

Emotion regulation as a boundary condition of the relationship between team conflict and performance: A multi-level examination

JANE YAN JIANG¹, XIAO ZHANG^{1*} AND DEAN TJOSVOLD²

¹Department of Management, School of Business, Nanjing University, Nanjing, China

²Lingnan University, Hong Kong, China

Summary

Although task conflict is widely believed to be beneficial whereas relationship conflict is destructive, evidence overall does not support this conclusion. This study develops the idea that the emotion regulation abilities of team members affect how they manage task and relationship conflict, both as individuals and as a team. Findings from a field study involving 39 teams support the argument that individuals skilled in emotion regulation can take advantage of task conflict to perform effectively and limit the negative impact of relationship conflict. Groups that have individuals highly skilled in emotion regulation were also found to make good use of team conflict. Results suggest that emotion regulation skills contribute to the effective management of task conflict and relationship conflict at both individual and group levels. Copyright © 2012 John Wiley & Sons, Ltd.

Keywords: task conflict; relationship conflict; emotion regulation; collaboration

Organizations are increasingly using teams to solve problems and complete important tasks; however, the challenges of working effectively in teams are considerable (Guzzo & Shea, 1992). Much empirical and theoretical research has examined intragroup conflict and its impact on team performance (De Dreu & Gelfand, 2008; Halpert, Stuhlmacher, Crenshaw, Litcher, & Bortel, 2010). In their meta-analysis, LePine, Piccolo, Jackson, Mathieu, and Saul (2008) found that conflict management greatly affects team effectiveness. Conflict has been shown to generate negative emotion and undermine teamwork (e.g., Hackman & Morris, 1975; Wall & Callister, 1995), but it can also stimulate information exchange in group decision-making (e.g., Levine, Resnick, & Higgins, 1993). Jehn (1995) proposed that there are two major types of conflict; *task conflict* has the potential to improve team decision-making, whereas *relationship conflict* undermines team performance. However, research has not consistently supported this theory, demonstrating instead that both task conflict and relationship conflict often disrupt group performance (De Dreu & Weingart, 2003; Jehn & Mannix, 2001). This study aims to identify an important possible reason for the inconsistency between the theory of task and relationship conflict, and empirical results. It proposes that team members who are able to regulate their emotions are more likely to manage task conflict to improve performance and to manage relationship conflict to avoid harming performance than those unskilled at regulating their emotions.

This study makes three main contributions to the current literature. First, it provides an explanation for the mixed results found in previous research on the relationship between task and relationship conflict, and performance. Specifically, it demonstrates the moderating effects of emotion regulation on the relationship between conflict and performance at both individual and group levels. At the individual level, this study shows that individuals with emotion regulation abilities are more likely to use task conflict to improve their performance and to reduce the disruptive effects of relationship conflict. At the group level, our findings suggest that teams whose members have considerable emotion regulation abilities are able to use task conflict to help them perform well and mitigate the

*Correspondence to: Xiao Zhang, Department of Management, School of Business, Nanjing University, Nanjing, China. E-mail: zhangxiao@nju.edu.cn

negative effects of relationship conflict. This study also proposes a possible approach to explaining the link between individual-level variables and their functions at group-level that could be used in future multi-level research. Finally, this study suggests important practical implications. Team members and their managers should realize that they cannot expect task conflict itself to be useful nor be resigned that relationship conflict invariably causes poor performance. Our results confirm that the effects of both task and relationship conflict depend upon how they are managed and that individuals' skills in emotion regulation greatly contribute to constructive conflict management (Tjosvold, Law, & Sun, 2006).

Theoretical Background and Hypotheses

Team conflict and performance

Team conflict has long been considered both a prevalent phenomenon and a challenge to team effectiveness. Researchers have proposed various dynamics by which team conflict affects team performance. Some researchers have focused on the negative effects of team conflict on team performance and satisfaction, suggesting that conflict produces disruptive emotions, such as tension and antagonism, which distract team members from performing their task (Hackman & Morris, 1975; Wall & Callister, 1995). Studies support the negative relationship between conflict and team performance (Gladstein, 1984; Saavedra, Earley, & Van Dyne, 1993; Wall & Nolan, 1986).

However, other researchers have emphasized the benefits of conflict. Researchers have found that, when in conflict, people confront issues, learn to take different perspectives, and become more creative in order to resolve conflict (Levine et al., 1993; Nemeth, 1986; Tjosvold, 1997). Schulz-Hardt, Jochims, and Frey (2002) demonstrated that teams made better decisions when pre-discussion preferences were in disagreement rather than agreement. Hollenbeck et al. (1995) and Hollenbeck, Colquitt, Ilgen, LePine, and Hedlund (1998) found that, all else being equal, team members whose recommendations were uncorrelated or negatively correlated (i.e., in conflict) provided more value as a unit than team members whose recommendations were highly and positively correlated.

Carnevale and Probst (1998) showed that, compared with a control condition in which no conflict was induced, participants were more flexible in their thinking and more creative in their problem solving when they anticipated some conflict and a productive open discussion regarding the conflict. However, when participants anticipated a competitive, hostile negotiation during the conflict, they were less cognitively flexible and creative. The researchers explained these effects in terms of cognitive load: As conflict intensifies and arousal increases, the greater cognitive load interferes with cognitive flexibility and creative thinking. This information-processing perspective suggests a complex relationship between conflict and team performance: Conflict stimulates information processing; however, as conflict intensifies, individuals' cognitive systems become overloaded, impeding information processing and reducing team performance.

Given the opposing opinions about the effects of conflict on team performance, Jehn (1994, 1995, 1997) differentiated between task and relationship conflict. Jehn argued that relationship conflict generally decreases members' satisfaction with teamwork and interferes with task performance. Task conflict, on the other hand, increases group members' tendency to scrutinize task issues and engage in deliberate information processing; thus, task conflict can be beneficial to performance, especially when team members are working on complex tasks without standard solutions. Such conflict facilitates learning and the development of creative insights, leading the group to become more effective and innovative (De Dreu & West, 2001; Jehn, 1995). Jehn's (1994, 1995, 1997) work has led many researchers to argue that task conflict—but not relationship conflict—can have positive effects on team performance (e.g., Amason & Schweiger, 1997). Simons and Peterson (2000) summarized the literature on this subject by noting that groups who experience task conflict tend to make better decisions because such conflict encourage greater cognitive understanding of the issue at hand. In contrast, relationship conflict may cause group members to spend their time and energy focusing on each other rather than on the group's task-related problems, thereby limiting

the group's information-processing ability. This notion has been strongly represented in the past two decades in management and organization behavior textbooks, which present the argument that task conflict is largely functional whereas relationship conflict is largely dysfunctional (e.g., McShane & Von Glinow, 2000; Robbins, 2000).

Although it seems that the two-type conflict model has been widely accepted, a close look at the empirical evidence gathered since Jehn's (1994, 1995) studies were published suggests that the issue is more complicated than the model proposes. Some studies have reported strong positive correlations between task conflict and team performance (e.g., Jehn, 1994; Lu, Zhou, & Leung, 2009; Nijdam, 1998), whereas others have found a negative correlation (e.g., Jehn, Northcraft, & Neale, 1999; Liu, Fu, & Liu, 2009) or no significant relationship (e.g., Pelled, Eisenhardt, & Xin, 1999) between the two. In contrast to suggestions in both academic research and introductory textbooks, meta-analysis results reveal that task conflict is negatively correlated to both team performance and team member satisfaction (De Dreu & Weingart, 2003). These results actually support the theory that task and relationship conflicts *both* cause disruptions in team performance by activating negative emotions.

Researchers have developed approaches to understanding the effects of task and relationship conflict on team performance. De Dreu and Weingart (2003) examined the moderating role of group types. They found that compared with decision-making teams and project teams, that have more complex and non-routine tasks, the negative relationships between conflict and task performance are much weaker in production teams with simple, well-learned tasks. Jehn and Bendersky (2003) proposed a conceptual model that includes several clusters of moderators (i.e., amplifier, suppressor, ameliorator, and exacerbator) that might affect the conflict–outcome relationship. Empirical studies on the moderating role of group climate and task type have investigated the contingency factors for the conflict–outcome relationship. For example, research suggests that task conflict has positive effects on interpersonal relations, group performance, and customer satisfaction when team members perceive the interdependence of cooperative rather than competitive goals (Alper, Tjosvold, & Law, 2000; Tjosvold, 1997). Other studies suggest that teams benefit from task conflict when they work with cooperative norms in an open environment that is tolerant of diverse viewpoints, preventing disagreements from being misinterpreted as personal attacks (Amason, 1996; De Dreu & West, 2001; Jehn, 1995; Lovelace, Shapiro, & Weingart, 2001; Simons & Peterson, 2000).

