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CONFLICT MANAGEMENT AND TASK REFLEXIVITY FOR TEAM IN-ROLE AND EXTRA-ROLE PERFORMANCE IN CHINA

ABSTRACT

The ability to reflect upon and manage their internal functioning may very much help teams contribute to their organizations. This study suggests that managing conflict cooperatively and productively provides a foundation for effective team task reflexivity. 200 employees in 100 work teams in China completed measures of their team's cooperative, competitive, and avoiding approach conflict management and task reflexivity and 100 managers indicated the team's in-role and extra-role (organizational citizenship behavior) performance. Results support the theorizing that conflict management can contribute to team task reflexivity. Structural equation analysis suggested that cooperative conflict management promotes task reflexivity that in turn results in team performance. These results, coupled with previous research, were interpreted as suggesting that cooperative approaches to conflict and task reflexivity are complementary foundations for effective teamwork.

Teams are increasingly becoming the basic building block of organizations (Barrick, Stewart, Neubert, & Mount, 1998; Stewart & Barrick, 2000; West, in press). However, developing effective teamwork has proved to be a difficult task that requires considerable investment (Campion, Medsker, Higgs, 1993; Edmondson, 1999; Hare & O'Neill, 2000; Rozell, Driskell, & Mullen, 1999; Salas, Driskell, & Muller, 1999). Teams must be able to maintain and strengthen themselves if they are going to continue to perform at high levels and contributes in various aspects to an organization (Kramer & Tyler, 1996; Lewicki & Wiethoff, 2000; Rousseau, Sitkin, Burt, & Camerer, 1998; Tjosvold, 1991; West, 2000, in press). This study argues that teams that manage their conflicts constructively are able to monitor and strengthen their teamwork so that they can perform effectively (De Dreu, Weingart, & Kwon, 2000; Rubin, Pruitt, & Kim, 1994). Specifically, it develops direct evidence of the extent that a cooperative approach compared to a competitive approach to managing team conflict develops members' confidence and ability to reflect upon their team processes. This task reflexivity would in turn promotes high levels of team task accomplishment and team level organizational citizenship behavior. This study empirically links group, conflict management, and organizational citizenship behavior literatures and tests the extent that the theory of cooperation and competition developed in the West is useful to analyze conflict among team members in China.

Team Performance

Teams have been considered both highly frustrating to people and tasks and also highly promotive of psychological well-being and task accomplishment. Traditionally, organizational researchers have been skeptical of the value of teams in particular and of social interaction more generally (Ilgen, 1999; Steiner, 1972). Studies have emphasized process losses where the result is below the optimal that should occur if team members combine their information and ideas (Steiner, 1972; Sheppard, 1993). Interaction often makes rational, comprehensive decision-making unlikely. Teams have been thought to suppress individuality and creativity that reinforce simplifications and biases that result in compromised, mediocre solutions to problems (Aldag & Fuller, 1993; Schwenk, 1984). Incompatibilities among team members can make the decision-making political and an exercise in bargaining and trading (Pfeffer, 1981). Teams may also undermine motivation, leaving employees tempted to engage in social loafing and letting others do the work (Karau & Williams, 1993; George, 1992; Williams & Karau, 1991).

Recently though researchers and practitioners have emphasized the potential value of teams. Teams are thought to be highly useful for fostering effective coordinated effort and stimulating creative solutions and implementation (Banker, Field, Schroeder, & Sinhan, 1997; Laughlin, Magley, & Shupe, 1997; West, in press). Indeed, reviews of the empirical research suggest that, although individuals can complete some tasks effectively, teams can accomplish tasks, especially complex ones, more effectively than individuals working alone under a wide range of conditions (Hill, 1982; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Kelley & Thibaut, 1968).

Organizations are turning to teams to enhance quality, develop new products, and solve critical problems. In addition to accomplishing core technical functions, teams may also stimulate useful extra-role performance (Podsakoff, Ahearne, & MacKenzie, 1997). Organizational citizenship behavior (OCB) is a popular conceptualization of extra-role performance that, though not formally prescribed by the job, is an important component of effective organizational functioning (Barnard, 1938; Katz & Kahn, 1967; Organ, 1988). OCB can be defined as activities that support the social and psychological environment in which the central tasks of organizations are accomplished (Borman & Motowidlo, 1993).

Few studies have treated OCB as a group level construct. An exception is the study by Podsakoff et al. (1997) on the effects of OCB on the quantity and quality of work group performance. This study examines OCB at the work group level and differed from Podsakoff et al. in two important aspects. First, Podsakoff et al. focused on how OCB relates to team level performance whereas, given that OCB is instrumental for teams, this study investigates conditions that induce OCB in teams. Second, Podsakoff et al. collected OCB ratings from the team members themselves whereas supervisors provided OCB ratings for this study.

Podsakoff et al. argued that OCB is important to teams because it serves to “lubricate” the social functioning of the organization, reduce friction, and enhance efficiency. OCB may be an important means by which team members coordinate with each other and even across work groups. Hence, OCB may be instrumental to work groups and teams. Without OCB, work groups cannot function smoothly. We propose that groups can promote in-role and extra-role performance when the task and situation are appropriate for collaborative work. However, teams confront many potential obstacles that can very much frustrate their performance. Teamwork capability is not easily imitated because the proper

conditions must be developed for members to work together productively (Barney, 2001, 1992, 1991; Katzenbach & Smith, 1993). The present study also examines how OCB may be induced in work groups.

