

Cooperative goals and team agreeableness composition for constructive controversy in China

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Abstract Studies have shown that constructive controversy, which is the open-minded discussion of diverse views, contributes to team effectiveness. However, there are few studies on the conditions that facilitate constructive controversy. This study explores the antecedents of constructive controversy from both team interdependence (cooperative goals) and team personality composition perspectives. Sixty customer service teams from a call center of a large mobile communication service provider in China participated in the study. Results further document that cooperative goals predict to constructive controversy. Agreeableness diversity was also found to be an antecedent of constructive controversy, and this effect was moderated by team agreeableness level: The higher the team average agreeableness, the stronger the positive association between agreeableness diversity and constructive controversy. Results were interpreted as suggesting that both cooperative goals and team agreeableness composition can develop constructive controversy in work teams in China and possibly in other cultures.

Keywords Constructive controversy · Cooperative goals · Team agreeableness composition

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Organizations are using teams to solve important problems and accomplish vital tasks, but developing an effective team is challenging (Katzenbach & Smith, 1993). Studies have demonstrated that teams that rely upon constructive controversy, which is the open-minded discussion of opposing views, can be effective in various settings (Chen & Tjosvold, 2007; Tjosvold, 1998). Several researchers have demonstrated that discussing diverse perspectives contributes significantly to problem solving (Gruenfeld, 1995; Shalley & Zhou, 2004), team trust (Hempel, Zhang, & Tjosvold, 2009), and team performance (Edmondson, 1999). However, few studies have investigated the antecedents of constructive controversy (Chen & Tjosvold, 2007). This study uses research on cooperation and competition, personality, and team diversity to propose that team cooperative goals and team composition help team members discuss their differences openly and constructively (Deutsch, 1973; Johnson & Johnson, 1989; Tjosvold, 1998). It hypothesizes that, in addition to the effects of cooperative goals, the collective personality dispositions of team members, specifically their traits of agreeableness, promote constructive controversy.

This study makes several contributions to the research literature. It extends previous research that has focused on cooperative goals as an important antecedent of constructive controversy by testing the role of cooperative goals in the strongly conflict-avoidance culture in Southwest China, where the economic development is slower and people are more conservative than in Eastern China. Findings further suggest the usefulness of Western theories in Chinese organizations and challenge the assumption that Chinese team members are not able to engage in open-minded discussion and direct conflict. Significantly, this study adds to research on the antecedents of constructive controversy by demonstrating that team personality composition can have a supplementary effect on constructive controversy beyond cooperative goals. This study also contributes to team diversity research by showing how team personality composition can promote effective team processes. An important practical implication is to suggest how managers can select appropriate team members to foster constructive controversy.

Cooperative goals and constructive controversy

Deutsch (1973) assumed that the way goals are perceived to be structured determines how people interact with each other and this interaction in turn affects outcomes. The way team members view how their goals are correlated significantly influences their expectations, interactions, affection, and performance (Deutsch, 1973; Johnson & Johnson, 1989). Goal correlation has three forms: cooperative, competitive, and independent goals. In cooperation, team members believe that their goals are positively correlated and that they can attain their goals if and only if the other team members also reach their goals. Consequently, they expect each other to use their abilities to work for mutual benefit and to help other members succeed. In competition, people think that their goals are negatively correlated, and a win–lose result is likely. With independent goals, achievements are unrelated. Although, under certain conditions, competition and independent work can be useful, studies demonstrated that cooperative teams, compared to

competitive and independent teams, developed more integrative dynamics and performed more effectively (Crown & Rosse, 1995).

This study argues that cooperative goals will help team members deal with conflict constructively in Chinese organizational settings. Constructive controversy is the process in which team members discuss opposing views openly for mutual benefit and work to develop effective solutions. Several researchers have demonstrated that constructive controversy can promote effective and creative decision-making (Jehn, 1997; Tjosvold, 1998). Effective teamwork where team members can identify problems and opportunities, discuss different opinions openly, and integrate old ideas into new ones can help develop novel ideas and practices (Gilson & Shalley, 2004; Gruenfeld, 1995; Shalley & Zhou, 2004). Constructive controversy can also promote team trust in organizations (Hempel et al., 2009). Indeed, research suggests that constructive controversy helps manage anger and annoyance in teams even in a conflict-avoidance society (Tjosvold & Sun, 2000, 2002).