The aforementioned studies suggest why conflict has inconsistent effects on team performance, but they have tended to focus on group characteristics as moderators. Because although individual members shape the dynamics of a team, research is needed to understand how the characteristics of individual members affect the underlining mechanisms of the effects of conflict on performance. Thus, this study introduces the individual characteristic of emotion regulation into the investigation of the effects of task and relationship conflict.

Moderating Effects of Team Members' Emotion Regulation

This study examines the moderating role of team members' emotion regulation at both the individual and group levels. At the individual level, we propose that the emotion regulation of individuals moderates the relationship between conflict and individual performance. At the group level, we propose that group members' emotion regulation abilities help to develop group collaboration and thus affect how team members deal with conflict. Figure 1 presents the conceptual model.

Moderating effect of individuals' emotion regulation

To examine whether team members' abilities are conditional factors in the relationship between conflict and performance, we first need to understand why conflict affects performance. Although researchers hold different opinions about whether conflict has a positive or negative effect on performance, there is some agreement on two main

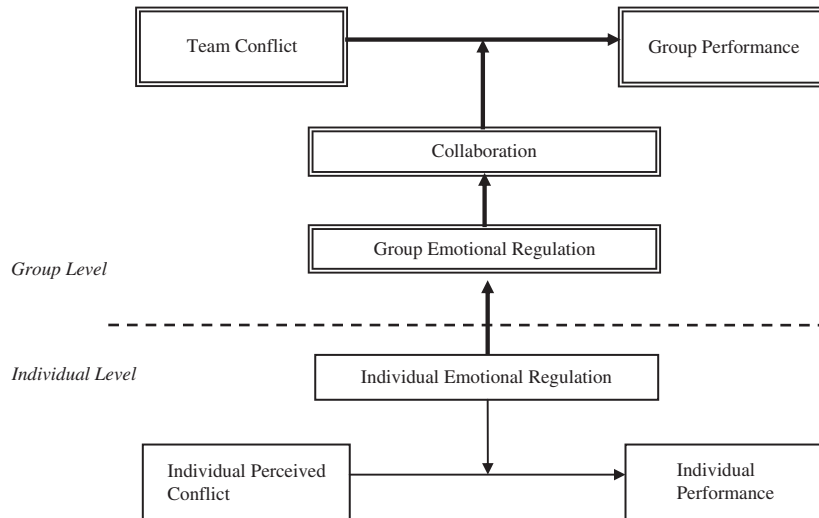


Figure 1. Conceptual model of the two-level relationship between conflict and performance and the moderation of emotional regulation

underlying mechanisms by which conflict affects performance. First, conflict is thought to generate negative emotions, which tend to affect individuals' normal cognitive ability and distract them from performing tasks (Wall & Callister, 1995; Carnevale & Probst, 1998). Studies on neurology suggest similar effects. Research has suggested that perceived conflict can stimulate the activity of the amygdala, which generates emotions such as anxiety and stress (Etkin, Egner, Peraza, Kandel, & Hirsch, 2006). Strong emotions are found to inhibit the cognitive activities of the brain. For example, the prefrontal cortex, which serves cognition activities, has been found to be less activated when participants experience anxiety or depression (Drevets & Raichle, 1998). A second mechanism is that conflict may provide new information to promote cognitive processing, resulting in effective resolutions (Amason & Schweiger, 1997).

Given that the two mechanisms co-exist and serve opposite roles in processing conflict that affects individual performance, it is useful to identify the boundary conditions when one mechanism predominates over the other. Psychologists have proposed that emotion regulation describes an individual's ability to control their emotional and cognitive dynamics (Thompson, 1990). Emotion regulation is thought to help individuals decrease the distracting influence of emotions and enhance the function of cognition on problem solving (Cole, Martin, & Dennis, 2004; Lewis, 2000). Therefore, we argue that emotion regulation plays an important role in moderating the relationship between conflict and individual performance.

The present study proposes that, in task conflict, individuals skilled at emotion regulation are less likely to be distracted by negative emotions and cognitive loads and thus more likely to make use of the information offered by task conflict, which in turn helps to improve their individual performance. Emotion regulation skills are also expected to reduce the distracting influence of the strong negative feelings that may be generated by relationship conflict, thereby helping these individuals perform well despite the relationship conflict.

Emotion regulation strategies, including attention deployment, reappraisal, and suppression, are effective responses to discrepancies between desired and current emotional states (Kanfer & Kantrowitz, 2002). Gross (1998) distinguished between antecedent-focused emotion regulation and response-focused emotion regulation. Antecedent-focused response strategies attempt to alter the experience of feelings, whereas response-focused strategies are directed at modifying responses *after* the onset of an emotion.

Attention deployment, which refers to the ability to shift attention, is an antecedent-focused strategy. By diverting their own attention away from an emotion-eliciting stimulus (Gross, 1998), individuals can reduce their susceptibility to negative emotion, particularly frustration (Eisenberg & Fabes, 1992). When group members

encounter conflict at work, attention deployment might be used to direct one's own attention toward other task-related issues where it would be easier to attain agreement among members. Using attention deployment, individuals can avoid the initial generation of their negative emotions, thereby reducing the distractions of negative emotions to their cognitive activities.

Reappraisal is an antecedent-focused strategy that considers and reassesses emotion-evoking stimuli in less emotional, more constructive ways, thus leading to fewer emotion-expressive behaviors (Gross, 1998). For example, when encountering conflict at work, individual group members are able to reduce negative emotions when they choose to view task disagreements as opportunities to discover what team members feel strongly about, rather than as personal attacks. Using reappraisal, individuals discover useful information about the task and other members. In so doing, they are likely to develop effective resolutions of conflict.

Suppression is a response-focused strategy that inhibits emotion-expressive behavior when emotions have become aroused (Gross, 1998). Suppression involves the exercise of self-restraint; it does not refer to complete denial of negative feelings but rather control and management of their expression. Suppression may reduce outbursts of negative emotions provoked by discussions of task disagreements. Suppression reduces the expression of offensive words and behaviors to others and prevents the situation from deteriorating into a contentious, hostile exchange. Thus, suppression is likely to prevent task conflict from devolving into relationship conflict (Gamero, González-Romá, & Peiró, 2008).

Individuals who are skilled in these emotion regulation strategies are likely to limit the influence of the negative emotions generated by task conflict and make use of the information offered by task conflict, thus improving their individual performance. These strategies can also reduce the negative influence of relationship conflict, thereby maintaining coordination and increasing productivity.

On the basis of the preceding evidence and reasoning, we outlined the individual-level model of the relationship between conflict and individual performance, and hypothesize the following:

Hypothesis 1: Individuals' emotion regulation abilities moderate the relationship between task conflict and individual performance. Specifically, for individuals high in emotion regulation, task conflict positively affects individual performance; for individuals low in emotion regulation, task conflict negatively affects individual performance.

Hypothesis 2: Individuals' emotion regulation abilities moderate the relationship between relationship conflict and individual performance. Specifically, for individuals high in emotion regulation, the negative effect of relationship conflict on individual performance is weak; for individuals low in emotion regulation, the negative effect of relationship conflict on individual performance is strong.

Individuals' emotion regulation skills function through group collaboration

As an element of group emotional intelligence, group emotion regulation has been viewed as a type of group-level norm (Druskat & Wolff, 2001). Group emotion regulation is isomorphic to individual emotion regulation in its effects (Ashkanasy, Härtel, & Daus, 2002). Druskat and Wolff (2001) asserted that group-level emotion regulation is a collective norm originating from individual group members, amplified during their interactions, and manifested as a higher level phenomenon. Although individual members may vary in emotion regulation, over time, their interactions may promote qualities that characterize the group as a whole. On the basis of the literature of group norms, Druskat and Wolff (2001) proposed a four-phase process to describe how individuals' emotion regulation characteristics gradually first shape their interaction and then group norms.

Although such an argument is reasonable, few studies directly examine the process by which individual characteristics evolve into group norms. The current study proposes that, although emotion regulation is an individual-level

skill, the extent to which groups contain individuals highly skilled in emotion regulation affects group performance because these skills influence how group members interact as they deal with issues. Although emotion regulation includes the regulation of both positive and negative emotions, this study focuses on negative emotions because they are prominent and influential in conflict. We argue that group members' emotion regulation can affect the group performance through the following mechanism.

