenting a construct and its current definition to Chinese respondents, generating examples of behaviours or indicators that relate to the construct with an open-ended questionnaire or a semi-structured interview, sorting behavioural samples into distinct categories, and pilot testing them in the field using factor analysis (Farh et al., 2006). As most of the influential academic research conducted in Chinese contexts has an indigenous nature (Tsui & Lau, 2002), and indigenous measures developed from the contextualization approach are uniquely suited to contribute to context-specific knowledge about China as these measures are maximally relevant to the local context (Farh et al., 2006), we adopted this approach in developing scales of cooperative and competitive orientation.

METHODS: THREE EMPIRICAL STUDIES

Study 1: Initial Scale Development

In the item generation stage, we interviewed professional managers in a number of organizations to describe beliefs and attitudes that reflected the broad meaning of cooperation and competition, respectively, in the context of their organizations. In the item evaluation stage, we asked research assistants to sort and categorize statements from the interviews. In the item testing stage, we first asked 267 MBA students and professionals to respond to the cooperation and competition statements by indicating the extent to which they reflect their own tendencies (i.e., cooperative and competitive orientation). We conducted exploratory factor analysis to examine the underlying structure of the constructs, and then tested the convergent and divergent validity of the two scales through confirmatory factor analysis (CFA), using another sample of 295 managers in Chinese organizations.

Item generation

First, we interviewed 13 human resource managers from 13 companies in Beijing. Eleven of the interviews were done face-to-face, and two of the interviews were conducted through email. All 13 managers had at least 9 years of work experience, and their ages were between 28 and 40.

The main purpose of the interview was to understand what specific requirements organizations impose on their employees in teamwork and to obtain specific

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examples of attitudes and values/beliefs that managers would view as cooperative and competitive. After presenting the broad definitions of cooperative and competitive orientation (see our definitions earlier) to the interviewees, we asked them two questions: (i) How would you evaluate your current employees' cooperative and competitive orientation? (ii) What specific examples could you provide to illustrate why you evaluated some employees as more cooperative or competitive? We tape-recorded all interviews.

The content analysis of the interview recordings revealed that all interviewees thought that cooperative and competitive orientation could coexist within the same person. As one interviewee said, 'to compete does not necessarily mean to let others fail; it could be a cooperative competition, or a win-win competition'. The interviewees also thought that employees who had a strong tendency to compete may also be the ones who had a motivation to achieve group goals and a strong sense of responsibility.

A total of 45 items that met our definitions were extracted from the interview. Two graduate students (of the second author) who did not know the purpose of the study coded each item separately. There was high consistency (r = 0.94) between their evaluation as to which item represented a cooperative orientation and which item represented a competitive orientation. Among the 45 items, 23 were coded as reflecting the meaning of a cooperative orientation and 22 were coded as reflecting the meaning of a competitive orientation.

We then recruited five researchers to evaluate the extent to which each item reflected the meaning of cooperative and competitive orientation, respectively. These researchers have done research in the field of cooperation, competition, and conflict management. A 5-point Likert scale was used to identify the items that best meet the definition (a score of *5*) to the items that poorly reflect the definition (a score of *1*). The consistency between these five researchers' evaluations was very high ($r_{wg} = 0.80$). After deleting the redundant items and the items that had an average score of below 4, 13 items remained – seven for cooperative orientation and six for competitive orientation. These 13 items were then used for further testing.

Scale Testing I – Exploratory Factor Analysis

Sample and procedure. Participants were 187 MBA students from several universities in Beijing and 80 professional managers in Zhengzhou, People's Republic of China. The average age of the participants was 35, 57.5 percent of them were male, and over 70 percent had college or a more advanced degree. The 13-item questionnaire was distributed to participants either in the classroom or in their workplace. Participants were asked to evaluate the extent to which they agreed with the statements using a 5-point Likert scale (*1 = strongly disagree, 5 = strongly agree*).

Results. Exploratory factor analysis (principal components) of the 13-item scale yielded a two-factor model that explained 43.25 percent of the variance, with the

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Table 1. Factor structure and loadings of the cooperative and competitive orientation scales

	Cooperative orientation	*Competitive orientation*
Cooperative orientation scale		
It is important to coordinate with others at work	0.73	−0.09
It is a pleasure for me to work with others	0.55	−0.10
Working with others helps me to improve performance	0.46	−0.14
It is essential for me to think from others' perspectives at work	0.62	−0.01
It is important to take both my and others' interest into consideration at work	0.61	−0.00
One must rely on others' help to achieve great results	0.64	0.18
One must work with others to succeed	0.74	0.17
Competitive orientation scale		
I feel somewhat disappointed when others perform better than me	−0.12	0.54
I feel envious when my competitors receive awards for their performance	−0.33	0.55
I have low tolerance for failure at work	−0.08	0.68
I hope to do better than others even when we work together in a team	0.01	0.68
My value can only be demonstrated when I perform better than others	0.21	0.70
Sometimes I view contest as an opportunity for me to show that I'm better than others	0.15	0.73

Note: $N = 267$ including 187 MBA students and 80 work professionals.

two factors explaining 23.48 percent, 20.17 percent of the total variance, respectively. Table 1 presents the 13 items and their factor loadings.

It can be seen from Table 1 that the first factor taps into our definition of cooperative orientation, whereas the second factor represents the meaning of competitive orientation. A close look at the items in the cooperation scale indicates that they reflect peoples' beliefs about their relationship with others as being interdependent, and their positive attitude toward working with others. A close look at the items of the competitive orientation scale reveals that they represent peoples' belief regarding self-development – and their aspiration to do better than others – an attitude toward others' role in demonstrating one's own value. Results from the reliability analysis indicate that both scales had high reliabilities ($\alpha = 0.86$ for cooperative orientation and $\alpha = 0.71$ for competitive orientation, respectively). The correlation between the two scales was not significant ($r = -0.05$, n.s.). These results provide initial evidence supporting our conceptual treatment of cooperative and competitive orientation as two distinct constructs.