Field studies and experiments have shown that cooperative goal interdependence promotes constructive controversy (Tjosvold, 2008; Tjosvold & Sun 2002). With cooperative goals, people find that expressing their opposing views directly and trying to integrate them facilitate high quality solutions. Thus, we propose that even in China where the culture is assumed to be conflict-avoidance, cooperative goals can help team members rely on each other, consider different perspectives, discuss opposing ideas openly, and work to integrate them.

Therefore, this study hypothesizes that:

Hypothesis 1 To the extent that teams have cooperative goals, they engage in constructive controversy.

Team diversity research

Work teams are becoming more diverse (Jackson & Joshi, 2004). Team diversity refers to the degree to which there exist differences between team members (Van Knippenberg & Schippers, 2007). Diversity is often divided into two general categories: surface- and deep-level diversity (Harrison, Price, Gavin, & Florey, 2002). Surface-level, or demographic diversity, refers to differences with gender, age, ethnicity, education level, functional background, marital status, and work tenure (e.g., Jehn, Northcraft, & Neale, 1999; Riordan & Shore 1997; Tsui & O'Reilly 1989). Deep-level diversity refers to heterogeneity among characteristics such as values, personality, attitudes, and affects (e.g., Barrick, Stewart, Neubert, & Mount, 1998; Barsade, Ward, Turner, & Sonnenfeld, 2000; Bell, 2007; Harrison et al., 2002; Jehn et al., 1999; Mathieu, Maynard, Rapp, & Gilson, 2008; Mohammed & Angell, 2004).

Team diversity may have positive as well as negative effects on team performance (Ilgen, Hollenbeck, & Johnson, 2005; Williams & O'Reilly, 1998). Several theories have been brought to bear to explain these contrasting effects. According to social identity theory (Tajfel, 1978) and self-categorization theory (Turner, 1982), people are motivated to maintain their social identities and demonstrate positive attitudes towards others with similar characteristics. The similarity–attraction paradigm also supports the value of similarity (Bryne, 1971).

These theories assert that team diversity disrupts group functioning and lowers affective responses to the team. On the other side, information/decision-making perspectives consider that team diversity may contribute to differences in information, knowledge, and perspectives that in turn may very much promote team effectiveness (Van Knippenberg, De Dreu, & Homan, 2004; Williams & O'Reilly, 1998).

Recent research has assessed the effects of deep-level diversity, such as attitudes, cognitive styles, and personality traits (Barrick et al., 1998; Harrison, Price, & Bell, 1998; Harrison et al., 2002; Jackson & Joshi, 2004; Mohammed & Angell, 2004). Findings suggest that deep-level traits can have a sustained and significant impact on social integration and team performance (Chen, Huang, & Tjosvold, 2008; Harrison et al., 2002). Through the deep-level variables, team member personality is thought to be an important factor in team functioning and performance (Driskell, Hogan, & Salas, 1987). Some researchers have argued that "personality has more direct and powerful effects on group processes than other composition variables typically studied (e.g., age, race, gender, and information distribution)" (Moynihan & Peterson, 2001). Studies have demonstrated that personality is an important predictor of team performance (Barrick et al., 1998; Neuman, Wagner, & Christiansen, 1999; Neuman & Wright, 1999). A recent meta-analysis indicates that average team conscientiousness, agreeableness, extraversion, emotional stability, and openness to experience related positively to performance in field settings (Bell, 2007).

In addition to the direct effect between team personality composition and team performance, research has begun to examine the mediators through which compositional personality relate to outcomes (Mathieu et al., 2008). Ilgen et al. (2005) has argued that research is needed on the antecedents of effective team processes. However, few studies have explored the relationship between team personality compositions and team process variables. This study contributes to the literature by examining the impact of personality composition of teams on constructive controversy, an important team process variable.