First, groups with members skilled in emotion regulation are more likely to develop an open and collaborative norm, which in turn helps team members manage conflict to strengthen group performance. The emotion regulation skills of individual group members are believed to contribute greatly to group collaboration, which can be defined as the open flow of information and coordination of effort (Lester, Meglino, & Korsgaard, 2002). When individuals skilled in emotion regulation engage in reappraisal to examine and understand different perspectives, other group members feel that their views are being understood and considered, making them more open to each other's ideas and suggestions; these dynamics in turn develop group collaboration that results in better group performance (Gamero et al., 2008; Lovelace et al., 2001). The emotion regulation skill of suppressing the expression of negative emotions can also promote collaboration as it reduces offensive interactions and enables members to prevent task-related conflict from becoming relationship conflict. Although anger can be skillfully expressed to aid conflict management (Tjosvold & Su, 2007; Van Kleef, De Dreu, Pietroni, & Manstead, 2006), frequent expressions of anger disrupt relationships and collaboration (Averill, 1982; Parlamis, Allred, & Block, 2010). Similarly, when team members high in emotion regulation encounter conflict, they may use the emotion regulation skill of diverting attention to shift discussion from incompatibilities and potential insults to common goals and building a consensus among members, thereby aiding collaboration (De Dreu & Gelfand, 2008).

Second, the quality of collaboration has major effects on the consequence of team conflict. Indeed, considerable research has shown that how team members discuss and manage their conflict largely determines whether conflict is productive or destructive (Gamero et al., 2008; Lovelace et al., 2001; Tjosvold, 1998). For example, open discussion on task conflict can guard against complacent thinking and stimulate problem solving (Janis, 1989). Moreover, as models of work group effectiveness suggest (Campion, Medsker, & Higgs, 1993; Gladstein, 1984), collaborative communication serves a task-related function by facilitating information flow and coordinating collective effort toward a common goal (Gladstein, 1984; Stasser, 1992). Negotiation studies have also found that collaboration, compared with contentious communication, results in mutually beneficial outcomes (Brett, Shapiro, & Lytle, 1998; De Dreu, Weingart, & Kwon, 2000; Weingart, Hyder, & Prietula, 1996). In sum, effective collaboration among team members has been found useful for managing conflict, which in turn helps teams perform well, whereas ineffective collaboration can disrupt constructive conflict management and hence reduce team performance (Lovelace et al., 2001; Tjosvold, 1998).

On the basis of the preceding argument, this section proposes the group-level model that group members' emotion regulation moderates the relationship between team conflict and team performance. It also proposes that group members' emotion regulation function through promoting group collaboration, and it is group collaboration that directly plays the role of moderator. Theoretically, it is a mediated moderation effect, because we use a mediator (group collaboration) to explain how the moderator (group emotion regulation) affects the relationship between group conflict and group performance. Therefore, we hypothesize the following:

Hypothesis 3: Group members' emotion regulation abilities moderate the relationship between group task conflict and group performance. Specifically, for groups high in members' emotion regulation abilities, there is a positive effect of task conflict on group performance; for groups low in members' emotion regulation abilities, there is a negative effect of task conflict on group performance.

Hypothesis 4: Group members' emotion regulation abilities moderate the relationship between group relationship conflict and group performance. Specifically, for groups high in members' emotion regulation abilities, the negative effect of relationship conflict on group performance is weak; for groups low in members' emotion regulation abilities, the negative effect of relationship conflict on group performance is strong.

Hypothesis 5: Group members' emotion regulation abilities moderate the relationship between group task conflict and group performance by affecting group collaboration. Specifically, for groups high in members' emotion regulation abilities, group collaboration is high, and there is a positive effect of task conflict on group performance; for groups low in members' emotion regulation abilities, group collaboration is low, and there is a negative effect of task conflict on group performance.

Hypothesis 6: Group members' emotion regulation abilities moderate the relationship between group relationship conflict and group performance by affecting group collaboration. Specifically, for groups high in members' emotion regulation abilities, group collaboration is high, and the negative effect of relationship conflict on group performance is weak; for groups low in members' emotion regulation abilities, group collaboration is low, and the negative effect of relationship conflict on group performance is strong.

Chinese context

The research upon which the hypotheses have been built is largely based on the settings of Western culture, but we collected the data for this study in China. The effect of conflict, as well as frameworks to analyze conflict, cannot be assumed to apply to a collectivist society such as China (Hofstede, 1993; Johns, 2006). Chinese people are considered to be group-oriented and to value relationships highly (Chan, 1963; Triandis, 1990). Chinese people are generally expected to avoid conflict and work with others in a harmonious manner (e.g., Kirkbride, Tang, & Westwood, 1991; Tse, Francis, & Walls, 1994). However, although group-oriented values in Asian lead to seeking harmony and smoothing over conflict to maintain relationships (Leung, 1997; Morris et al., 1998), it may not be manifested only in conflict avoidance. Ohbuchi, Suzuki, and Hayashi (2001) suggested that people in collectivist cultures can discuss conflict openly and constructively. The motive for genuine harmony leads Chinese people to take the strategies of emotion regulation and group collaboration to strengthen their relationships. Therefore, the Chinese sample would be able to provide a suitable setting to examine the study's theoretical framework.

Methods

Sample and procedures

To select teams for participation, we contacted and invited to participate in this survey seven business banks located in different provinces of China. With the consent of the leaders of each branch, 40 teams from 40 different branches with four to eight branches from each bank agreed to participate. Our sample is from a single industry to avoid the potential confounding effect of different industries.

The semi-autonomous participating teams performed non-routine, complex tasks that required differential expertise and skills. Specifically, each group was a department or a small branch of a bank responsible for an independent function such as risk management, individual business, or financial products. Members within one group focused on different parts of the group task and needed to coordinate and collaborate with each other to accomplish team goals. Team members interacted face-to-face more than once per week in collective meetings as well as more informally on a day-to-day basis. For example, members within the risk management departments had several responsibilities, including analyzing and evaluating risk, pre-approval for enterprise loans, confirming loan contracts, and management of post-loan risk, which required them to interact frequently with each other to operate a commercial loan business. All teams contained male and female members, and the number of respondents of each team ranged from 4 to 13 members. These characteristics offer a good context in which to investigate team dynamics.

We assured them individual anonymity, and the researchers emphasized that data would be aggregated and used for academic research only. We gave team members the survey during their weekly meeting, asked to complete it independently on their own time and without discussing it with their peers, and asked to return it to the researchers within one week. We also gave supervisors one week to complete their survey.

Members of the 40 teams completed measures of their emotion regulation, task conflict, relationship conflict, and group collaboration. We asked team supervisors to rate each member's individual in-role performance as well as the group's performance. We deleted one team from the data because it returned less than four responses. A total of 39 teams, with a total of 253 members, provided 249 valid responses, resulting in a response rate of 95.7 per cent at the individual level and 97.5 per cent at the group level. Among the valid responses, 54 per cent of the respondents were female. Respondents averaged 32 years of age.

Measures

We collected four variables from employee self-reports, and the two variables of individual performance and group performance from team leaders. The response format of all measures was a 6-point Likert-type scale ranging from strongly disagree to strongly agree. We used this forced-choice even-number format to encourage respondents to express a positive or negative, rather than neutral, opinion. We measured all variables by using established scales. To ensure that our Chinese-version scales were equivalent to the original scales, two graduate English students translated and back-translated the material for all the study's constructs. We compared the translations and made a final revision of the translated scales. Table 1 reports the values of Cronbach's alpha coefficients for all constructs at the individual level. The Appendix section lists the scales of all variables used in this study.

Task and relationship conflict

We measured task and relationship conflict by using the scale of Pelled et al. (1999). Respondents rated four statements for task conflict and four for relationship conflict, using a 6-point Likert-type scale (1 = *not at all*; 6 = *very much*). We averaged the four items of each construct to form a measure of task and relationship conflict. A sample

Table 1. Means, standard deviations, internal consistency alphas, and correlations^a among measures.

Variable ^b	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
Individual level								
1. Gender	1.54	0.50	—					
2. Age	30.28	6.24	-.01	—				
3. Task conflict	3.49	1.04	.03	.15*	(.79)			
4. Relationship conflict	2.59	1.06	.04	.11	.56**	(.84)		
5. Individual emotion regulation	4.53	0.92	-.09	.11	-.05	-.29**	(.91)	
6. Individual performance	4.94	0.69	-.12	-.22**	-.09	-.23**	.17**	(.88)
Group level								
1. Group size	6.38	2.09	—					
2. Team task conflict	3.53	0.54	-.23	—				
3. Team relationship conflict	2.60	0.66	-.06	.73**	—			
4. Team collaboration	4.76	0.48	-.12	-.25	-.50**	—		
5. Team emotion regulation	4.50	0.53	.16	-.13	-.33*	.28	—	
6. Group performance	4.62	0.53	-.20	.31	-.02	-.16	.01	—

^a $N_{\text{individual}} = 249$, $N_{\text{team}} = 39$.