As they face problems in coordination of effort, maintenance of interpersonal relationships, and integration of ideas, teams need considerable management in order to identify barriers and develop and implement solutions. West (1996, 2000, in press) has labeled this team management as team task reflexivity and defined it as the extent to which team members collectively reflect upon and adapt their team's objectives, strategies, and processes. Teams monitor and become aware of how they work together, develop plans to strengthen themselves, and then implement these plans.

Task reflexivity is expected to help teams know their actual workings and develop new understandings and methods that respond to emerging conditions and challenges (Carter & West, 1998). Task reflexivity is especially useful in complex environment and challenging tasks. Importantly, task reflexivity facilitates effective coordination among team members. Hence, the major implication is that to the extent that teams engage in this management of their team processes they are able to perform effectively over time (Frese & Zapf, 1994; Gollwitzer, 1996). Task reflexivity should result in-role and extra-role performance because it promotes the cooperation and coordination long envisioned to be central to team performance (Barnard, 1938; Katz & Kahn, 1967).

Task reflexivity can keep teams focused and efficient. But developing the confidence and abilities to reflect successfully may itself be quite challenging. The next section argues that productive conflict management is an important foundation for task reflexivity.

Conflict for Effective Task reflexivity

Recent studies have emphasized that conflict can very much impact the dynamics and outcomes of teams (Amason, 1996; Bettenhausen, 1991; Bettenhausen & Murnighan, 1991; Jehn, 1997, 1995; Nemeth & Owens, 1996). Conflict would seem to stimulate reflecting as team members contend over such issues as the effective and fair distribution of work and rewards, social loafing, and the best ways to coordinate to accomplish their goals (Wageman, 1995). These conflicts may provide the incentives and medium within which teams reflect.

Although conflict has traditionally been considered disruptive, researchers have argued that conflict has considerable potential to contribute to team and organizational effectiveness (De Dreu & van de Vliert, 1997). Team researchers have found that giving voice to minority views and heterogeneity of perspectives can improve team functioning (De Dreu & Van de Vliert, 1997; Gruenfeld, 1995; Maier, 1970; Peterson & Nemeth, 1996; Tetlock, Anmor, & Peterson, 1994). Discussing conflict over tasks, not rejecting those with opposing views and imposing “groupthink”, can be useful for solving problems and task accomplishment (Aldag & Fuller, 1993; Amason, 1996; Jehn, 1995; Kruglanski & Webster, 1991; Leonard & Sensiper, 1998). However, it is how conflicts are managed, not conflict itself, that can contribute to team management (Edmondson, Roberto, & Watkins, 2001; Pelled, Eisenhardt, & Xin, 1999).

Conflict Management

This study uses Deutsch's (1980, 1973) theory of cooperation and competition to identify major approaches to managing conflict. He defined conflict as incompatible activities, where one person's actions are interfering, obstructing, or in other ways making the behavior of another less effective. He argued that whether conflict is handled cooperatively or competitively affects the dynamics and outcomes of conflict. Protagonists can emphasize their cooperative goals; as one moves toward goal attainment the other also moves toward goal achievement. Recognizing that the success of one promotes the success of the other, they tend to view conflict as a mutual problem that needs common consideration and solution. The emphasis on cooperative goals leads to mutual exchange and an open-minded discussion that in turn help develop useful, mutually beneficial resolutions that reaffirm the relationship. With this mutual affirmation and success, team members are confident that they can handle their conflicts and interpersonal difficulties successfully.

Protagonists can also emphasize their competitive interests; as one succeeds, the other moves away from goal attainment. They tend to view the conflict as a win-lose struggle; if the other wins, they lose. The emphasis on competitive interests leads to tough, closed-minded discussions and attempts to coerce the other to do one's bidding, dynamics that undermine decision-making and relationships. Competitive approaches frustrate communication and results in a deadlock or imposed solutions. Consequently, team members have little confidence that they can handle their conflicts and fail to make use of their conflicts to solve difficulties and work together.

Social psychological research has documented that whether protagonists emphasize cooperative or competitive goals very much alters the dynamics and outcomes of conflict (Deutsch, 1990, 1980). A great deal of research has developed our understanding of the impact of cooperative and competitive goal interdependence on relationships more generally (Johnson, Maruyama, Johnson, Nelson & Skon, 1981; Stanne, Johnson, & Johnson, 1999). Studies have extended the cooperative-competitive conflict approach to organizational settings (Alper, Tjosvold, & Law, 2000; Barker, Tjosvold, & Andrews, 1988; Tjosvold, 1990; Tjosvold, Dann, & Wong, 1992).

Studies have also shown that avoiding impacts the dynamics and outcomes of conflict. Avoiding is the attempt to smooth over conflicts and minimize discussion of them whereas openness encourages direct discussion. Avoiding communicates the intention that issues should not be openly discussed and dealt with. Studies overall indicate that avoiding conflict reinforces a competitive approach whereas a more open way complements cooperative conflict (Barker, et al, 1988; Tjosvold, 1982, Tjosvold, Johnson, & Lerner, 1981). For example, competitive conflict project managers were found to avoid conflict; these competitive and avoiding managers decreased employee commitment (Barker, et al, 1988). Cooperative conflict project managers were more open in their conflict management and more successful leaders.