Scale Testing II – Confirmative Factor Analysis

Sample and procedure. Participants were managers from several organizations in Beijing and Chongqing, People's Republic of China. The 13-item survey was

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distributed to 340 participants, among whom 318 responded (representing a response rate of 93.5 percent) and 295 provided valid responses (valid response rate of 87.4 percent). The respondents' age ranged from 20 to 40, with 42.4 percent of them having over 10 years of working experience. Sixty percent of the participants were male, and approximately 80 percent of them had college and above education.

Results. We conducted a CFA to test the construct validity of the cooperative and competitive orientation scales. The CFA revealed good fit indices for the two-factor model of the 13-item scale, $\chi^2 = 160.71$, d.f. = 56, $p < 0.01$; CFI = 0.94, IFI = 0.94, NFI = 0.91, RMSEA = 0.08. We also conducted CFA on a one-factor model, but found poor fit indices: $\chi^2 = 283.79$, d.f. = 57, $p < 0.01$; CFI = 0.87, IFI = 0.88, NFI = 0.83, RMSEA = 0.12; $\Delta\chi^2 = 122.92$, $p < 0.01$. These results suggest that the two-factor model fits the data significantly better than the one-factor model. Moreover, reliability analysis yielded high reliability for the cooperative orientation scale ($\alpha = 0.73$), as well as for the competitive orientation scale ($\alpha = 0.75$). The correlation between the two scales was not significant ($r = 0.01$, n.s.). These results provide further evidence supporting our conceptual treatment of cooperative and competitive orientation as distinct constructs.

Study 2: Scale Validation – A Response Latency Method

To further establish the distinctiveness of cooperative and competitive orientation, we tested how people with different beliefs about human relationships reacted to stimuli related to the meanings of cooperation and competition. Response latency refers to the time duration between the presentation of a stimulus and the enacted response (Fazio, 1990). In cognitive psychological experiments, response latency is widely used to examine individual cognitive processes and structures. Social cognition literature suggests that how fast people respond to certain stimuli is systematically influenced by the consistency between their internalized self-knowledge network or self-schemata and the nature of the stimuli (Kuiper, 1981; Markus, 1977; Rogers, 1971). Research has found that an individual with a certain trait, when processing information that has a high consistency with that trait, finds it easier to match and process information, and hence experiences shorter reaction time to the stimulus than those with low consistency. In contrast, when processing information that is of a different nature with his/her trait, it requires more time to search and process, resulting in a prolonged reaction time (Fekken & Holden, 1992). Research has also shown that people who score high on a personality trait respond faster to 'positive items' – items consistent with the personality, but slower to 'negative items' – items inconsistent with the personality (Erdle & Lalonde, 1986; Fekken & Holden, 1992). Therefore, response latency or reaction time can be used as behavioural indices of individual trait measures.

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In the current study, we adopt this view and posit that, as distinct constructs, cooperative and competitive orientation should have their own independent cognitive schema. We further reason that the cognitive schemata will exert systematic influences on individuals' response latency to stimuli of a certain nature. Specifically, we hypothesize:

Hypothesis 1a: High cooperators will have a shorter reaction time to stimuli of a cooperative nature than to stimuli of a competitive nature, whereas high competitors will have a shorter reaction time to stimuli of a competitive nature than to stimuli of a cooperative nature.

Hypothesis 1b: High cooperators will have a shorter reaction time to stimuli of a cooperative nature than will high competitors, whereas high competitors will have a shorter reaction time to stimuli of a competitive nature than will high cooperators.

Method of Study 2

Selection of stimuli words. Thirty graduate students from Peking University were asked to come up with at least five words that have the meaning of cooperation or competition. A total of 170 words were obtained, among which 90 were adjectives related to the meaning of cooperation, and 80 were adjectives describing the meaning of competition. We then asked another 30 undergrad psychology students to evaluate the extent to which these words were accurate in describing the meaning of cooperation and competition (*5 = very accurate; 1 = very inaccurate*). We chose 30 words that had an average score of 4 or higher, and within-subjects consistency of 0.80 or higher as target words in the experiment. In addition, we mixed the other 40 neutral words (as noise) into these 30 words as experimental stimuli to which participants would respond.

Selection of participants. Three hundred students from Peking University participated in completing the seven-item cooperative orientation and six-item competitive orientation scales developed in Study 1. We divided them into four categories using the 25 percent threshold according to their scores on the two scales: high coopetitor (scoring in the top 25 percentile on both scales: 24), high competitor (scoring in the top 25 percentile on competitive orientation but in the bottom 25 percentile on cooperative orientation scale: 28), high cooperator (scoring in the top 25 percentile on cooperative orientation but in the bottom 25 percentile on competitive orientation scale: 24), and low coopetitor (scoring in the bottom 25 percentile on both scales: 27). These 103 participants were called to the laboratory for the experiment, among which 88 were able to participate, resulting in 22 people in each category.

Experimental procedure. We adopted the general experimental paradigm used in social cognition studies (see Fekken & Holden, 1992; Markus, 1977). We presented

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stimuli (words in this case) on a computer screen and asked subjects to respond as fast as possible regarding whether or not the stimulus described his/her personal characteristics. The reaction time of the participant was then recorded. Before the experiment, we let participants do some warm-up exercises and made sure that the keyboard was balanced for both left and right hands. When the subjects were ready, the following instruction was presented on the computer screen:

> Please judge whether the following adjective word describes your personal characteristics, if yes, press the key on your right side, if not, press the key on your left side (the other half subjects were given opposite instruction: if yes, press the key on left side, and if not, press the key on right side). Please make your judgment as fast as possible. Below are 10 words for you to use as an exercise.