^bInternal reliabilities (alpha coefficients) for the overall constructs are given in parentheses on the diagonal.

* $p < .05$ (two-tailed);

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

item for the task conflict measure is “The members of our team often disagree about how things should be done,” and the scale had a Cronbach α of .79. A sample item for the relationship conflict scale is “There is some tension among the members of my team,” and the scale had a Cronbach α of .84.

Emotion regulation

We measured emotion regulation by using four items from Wong and Law's (2002) 16-item emotional intelligence scale. Wong and Law (2002) suggested that this scale could be used in self-reporting or other-reporting. As emotion regulation is an internal psychological activity not directly observable by others, we asked employees to report their own emotion regulation. A sample item of emotion regulation is “I can always calm down quickly when I am very angry.” The scale had a Cronbach α of .91.

Team collaboration

We measured team collaboration by using the eight-item scale of Lester et al. (2002), which requires team members to rate their team's open interaction style on the basis of their observations of their team. A sample item is “Team members are very willing to share information with other team members about our work.” The scale had a Cronbach α of .92.

Individual performance and group performance

The supervisor of each team rated the individual performance of each team member as well as the group performance of the team. We measured individual in-role performance by using Williams' (1988) in-role performance six-item scale. A sample item for individual performance is “His/her working quality is high, with few errors.” The scale had a Cronbach α of .88. We measured team performance by using a scale adapted from Hackman (1987). We asked supervisors to rate their teams on four statements dealing with aspects of team effectiveness. A sample item for group performance is “This team usually accomplishes its objectives.” The scale had a Cronbach α of .87.

Analysis

Aggregation

We computed group emotion regulation by averaging the skills of each team member for each group. As this construct deals with the average emotion regulation skills for the group, we did not need to compute the consistency among group members to justify the aggregation (Jordan, Ashkanasy, Härtel, & Hooper, 2002).

However, we expected the constructs of group task conflict, relationship conflict, and group collaboration to indicate the team's general characteristics. Individual members completed the questions but we asked them to describe the group as a whole. Thus, we aggregated these variables at the team level by computing the team mean. We summed individual responses per item within one team and divided them by the total number of respondents per team. There are some potential problems with aggregation; for example, individual team members may refer to different periods as they rate the items (Kimberly, 1980). However, researchers generally rely on aggregation, especially in cross-sectional research, to form a more accurate estimate of team attributes than one team member's ratings would provide (Simons & Peterson, 2000).

To justify aggregation at the team level, we ran three tests. First, we performed a one-way analysis of variance on each variable to determine whether between-group differences were more significant than within-group differences (Rousseau, 1985). All of the variables passed this test. Next, we computed an intraclass correlations coefficient (ICC) for each variable. Because our data consisted of ratings from several members of each team, we used both ICC(1) and ICC(2) (Bliese, 2000). These two forms of intraclass correlation provide a point estimate of the agreement of ratings made by two or more judges (Bliese, 2000). The *F* tests of ICC(1) for three measures were all significant ($p < .01$), indicating a sufficient proportion of between-group variance in the total variance. The ICC(2) for task conflict, relationship conflict, and group collaboration were 0.61, 0.69, and 0.63, respectively, which are marginally acceptable (Klein et al., 2000, p. 518). Finally, we also assessed within-team agreement by

computing R_{wg} (James, Demaree, & Wolf, 1984) in order to determine the amount of agreement among the judgments made by the members of each team on each variable. The means of R_{wg} for task conflict, relationship conflict, and group collaboration were .81, .78, and .79 respectively, all of which were above .70, the generally acceptable level for good agreement (Klein et al., 2000). These three sets of statistics tend to justify aggregation of the data to the team level.

Hypothesis-testing strategy

To test the hypothesized relationships, we conducted several analyses. For the individual-level model (H1 and H2), the data were hierarchical, as employees were “nested” in a group. Statistically, data with these characteristics are described as having non-independence because of group membership (Kenny & Judd, 1986). In order to capture the potential group-level random effect in the intercept and avoid potential bias in the estimated standard error, we adopted hierarchical linear modeling (Bryk & Raudenbush, 1992) and followed Baron and Kenny’s (1986) procedure to test the moderation model in two steps. First, we regressed individual performance on the grand-mean-centered individual-level predictor of individual perceived conflict and individual emotion regulation. We also included age and gender in this model as control variables. Second, we entered the interaction term of centralized value of perceived conflict and emotion regulation into the model.

For the group-level model (Hypotheses 3–6), considering our small sample size, we tested moderation (Hypotheses 3 and 4) with Baron and Kenny’s (1986) multiple moderated regression procedure but using bootstrapping method, and we tested the mediated moderation effect (Hypotheses 5 and 6) using a method adapted from Preacher, Rucker, and Hayes (2007). Taking the mediated moderation model in Hypothesis 5 as an example, the relationship among constructs can be represented by the following equation:

$$\begin{aligned} GP &= a_0 + a_1GTC + a_2GER + a_3GC + m_1GTC * GC \\ GC &= b_0 + b_1GER \end{aligned}$$

where a_1 represents the coefficient of task conflict (GTC) \rightarrow group performance (GP), a_2 represents the coefficient of group emotion regulation (GER) \rightarrow GP , a_3 represents the coefficient of group collaboration (GC) \rightarrow GP , m_1 represents the coefficient of $GTC * GC \rightarrow GP$, and b_1 represents the coefficient of $GER \rightarrow GC$. Then, the hypothesis can be supported if the following requirements are met:

$$b_1 * m_1 \text{ is not } 0$$

Results

Treatment of the data and descriptive statistics

We used the team’s average to substitute for missing values at the individual level, provided that the number of missing values per individual did not exceed 10 per cent of responses. Some of the variables assessed in the survey were correlated. Because of these expected correlations, we used a confirmatory factor analysis to examine the distinctiveness of the variables. Results confirmed that respondents effectively differentiated among relationship conflict, task conflict, and group collaboration. We decided not to conduct a factor analysis on supervisor-rated performance, as the number of supervisors ($N=39$) was low in relation to the number of items in these measures ($k=10$ items). Table 1 summarizes the correlations among all individual variables and all group variables. Although our focus in this study is the moderating role of emotion regulation, some direct effect of emotion regulation may also exist. As shown in Table 1, individual emotion regulation is negatively

associated with relationship conflict and positively associated with individual in-role performance. Similarly, at the group level, team average emotion regulation is negatively associated with relationship conflict.

Hierarchical linear modeling results for individual in-role performance

Hypotheses 1 and 2 state that individual emotion regulation moderates the relationship between conflict and individual performance. Specifically, for individuals skilled in emotion regulation, the positive effect of task conflict is enhanced, and the negative effect of relationship conflict is alleviated. We estimated the level 1 model by first including conflict and emotion regulation, and then adding the product term of the centralized value of conflict and emotion regulation. We did not specify any predictor in the level 2 model.

As shown in Table 2, the results support H1 and H2. The main effect of emotion regulation was significant, whereas the main effect of task conflict was not significant. As hypothesized, the interaction term of task conflict and emotion regulation was significant, supporting the hypothesized moderating effect of emotion regulation in the relationship between task conflict and individual performance.

The main effect of relationship conflict was significantly negative. As hypothesized, the interaction term of relationship conflict and emotion regulation was significant. These results support the hypothesized moderating effect of emotion regulation in the relationship between relationship conflict and individual performance.

We plotted the significant interactions following Aiken and West's (1991) approach. We plotted the interactions with the moderator at cut values of 1 standard deviation (*SD*) below the mean, the mean, and 1 *SD* above the mean. We used the bootstrapping method to estimate the relationship between conflict and individual performance at each cut value of emotion regulation. As shown in Figure 2(A), the positive effect of task conflict on individual performance was stronger among individuals with high emotion regulation skills than among those with low emotion regulation skills. As shown in Figure 2(B), the negative effect of relationship conflict on individual performance among individuals with low emotion regulation skills disappears among individuals with high emotion regulation skills.

Table 2. Hierarchical linear modeling results for individual performance.