Of the alternatives identified by Western research, conflict avoiding would appear to be more familiar to the Chinese sample of this study than cooperative and competitive approaches. Researchers have documented that Asians tend to use avoiding and other accommodative approaches to deal with conflicts where Westerners tend to confront conflict directly (Graham, Kim, Lin, & Robinson, 1988; Kirkbride, Tang, & Westwood, 1991; Leung & Tjosvold, 1998; Triandis, 1990; Triandis, Mccusker, & Hui, 1990; Tse, Francis, & Walls, 1994; Weldon, Jehn, Doucet, Chen, & Wang, 1998). They have drawn upon considerable research in cross-cultural management and psychology to conclude that a sense of interdependence explains these differences (Bond, Wan, Leung, & Giacalone, 1985; Ho, 1998; Hofstede, 1980). Asians are collectivists whose identity is embedded in their relationships and who have a strong sense of their connections with others. Consequently, they are highly sensitive to the possibility of losing social face in public; they avoid conflict so that they and their conflict partners need not fear disrespect and alienation (Bond & Lee, 1981; Cocroft & Ting-Toomey, 1994; Gudykunst, Ting-Toomey, & Chua, 1988;

Ting-Toomey, 1988). However, little research has documented the effects of avoiding conflict in China (Leung, 1997, 1996).

Overall, this study tests a model linking conflict management with team task reflexivity and team in-role and extra-role performance (Figure 1). Specifically, cooperative conflict management among team members is expected to induce task reflexivity; competitive conflict management and conflict avoidance frustrate task reflexivity. Teams able to manage their conflicts cooperatively reflect effectively on their team processes and dynamics. Task reflexivity in turn helps teams complete their tasks and engage in OCB. These proposed relations are summarized in the following four hypotheses:

H1. Teams that rely on a cooperative approach to conflict engage in task reflexivity.

H2. Teams that rely on a competitive approach to conflict have low levels of task reflexivity.

H3. Teams that rely on an avoiding approach to conflict have low levels of task reflexivity.

H4. Teams that engage in task reflexivity have high levels of in-role performance and OCB.

Insert Figure 1 about here

The study makes methodological contributions to previous research in that it allowed independent measures of conflict approaches and of in-role and extra-role performance. Managers rated the in-role and extra-role performance of the team and employees rated their conflict management approaches and task reflexivity. This study used questionnaires with a sample of teams in Shanghai, China. Although questionnaires are popular means to study organizational conflict, most previous research on cooperative and competitive approach has been experimental. This study directly tests the assumption that teams that rely on cooperative conflict are able to reflect on their processes and this reflection aids in-role and extra-role team performance.

METHOD

Participants

Work teams of 150 firms located in Shanghai were recruited to participate in the study. In addition to the support for the study, confidentiality of responses was provided. To be included in the final sample, at least two employees in the work team had to complete a survey and their manager had to complete another survey. 150 sets of questionnaires were distributed but 32 sets were not completed because of the lack of time or interest in the study; 118 sets were collected. However, 18 sets were not complete because they lacked either the manager or two employees' replies. Thus, 100 sets of questionnaires were included in the data analysis. There were 100 managers and 200 employees involved in 100 teams and each team included one manager and two employees.

Average age of the participants was 33 and 60% of the participants were males. Nearly all respondents had been in their work teams for over one year. For the participants, 17% teams were State-Owned Enterprises, 14% were joint ventures, 15% were private enterprises, 25% were limited liability corporation, 22% were stock owned corporation, and 7% were other kinds. As for the industry of the sample team, 24% were in industry, 7% in wholesale and retail, 29% in banking and insurance, 8% social services, 3% in real estate, 11% in transportation, 5% in research, 1% in architecture, and 12% in other fields. This pattern is similar to the industry structure in Shanghai. As for the job of the sample teams, there are various outcomes. 14 sample teams are responsible for financial department, 11 investment, 5 production, 11 sales, 13 R & D, 6 personal management, 21 business management, 4 logistics management, 15 are from other departments. All of them have worked together for more than one year.

Task reflexivity

The measure of task reflexivity was adapted from previous research (Borrill, et al., 2000; Carter & West, 1998; West, Patterson & Dawson, 1999). The nine task reflexivity items measured the extent employees considered and discussed their objectives and working methods. A sample item for the task reflexivity scale is "The methods used by the team to get the job done are often discussed". Participants were asked to rate on a 5-point scale (1=strongly agree, 5=strongly disagree) their degree of agreement to the nine statements.

(Appendix A has all the items for the scales used in this study.) The scale demonstrated acceptable reliability. The coefficient alpha for task reflexivity is .88.

Conflict Approaches

Scales for cooperative and competitive approaches to conflict were developed from a series of experimental studies (Tjosvold, 1985) and from questionnaire studies (Alper, et al, 2000; Barker, et al, 1988). The five cooperative approach items measured the emphasis on mutual goals, understanding everyone's views, orientation toward joint benefit, and incorporating several positions to find a solution good for all. A sample item for the cooperative approach scale is "Team members seek a resolution that will be good for all of us". Subjects were asked to rate on a 5-point scale (1=strongly agree, 5=strongly disagree) their degree of agreement to the five statements.