After the exercise, the subjects were given a chance to ask questions. After making sure that everyone understood the rules of the experiment, formal trials began. The experiment lasted about 30 min. Upon completion, all participants received a small gift as a token of appreciation. They were then debriefed and dismissed.

Results of Study 2

Hypothesis testing. All responses to a presented stimulus could be classified into four categories: a cooperator answered 'yes' to a cooperative word, 'yes' to a competitive word, 'no' to a cooperative word, or 'no' to a competitive word. Similarly, a competitor could have answered 'yes' to a competitive word, 'yes' to a cooperative word, 'no' to a competitive word, or 'no' to a cooperative word. In this experiment, we were only interested in the reaction time of a high/low cooperator when he/she answered 'yes' to a cooperative or competitive word, and the reaction time of a high/low competitor when he/she answered 'yes' to a competitive or cooperative word. *T*-tests were performed to test H1a, which revealed that the high cooperators' reaction time to cooperative words was significantly shorter (M = 9,550 ms) than their reaction time to competitive words (M = 9,950 ms), $t = 2.34$, $p < 0.05$. On the other hand, high competitors' reaction times did not differ significantly between responding to cooperative words (M = 9,260 ms) and competitive words (M = 9,250 ms). These results provide partial support for H1a.

To examine H1b, that high cooperators would have a shorter reaction time to words of a cooperative nature than would low cooperators, whereas high competitors would have a shorter reaction time to words of competitive nature than would low competitors, we compared the two groups' reaction time to the same type of words. *T*-tests revealed that high cooperators did respond faster to cooperative words (M = 9,430 ms) than low cooperators (M = 9,610 ms), but the difference was not significant at the 0.05 level. On the other hand, high competitors responded

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significantly faster to competitive words (M = 9,230 ms) than did low competitors (M = 10,020 ms), $t = 2.41$, $p < 0.05$. These results provide partial support for H1b.

The two sets of results together suggest that the reaction time is shorter toward words with meanings that are more consistent with people's self-schema (cooperative or competitive orientation in this study). This finding is consistent with previous research using personality as self-schema (Erdle & Lalonde, 1986; Fekken & Holden, 1992).

Study 3: Further Validation of Scales – A Field Study

So far we have demonstrated the construct validity and the distinctiveness of the cooperative and competitive orientation scales. To further test the scales' predictive validity, we conducted a field study in Chinese organizations. As cooperative and competitive orientation are treated as relative stable individual traits in our study, we wanted to demonstrate that (i) they are different constructs than personality traits, and (ii) their effects on employee task performance and organizational citizenship behaviour (OCB) go above and beyond the effects of personality traits.

Task performance and OCB are the two most important forms of employee output in organizations. Task performance contributes directly through the production of goods and services, whereas OCB (or extra-role/contextual performance) contributes indirectly to organizational success by maintaining or improving the organizational, social, or psychological environment in which the technical core is embedded (e.g., Borman & Motowidlo, 1993; Katz & Kahn, 1978; Organ, 1997). Typical OCBs in Chinese organizations include helping and cooperating with others, volunteering to do more than the minimum required by the job, maintaining interpersonal harmony within the group, protecting company resources, and supporting organizational objectives (Farh, Earley, & Lin, 1997). As both task performance and OCB contribute to overall organizational effectiveness, we include both in our study.

A brief review of the personality literature indicates that among the construct domains of the most popular Big Five personality measure (Costa & McCrae, 1985) – extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience – three of them are quite different from those of cooperative and competitive orientation. For example, conscientiousness is a personality trait describing the extent to which someone is responsible, dependable, persistent, and organized; emotional stability describes the extent to which someone is calm, self-confident, and secure; openness to experience describes the extent to which someone is imaginative, sensitive, and curious. The one personality dimension that may be overlapping with cooperative orientation is agreeableness, which describes the extent to which someone is good-natured, cooperative, and trusting; and the one personality that may be overlapping with competitive orientation is extraversion, describing the extent to which someone is

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sociable, gregarious, and assertive (e.g., Digman, 1990). However, the content of these personality traits do not tap into the domains of cooperative or competitive orientation as we defined in this study, such as believing in the interdependent nature of human relationship and positive attitudes toward working with others, or believing that one demonstrates his/her self-worth through outperforming others. Therefore, we hypothesize:

Hypothesis 2: Cooperative and competitive orientation are two individual traits that are distinctively different from the Big Five personalities.

Motowidlo, Borman, and Schmit (1997) introduced a theory of individual differences in task performance and OCB. In support of the theory, subsequent research found significant relationships between the Big Five and job performance (e.g., Barrick & Mount, 1991). Whereas conscientiousness predicted job performance for all occupational groups (e.g., Barrick & Mount, 1991; Hurtz & Donovan, 2000), other personality dimensions demonstrated different predictability when using different performance criterion or for different occupational groups. For instance, extraversion predicted performance in managerial and sales positions, and openness to experience was found to be important in predicting training proficiency (Vinchur, Schippmann, Switzer, & Roth, 1998). Consistent with these findings, evidence also finds a relatively strong and stable relationship between conscientiousness and OCB (Organ & Ryan, 1995), and positive relationships between extraversion, agreeableness, and emotional stability and voluntary cooperative behaviour in a teamwork setting (e.g., LePine & Van Dyne, 2001).