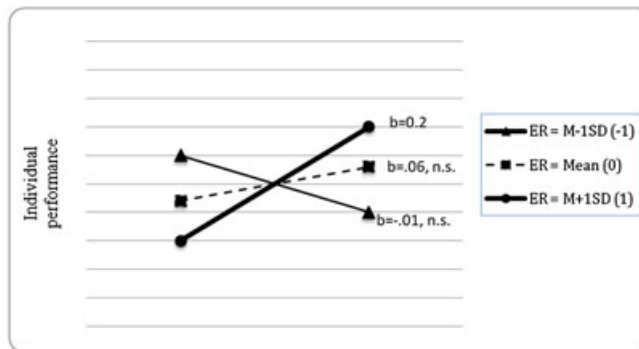
	Hypothesis 1:		Hypothesis 2:	
	Effect of task conflict		Effect of relationship conflict	
	M1	M2	M3	M4
Variables				
Intercept	4.98**	4.98**	4.98**	5.02**
Age	-.01	-.01	-.01	-.01
Gender	-.07	-.06	-.08	-.07
Independent variables				
Task conflict	-.01	-.01		
Relationship conflict			-.08*	-.09*
Moderator				
Individual emotion regulation	.13**	.13**	.11*	.11*
Interaction				
Task conflict * Emotion regulation		.08*		
Relationship conflict * Emotion regulation				.15**
Level 1 residual variance	.34	.32	.32	.30
Model deviance	480.72	483.16	477.05	469.16

Individual $n = 249$. Bold entries are results which directly support hypotheses.

* $p < .05$;

** $p < .01$.

A. Moderating effect of emotional regulation on the relationship between task conflict and individual in-role performance



B. Moderating effect of emotional regulation on the relationship between relationship conflict and individual in-role performance

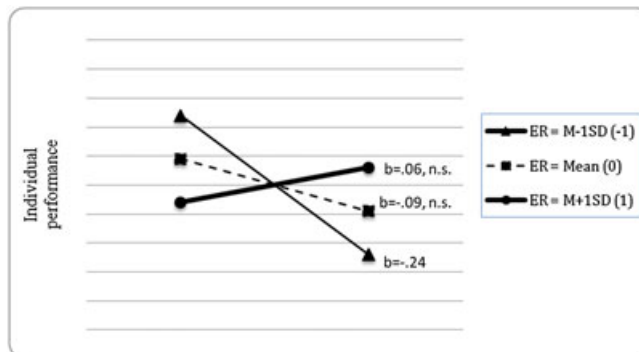


Figure 2. (A) Moderating effect of emotional regulation on the relationship between task conflict and individual in-role performance. (B) Moderating effect of emotional regulation on the relationship between relationship conflict and individual in-role performance

Results for group performance

Hypotheses 3 and 4 propose that group average emotion regulation moderates the relationship between group conflict and group performance. The results of the analysis of Models 5 and 6 in Table 3 support these two hypotheses. The results indicate that the level of group average emotion regulation moderates the relationship between group task conflict and group performance, as well as the relationship between group relational conflict and group performance.

To describe the moderating role of group average emotion regulation, we also plotted the interactions following Aiken and West's (1991) approach. We plotted the interactions with the moderator at cut values of 1 *SD* below the mean, the mean, and 1 *SD* above the mean. We used the bootstrapping method to estimate the relationship between group conflict and group performance at each cut value of group average emotion regulation. As shown in Figure 3 (A), the positive effect of group task conflict on group performance was stronger among groups with high average emotion regulation skills than among those with low average emotion regulation skills. As shown in Figure 3(B), the negative effect of group relationship conflict on group performance among groups with low average emotion regulation skills disappears among groups with high average emotion regulation skills.

Hypotheses 5 and 6 propose that group collaboration may explain the moderation of group average emotion regulation. Models 7 and 8 in Table 4 tested whether group collaboration is a mediator of group average emotion regulation. H5 proposes that group members' emotion regulation abilities moderate the relationship between group task conflict and group performance by affecting group collaboration. The results of Model 7 show that although

Table 3. Bootstrapping regression results for moderation of group emotion regulation (*GER*) dependent variable: Group performance (*GP*).

Variables	<i>B</i>	<i>SE</i>	Lower 2.5%	Upper 2.5%
Model 5: Group task conflict as IV, group emotion regulation (<i>GER</i>) as moderator				
Group task conflict (<i>GTC</i>) → <i>GP</i>	0.22	0.08	.04	.37
Group emotion regulation (<i>GER</i>) → <i>GP</i>	−0.07	0.08	−.22	.07
<i>GTC</i> * <i>GER</i> → <i>GP</i>	0.25	0.09	.08	.42
Model 6: Group relationship conflict as IV, group emotion regulation (<i>GER</i>) as moderator				
Group relationship conflict (<i>GRC</i>) → <i>GP</i>	−0.04	0.09	−.24	.12
Group emotion regulation (<i>GER</i>) → <i>GP</i>	−0.06	0.08	−.21	.11
<i>GRC</i> * <i>GER</i> → <i>GP</i>	0.23	0.09	.03	.39
Moderating effect at <i>GER</i> = <i>M</i> − 1 <i>SD</i> , Mean, <i>M</i> + 1 <i>SD</i>				
	<i>B</i>	<i>SE</i>	Lower 2.5%	Upper 2.5%
Group task conflict → Group performance (<i>b</i> ₁)				
<i>GER</i> = <i>M</i> − 1 <i>SD</i> (−1)	−0.03	0.13	−.35	.18
<i>GER</i> = Mean (0)	0.22	0.08	.04	.37
<i>GER</i> = <i>M</i> + 1 <i>SD</i> (1)	0.46	0.11	.25	.69
Group relationship conflict → Group performance (<i>b</i> ₂)				
<i>GER</i> = <i>M</i> − 1 <i>SD</i> (−1)	−0.27	0.15	−.54	−.01
<i>GER</i> = Mean (0)	−0.04	0.09	−.24	.12
<i>GER</i> = <i>M</i> + 1 <i>SD</i> (1)	0.20	0.11	.01	.43

Note: *N* = 39 groups. Bootstrap sample size = 2000. Bold entries are results which directly support hypotheses.

group collaboration is a moderator in the relationship between group task conflict and group performance, it is not a mediator through which group emotion regulation functions (in Model 7, the estimated value of $b_1 * m_1$ is 0). As shown in Figure 4, the insignificant relationship between group task conflict and group performance among groups with low collaboration becomes positive among groups with high collaboration.

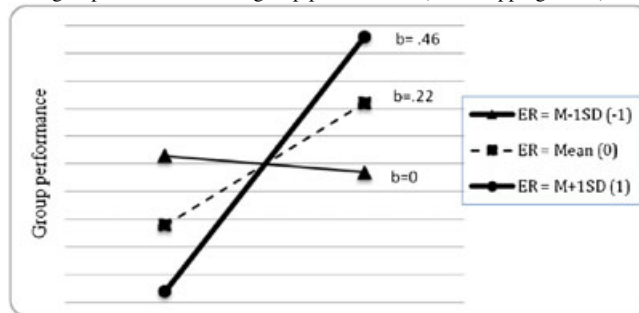
H6 is also not supported. H6 proposed that group members' emotion regulation abilities moderate the relationship between group relationship conflict and group performance by affecting group collaboration. The results of Model 8 show that the interaction term (group relationship conflict * group collaboration) is zero, which implies that group collaboration does not moderate the relationship between group relationship conflict and group performance. Furthermore, the estimated value of $b_2 * m_3$ is 0 in Model 8.

Discussion

Researchers have proposed that conflict can contribute to performance, but documenting the conditions for productive conflict has proved difficult. Although it has been theorized that task conflict is constructive and relationship conflict is destructive, a meta-analysis of the literature concluded that both task conflict and relationship conflict disrupt team performance (De Dreu & Weingart, 2003). This study investigates the boundary conditions for productive conflict at both individual and group levels. The results suggest that individuals use emotion regulation skills to utilize task conflict productively and to limit the disruptive effects of relationship conflict. Results also suggest that team members skilled in emotion regulation or higher in collaboration were able to use task conflict to promote group performance.

Consistent with the Hypotheses 1 and 2, we found individuals' emotion regulation abilities to moderate the relationship between conflict and individual performance. Specifically, task conflict had a positive main effect on individual performance for individuals skilled in emotion regulation; this effect weakened when an individual's

A. Moderating effect of emotional regulation on the relationship between group task conflict and group performance (bootstrapping result)



B. Moderating effect of emotional regulation on the relationship between group relationship conflict and group performance (bootstrapping result)

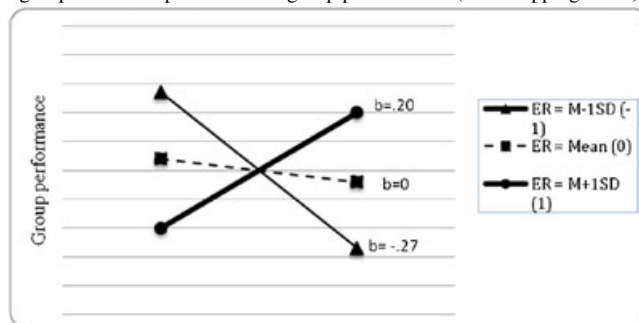


Figure 3. (A) Moderating effect of emotional regulation on the relationship between group task conflict and group performance (bootstrapping result). (B) Moderating effect of emotional regulation on the relationship between group relationship conflict and group performance (bootstrapping result)

emotion regulation was low. For relationship conflict, analyses showed that relationship conflict undermined individual performance for individuals with low emotion regulation, whereas this relationship was non-significant for individuals with high emotion regulation.