The competitive approach scale had four items with similar anchors to measure the assumption that the conflict was a win-lose situation, and the use of pressure and intimidation to get others to conform to one's view. A sample item is "Team members treat conflict as a win-lose contest".

The 3 items for the avoiding approach were developed from a questionnaire study (Barker, et al, 1988). A sample item for the avoiding approach scale is "We try to avoid discussing divisive issues". Employees of the team were asked to rate on a 5-point scale (1=strongly agree, 5=strongly disagree) their degree of agreement to the three statements.

The scales demonstrated acceptable reliability. The coefficient alphas for the cooperative, competitive, and avoiding approach scales were .70, .89 and .79 respectively.

Organizational Citizenship Behavior

The supervisor of the team provided measures of the team's in-role and extra-role performance. We used the indigenous Chinese measure of OCB developed and validated in Taiwan by Farh Earley, & Lin (1997) and modified it to be at the team level (Podsakoff, et al 1997). This measure was used to capitalize on the cultural variance of measuring OCB because employees in mainland China were expected to be more similar to those in Taiwan than to those in the United States.

Fifteen items were used to represent five dimensions of OCB: identification with the company, altruism, conscientiousness, interpersonal harmony, and protecting company resources. Identification with the company refers to employee behaviors that indicate involvement in or concern with the overall wellbeing of the organization (Cronbach's alpha was .67). Altruism refers to employee behaviors that deal with helping a fellow colleague in an organizationally relevant task (Cronbach's alpha was .75). Conscientiousness refers to employee behaviors that go well beyond the minimum role requirements of the organization (Cronbach's alpha was .69). Interpersonal harmony refers to negative employee behaviors that aim at personal power and that have a detrimental effect on others in the organization (Cronbach's alpha was .67). Protecting company resources refers to negative employee behaviors that involve the abuse of company resources and policies to satisfy personal interests (Cronbach's alpha was .70).

Three of the OCB dimensions identified by Farh et al. (1997) are dimensions identical to those in the US (etic dimensions): altruism, conscientiousness, and identification with company (also referred to as civic virtue) (cf. Organ, 1988; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). The other two dimensions, interpersonal harmony and protecting company resources, were argued by Farh et al. to be specific to Chinese (emic dimensions). Using the OCB measured developed by Farh et al. scale should capture more variance unique to Chinese samples, yet there is commonality between the dimensions of OCB across the American and the Chinese scales.

The measure for in-role performance of the employees included four items adapted from Williams (1988). Williams' original scale was at individual level. We modified the wordings to reflect group level performance. A sample question is "This team always completes the duties specified in its job description". The coefficient alpha for the in-role performance scales was .67.

Two members of the research team who are native Chinese translated the questionnaires originally written in English into Chinese. To ensure conceptual consistency, the questionnaires were back translated into English to check for possible deviation (Brislin, 1970). The questionnaires were pre-tested to make sure that respondents clearly understood every phrase, concept, and question. To prevent and eliminate potential concern for being involved in evaluating others, participants were assured that their responses would be held totally confidential.

ANALYSIS

Data aggregation

We aggregated members' ratings of cooperative, competitive, and avoiding approach and task reflexivity to the team level in the analyses. The fundamental reason was that the hypotheses identified the unit of analysis as the team, while there were two employees in one team. The operations were carefully constructed so that individual team members reported on the team's cooperative, competitive, and avoiding approach and task reflexivity.

However, the aggregation required that the perceptions of team members within a team were reasonably homogeneous. We used James, Demaree, and Wolf's (1984) procedure to estimate the inter-rater reliability of members within each team for each of the four individual-level variables (cooperative, competitive, and avoiding approach and task reflexivity). James et al.'s $r_{WG(J)}$ index was used as an estimate of inter-rater reliability because each of the four variables was measured by multiple items, and each set of questionnaire included two employee questionnaires. Two indicators showed that the ratings among members in each team were quite homogeneous. First, the median $r_{WG(J)}$ for the four variables across the 100 teams were .95, .95, .85, .80, respectively. Second, George and Bettenhausen (1990) argued that $r_{WG(J)}$ of each team which was greater than or equal to .70 could be considered as indicators of good agreement within team. Out of the 100 teams, the percentages of teams with $r_{WG(J)}$ greater than or equal to .70 across the four variables were .96, .89, .80, .80, respectively. We therefore concluded that the within-team ratings were homogeneous enough to be aggregated to the team level. Individual team members' ratings were aggregated to the team level and the data merged with managers' ratings of the in-role and extra-role performance. The final sample size of the merged data file was 100 teams. Correlations among the three exogenous variables, the one mediating variables, and the two outcome variables at the team level are shown in Table 1.

Insert Table 1 about here

Scale Validation

Although the psychometric properties of the Chinese OCB measure had been tested by Farh et al. (1997), we conducted a confirmatory factor analysis to examine this scale because it was developed in Taiwan, where organizational forms and work values might differ somewhat from those in mainland China. We used the LISREL 8.12a program (Jöreskog & Sörbom, 1993) to conduct the CFA. The model had five latent variables corresponding to the five dimensions of OCB identified by Farh et al. (1997) and each latent variable has three indicators. This CFA yielded accepted psychometric properties as judged by the incremental fit index (.92) and the comparative fit index (.91). The IFI and CFI have been recommended as the best approximation of the population value (Gerbing & Anderson, 1993).