Team agreeableness composition and constructive controversy

Constructive controversy requires considerable relationship orientation as well as the skills of self-expression, understanding the perspective of others, and a willingness to integrate ideas. In the Big-Five framework, agreeableness would then seem a likely antecedent as it emphasizes friendly relationships and flexible social skills (Stewart & Barrick, 2000). Agreeableness refers to the extent to which a person is cooperative and friendly. Highly agreeable persons demonstrate such behaviors as being flexible, trusting, courteous, good-natured, forgiving, softhearted, and tolerant (Costa & McCrae, 1992). Agreeableness would seem to be an important foundation upon which team members are willing and able to discuss their ideas openly and integrate their views, interactions that are needed for constructive controversy.

However, some studies suggest team agreeableness diversity may lower team conflict (Barrick et al., 1998). Project teams with high levels of agreeableness experienced low levels of controversy (Ellis, Hollenbeck, Ilgen, Porter, West, & Moon, 2003). Agreeable team members have been found to readily accept ideas in

order to avoid argument and teams composed of people with high average agreeableness were not adept in terms of team learning (Ellis et al., 2003). Agreeableness as a predominant team characteristic may be dysfunctional, especially when the team is under pressure to learn and innovate. Based on this perspective, team agreeableness diversity may be beneficial to team conflict management. Groups with high agreeableness diversity are likely to have more open conflict discussion, whereas groups with little agreeableness diversity avoid conflict.

Conflict patterns may be quite different at high compared to low team average agreeableness. If a team is perceived as agreeable and cooperative, team members may be willing to continue working together in the future to fulfill their need to belong (Baumeister & Leary, 1995). Lun and Bond (2006) found that team member's agreeableness positively predicted his or her achievement of relationship harmony in the group. Barrick et al. (1998) documented a positive relationship between agreeableness and social cohesion. Thus it seems that team average agreeableness creates a supportive group climate. When team average agreeableness is high, team members have harmonious relationships and these relationships are apt to make the team conflict to be problem-oriented and constructive (Chen & Tjosvold, 2007). When team average agreeableness is low, trust and good relationships are hard to establish, making it difficult for them to manage their conflicts constructively.

Thus, this study proposes that team average agreeableness and team agreeableness variance together affect constructive controversy. Team average agreeableness and agreeableness diversity seem to interact with each other. When team average agreeableness is high, team agreeableness diversity has a strong positive impact on constructive controversy; whereas when team average agreeableness is low, team agreeableness diversity has a weak positive impact on constructive controversy.

Therefore this study hypothesizes that:

Hypothesis 2 Team average agreeableness level moderates the effects of agreeableness diversity on constructive controversy. The higher the team agreeableness level is, the stronger the positive relationship between agreeableness diversity and constructive controversy.

Method

Participants

Data for this study were collected at a call center of a subsidiary of a large mobile service provider in China, located in Guizhou, in the Southwest part of China. People are more traditional and conservative in Guizhou than in East China. Two hundred and ninety-nine team members and sixty team leaders from 60 customer service teams participated in this study.

We first conducted in-depth interviews with call center managers and several service team leaders. The information confirmed that these customer service teams

are actual work teams. In particular, in this service center, team members learn new service protocols together with other members every two or three weeks when new promotion programs are introduced. Each call center employee has to answer about 5,000 calls per month, including many difficult cases. Mutual learning within a team, especially through the ways of constructive controversy, was highly encouraged during the pre-work training sessions and on the job. Members in a team met twice a day to discuss difficult cases openly that they had encountered and received feedback from peers and the teamleader. Once a week, team members met for one hour to discuss specific work topics to improve their customer service. Furthermore, a team compensation policy encouraged teamwork, and approximately 15% of a member's income was based on his or her team's overall performance. In these customer service teams, membership was stable and the boundary was clear between teams. In sum, because their work activities showed interdependent interactions among members and all members had a shared responsibility for achieving high performance at the team-level, we believe these customer service teams had the characteristics of work teams (Cohen & Bailey, 1997).