The results indicate that both group emotion regulation and group collaboration can weaken or even reverse the negative effects of both relationship conflict and task conflict on group performance. In other words, teams can use task conflict to dig into issues, discover more information, and create various possible solutions, but they must apply these insights and solutions to implement resolutions as a group to make productive use of task conflict. Our findings are also consistent with previous propositions that conflict needs to be managed effectively in order for task conflict to promote performance and for relationship conflict not to interfere with performance (Tjosvold et al., 2006).

However, the data did not support our hypotheses that emotion regulation abilities affect the conflict–performance relationship through affecting team collaboration. A possible reason is restricted range for emotion regulation. Matsumoto et al. (2008) compared cultures on the individualism versus collectivism dimension, and found that individualistic cultures had greater overall emotion expressivity. Butler, Lee, and Gross (2007) found that European American women reported lower levels of emotion suppression ($M = 2.95$, $SD = 1.21$) than Asian American women ($M = 3.19$, $SD = 1.08$, Cohen's $d = 0.21$). Comparatively, the mean of emotion regulation in the current study is $M = 5.28$ (after transforming from 6-point scale to 7-point scale), which is even higher than the mean of Asian American women. Thus, the restricted range of emotion regulation may be a possible reason for the insignificant relationship between group emotion regulation and group

Table 4. Bootstrapping results for moderation of group emotion regulation mediated by group collaboration.

Variables	<i>B</i>	<i>SE</i>	Lower 2.5%	Upper 2.5%
Model 7 Group task conflict as IV, group emotion regulation (<i>GER</i>) as moderator, group collaboration mediates the moderation of <i>GER</i>				
Group task conflict (<i>GTC</i>) → <i>GP</i> (<i>a</i> ₁)	0.19	0.09	-.01	.37
Group emotion regulation (<i>GER</i>) → <i>GP</i> (<i>a</i> ₂)	-0.12	0.08	-.27	.03
<i>GTC</i> * <i>GER</i> → <i>GP</i> (<i>m</i> ₁)	0.21	0.10	.04	.41
Group collaboration (<i>GC</i>) → <i>GP</i> (<i>a</i> ₃)	0.13	0.09	-.05	.30
<i>GTC</i> * <i>GC</i> → <i>GP</i> (<i>m</i> ₂)	0.17	0.09	.01	.37
<i>GER</i> → <i>GC</i> (<i>b</i> ₁)	0.28	0.14	-.01	.57
Bootstrap results for moderated mediation effect of the <i>GTC</i> –Performance link				
	Estimate	<i>SE</i>	Lower 2.5%	Upper 2.5%
Mediated moderation effect (<i>b</i> ₁ * <i>m</i> ₁)	0.05	0.04	-.01	.16
Model 8 Group relationship conflict as IV, group emotion regulation (<i>GER</i>) as moderator, group collaboration mediates the moderation of <i>GER</i>				
Group relationship conflict (<i>GRC</i>) (<i>a</i> ₄)	-0.02	0.11	-.22	.22
Group emotion regulation (<i>GER</i>) (<i>a</i> ₅)	-0.06	0.09	-.22	.13
<i>GRC</i> * <i>GER</i> (<i>m</i> ₃)	0.19	0.13	.01	.46
Group collaboration (<i>GC</i>) (<i>a</i> ₆)	0.03	0.11	-.16	.26
<i>GRC</i> * <i>GC</i> (<i>m</i> ₄)	0.19	0.12	-.21	.28
<i>GER</i> → <i>GC</i> (<i>b</i> ₂)	0.28	0.15	-.01	.56
Bootstrap results for moderated mediation effect of the <i>GRC</i> –Performance link				
	Estimate	<i>SE</i>	Lower 2.5%	Upper 2.5%
Mediated moderation effect (<i>b</i> ₂ * <i>m</i> ₃)	0.05	0.04	-.01	.20
Moderating effect at group collaboration (<i>GC</i>) = <i>M</i> – 1 <i>SD</i> , Mean, <i>M</i> + 1 <i>SD</i>				
Group task conflict → Group performance (<i>c</i> ₁)				
	<i>B</i>	<i>SE</i>	Lower 2.5%	Upper 2.5%
<i>GC</i> = <i>M</i> – 1 <i>SD</i> (–1)	–0.03	0.15	–.34	.24
<i>GC</i> = Mean (0)	0.14	0.09	–.06	.32
<i>GC</i> = <i>M</i> + 1 <i>SD</i> (1)	0.32	0.13	.12	.60

Note: *N* = 39 groups. Bootstrap sample size = 2000. Bold entries are results which directly support hypotheses.

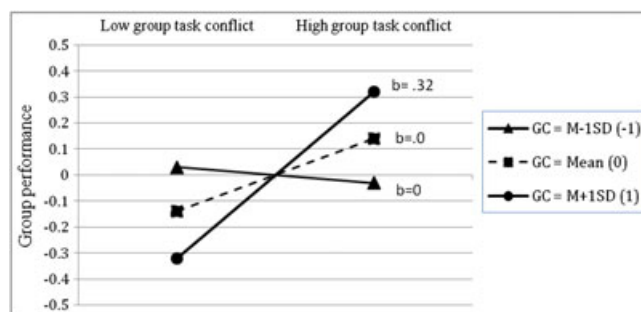


Figure 4. Moderating effect of group collaboration on the relationship between group task conflict and group performance (bootstrapping result)

collaboration in our study. Future cross-cultural studies may be able to more successfully document whether the group characteristic of collaboration can aid our understanding of the moderation of emotion regulation on team performance.

Finally, this study provides interesting implications for cross-cultural differences in conflict. Our findings support the growing evidence in the literature that demonstrates that, although conflict may not be highly valued in China, Chinese people and those in other collectivist cultures can, under certain conditions, make conflict constructive (Leung, Koch, & Lu, 2002; Ohbuchi et al., 2001).

Limitations and future research

The operations and sample limit the results of this study. A critical issue is whether emotion regulation skills can be accurately self-reported. Future studies could attempt to develop more objective measures to assess emotion regulation. Regarding the emotion regulation scale, Gross (2002) argued that the dimensions of emotion regulation have different functions. Multi-dimensional measures might be more useful than this study's general measure. With a multi-dimensional measure, the different functions could be compared across dimensions.

These data are also correlational and do not provide direct evidence of causal links among emotion regulation skills, task and relationship conflict, collaboration, and performance. Experiments would also be useful for developing more confidence in the hypothesized relationships, especially between emotion regulation skills and task and relationship conflict. For example, groups trained in emotion regulation skills could be compared with a control group as to the extent that they collaborate and manage conflict more productively and thereby perform more effectively as a team.

The groups surveyed were all ongoing, semi-autonomous, and from the same industry. Future research could investigate other types of groups, such as newly formed, developing teams. Studying newly formed teams could provide longitudinal data that might yield more persuasive evidence supporting the causal order of the hypothesized relationships than the cross-sectional data presented here. Furthermore, future study may use larger samples at the group level to strengthen statistical power. Finally, this study did not explore the role of group size in resolving conflict. Might emotion regulation be expected to be even more important in managing conflict in large groups? Or might it be more important in small groups where there are fewer others to buffer the effect of one poor regulator?

Practical implications

The results of this study, if replicated and extended by future research, have potentially important practical implications. Team members and their managers should realize that they cannot expect task conflict in and of themselves to be useful, nor do they need to be resigned to the idea that relationship conflict invariably results poor performance. Results affirm that the effects of task and relationship conflict depend upon how they are managed (Tjosvold et al., 2006).

Team leaders can be trained to choose members with high emotion regulation skills that enable them to make better use of task conflict and reduce the effects of relationship conflict for individual performance and as a team to make task conflict productive. Although these skills may be part of individual dispositions and personalities, it seems likely that they can also be learned (Kanfer & Kantrowitz, 2002; Wong & Law, 2002). Managers and trainers may be able to help team members strengthen their emotion regulation skills so that they can deploy attention, reappraise the situation, and suppress the expression of negative feelings (Kanfer & Kantrowitz, 2002). In addition, managers and team leaders can encourage groups to collaborate, expressing their ideas openly and working to integrate them into viable solutions (Lovelace et al., 2001; Tjosvold et al., 2006). These teams are apt to be well prepared to make use of task conflict to gather information, create alternative resolutions to issues, and implement solutions, thereby promoting group performance.