Then, we conducted a series of confirmatory factor analyses to test whether the team members' rating would load on ten distinct factors, namely cooperative, competitive, avoiding approach and task reflexivity, in-role performance, and five dimensions of OCB, identification, altruism, conscientiousness, harmony, and protecting resources, to ensure that the items were measuring distinct constructs.

The confirmatory factor analyses were conducted using LISREL 8.30 (Jöreskog & Sörbom, 1993). The effective sample size for the present study was 100 teams. The indicators to sample size ratio hence was less than favorable with 10 latent constructs. Because of computational limitations for LISREL models involving the number of indicators (Bentler & Chou, 1987), we simplified the structural model in the present study by reducing the number of indicators for the constructs. Specifically, we combined the items with the highest and the lowest loading by averaging until we yielded three indicators for each construct. That is, the items with highest and the lowest loadings were averaged to form a first new indicator, and the items with the next highest and the next lowest loadings were averaged to form the second new indicator, etc. This is a common approach in the literature of structural equation analysis and was used in Mathieu and Farr (1991) and Mathieu, Hofmann and Farr (1993).

Insert Table 2 about here

Table 2 shows the results of these series of confirmatory factor analyses. Model M_0 in Table 2 shows that our proposed 10-factor model fits the data extremely well. The CFI and the NNFI are .92 and .89. This 10-factor model was then tested against 6 different 9-factor models. Each of these 9-factor models were formed by merging two of the ten factors into one aggregate factor. These six alternative 9-factor models were selected based on the inter-correlations among the ten variables. Table 1 shows that all correlations between those variable are small. Harmony has the highest correlation with protecting resources ($r=.60$) and identification ($r=-.43$). Cooperative approach has correlation with task reflexivity ($r=.55$). Conscientiousness has correlation with identification ($r=.48$) and in-role performance ($r=.44$). Also, In-role performance has correlation with identification ($r=.47$). These six pairs of variables were therefore combined to form a single factor which was tested against the proposed 10-factor model.

Results in Table 2 show that model chi-square increase significantly when we move from the 10-factor model to any of the six 9-factor models. Six 9-factor models had marginal ($<.90$) fit indices measures except the CFI of M_1 and M_4 were .90 and .90 respectively, but NNFI of M_1 and M_4 were .87 and .87 which were low. Given the strong support from the nested series of confirmatory factor analysis, we concluded that the 10-factors are distinct measures of the constructs in our study.

Hypotheses Testing

Correlational analyses were used as an initial examination of the hypotheses. Structural equation analyses tested the model connecting cooperative, competitive, avoiding approach and task reflexivity, in-role performance, and five dimensions of OCB, identification, altruism, conscientiousness, harmony, and protecting resources. The covariance structure analysis of the inter-relationship among these constructs was analyzed using EQS for Windows (Bentler & Wu, 1995).

A nested model test commonly adopted in causal model analysis was used where the Indirect Effects Model that proposed mediating effects was compared to several Direct Effects Models. The Direct Effects Models posited that cooperative, competitive, and avoiding approach impact outcomes directly whereas the Indirect Effects Model proposes that task reflexivity mediate between goals and outcome.

RESULTS

Zero-order correlations provide an initial examination of the hypotheses cooperative, competitive, avoiding approach and task reflexivity, in-role performance, and five dimensions of OCB, identification, altruism, conscientiousness, harmony, and protecting resources, (Table 1). Results provide strong support for the first three hypotheses that cooperative, competitive and avoiding approaches affect task reflexivity. Cooperative approach positively and significantly correlated with task reflexivity (.55, $p < .01$). But competitive approach and conflict approach had negative and significant relationships with task reflexivity (-.26, $p < .01$; -.29, $p < .01$).

Results also provide support for the fourth hypothesis that task reflexivity affects team in-role performance and extra-role performance. The correlation between task reflexivity and in-role performance is (.28, $p < .01$). They were significantly and positively correlated. The correlation of task reflexivity and five dimensions of OCB weren't very significantly. They were identification (.30, $p < .01$), altruism (.12, $p = n.s$), conscientiousness (.08, $p = n.s$), harmony (-.11, $p = n.s$), and protecting resources (-.08, $p = n.s$).

Insert Table 3 about here.

Structural equation analyses through EQS were used to explore the underlying relationship among the variables. Table 3 shows the path estimates for the model tested in the study's hypotheses. The Indirect Effects Model that proposed mediating effects was compared to Direct Effects Models that were developed by deleted different mediating variables. The χ^2 of the Indirect Effects Model was 28.93 (d.f.=18) and the χ^2 of Direct Effects Models were 14.05 (d.f.=3). The χ^2 differences between the Indirect Effects Model and the Direct Effects Model were significant (χ^2 difference=14.88, d.f difference=16), indicating that omission of the mediating effects of task reflexivity significantly deteriorated the Indirect Effects Model. Results of the causal model comparison suggest that the Indirect Effects Model be accepted.

The path coefficients of the accepted model help to explore the findings more specifically. Results indicate that Cooperative approach had marginally significant positive

effects on task reflexivity ($\beta=.66$, $p<.01$) and competitive approach had significant negative effects on task reflexivity ($\beta=-.13$, $p<.05$), and the effect of avoiding approach had significant negative effects on task reflexivity too ($\beta= -.12$, $p=.05$).