Regarding the hierarchical characteristic within the teams, team leaders possessed moderate power. Employees were promoted to the position of team leaders mostly because of their long tenure and previous individual performance. Team leaders and members had largely the same duties. Team leaders though did organize meetings and acted as a communication link between managers and employees. The salaries of all employees were based on individual and team performance, which were evaluated by the center directly. Team leaders and members worked together to gain team goals. During meetings, team leaders contributed individual opinions as did other members. Based on our interview and field observation, team members often challenged team leaders' ideas directly if they did not agree. Thus we concluded that it was appropriate to combine the responses of team leaders and members in the analyses of the relationship between team personality composition and constructive controversy.

The average age of team members was 24, 29.9% were male and 70.1% female. Regarding education, 0.3% had a Master's degree, 6.9% had a Bachelor's degree, 71.3% had associate degrees, 18.1% finished high school, and 0.3% of them were below high school level. The average work tenure in this company was 21 months.

The average age of the team leaders was 27, 16.7% were male and 83.3% female. Regarding education, 5% had Bachelor's degrees, 70% had associate degrees, and 25% of them had high school diplomas. On average, they had worked in the company for 31 months.

Procedures

In order to ensure conceptual consistency (Brislin, 1970), two bilingual researchers translated the questionnaires from English into Chinese. Then, the questionnaires were back translated into English. A pre-test was conducted to ensure the employees could understand items clearly.

Employees completed survey instruments at two different times over 2 weeks. In the first phase, employees completed a survey that measured the individual

agreeableness in this study. After 2 weeks, each employee completed a self-report measure of team cooperative goals and team constructive controversy, as well as basic demographic information. Before the survey, we gave a brief oral introduction asking respondents to rate their own team as the focal subject in the questionnaire. It was also reinforced by offering word introductions in bold at the beginning of each scale. All the participants were told their response would be kept confidential.

Measures

Agreeableness Agreeableness was measured with the 12-item short form of the five-factor inventory (NEO-FFI; Costa & McCrae, 1992). Respondents used a 5-point Likert scale from strongly disagree to strongly agree. A sample item was “I sympathize with others’ feelings.” The Cronbach’s alpha is 0.71.

To study the effects of team personality composition, researchers had to convert individual personality trait scores into a measure of personality composition at the team level. Barrick et al. (1998) found that researchers adopted one or more of several methods to measure personality composition. In addition to the most common method of calculating the mean score for the group, several studies assessed team composition to capture the variability of individual personality traits. This study used both team mean and variance measures to examine the role of team personality on constructive controversy. In order to develop group-level diversity, the standard deviations of the agreeableness score were computed (Mohammed & Angell, 2004).

Cooperative goals Cooperative goals were measured with the five-item scale developed by Alper, Tjosvold, and Law (1998). Respondents used a 7-point Likert scale from strongly disagree to strongly agree. The five cooperative goal items measured the emphasis on mutual goals, shared rewards, and common tasks. A sample item for the cooperative goal scale was “Our team members seek compatible goals.” The Cronbach’s alpha is 0.76.

Constructive controversy Constructive controversy was measured with the eight-item scale developed by Tjosvold (1998). Respondents used a 7-point Likert scale from strongly disagree to strongly agree. The eight constructive controversy items measured the extent to which the team members sought a mutually beneficial solution, directly and openly discussed opposing views, took each other’s perspective, and tried to integrate them for the best solution. A sample item was “We use our opposing views to understand the problem.” The Cronbach’s alpha is 0.70.

Control variables Team average age, team size, team tenure, and the proportion of males were included as control variables. The team literature highlighted that team size may affect team dynamics significantly (e.g., Brewer & Kramer, 1986). Team tenure was likely to affect the extent to which a team seeks information (Katz, 1982). Male proportion may influence team conflict (Mohammed & Angell, 2004). Team tenure was measured by the average length of time employees have been in the team (Mohammed & Angell, 2004).

Results

Preliminary analyses

Before testing hypotheses, it is necessary to assess whether team members' individual ratings can be aggregated to the team level by computing the mean scores. Therefore, we used James, Demaree, and Wolf's (1984) procedure to assess the inter rater reliability of members within each team. James et al. (1984)'s $r_{WG(J)}$ index was used as an estimate of inter rater reliability because most of the variables were measured by multiple items.