Conclusion

In trying to resolve the inconsistency between research findings and the widely held belief that task conflict is beneficial whereas relationship conflict is destructive, this study examined the boundary condition role of team members' emotion

regulation. Results support the idea that emotion regulation is an important moderator affecting the relationship between conflict and performance at both individual and group levels. Specifically, emotion regulation can enhance the positive impact of task conflict and reduce the negative impact of relationship conflict on individual performance. Findings also indicate that team members skilled in emotion regulation tend to manage task conflict to improve group performance. By using the emotion regulation skills of attention deployment, reappraisal, and suppression of the harsh expression of negative feelings, individuals can manage task and relationship conflict constructively and make task conflict productive.

Acknowledgements

This research is supported by two grants from the National Natural Science Foundation of China (grant number 71102034, principle investigator Jane Yan Jiang; grant number 71172060, principle investigator Xiao Zhang). We appreciate the precious comments and great help from editor Professor Neal Ashkanasy and two anonymous reviewers. We also thank Mr Simon Lo for his assistance.

Author biographies

Jane Yan Jiang (PhD, The Chinese University of Hong Kong) is an assistant professor of the Business School at Nanjing University, China. Her research interest includes newcomer socialization, emotions, OCB, and leadership.

Xiao Zhang (PhD, Nanjing University) is an associate professor of the Business School at Nanjing University, China. His research interest includes entrepreneurship, knowledge management, and team process.

Dean Tjosvold (PhD, University of Minnesota) is Chair Professor of the Management Department at Lingnan University, Hong Kong. He has published over 200 articles, 20 books, 30 book chapters, and 100 conference papers on teamwork, leadership, and conflict management in China.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Alper, S., Tjosvold, D., & Law, K. S. (2000). Conflict management, efficacy, and performance in organizational teams. *Personnel Psychology*, 53, 625–642.
- Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management groups. *Academy of Management Journal*, 39, 123–148.
- Amason, A. C., & Schweiger, D. (1997). The effect of conflict on strategic decision making effectiveness and organizational performance. In C. K. W. De Dreu & E. Van de Vliert (Eds.), *Using conflict in organizations* (pp. 101–15). London: Sage.
- Ashkanasy, N. M., Härtel, C. E. J., & Daus, C. S. (2002). Diversity and emotion: the new frontiers in organizational behavior research. *Journal of Management*, 28, 307–338.
- Averill, J. A. (1982). *Anger and aggression: An essay on emotion*. New York, NY: Springer-Verlag.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 349–381). San Francisco, CA: Jossey-Bass.
- Brett, J. M., Shapiro, D. L., & Lytle, A. L. (1998). Breaking the bonds of reciprocity in negotiations. *Academy of Management Journal*, 41, 410–424.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models*. Newbury Park, CA: Sage.
- Butler, E. A., Lee, T. L., & Gross, J. J. (2007). Emotion regulation and culture: Are the social consequences of emotion suppression culture-specific?

- Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relationships between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology*, 4, 823–850.
- Carnevale, P. J., & Probst, T. M. (1998). Social values and social conflict in creative problem solving and categorization. *Journal of Personality and Social Psychology*, 74, 1300–1309.
- Chan, W. T. (1963). *A source book in Chinese philosophy*. Princeton, NJ: Princeton University Press.
- Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development*, 75, 317–33.
- De Dreu, C. K. W., & Gelfand, M. J. (Eds.). (2008). *The psychology of conflict and conflict management in organizations*. New York, NY: Lawrence Erlbaum Associates.
- De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, 88, 741–749.
- De Dreu, C. K. W., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision making. *Journal of Applied Psychology*, 86, 1191–201.
- De Dreu, C. K. W., Weingart, L. R., & Kwon, S. (2000). Influence of social motives in integrative negotiation: A meta-analytic review and test of two theories. *Journal of Personality and Social Psychology*, 78, 889–905.
- Drevets, W. C., & Raichle, M. E. (1998). Reciprocal suppression of regional cerebral blood flow during emotional versus higher cognitive processes: Implications for interactions between emotion and cognition. *Cognition and Emotion*, 12, 353–385.
- Druskat, V. U., & Wolff, S. B. (2001). Group emotional competence and its influence on group effectiveness. In C. Cherniss, & D. Goleman (Eds.), *The emotionally intelligent workplace*, (pp. 132–155). San Francisco, CA: Jossey-Bass.
- Eisenberg, N., & Fabes, R. A. (1992). Emotion, regulation, and the development of social competence. In M. S. Clark (Ed.), *Emotion and social behavior* (Vol. 14, pp. 119–150). Newbury Park, CA: Sage.
- Etkin, A., Egner, T., Peraza, D. M., Kandel, E. R., & Hirsch, J. (2006). Resolving emotional conflict: A role for the rostral anterior cingulate cortex in modulating activity in the amygdala. *Neuron*, 51, 871–882.
- Gamero, N., González-Romá, V., & Peiró, J. M. (2008). The influence of intra-team conflict on work teams' affective climate: A longitudinal study. *Journal of Occupational and Organizational Psychology*, 81(1), 47–69.
- Gladstein, D. L. (1984). A model of task group effectiveness. *Administrative Science Quarterly*, 29, 499–517.
- Gross, J. J. (1998a). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2, 271–299.
- Gross, J. J. (1998b). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology*, 74, 224–237.
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequence. *Psychophysiology*, 39, 281–291.
- Guzzo, R. A., & Shea, G. P. (1992). Group performance and intergroup relations in organizations. In M. D. Dunnette, L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 3, pp. 269–313). Palo Alto, CA: Consulting Psychologists Press.
- Hackman, J. R. (1983). The design of effective work groups. In J. W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 70–94). Englewood Cliffs, NJ: Prentice-Hall.
- Hackman, J. R. (1987). The design of work teams. In J. W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 315–342). Englewood Cliffs, NJ: Prentice-Hall.
- Hackman, J. R., & Morris, C. G. (1975). Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 8, pp. 45–99). San Diego, CA: Academic Press.
- Halpert, J. A., Stuhlmacher, A. F., Crenshaw, J. L., Litcher, C. D., & Bortel, R. (2010). Paths to negotiation success. *Negotiation and Conflict Management Research*, 3, 91–116.
- Hofstede, G. (1993). Cultural constraints in management theories. *The Academy of Management Executive*, 7(1), 81.
- Hollenbeck, J. R., Colquit, J. A., Ilgen, D. R., LePine, J. A., & Hedlund, J. (1998). Accuracy decomposition and team decision making: Testing theoretical boundary conditions. *Journal of Applied Psychology*, 83, 494–500.
- Hollenbeck, J. R., Ilgen, D. R., Sego, D. J., Hedlund, J., Major, D. A., & Phillips, J. (1995). Multilevel theory of team decision making: Decision performance in teams incorporating distributed expertise. *Journal of Applied Psychology*, 80, 292–316.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, 85–98.
- Janis, I. L. (1989). *Crucial decisions: Leadership in policymaking and crisis management*. New York, NY: Free Press.
- Jehn, K. A. (1994). Enhancing effectiveness: An investigation of advantages and disadvantages of value-based intragroup conflict. *International Journal of Conflict Management*, 5, 223–238.
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40, 256–282.
- Jehn, K. A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly*, 42, 530–557.