As cooperative and competitive orientation are defined as stable individual differences in peoples' beliefs and attitudes regarding the nature of their relationship with others, we argue that in addition to the Big Five personalities, cooperative and competitive orientation will also significantly affect peoples' work behaviour, including their task performance and OCB. As discussed earlier, due to the pervasive use of team structure in the workplace and the interdependent nature of teamwork, cooperation and competition have become an integral part of daily work, and teamwork becomes increasingly mixed-motive in nature (for a review, see Komorita & Parks, 1995). Individuals who view human relationships as interdependent and find pleasure in working with others are likely to have more communication and interactions with their colleagues, and therefore they have more exchanges of information and knowledge with, and more opportunities to learn from others. As a result, they will develop high levels of self-efficacy and are more likely to improve performance and do their job well (Bandura, 1997). Past research in mixed-motive situations such as negotiation has indicated that a cooperative approach as opposed to a contentious one leads to higher pay-offs for both the self and the group (Dean & Carnevale, 1993).

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In a similar vein, individuals who score high on cooperative orientation are more willing to give a helping hand to those in need because they have more frequent communication and interaction with their colleagues which are likely to bring more social exchanges in their relationships (Blau, 1964). This could lead to forming affective bonds and enhancing harmony among group members (Chen & Chen, 2004; Hwang, 1987; Shore, Coyle-Shapiro, Chen, & Tetrick, 2009). Previous research on social orientation (e.g., McClintock & Liebrand, 1988; Parks, 1994) suggests that individuals with a cooperative as opposed to a competitive orientation were more likely to make a voluntary contribution to public good. To the extent that organizational success resembles the public good to organizational members (Chen & Chen, 2009), we expect these individuals to exhibit more OCBs.

On the other hand, individuals who score high on the competitive orientation scale are more likely to focus on self-development and to aspire to do better than others. Under the teamwork structure, to get ahead, they are likely to pay more attention to their own work and try to get more resources and support for their own work. Consequently, they are more likely to excel in their own task performance. Such a strong drive for personal success, on the other hand, is likely to result in ignoring others' needs, or of the team or organizational goals, and therefore these individuals are less likely to perform discretionary behaviours that take much of their personal time, but do not directly benefit their personal goals. Accumulated research in social dilemmas has shown consistently that those who have a strong competition orientation are more likely to 'defect' the collective interest to pursue their self-interest (Bornstein, 1992; Liebrand, 1984).

Taken together, we hypothesize:

Hypothesis 3a: Employees' cooperative orientation will be positively related to both their task performance and OCB, beyond the effects of the Big Five personality traits.

Hypothesis 3b: Employees' competitive orientation is positively related to their task performance but negatively related to OCB, after controlling for the effects of the Big Five personality traits.

Method of Study 3

Sample and procedure. Participants in this study came from 11 organizations in Beijing. These organizations include state-owned, foreign-owned, and domestic private enterprises, in the automobile, IT, electronics, publishing, medical, and consulting industries. With the help from the human resource department in these organizations, we distributed a total of 350 questionnaires to the employees and 58 questionnaires to their correspondent supervisors. The employees did not know that their supervisors were evaluating them, and they were informed that all their responses would be kept confidential. Self-addressed envelopes were provided so

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that the completed questionnaires were directly mailed back to the second author of the paper. The average age of the employee sample was 32.12 years old (SD = 8.27), with 52.1 percent of them being male. Six percent of them were assistants, 64 percent of them were staff members, 13 percent were assistant managers, 16 percent were managers/directors/department chairs, and 2 percent of them were senior managers. The mean age of the supervisor sample was 37.51 (SD = 7.72), and 72.4 percent of them were male. Among these participants, 58 percent of them were managers/directors/department chairs, 31 percent of them were senior managers, and 11 percent of them were general managers or CEOs. A total of 274 employee questionnaires were collected (representing a response rate of 78.3 percent), and among them 234 completed all questions (valid response rate 66.7 percent). On average, each supervisor evaluated 6.33 subordinates (SD = 3.70). Therefore, the data from a total of 234 matching supervisor–subordinator dyads were included in our analyses.

Measures. We created two questionnaires for this study: an employee questionnaire in which we asked subordinates to report their personality using the Big Five scale and to complete the cooperative and competitive orientation scales; and a supervisor questionnaire in which we asked them to evaluate their direct subordinates' task performance and OCB. Therefore, our independent and dependent measures came from different sources, which minimized the potential common method error (Podsakoff, MacKenzie, & Podsakoff, 2003).

Cooperative and competitive orientation. The 13-item scale developed in Study 1 was used to measure employees' cooperation and competition. The reliabilities (Cronbach's alpha) were 0.86 for cooperative orientation and 0.87 for competitive orientation scales, respectively.

Personality. The Big Five personality traits were measured with the 40-item Mini-Markers (a brief version of Goldberg's unipolar Big Five Markers) (Saucier, 1994), with a 9-point Likert scale (*1 = extremely inaccurate, 9 = extremely accurate*). Extraversion, Openness, Agreeableness, Emotional stability, and Conscientiousness were each measured with an eight-item scale. The five scales were computed by summing the responses to each of these items. We ran a CFA of the 40 items and found that the fit indices for the five-factor model were good ($\chi^2 = 65.61$, d.f. = 23, CFI = 0.96, GFI = 0.95, NFI = 0.91, RMSEA = 0.08). The reliability coefficients of the Big Five scales were 0.83 (Extraversion), 0.76 (Openness to experience), 0.82 (Agreeableness), 0.83 (Emotional stability), and 0.80 (Conscientiousness), respectively.

Task performance. Supervisors rated the task performance of their subordinates, using a seven-item scale developed by Williams and Anderson (1991). Sample items included, 'Performs the tasks that are expected as part of this job' and 'Adequately completes responsibilities'. A 5-point Likert scale was used to measure

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task performance (*1 = not at all, 5 = frequently*, if not always). The reliability coefficient for this measure was 0.94.