The median of $r_{WG(J)}$ value for cooperative goal is 0.78, and for constructive controversy is 0.91. George and Bettenhausen (1990) argued that a $r_{WG(J)}$ value which was greater than or equal to .70 could be considered as an indicator of good agreement within group. We concluded that the within-team ratings were homogeneous enough to be aggregated to the team level. Because the $r_{WG(J)}$ value of cooperative goal is acceptable, and cooperation theory supported aggregation, we proceeded with aggregation.

Team members' ratings were aggregated to the team level. The final sample size of the merged data file was 60 teams.

Tests of hypotheses

All tests were conducted at the team level. Table 1 reports the means, standard deviation, and correlations of control, independent, and dependent variables. Of the group demographic control variables, age positively related to team tenure, and male proportion negatively related to team average agreeableness.

We conducted a moderated hierarchical regression analysis with constructive controversy as the dependent variable (Table 2). Model 1 includes only control variables; Model 2 includes cooperative goals, agreeableness, and agreeableness diversity; and Model 3 includes the hypothesized interaction (Baron & Kenny,

Table 1 Descriptive statistics and correlations at the team level.

	Mean	SD	1	2	3	4	5	6	7
1. Age	24.36	1.62							
2. Proportion of males	0.28	0.18	-1.60						
3. Team tenure (month)	14.84	4.55	0.30**	-0.15					
4. Team size	6.15	0.52	0.12	-0.08	-0.10				
5. Agreeableness	3.42	0.17	0.06	-0.26**	0.11	-0.11			
6. SD agreeableness	0.34	0.12	-0.10	0.14	-0.19	-0.06	0.13		
7. Common goal	5.45	0.45	0.11	0.09	-0.04	-0.15	0.13	0.30**	
8. Constructive controversy	5.54	0.44	-0.05	-0.02	-0.14	0.06	0.07	0.43*	0.59*

$N = 60$ teams.

SD standard deviation.

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

Table 2 Hierarchical regression analysis for testing effect of team agreeableness composition on constructive controversy.

Independent variables	Model		
	1	2	3
Age	-0.02	-0.11	-0.12
Proportion of males	-0.03	-0.12	-0.13
Work tenure (month)	-0.13	-0.03	-0.01
Team size	0.05	0.16	0.14
Cooperative goal		0.56*	0.56*
Agreeableness		-0.04	-0.06
SD agreeableness		0.27**	0.21***
SD agreeableness × agreeableness			0.23**
R ²	0.02	0.46	0.51
F	0.38	6.33*	6.62*
R ² increment		0.44*	0.05**

Entries are beta weights; $N = 60$.

SD standard deviation.

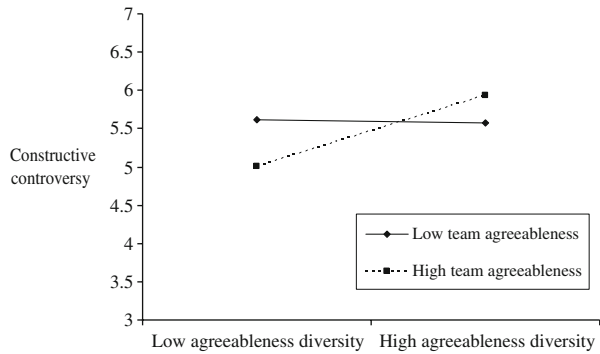
* $p < 0.01$; ** $p < 0.05$; *** $p < 0.10$.

1986). The interaction term variables were mean centered to reduce potential multicollinearity effects (Aiken & West, 1991).

Hypothesis 1 predicted that team cooperative goals would positively predict to team constructive controversy. Results demonstrated cooperative goals were significantly and positively associated with constructive controversy ($\beta = 0.56$, $p < 0.01$). Hence, Hypothesis 1 was supported.