Task reflexivity had a significant positive effect on in-role performance ($\beta=.30$, $p<.05$) and identification ($\beta=.34$, $p<.05$). Task reflexivity had a positive effect on altruism ($\beta=.14$, $p=n.s$) and conscientiousness ($\beta=.12$, $p=n.s$), and had a negative effect on harmony ($\beta=-.17.$, $p=n.s$), and protecting resources ($\beta=-.13$, $p=n.s$).

In regards to model fit, the Indirect Effects Model had a chi-square of 28.93 with 18 degrees of freedom. The NFI and CFI for the model were .89 and .95 respectively. Both fit indices were considered as indicating good model fit, given the usually accepted critical value of .90 (Bentler & Bonnett, 1980).

DISCUSSION

Results support the theorizing of the value of conflict management for team task reflexivity and in-role and extra-role performance. Teams that relied upon cooperative but not competitive or avoiding approaches to managing their conflicts were confident and able to manage their internal functioning. Teams that were able to manage their processes were found to complete their tasks effectively and engage in high levels of organizational citizenship behavior.

Previous research supports both the perspective that teams can be highly frustrating and that they can be highly effective for organizations. Teams must be able to manage themselves as they confront a variety of changing conditions and barriers. Consistent with previous research, the team's ability to reflect upon and strengthen the way team members relate and work together can very much affect the extent to which the team continues to perform well and contribute to the organization (Carter & West, 1998; West, et. al., 1999; Borrill, et al., 2000). These results support the recent theorizing that group task reflexivity is an important component of effective teamwork in organizations (West, 1996, 2000, in press).

This study adds to the literature on group task reflexivity by empirically linking it with conflict management. The capacity to manage a team's functioning appears to be itself quite challenging and difficult. Team members must be aware and monitor their relationships and environment, create viable solutions, and implement their ideas effectively. Team

members must be both skilled and motivated to engage in such activities. Results of this study indicate that the procedures and abilities of managing conflict cooperatively can very much contribute to task reflexivity. Managing conflict cooperatively appears to be a concrete way that team members have the confidence, procedures, and abilities to monitor and improve their internal functioning.

Findings may seem contrary to the general conclusion that avoiding conflict is prevalent and culturally appropriate for China as a collectivist culture (Graham, et. al., 1988; Kirkbride, et. al., 1991; Leung & Tjosvold, 1998; Triandis, 1990; Triandis, et al, 1990; Tse, et. al., 1994; Weldon, et al, 1998.) However, Leung (1997, 1996) has argued that in addition to smoothing over conflict to avoid potential interpersonal problems (Hwang, 1996), harmony motives in China can also refer to the desire to strengthen relationships and solve problems out of a genuine concern for harmony as a value in and of itself. Consistent with this reasoning, this study suggests that conflict, when managed cooperatively as well as openly, can promote team reflection and performance even in collectivist China.

The theory of cooperation and competition, although developed in the West, proved useful for understanding team dynamics in East Asia (Deutsch, 1973). As in the West, teams that rely on resolving issues for mutual benefit can work productively for themselves and for the organization whereas teams that emphasize competitive, win-lose ways were unable to manage themselves effectively. Theories developed in one culture cannot be assumed to apply to another (Hofstede, 1993). The research approach of identifying conditions that impact organizational dynamics and outcomes in China with a theory with universal aspirations may be a viable addition to the traditional alternatives of comparing samples from different cultures and exploring a cultural variable with an indigenous theory (Leung, 1997). The research approach used in this study can both probe general theories and improve understanding of organizational dynamics in nonWestern cultures.

Limitations

The sample and operations, of course, limit the results of this study. The data are self-reported and subject to biases, and may not be accurate, although recent research suggests that self-reported data are not as limited as commonly expected (Spector, 1992). These data are also correlational and do not provide direct evidence of causal links between conflict management, task reflexivity, and team performance. However, employees

completed measures of conflict management and task reflexivity, and their managers completed the measures of team in-role and extra-role performance. Developing different sources for the independent and dependent measures should reduce the possibilities of same source method as an alternative explanation of the results.

Spector and Brannick (1995) have argued that the most effective way to overcome recall and other methodological weaknesses is to test ideas with different methods. It would be desirable to provide direct experimental verification of the role of cooperative approach conflict management and task reflexivity on team performance in East Asian organizational settings.

Practical Implications

In addition to developing theoretical understanding, continued support for the hypotheses can have important practical implications for structuring teams and stimulating their performance. In diagnosis, cooperative, competitive, and avoiding approach and task reflexivity measures can be given to teams to identify barriers to their effectiveness.

Training, especially for teams rated low on cooperative conflict, can be provided to develop key conflict skills and to socialize members to adopt a cooperative approach. Previous research provides guidance for developing cooperative conflict skills (Tjosvold, 1993). Team members are trained to express their ideas, positions, and feelings directly without accusations. They stop defending their own views long enough to ask each other for more information and arguments. They put themselves in each other's shoes and see the problem from other perspectives. They work to resolve the conflict so that everyone benefits, not just themselves. They combine the best ideas to create new solutions; they avoid thinking that the only possibilities are the ones first proposed by the conflicting members. They agree to the one that is most effective for all and implement it.

