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Team diversity, mood, and team creativity: The role of team knowledge sharing in Chinese R & D teams

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Abstract

Research on the team diversity-team creativity relationship has been mixed. We present and empirically examine a model of mediated moderation in which team knowledge sharing intervenes in the impact of the interaction of team work value diversity and positive mood on team creativity. Survey participants included 458 employees working in 47 R&D teams from 17 research institutes in China. The interaction of team work value diversity and team positive mood positively affected team creativity and was mediated by team knowledge sharing. Our findings suggest that knowledge sharing and positive mood are necessary to facilitate the positive link between value diversity and creativity; otherwise, diversity can have negative effects on creativity. Thus, value diversity, mood, and knowledge sharing should be considered in the formation, training, and performance evaluation of teams.

Keywords: team diversity, work value diversity, team mood, team creativity

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INTRODUCTION

Creativity is important to the performance of a wide array of organizations (Lopez-Cabrales, Pérez-Luño, & Cabrera, 2009). Given the increasing diversity of teams in the workplace, examining the relationship between team diversity and creativity is a particularly timely topic for research (Kim, Shin, & Kim, 2013). Two broad types of diversity have been identified in the literature: 'demographic/social category' diversity (such as age, gender, race, ethnic background) and 'functional' diversity (such as education, technical abilities, functional background, and expertise diversity). Demographic diversity, which is easily visible, is thought to negatively affect work outcomes when employees have adverse perceptions of dissimilar group members (Kim, Bhave, & Glomb, 2013). Functional diversity, in contrast, is believed to contribute to cognitive processes focusing on the task and its resolution (Milliken & Martins, 1996; Pelled, 1996; Pelled, Eisenhardt, & Xin, 1999; van der Vegt, Bunderson, & Oosterhof, 2006).

In this paper, we argue that within functional diversity, it is necessary to distinguish value diversity from informational diversity. Previous research found that the two dimensions had differential effects on team performance (Jehn, Northcraft, & Neale, 1999). Team work value diversity refers to members of work teams having different understandings of what should be the task, goal, target, or mission of the team (Jehn, Northcraft, & Neale, 1999) whereas informational diversity refers to team members

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having different levels of knowledge due to their work experience or professional background (Hobman, Bordia, & Gallois, 2004). Informational diversity due to different levels of educational background in a group can increase the amount of information available to a team, but too much makes it hard to integrate this information (Dahlin, Weingart, & Hinds, 2005).

Team work value diversity is especially relevant to research and development (R&D) teams. In knowledge intensive R&D teams, determining the correct goal is critical; when team members do not have a common understanding of the team's task, goal, target or mission and their performance, their elaboration of knowledge is likely to be negatively affected. Thus, minimizing the negative effects of value diversity on team creativity is an important management issue.

The relationship between value diversity and creativity is not well-understood (Joshi & Roh, 2009). Previous research has found that value diversity can have both positive and negative effects (Liang, Wu, Jiang, & Klein, 2012). We draw from the theoretical model of diversity and group performance introduced by van Knippenberg, De Dreu, and Homan (2004) to identify intervening variables to help clarify our understanding of the relationship between team work value diversity and team creativity. We test several of their theoretical ideas that, to date, have not been empirically examined and extend their conceptual work by considering additional explanations for potential moderators and a mediator of the relationship between diversity and creativity. Our study contributes to the creativity and diversity literatures by distinguishing between two kinds of functional diversity: work value diversity and informational diversity, and presenting and empirically testing a model of mediated moderation in which team knowledge sharing intervenes in the impact of the interaction of team work value diversity and team positive mood on team creativity.

TEAM DIVERSITY AND TEAM CREATIVITY

As noted earlier, the diversity-creativity relationship has been mixed in previous research. Conceptual research by van Knippenberg, De Dreu, and Homan (2004) has begun to address this uncertainty. Two theories may be used to explain the influence of team diversity on team creativity in different ways. The first is information decision making theory, which suggests team diversity may enhance the elaboration of task-relevant information and thus improve team creativity (van Knippenberg, De Dreu, & Homan, 2004). In diversified teams, members with varied knowledge, expertise, skills and cognitions work together and achieve greater information richness within the team (Kurtzberg, 2005). Thus, diversity may increase the pool of knowledge within teams and, thus, is beneficial for team creativity (Harrison & Klein, 2007).