Hypothesis 2 proposed that with cooperative goals controlled, team average agreeableness level moderates the effect of agreeableness diversity on constructive controversy. The higher the team agreeableness level is, the stronger the relationship between agreeableness diversity and constructive controversy. As shown in Table 2, agreeableness diversity was significantly and positively associated with constructive controversy ($\beta = 0.27$, $p < 0.05$). This effect is moderated by team average agreeableness level. A significant agreeableness diversity by team agreeableness interaction emerged for constructive controversy ($\beta = 0.23$, $p < 0.05$). The interaction accounted for an additional 5% of the variance of constructive controversy. Figure 1 illustrates the interaction showing the slopes of regression lines linking team agreeableness diversity to constructive controversy under conditions of high and low team agreeableness (i.e., at one standard deviation above and below the mean; Aiken & West, 1991). When team agreeableness was high, increased agreeableness diversity resulted in higher constructive controversy than when team agreeableness was low. A simple slope analysis (Aiken & West, 1991) revealed that team agreeableness diversity positively predicted constructive controversy when team agreeableness was high ($\beta = 0.47$, $p < 0.05$), but the relationship between agreeableness diversity and constructive controversy was not significant when team agreeableness was low ($\beta = 0.05$, $p > 0.05$). Consequently, Hypothesis 2 was supported.

Figure 1 Interaction between agreeableness diversity and team agreeableness level on constructive controversy



Discussion

Constructive controversy has been found to strengthen interpersonal relationships, improve decision-making, and promote task performance and innovation (Gilson & Shalley, 2004; Jehn, 1995; Tjosvold, 1998, 2008). Results from this study suggest that in addition to how team members believe their goals are related, the average and mix of personality dispositions of the team members can affect their discussing diverse views open-mindedly. Consistent with previous research, team members who believe their goals are cooperative were found to engage in constructive controversy. In addition, findings indicate that a mix of agreeable team members, especially when they have high levels of agreeableness, promotes constructive controversy.

This study contributes to constructive controversy theory in real work settings and the results support that work teams sharing cooperative goals experience higher constructive controversy. Research on the theory of cooperation and competition suggests teams whose members believe their goals are cooperatively interdependent related are able to discuss open-mindedly. The findings strengthen the perspective that even in a conflict-avoidance culture, people are able to use open discussion to solve a problem to the extent that they have cooperative goals (Tjosvold & Sun, 2000, 2002).

In addition to confirming previous research that cooperative goals are a foundation for constructive controversy, this study contributes to the literature by helping to identify important other conditions that promote constructive controversy. Findings suggest that team personality composition contributes to constructive controversy when the effect of cooperative goals is controlled. Teams with large variance on agreeableness engaged in a high level of constructive controversy. But this effect is moderated by team average agreeableness. The higher the team average agreeableness, the stronger the positive association between agreeableness diversity and constructive controversy.

These results support the reasoning that agreeable people create a supportive group climate that fosters team trust and social cohesion (Barrick et al., 1998); these supportive relationships provide a platform for team members to express their ideas openly and skillfully. But agreeable people can be compliant and deferent, and may accept opposing ideas very readily just to avoid argument, thus reducing constructive controversy (Ellis et al., 2003). These results considered together

indicate team members who believe their goals are cooperative and are generally high on agreeableness along with a relative large variance on agreeableness are able to question each other's perspective and challenge opposing opinions openly.

This study also contributes to team diversity research. According to team input models, team diversity is a critical input variable (Mathieu et al., 2008). The increasingly diverse workforce strongly suggests that we should learn more about how the composition of teams influences internal functioning, performance, and viability over time (Mohammed & Angell, 2004; Offerman & Gowing, 1990). The amount and type of diversity within teams are important characteristics that shape group processes and affect the experiences of individuals in a team (Barrick et al., 1998; Mohammed & Angell, 2004). Although the majority of team diversity research has focused on demographic variables (e.g., Tsui & O'Reilly, 1989; Williams & O'Reilly, 1998), some researchers have assessed deep-level diversity, such as ability, personality, attitudes, and values (Bell, 2007; Harrison et al., 2002). However, most team personality composition research has focused on relationships with outcome variables; studies are needed on the relationships between personality composition and team process variables in order to clarify the mechanisms by which team diversity influences team outcome (Ilgen et al., 2005). This study aims to fill the gap by exploring the relationship between team personality diversity and constructive controversy. Results show that team agreeableness diversity positively relates to constructive controversy, but the relation is moderated by agreeableness level. This study expands the range of diversity dimensions and finds support for the relationship between team personality diversity and team process.