Organizational citizenship behaviour. Supervisors also rated their subordinates' OCB. We used Farh et al.'s (1997) OCB scale because it was developed in the Chinese context. This scale comprised of five subscales (altruism, conscientiousness, civic virtue, interpersonal harmony, and protecting company resources) with a total of 20 items. Given the high correlations among the OCB dimensions (ranging from 0.50 to 0.72) and our theoretical focus on the overall OCB, we followed previous studies (Hui, Law, & Chen, 1999; Wong, Ngo, & Wong, 2006) to collapse the five dimensions and use the mean of all items to create a composite index of OCB. The reliability coefficient (Cronbach's alpha) for the scale was 0.91.

Control variables. Subordinates' and supervisors' demographics, including gender, age, and job position were included as control variables in this study.

Results of Study 3

CFA results. We first conducted a CFA to test the construct validity of the 13-item cooperation and competition scales. The CFA revealed good fit indices for the two-factor model, $\chi^2 = 150.61$, d.f. = 56, $p < 0.01$; CFI = 0.97, IFI = 0.97, NFI = 0.95, RMSEA = 0.08. We also conducted CFA on a one-factor model, and found poor fit indices: $\chi^2 = 1{,}036.94$, d.f. = 65, $p < 0.01$, CFI = 0.66, IFI = 0.66, NFI = 0.59, RMSEA = 0.30 ($\Delta\chi^2 = 885.67$, $p < 0.01$). These results suggest that the two-factor model fits the data significantly better than the one-factor model, further supporting our conceptualization that cooperative and competitive orientations represent two distinct constructs.

Hypotheses testing. In order to test Hypothesis 2 that the cooperative and competitive orientation scales developed in this study are conceptually different from the Big Five, we conducted three sets of CFAs and compared the fit indices of a seven-factor model (Big Five, Cooperative orientation, Competitive orientation) to a five-factor model (three personality dimensions, cooperative orientation with agreeableness, competitive orientation with extraversion), and to another five-factor model (four personality dimensions, cooperative and competitive orientation together with agreeableness). The fit indices of these three types of models are presented in Table 2. It can be seen that the seven-factor model fits the data significantly better than the two five-factor models. These results provide strong support for Hypothesis 2.

Table 3 presents the mean, standard deviation, and correlations of all variables used in this study. It can be seen that OCB is positively related to openness, conscientiousness, extraversion, emotional stability, and cooperative orientation (r ranges from 0.14 to 0.56, $p < 0.05$), and that task performance is positively

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Table 2. CFA results for various models

	χ^2	*d.f.*	$\chi 2/d.f.$	$\Delta\chi^2$	*CFI*	*RMSEA*
Model 1						
Seven factors; Big-Five, cooperative, and competitive orientation	888.33	329	2.70	—	0.91	0.07
Model 2						
Five factors; Big-Five with cooperative orientation in agreeableness, and competitive orientation in extraversion	1,483.52	340	4.36	595.19**	0.83	0.12
Model 3						
Five factors; Big-Five with cooperative and competitive orientation in agreeableness	1,798.85	340	5.29	910.52**	0.80	0.17

Notes:
** $p < 0.01$.
$N = 274$.
CFA, confirmatory factor analysis; CFI, comparative fit index; RMSEA, root mean square error of approximation.

related to openness, conscientiousness, extraversion, cooperative orientation, and competitive orientation (r ranges from 0.15 to 0.35, $p < 0.05$). These results provide preliminary evidence for H3a and H3b.

As supervisors rated multiple employees, we analysed our data with multilevel modelling (e.g., HLM) to test H3a and H3b. We first entered the demographic variables of the subordinates (age, gender, position) as Level 1 variables, followed by the Big Five as Level 1 variables, and the demographic variables of the supervisor (number of subordinates, age, gender, position) also as Level 2 variables. We then entered the main effects of cooperative and competitive orientation, respectively, as Level 1 variables. The results of this analysis are presented in Table 4.

Several noticeable findings can be seen from Table 4. First, the demographic variables (both supervisor and subordinate) explained 7 percent of the variance in OCB and 11 percent of the variance in task performance. Among the demographics, only supervisors' gender had a significant effect on subordinates' OCB – subordinates of a female supervisor exhibited more OCBs than those of a male supervisor. Second, the Big Five personalities explained significant amounts of additional variance in OCB (18 percent, $p < 0.01$) and in task performance (19 percent, $p < 0.01$), respectively. Among them, conscientiousness had a significant positive relationship with both OCB and task performance ($\beta = 0.37$ and $\beta = 0.19$, $p < 0.01$, respectively). Extraversion had a positive relationship with task performance ($\beta = 0.10$, $p < 0.05$) and agreeableness was positively related to OCB ($\beta = 0.37$, $p < 0.05$). These results are largely consistent with previous research (e.g., Hough, 1992; Mount, Barrick, & Stewart, 1998; Organ & Ryan, 1995).