The second theory that may be used to explain the influence of team diversity on team creativity is similarity-attraction theory (Byrne, 1971), which suggests that people are attracted to and prefer to be with similar others because they anticipate their own values, attitudes and beliefs will be reinforced or upheld. Thus, diversity may be negatively associated with creativity due to dysfunctional conflicts arising from being different from the group (Mannix & Neale, 2005). Teams experiencing these types of conflicts would be less likely to exhibit creative behaviors such as offering and elaborating on unique ideas with each other.

van Knippenberg, De Dreu, and Homan (2004) proposed that future empirical research could reconcile the conflicting diversity-creativity findings by considering both the type of diversity being examined and the role of group information processing. The type of diversity we chose to focus on in the current study is work value diversity. We selected this dimension because we believe research on this variable can especially benefit from a consideration of intervening variables. Work value diversity is considered a type of functional diversity; however, it does not exhibit the positive direct relationship with creativity demonstrated by other forms of functional diversity (Harrison & Klein, 2007).

Previous research on work value diversity has found it is positively associated with conflict in teams (Jehn, Northcraft, & Neale, 1999), due to similarity attraction theory. When team members' values

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differ, they are thought to experience lower levels of attraction among the team members, the perception that their own values are threatened, greater role ambiguity (Schneider, 1983), the reduced ability to predict one another's behaviors (Harrison, Price, & Bell, 1998; Hobman, Bordia, & Gallois, 2004) and a lower number of conversation exchanges (Oetzel, 1998). Such conversation exchanges appear to be critical to team performance. In a meta-analysis of the research on diversity and team performance, Bowers, Pharmer, and Salas (2000) found that any advantages of homogeneity or heterogeneity in groups depend on context variables. Specifically, the researchers suggested that the quantity and type of information available to the group affects whether the group will benefit from diversity.

Thus, we suggest that in order to obtain the advantages from team work value diversity and prevent the negative effects on team creativity, it is critical to have knowledge sharing in diversified teams. Teams with value diversity include members with different perspectives or understandings of the team environment, work, and tasks. If they can share their unique perspectives with the team, the team as a whole will have a greater pool of diversified knowledge from which to draw on to conduct creative work.

There is some existing research in the knowledge sharing area from which to help clarify our ideas. Knowledge sharing is the degree to which team members share information, ideas, knowledge, and experiences (Kessel, Kratzer, & Schultz, 2012). Knowledge sharing assists team members in coming up with new ideas by introducing unique ways of thinking (Huang, 2009; Wang, & Noe, 2010). Communicating information with one's team members is believed to result in higher creativity (Perry-Smith & Shalley, 2003). Previous research has suggested that only when team members share knowledge are team members in diversified teams able to obtain non-overlapping information from each other (Richter, Hirst, van Knippenberg, & Baer, 2012). In contrast, if team members do not share knowledge, the effect of diversity on creativity may be negative due to the lack of unique information (Gilson, Lim, Luciano, & Choi, 2013). In such teams, diversity is more likely to cause team members to engage in categorization instead of information elaboration (Richter et al., 2012).

THE MODERATING ROLE OF TEAM MOOD

In those cases where team work value diversity hinders the sharing of knowledge, other factors may be needed to facilitate the relationship with creativity. van Knippenberg, De Dreu, and Homan (2004) theoretical model suggested that moderator and mediator variables are needed to fully capture the diversity-creativity relationship. To this point we have hypothesized that knowledge sharing acts as a critical intervening mechanism that explains the relationship between work value diversity and creativity. Next, we identify a factor that affects the power of this mechanism in transmitting the diversity effects: team mood, positive feelings shared by team members (Barsade & Gibson, 2012).

Although van Knippenberg, De Dreu, and Homan (2004) theoretical model did not explicitly include team mood, it proposed that affective reactions should be expected to intervene in the relationship between diversity and creativity. The foundation of this discussion is that knowledge sharing is affected by not only the degree of diversity present in the team but also the affective context. Team mood is thought to exert a strong effect on team members' decisions to share knowledge with each other. Yet little is known about how team mood affects knowledge sharing in response to work value diversity or how these effects are associated with creativity.