Reward and task systems are potentially very critical for inducing cooperative conflict. Team bonuses, team responsibility for completing challenging tasks, and team recognition help members become committed to cooperative goals so that they believe their conflicts are common problems that they want to resolve for mutual benefit (Tjosvold & Tjosvold, 1995, 1994). They realize that their goal is to help each other get what each other really needs and values, and not to try to win or outdo each other. Employee compensation could be based in part on team outcomes (Hanlon, Meyer, & Taylor, 1994). The managers and employees

together develop shared goals, integrated roles, common tasks, team identity, personal relationships, and shared reward distributions that reinforce cooperative goals (Hambrick, 1994; Hanlon, et al, 1994; Li, Xin, Tsui, & Hambrick, 1999; Pearce, 1997).

Selection and socialization can also emphasize cooperative conflict. Employees could be selected to teams in part on the basis of their cooperative conflict skills and their commitment to using this approach to discuss differences. To communicate their expectations of new employees, managers describe concrete examples of how they used cooperative conflict approach. New employees could be given feedback early on their cooperative and competitive ways of handling conflict.

Teams were found to have perform their tasks well and contribute to their organizations' social and psychological environment when they were able to reflect upon their processes and strengthen how they operate. Then they were able to apply their abilities and coordinate their efforts so that they continued to perform effectively. Consistent with considerable recent research, how productively team members were able to manage their conflict was found to be an important antecedent of effective teamwork. In particular, the cooperative management of conflict was found to predict to effective task reflexivity. Teams that manage their conflicts cooperatively would appear to be in a good position to manage their internal affairs and perform effectively in China and perhaps in other cultures as well.

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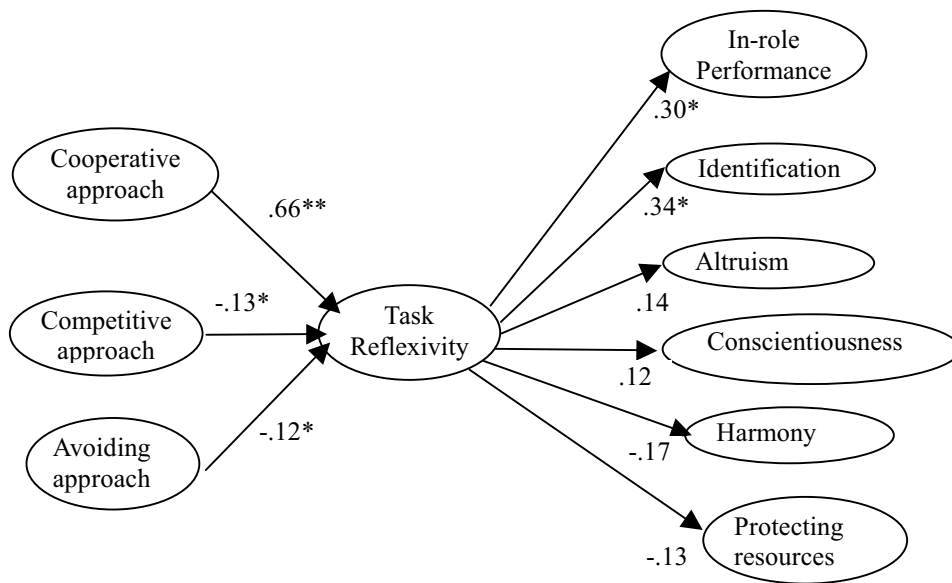
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Figure 1
Hypothesis Model



**p<.01; *p<.05

Table 1
Correlations among Variables at the Team Level a,b.

| | Mean | Std Deviation | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---------------------------|------|------------------|-------|-------|--------|-------|--------|-------|--------|--------|-------|-------|
| (1) Cooperative approach | 2.24 | .37 | (.70) | | | | | | | | | |
| (2) Competitive approach | 2.97 | .64 | -.02 | (.89) | | | | | | | | |
| (3) Avoiding approach | 3.15 | .63 | -.13 | .35** | (.79) | | | | | | | |
| (4) Task reflexivity | 2.45 | .46 | .55** | -.25* | -.30** | (.88) | | | | | | |
| (5) In-role Performance | 2.64 | .50 | .11 | .15 | -.02 | .28** | (.67) | | | | | |
| (6) Identification | 2.30 | .52 | .20 | -.15 | .08 | .30** | .47** | (.67) | | | | |
| (7) Altruism | 2.24 | .51 | -.06 | -.13 | -.08 | .12 | .35** | .32** | (.75) | | | |
| (8) Conscientiousness | 2.69 | .66 | .03 | -.12 | .07 | .08 | .44** | .48** | .35** | (.69) | | |
| (9) Harmony | 3.20 | .72 | .12 | .27** | .28** | -.11 | -.34** | -.19 | -.43** | -.27** | (.67) | |
| (10) Protecting resources | 3.14 | .75 | -.05 | .14 | .22* | -.08 | -.25* | -.19 | -.32** | -.31** | .60** | (.70) |

Note:

^a N=100

^b Values in bracket are reliability (coefficient alpha) estimates.

^c **p<.01; *p<.05.