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Table 3. Means, standard deviations, and correlations of the variables

	Means	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
1. Subordinate age	32.12	8.27															
2. Subordinate gender	1.48	0.50	−0.09														
3. Subordinate position	2.42	0.89	0.33**	0.01													
4. Superior age	37.51	7.72	0.50**	0.01	0.24**												
5. Superior gender	1.28	0.45	−0.20**	0.07	0.02	−0.20**											
6. Superior position	1.53	0.69	0.21**	0.07	0.49**	0.61**	0.06										
7. Openness	47.71	7.76	−0.15*	−0.13*	0.09	−0.03	0.17**	0.11	(0.76)								
8. Conscientiousness	52.59	8.08	0.07	−0.06	0.08	0.10	−0.02	0.04	0.38**	(0.80)							
9. Extraversion	46.96	9.84	−0.18**	−0.04	0.08	0.04	0.17**	0.08	0.43**	0.14*	(0.83)						
10. Agreeableness	53.39	8.87	−0.08	−0.02	−0.24**	−0.30**	−0.07	−0.29**	0.03	0.20**	−0.04	(0.82)					
11. Emotional stability	32.19	10.22	0.03	−0.14*	−0.14**	−0.11	−0.06	−0.16*	0.00	0.37**	−0.20*	0.56**	(0.83)				
12. Number of subordinates	6.33	3.70	0.11	0.02	−0.01	0.49**	−0.11	0.36**	−0.04	−0.06	−0.01	−0.23**	0.06				
13. Cooperative orientation	45.96	8.07	0.02	−0.11	−0.13	−0.16*	−0.10	−0.19**	0.25**	0.28**	0.03	0.64**	−0.40**	−0.19**	(0.86)		
14. Competitive orientation	30.83	9.68	−0.02	0.06	0.26**	0.19**	0.12	0.21**	0.19**	−0.06	0.36**	−0.52**	0.54**	0.17**	−0.23**	(0.87)	
15. OCB	103.15	18.97	0.10	−0.06	−0.12	−0.05	−0.24**	−0.16*	0.14*	0.29**	−0.06	0.36**	−0.26**	−0.15*	0.56**	−0.23**	(0.94)
16. Task performance	29.58	4.95	0.05	−0.06	0.10	0.11	−0.16*	0.06	0.27**	0.35**	0.23**	−0.02	0.09	−0.05	0.20**	0.15*	0.59**

* $p < 0.05$; ** $p < 0.01$.
$N = 234$ at the individual level; $N = 57$ at the supervisor level.
OCB, organizational citizenship behaviour; SD, standard deviation.

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Table 4. Results of hierarchical linear modeling analyses: effects of cooperative and competitive orientation on employees' organizational citizenship behaviour and task performance[a]

	Organizational citizenship behaviour			*Task performance*		
	Model 1	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*
Controls						
Intercept	105.25** (2.02)	104.67** (1.95)	104.28** (1.82)	29.69** (0.51)	29.81** (0.51)	29.90** (0.53)
Demographics (Level 1 variables)						
Subordinate age	−0.02 (0.12)	0.02 (0.13)	−0.03 (0.11)	−0.13* (0.06)	−0.06 (0.05)	−0.05 (0.04)
Subordinate gender	0.63 (2.56)	0.58 (2.41)	1.45 (1.83)	−0.14 (0.43)	−0.02 (0.45)	0.05 (0.51)
Subordinate position	−0.86 (1.47)	−1.10 (1.27)	−0.89 (1.08)	0.92* (0.42)	0.37 (0.31)	0.29 (0.37)
Big Five (Level 1 variables)						
Conscientiousness		0.37** (0.14)	0.34** (0.11)		0.19** (0.05)	0.18** (0.04)
Extraversion		−0.07 (0.11)	−0.09 (0.10)		0.10** (0.03)	0.09** (0.03)
Agreeableness		0.37* (0.17)	−0.10 (0.20)		−0.03 (0.05)	−0.05 (0.05)
Openness		0.21 (0.18)	−0.06 (0.17)		0.04 (0.05)	−0.01 (0.04)
Neuroticism		−0.10 (0.14)	−0.07 (0.14)		0.08* (0.03)	0.04 (0.04)
Demographics (Level 2 variables)						
Number of subordinates	−0.99 (0.71)	−0.73 (0.54)	−0.50 (0.51)	−0.18 (0.18)	−0.15 (0.17)	−0.18 (0.19)
Supervisor age	0.23 (0.34)	0.19 (0.26)	0.09 (0.24)	0.22** (0.08)	0.10 (0.07)	0.08 (0.11)
Supervisor gender	−7.87* (3.88)	−8.14* (3.40)	−6.74* (3.04)	−1.01 (0.94)	−1.70 (0.87)	−1.59 (1.21)
Supervisor position	−2.60 (2.65)	−1.57 (2.31)	−1.10 (2.22)	−0.94 (0.76)	−0.54 (0.76)	−0.34 (0.96)
Main effects						
Predictors (Level 1 variables)						
Cooperative orientation			1.06** (0.23)			0.09* (0.04)
Competitive orientation			0.06 (0.13)			0.11* (0.04)
R^2	0.07	0.25	0.39	0.11	0.30	0.43

* $p < 0.05$; ** $p < 0.01$.

[a] $N = 234$ at subordinate level, $N = 57$ at supervisor level. R^2 is calculated based on proportional reduction of Level 1 and Level 2 error variance due to predictors in the models of Table 4 (Snijders & Bosker, 1999).

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Finally, of the greatest interest, we found that after controlling for the effects of the demographics and the Big Five, cooperative and competitive orientation explained an additional significant amount of unique variance in OCB (14 percent, $p < 0.01$) and task performance (13 percent, $p < 0.05$), respectively. Specifically, cooperative orientation had significant positive relationships with OCB ($\beta = 1.06$, $p < 0.01$) and task performance ($\beta = 0.09$, $p < 0.05$); whereas competitive orientation had no significant relationship with OCB ($\beta = 0.06$, n.s.), but a significant positive relationship with task performance ($\beta = 0.11$, $p < 0.05$). R^2 reported in Table 4 is calculated based on proportional reduction of Level 1 and Level 2 error variance due to predictors in the models of Table 4 (Snijders & Bosker, 1999). These results provide considerable support for H3a and partial support for H3b.