This study also contributes to Chinese management research. Generally, ideas developed in the West cannot be assumed to apply in Chinese settings. However, results of this study support the use of the Western developed ideas of constructive controversy, cooperative goals, and agreeableness in Chinese settings. China has a collectivist culture where relationships are highly valued and conflicts are avoided (Triandis, McCusker, & Hui, 1990). Conflict avoidance style is thought to be useful in maintaining the appearance of agreement whereas open discussion is contentious and threatens harmony in China (Leung, Koch, & Lu, 2002; Triandis et al., 1990). Therefore, conflict avoidance is functional and appropriate in China (Ting-Toomey & Cocroft, 1994). Consistent with this theorizing, Chinese teams where all members are very agreeable did not have much constructive controversy.

Over the 30 years of open development policy, the gap between Eastern and Western China has grown. Field studies have been conducted mostly in Eastern and Southern parts of China, where the economy is more developed, people are better educated and have more experience with Western cultures, and where the Western value of communicating openly and directly is acceptable and thought beneficial to solve problems. The sample for this study was from Guizhou, a more traditional and conservative province located in the Western part of China where people very much cherish harmony. This study confirmed that even in this more traditional province, Chinese people were willing to engage in constructive controversy to the extent that they had cooperative goals when they had a mix of agreeable and less agreeable members.

Practical implications

The findings, if they can continue to be replicated, have potential important practical implications. Constructive controversy is not the natural way to solve problems in Chinese work settings; it is necessary to consider how to foster constructive controversy to strengthen team effectiveness. Results reinforce the idea that developing cooperative goals promotes constructive controversy. Managers can develop cooperative goals through common tasks, shared rewards, and other programs where team member believe that they can all benefit when the team attains its goals.

The findings also suggest that in order to foster constructive controversy, managers can develop a promotive team composition by carefully selecting team members according to team personality profile. Agreeable people help to develop a positive group climate and social cohesion but should be supplemented with a few low agreeable team members who can act as stimuli as they question others and challenge different perspectives.

Limitations and future research directions

This study was conducted in real work settings in a call center in China. Although we find support for the relationship between team personality composition and constructive controversy, there still is the question whether the findings can be generalized to teams in other settings and responsibilities, age level generations, and culture. Further research in other organizational contexts and jobs should be conducted.

Although agreeableness, cooperative goals, and constructive controversy data were collected by self-report measure, common method variance was minimized by collecting the data at two different points. In addition, common method variance is a type of main effect or correlated error (Harrison, McLalughli, & Coalter, 1996), and it cannot explain the moderating effect of team agreeableness on team agreeableness diversity. Another limitation is that self-reported measures may be subjective, and may not accurately describe the variables, although some research suggests that self-reported data are not as limited as commonly expected (Spector & Brannick, 1995). Future studies may use different measures and methods to test the generalizability of this study's findings.

This study only focused on agreeableness that may influence constructive controversy; future studies could identify and examine other deep-level factor dimensions of personality traits, values, and beliefs. Moreover, future studies should collect team performance data to examine whether constructive controversy mediated the relationship between team personality composition and team performance.

Conclusion

Constructive controversy has been shown to help teams deal with a wide range of issues, solve various problems, and perform effectively in diverse organizational

settings. Findings of this study complement previous research by indicating that strong cooperative goals provide an important foundation for the open-minded discussion of various ideas. In addition, including individuals who are high on agreeableness in the team as well as some less agreeable individuals who can stimulate disagreement can help teams engage in constructive controversy. Developing both supportive relationships and confronting diverse ideas appear to be a strong basis for team open-minded discussions that in turn can promote team effectiveness.

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