**Table 2. Results of the Confirmatory Factor Analysis
of the Indirect Models**

| | d.f. | Model χ^2 | $\Delta \chi^2$ | CFI | NNFI |
|---|------|----------------|-----------------|-----|------|
| Baseline 9-factor model (M0) | 164 | 229.41 | | .92 | .89 |
| Combined Harmony and Protecting resources (M1) | 173 | 252.41 | 23 | .90 | .87 |
| Combined Cooperative approach and Task Reflexivity (M2) | 173 | 269.16 | 39.75 | .88 | .84 |
| Combined Identification and Conscientiousness (M3) | 173 | 284.50 | 55.09 | .86 | .82 |
| Combined Identification and In-role Performance (M4) | 173 | 250.64 | 21.23 | .90 | .87 |
| Combined Conscientiousness and In-role Performance (M5) | 173 | 273.37 | 43.96 | .88 | .84 |
| Combined Altruism and Harmony (M6) | 173 | 274.05 | 44.64 | .88 | .84 |

(1) **p<.01

(2) χ^2 is the model chi-square; $\Delta \chi^2$ is the change in model chi-square; Δ d.f.=9 for all alternative models.

Table 3
Parameter Estimates for Structural Model

| Indirect Effects Model | | | Direct Effects Model | | |
|------------------------|----------------------|------------------|----------------------|----------------------|------------------|
| Path from | Path to | Path Coefficient | Path from | Path to | Path Coefficient |
| Cooperative approach | Task reflexivity | .66** | Cooperative approach | In-role Performance | .15 |
| Competitive approach | Task reflexivity | -.13* | Cooperative approach | Identification | .31** |
| Avoiding approach | Task reflexivity | -.12* | Cooperative approach | Altruism | -.10 |
| Task reflexivity | In-role performance | .30* | Cooperative approach | Conscientiousness | .08 |
| Task reflexivity | Identification | .34** | Cooperative approach | Harmony | .29* |
| Task reflexivity | Altruism | .14 | Cooperative approach | Protecting Resources | -.05 |
| Task reflexivity | Conscientiousness | .12 | Competitive approach | In-role Performance | -.13* |
| Task reflexivity | Harmony | -.17 | Competitive approach | Identification | -.17** |
| Task reflexivity | Protecting resources | -.13 | Competitive approach | Altruism | -.09* |
| | | | Competitive approach | Conscientiousness | -.17* |
| | | | Competitive approach | Harmony | .22** |
| | | | Competitive approach | Protecting Resources | .09 |
| | | | Avoiding approach | In-role Performance | .04 |
| | | | Avoiding approach | Identification | .14 |
| | | | Avoiding approach | Altruism | -.04 |
| | | | Avoiding approach | Conscientiousness | .14* |
| | | | Avoiding approach | Harmony | .27** |
| | | | Avoiding approach | Protecting Resources | .22* |
| Model χ^2 | 28.93 | | Model χ^2 | 14.05 | |
| d.f. | 18 | | d.f. | 3 | |
| NNFI | .89 | | NNFI | .18 | |
| CFI | .95 | | CFI | .92 | |

**p<.01; *p<.05

Appendix

Employee Questionnaire

Task reflexivity

The team often reviews its objectives.

We regularly discuss whether the team is working effectively together.

The methods used by the team to get the job done are often discussed.

In this team we modify our objectives in the light of changing circumstances

How well we communicate information is often discussed.

This team often reviews its approach to getting the job done.

Team members identify strengths in their work and areas that need improvement.

Team members are committed to ongoing improvement .

Team members are open to improved ways of working.

Cooperative

Team members encourage a “we are in it together” attitude.

Team members seek a solution that will be good for all of us.

Team members treat conflict as a mutual problem to solve.

We work so that to the extent possible we all get what we really want.

Team members combine the best of positions to make an effective decision.

Competitive

Team members demand that others agree to their position.

Team members want others to make concessions but do not want to make concessions themselves.

Team members treat conflict as a win-lose contest.

Team members overstate their position to get its way.

Avoiding

Our group smoothes over differences by trying to avoid them.

My teammates seek harmony even at the expense of open discussion.

We try to avoid discussing divisive issues.

Manager's Questionnaire

Inrole

This team

- ... always completes the duties specified in its job description.
- ... fulfills all responsibilities required by its job.
- ... never neglects aspects of the job that the team is obligated to perform.
- ... meets all the formal performance requirements of the job.

Extra role

This team

- ... is eager to tell outsiders good news about the company and clarify their misunderstandings.
- ... is willing to stand up to protect the reputation of the company.
- ... makes constructive suggestions that can improve the operation of the company.
- ... actively attends company meetings.
- ... is willing to assist new colleagues to adjust to work environment.
- ... is willing to help other teams solve work-related problems.
- ... is willing to cover work assignments for other teams when needed.
- ... is willing to coordinate and communicate with other teams.
- ... often arrives early and starts to work immediately.
- ... takes their jobs seriously and rarely makes mistakes.
- ... complies with company rules and procedures even when nobody watches and no evidence can be traced.
- ... does not mind to take on new or challenging assignments.
- ... is willing to use personal time and financial resources to partake in various training programs.
- ... tries hard to self-study to increase the quality of work outputs.
- ... uses illicit tactics to seek personal influence and gain with harmful effect on interpersonal harmony in the organization.
- ... views sick leave as benefits and makes excuse for taking sick leave.