- Jehn, K. A., & Bendersky, C. (2003). Intragroup conflict in organizations: A contingency perspective on the conflict–outcome relationship. *Research in Organizational Behavior*, 25, 189–244.
- Jehn, K. A., & Mannix, E. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal*, 44, 238–51.
- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly*, 44, 741–763.
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, 31(2), 386–408.
- Jordan, P. J., Ashkanasy, N. M., Härtel, C. E. J., & Hooper, G. S. (2002). Workgroup emotional intelligence scale development and relationship to team process effectiveness and goal focus. *Human Resource Management Review*, 12(2), 195–214.
- Kanfer, R., & Kantrowitz, T. M. (2002). Emotion regulation command and control of emotion in work life. In R. G. Lord, R. J. Klimoski, & R. Kanfer (Eds.), *Emotions in the workplace: Understanding the structure and role of emotions in organizational behavior* (pp. 433–72). San Francisco, CA: Jossey-Bass.
- Kenny, D. A., & Judd, C. M. (1986). Consequences of violating the independence assumption in analysis of variance. *Psychological Bulletin*, 99, 422–31.
- Kimberly, J. R. (1980). Data aggregation in organization research: The temporal dimension. *Organisational Studies*, 1(4), 367–377.
- Kirkbride, P. S., Tang, S. F. Y., & Westwood, R. I. (1991). Chinese conflict preferences and negotiating behaviour: Cultural and psychological influences. *Organization Studies*, 12, 365–386.
- Klein, K. J., Bliese, P. D., Kozlowski, S. W., Dansereau, F., Gavin, M. B., Griffin, M. A., Hofmann, D. A., James, L. R., Yammarino, F. J., & Bligh, M. C. (2000). Multilevel analytical techniques: Commonalities, differences, and continuing questions. In K. J. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 512–53). San Francisco, CA: Jossey-Bass.
- LePine, J. A., Piccolo, R. F., Jackson, C. L., Mathieu, J. E., & Saul, J. R. (2008). A meta-analysis of teamwork processes: Tests of a multidimensional model and relationships with team effectiveness criteria. *Personnel Psychology*, 61, 273–307.
- Lester, S. W., Meglino, B. M., & Korsgaard, M. A. (2002). The antecedents and consequences of group potency: A longitudinal investigation of newly formed work groups. *Academy of Management Journal*, 45(2), 352–68.
- Leung, K. (1997). Negotiation and reward allocations across cultures. In P. C. Earley, & M. Erez (Eds.), *New perspectives on international industrial/organizational psychology* (pp. 640–675). San Francisco, CA: Jossey-Bass.
- Leung, K., Koch, P. T., & Lu, L. (2002). A dualistic model of harmony and its implications for conflict management in Asia. *Asia Pacific Journal of Management*, 19, 201–220.
- Levine, J. M., Resnick, L. B., & Higgins, E. T. (1993). Social foundations of cognition. *Annual Review of Psychology*, 44, 585–612.
- Lewis, M. D. (2000). Emotional self-organization at three time scales. In M. D. Lewis, & I. Granic (Eds.), *Emotion, development, and self-organization: Dynamic systems approaches to emotional development* (pp. 37–69). New York, NY: Cambridge University Press.
- Liu, J., Fu, P., & Liu, S. (2009). Conflicts in top management teams and team/firm outcomes: The moderating effects of conflict-handling approaches. *International Journal of Conflict Management*, 20, 228–250.
- Lovelace, K., Shapero, D. L., & Weingart, L. R. (2001). Maximizing cross-functional new product teams' innovativeness and constraint adherence: A conflict communications perspective. *Academy of Management Journal*, 44, 779–783.
- Lu, L., Zhou, F., & Leung, K. (2009). Effects of task and relationship conflicts on individual work behaviors. *International Journal of Conflict Management*, 22, 131–150.
- Matsumoto, D., Yoo, S. H., Fontaine, J., Anguas-Wong, A. M., Arriola, M., Ataca, B., et al. (2008). Mapping expressive differences around the world: The relationship between emotional display rules and individualism versus collectivism. *Journal of Cross-Cultural Psychology*, 39, 55–74.
- McShane, S. L., & Von Glinow, M. (2000). *Organizational behavior*. New York, NY: McGraw-Hill.
- Morris, M. W., Williams, K. Y., Leung, K., Larick, R., Mendoza, M. T., Bhatnagar, D., Li, J., Kondo, M., Luo, J. L., & Hu, J. C. (1998). Conflict management style: Accounting for cross-national differences. *Journal of International Business Studies*, 29, 729–748.
- Nemeth, C. J. (1986). Differential contributions of majority and minority influence processes. *Psychological Review*, 93, 10–20.
- Nijdam, N. E. (1998). *The functioning of work teams* (Unpublished master's thesis). University of Amsterdam, the Netherlands.
- Ohbuchi, K., Suzuki, M., & Hayashi, Y. (2001). Conflict management and organizational attitudes among Japanese: Individual and group goals and justice. *Asian Journal of Social Psychology*, 4, 93–101.
- Parlams, J. D., Allred, K. G., & Block, C. (2010). Letting off steam or just steaming? The influence of target and status on attributions and anger. *International Journal of Conflict Management*, 21, 260–280.
- Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly*, 44, 1–28.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185–227.
- Robbins, S. P. (2000). *Managing organizational conflict: A nontraditional approach* (9th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Rousseau, D. M. (1985). Issues of level in organizational research: Multilevel and cross-level perspectives. In L. L. Cummings, B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 7, p. 137). Greenwich, CT: JAI Press.

- Saavedra, R., Earley, P. C., & Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology*, 78, 61–72.
- Schulz-Hardt, S., Jochims, M., & Frey, D. (2002). Productive conflict in group decision making: Genuine and contrived dissent as strategies to counteract biased information seeking. *Organizational Behavior and Human Decision Processes*, 88, 563–86.
- Simons, T., & Peterson, R. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology*, 85, 102–11.
- Stasser, G. (1992). Pooling of unshared information during group discussions. In S. Worchel, W. Wood, & J. A. Simpson (Eds.), *Group process and productivity* 48–67. Newbury Park, CA: Sage.
- Thompson, R. A. (1990). Emotion and self-regulation. In R. A. Thompson (Ed.), *Socioemotional development. Nebraska Symposium on Motivation* (Vol. 36, pp. 367–467). Lincoln, NE: University of Nebraska Press.
- Tjosvold, D. (1997). Conflict within interdependence: Its value for productivity and individuality. In C. K. W. De Dreu, & E. Van de Vliert (Eds.), *Using conflict in organizations* (pp. 23–37). London: Sage.
- Tjosvold, D. (1998). The cooperative and competitive goal approach to conflict: accomplishments and challenges. *Applied Psychology: An International Review*, 47, 285–313.
- Tjosvold, D., & Su, F. S. (2007). Managing anger and annoyance in organizations in China: The role of constructive controversy. *Group & Organization Management*, 32(3), 260–289.
- Tjosvold, D., Law, K. S. & Sun, H. (2006). Conflict in Chinese teams: Conflict types and conflict management approaches. *Management and Organization Review*, 2, 231–252.
- Triandis, H. C. (1990). Cross cultural studies of individualism and collectivism. In J. J. Berman (Ed.), *Nebraska Symposium on Motivation 1989*, 37, 41–133.
- Tse, D. K., Francis, J., & Walls, J. (1994). Cultural differences in conducting intra- and inter-cultural negotiations: A Sino-Canadian comparison. *Journal of International Business Studies*, 24, 537–555.
- Van Kleef, G. A., De Dreu, C. K. W., Pietroni, D., & Manstead, A. S. R. (2006). Power and emotion in negotiation: Power moderates the interpersonal effects of anger and happiness on concession making. *European Journal of Social Psychology*, 36(4), 557–581.
- Wall, J., & Callister, R. (1995). Conflict and its management. *Journal of Management*, 21, 515–558.
- Wall, V., & Nolan, L. (1986). Perceptions of inequity, satisfaction, and conflict in task-oriented groups. *Human Relations*, 39, 1033–1052.
- Weingart, L. R., Hyder, E. B., & Prietula, M. J. (1996). Knowledge matters: The effect of tactical descriptions on negotiation behavior and outcome. *Journal of Personality and Social Psychology*, 70, 1205–1217.
- Williams, L. J. (1988). *Affective and nonaffective components of job satisfaction and organizational commitment as determinants of organizational citizenship and in-role behaviors* (Unpublished doctoral dissertation). Indiana University, Bloomington, IN.
- Wong, C., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, 13, 243–274.

Appendix

Collaboration

1. Team members are very willing to share information with other team members about our work.
2. Team members are comfortable talking to each other about what needs to be done.
3. Team members enjoy talking to each other.
4. Team members cooperate to get the work done.
5. Team members work together to solve problems and make decisions.
6. Team members find it easy to work with each other.
7. When members of my team talk to each other, there is a great deal of understanding.
8. There is much cooperation among members of my team.

(Source: Lester et al. (2002).)

Emotion regulation

1. I am able to control my temper so that I can handle difficulties rationally.
2. I am quite capable of controlling my own emotions.
3. I can always calm down quickly when I am very angry.
4. I have good control of my own emotions.

(Source: Wong and Law (2002).)

Intragroup conflict

Task conflict

1. To what extent are the differences of opinion in your team?
2. How often do the members of your team disagree about how things should be done?
3. How often do the members of your team disagree about which procedure should be used to do your work?
4. To what extent are the arguments in your team task-related?

Relationship conflict

1. How much are personality clashes evident in your team?
2. How much tension is there among the members of your team?
3. How often do people become angry while working in your team?
4. How much jealousy or rivalry is there among the members of your team?

(Source: Pelled et al. (1999).)

Individual performance

1. She or he has great work interest and enthusiasm.
2. She or he is never lazy and has great work endurance,
3. She or he is concentrated and tries her/his best on every assignment.
4. His or her work quality is high with very few mistakes.
5. She or he works fast with high efficiency.
6. His or her overall work performance is very good.

(Source: Williams (1988).)

Group performance

1. This team performs well in the whole organization.
2. This team achieves its goals effectively.
3. This team accomplishes its task quickly.
4. This team attains its objectives efficiently.

(Adapted from: Hackman (1983).)