DISCUSSION

Building on the finding that the Chinese are strong dialectic thinkers who have a cognitive tendency to accept contradictions (Peng & Nisbett, 1999), we conceptualized cooperative and competitive orientation as two distinct constructs representing stable individual differences in peoples' beliefs about and attitudes toward the nature of human relationships. Adopting the contextualization approach to Chinese management research (Farh et al., 2006), we developed two separate scales to measure cooperative orientation (seven-item) and competitive orientation (six-item), respectively. Data from three studies showed high convergent and divergent validities for the two scales. Specifically, using the response latency method in a lab experiment, we demonstrated that people who scored high on the cooperative orientation scale responded to words of cooperative nature significantly faster than to words of a competitive nature, whereas high competitors responded to words of a competitive nature significantly faster than did low competitors. Moreover, using matched data from supervisor–subordinate dyads in a field survey conducted in multiple Chinese organizations, we found that employees who reported higher scores on the cooperative orientation scale were evaluated as better task performers and engaging in more OCBs, whereas employees who reported higher scores on the competitive orientation scale were ranked better task performers but not necessarily exhibiting more OCBs. Overall, these results suggest that cooperative and competitive orientation are distinct individual traits and that they have differential effects on peoples' cognition and behaviour.

The consistent patterns of results across the three studies are all the more compelling in light of the testing contexts, research methods, and samples between studies. First, we used a qualitative approach to develop the scales using MBA students and professionals in organizations in Study 1. In Study 2 we used samples from college students and tested the distinct nature of cooperative and competitive orientation as stable individual traits in a well-controlled laboratory. In Study 3, a field study was conducted using samples from supervisors and subordinates in their

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current work settings. Second, multiple behavioural responses were measured to capture different effects of cooperative and competitive orientation. Supporting results not only appeared on the reaction time measure in most social cognition studies examining individual schemata, but also on more observable behaviours such as task performance and OCB. The fact that consistent results emerged across studies, samples, and across different dependent variables attests well to the validity of our findings.

Theoretical Contributions

The present research challenges the Western view of cooperation and competition in significant ways. Our results show clearly the coexistence of a cooperative and a competitive orientation as individual traits reflecting peoples' beliefs about human relationships. It is worth noting that the content manifested in our scales is different from that in the West in at least two important ways. First, our items capture peoples' beliefs and attitudes about the nature of their relationship with others, while the Western literature uses behavioural tendency (Kelley & Stahelski, 1970), behaviour (Mead, 1976), attitudes (Johnson & Norem-Hebeisen, 1977, 1979), or situation of goal interdependence nature (Deutsch, 1949a,b) to define or measure cooperative and competitive orientation. Second, the items in our scales represent different rather than opposite views of human relationships. In the Western literature, even when the constructs were sometimes treated as distinct, the underlying assumption is that cooperative and competitive orientations are negatively related to each other. The present research broadens the perspective of conceptualizing cooperative and competitive orientation that could have profound influence on future research.

We proposed a cognitive foundation – dialectical thinking – as a basis for conceptualizing cooperative and competitive orientation as two distinct constructs, but did not directly capture the actual thought processes participants engaged in our studies. Is it the case that only people who are capable of dialectical thinking can develop holistic views of seemingly opposing concepts? In extending this line of research, it might be worthwhile to examine the extent to which our assumption is valid, and whether or not there exist other explanations for our findings. Understanding the complexities of the process involved in conceptualizing 'opposing' concepts as distinct ones can shed some additional light on the extent to which our findings may be generalized to people in non-Chinese cultural contexts. In fact, research on emotions conducted in the U.S. has found that some people such as women in high positions are more capable of experiencing ambivalent motivation and emotions than others (e.g., Fong & Tiedens, 2002), suggesting that individual differences in dialectical motivation/emoting exist within a culture. For the same reason, we speculate that there exist people who are capable of dialectical thinking in every culture (not just in China), and

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our findings might well be generalized to people who are characterized with this cognitive capacity.

Second, our findings indicate that the cooperative and competitive orientation are different from the Big Five personalities, and that they are individual attributes that are equally (if not more) powerful predictors of behaviours in organizations. The fact that cooperative and competitive orientation explained significant amounts of additional unique variance in employee task performance and OCB after controlling the effects of the Big Five suggests the importance of these two individual attributes to help us better understand, explain, and predict work behaviours. In today's teamwork environment, including these attributes will provide us a more comprehensive understanding of how individual-level factors influence teamwork behaviour.

Third, the development of the valid cooperative and competitive orientation scales will facilitate more future organization and team research. More systematic studies can be conducted to examine the common and unique antecedents and consequences for cooperative and competitive orientation, thus establishing a nomological network for these two constructs. For example, beyond understanding the creativity process across cultures (Morris & Leung, 2010), do individual attributes like cooperation and competition orientation influence creativity differently in different cultures? Also, previous research has shown that people who can experience more ambivalent emotions tend to be more creative than those who experience few (e.g., Fong, 2006), and it would be interesting to study whether or not people with strong cooperation orientation as well as strong competition orientation will be more creative than people who are not strong on both orientations. Moreover, we might be able to further our theoretical development regarding cooperative and competitive orientation, so as to examine their moderating effects on the various relationships among important organizational variables, such as the relationship between task structure and work team performance, the relationship between organizational culture and individual turnover behaviour, and so on. The introduction of the two scales opens an avenue to re-examine many organizational behaviour and human resource issues, which in turn could bring fresh perspectives and shed light on previously puzzling phenomena, such as why individual performance-based reward systems work effectively in motivating the 'collectivistic' Chinese employees (e.g., Chen, 1995). It could be because these employees have a very strong competitive orientation, and that the individual performance reward system facilitates their motivation to outperform others.

In addition, it is interesting to find that competitive orientation did relate positively to personal task performance but did not exert negative effect on OCB. Viewing others as means to develop self, to show self-worth, or to demonstrate self-superiority is not necessarily achieved at the expense of undermining the collective interest is somewhat counter-intuitive, but has significant theoretical

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implications. It suggests that a competitive orientation can serve as an individual attribute that facilitates performance, just as conscientiousness (Barrick & Mount, 1991) or a cooperative orientation can.

While a majority of the findings provided strong support for our hypotheses, there was one non-significant finding that warrants discussion. This finding was from Study 2, in which high cooperators did not respond faster to cooperative words than low cooperators. A plausible explanation for this might be related to the variance of our data. We found that participants' scores on the cooperative orientation scale were highly skewed toward the high end, and the difference between scores of a high cooperator and a low cooperator was only two points (maximum four points). One of the reasons for the positively skewed distribution might be related to the social desirability effect. Putting our study in a broader context of the Chinese culture in which interpersonal harmony, cooperation, and 'face' are highly emphasized (Hwang, 1987; Triandis, 1995), it is conceivable that a socially desirable way of reporting oneself on the cooperative orientation scale is to give a high rating to the items. Future studies should make an effort to examine the social desirability effect when measuring cooperative orientation. More cross-validation can also be done to examine the consistency between what we get from our cooperative orientation scale and previous measurement methods such as the decomposed games[1] developed by Kelley and Thibaut (1978) and others (e.g., Liebrand, 1984) in measuring social orientation.

We tested our hypotheses in the Chinese context, which is a unique culture in which people have a strong cognitive tendency of reconciling contradictive perspectives. Studies have shown that East Asian cultures differ on many dimensions. For example, Kim, Weber, Leung, and Muramoto (2010) found differences in perceptions of fairness among Japanese, South Korean, and Hong Kong people. Chen (2005) described numerous differences in business styles among Chinese, Japanese, and Koreans. Recent research on naïve dialecticism (Spencer-Rodgers et al., 2009), however, has shown that East Asians, not only Chinese, but also Japanese, have beliefs characterized by tolerance for contradiction, the expectation of change, and cognitive holism. They also found that contradictory self-knowledge was more readily available and simultaneously accessible among East Asians than among Euro-Americans. It will be desirable to see how varying degrees of dialectical thinking would influence the extent to which people in other East Asian cultures view cooperation and competition as distinct or as negatively correlated.

Moreover, we can also test the extent to which cross-cultural value dimensions (e.g., individualism–collectivism, high-context vs. low-context) influence individual differences in cooperative and competitive orientation. Future studies could also test how these two constructs manifest at the cultural level, and how people with different cooperative/competitive orientation interact with others from different cultures. There seem to be endless possibilities for further research on the constructs of cooperative and competitive orientation.

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Limitations

We recognize on the other hand that this research has limitations. One limitation is related to the cross-sectional data in the survey study, which prevent us from making causal inferences of our findings. For instance, while we found that cooperation orientation was positively related to in-role and extra-role performance, the direction of the cause and effect is not certain. It could be that engaging in more OCB makes a person more cooperation-oriented. Studies with a longitudinal design will be helpful to provide more direct evidence. Another limitation has to do with the generalizability of our findings. Even though we tested the psychometric properties of the two scales with both college students and organizational employees, we were not able to test them in other samples from different work and cultural contexts.

Practical Implications

Our findings have important practical implications as well. The cooperative and competitive orientation scales can be used as recruiting tools in selecting job candidates; people who score high on both scales will be better performers than those who score low on either or both scales. On the other hand, leaders who are interested in promoting more OCBs will need to focus more on cooperative as opposed to competitive orientation because competitive orientation does not appear to be a significant predictor of OCB. With the workplace becoming increasingly competitive and requiring more coordination and cooperation in teamwork at the same time, the importance of treating cooperative and competitive orientation as distinct constructs is evident. The measurement tool helps managers to recruit and predict employee behaviour.

CONCLUSION

The current study challenges the Western view of cooperation and competition as opposing ends of a continuum and demonstrates that the Chinese people tend to reconcile the seemingly contradictory notion of cooperation and competition and develop both cooperation and competition orientation simultaneously. This finding suggests that dialectical and holistic thinking might be a defining characteristic of the Chinese managers who are constantly faced with uncertain and contradictory situations. Our findings can shed light on future research of Chinese managers as to how they integrate extremes in complex situations, identify commonalities in conflicting relationships, and make decisions that can fulfil needs of various constituencies who have conflicting interests simultaneously.

NOTES

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and the action editor Larry Farh for their insightful comments and constructive suggestions on earlier drafts of the paper. Please send correspondence of this article to Xiaofei Xie, Department of Psychology, Peking University or via email xiaofei@pku.edu.cn.

[1] An example of a decomposed game is the RING test (Liebrand, 1984; Liebrand & McClintock, 1988) that consists of 24 two-alternative questions. Each alternative depicts a hypothetical pay-off allocation situation between the participant (self) and a hypothetical person (other). An example question is: Alternative A (self: \$13.0, other: \$7.5), Alternative B (self: \$3.9, other: \$14.5). The participant has to indicate which of the two pay-off allocation alternatives he/she prefers. The pairs are chosen from all possible allocations, with the property that (self^2 + other^2) = constant. In the present case, the constant = 225, which determines a circle with a radius of 15, hence the name Ring. The pairs are chosen such that across all 24 two-alternative items, Mean (self) = Mean (other) = 0. Social orientation is determined by the average allocation to 'own' and the average allocation to the 'other', which can be roughly categorized into four types: competitors, individualists, cooperators, and altruists. Individuals' scores on the cooperative and competitive orientation scales can be compared with their location in the RING to examine consistencies.

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