Emotions may be defined as 'processes of establishing, maintaining, or disrupting relations between the person and the internal or external environment, when such relations are significant to the individual' (Campos, Campos, & Barrett, 1989: 395). They are thought to play a social role (Ekman, 1992; Frijda, & Mesquita, 1994). For instance, the social-functional theory of emotion conceptualizes emotions as multichannel responses that enable the individual to respond adaptively to social problems and take advantage of social opportunities in interactions (Keltner & Haidt, 1999).

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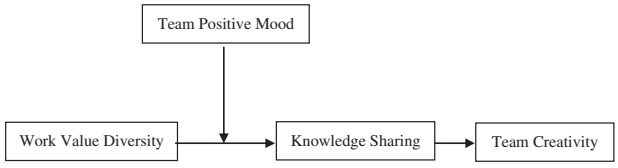

FIGURE 1. THEORETICAL MODEL

Research has indicated that individual emotions are contagious and can turn into team emotions. Supervisors can influence their work groups' moods (Collins, Lawrence, Troth, & Jordan, 2013) and groups are thought to have a shared sense of affect called 'affective group tone' (George, 1990). Similarly teams have been described as having an affective climate, which encompasses attitudes and expectations as well as feelings (Pirola-Merlo, Härtel, Mann, & Hirst, 2002).

In addition to emotional contagion, team emotions are also thought to be the result of team social integration, which is a multifaceted construct including elements of cohesiveness, satisfaction with co-workers, positive social interaction, and enjoyment of team experiences (Barsade, 2002; Harrison, Price, Gavin, & Florey, 2002). Positive emotions motivate interactive behaviors that enable individuals to form social bonds (e.g., Klinnert, Campos, Sorce, Emde, & Svejda, 1983; Hazan & Shaver, 1994; Keltner & Haidt, 1999) and lead to more cooperation and less conflict (Barsade, 2002).

Positive team moods are thought to create an environment that positively influences knowledge sharing and pro-social behaviors (George & Brief, 1992). According to the broaden-and-build theory, positive emotions help team members conduct constructive evaluations, improve communication and provide confirmation (Fredrickson, 1998; Rhee, 2007). Positive team mood is thought to influence team performance through team cooperation and positive perceptions of task performance (Barsade, 2002). In recent years, studies have found that positive team mood influences individual level as well as team level outcomes (Barsade & Gibson, 2012). These studies have pointed to the central role of group shared affect and diversity beliefs in determining whether work group diversity is an asset or a liability (Hentschel, Shemla, Wegge, & Kearney, 2013). In a recent study by Kim, Shin, and Kim (2013) on 261 employees in 42 South Korean organizational teams, the relationship between individual trait positive affect and organizational citizenship behavior was found to be stronger for affectively diverse groups than for homogeneous groups. In sum, we expect that team positive mood will buffer the negative effect of value diversity on knowledge sharing, and, in turn, creativity (please see Figure 1).

Taken together, we offer the following hypotheses:

Hypothesis 1: Team positive mood will moderate the relationship between team work value diversity and team knowledge sharing such that it will reduce the negative effect of team work value diversity on team knowledge sharing.

Hypothesis 2: Team positive mood will moderate the relationship between team work value diversity and team creativity such that it will reduce the negative effect of team work value diversity on team creativity.

Hypothesis 3: Team knowledge sharing will mediate the relationship between the interaction of team work value diversity and team positive mood on team creativity.

METHOD

Sample and procedure

Our sample included 760 R&D employees in 60 teams in 17 research institutes in China. More than 80% of the team members were asked to complete questionnaires. We received 458 complete

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questionnaires for 47 teams, resulting in a 60.3% response rate for all team members. The individual surveys were then aggregated by team leaders and returned to us. The team creativity data reported here are the average scores of all team members.

In all, 32.5% of the sample was female. The level of expertise in their job titles included 58.7% low level, 17.2% middle, and 80% high. The highest level of education attained was 46.2% bachelor's degree, 29.7% master's degree, and 39.1% PhD. The sample included 74.5% who were younger than 35, 14.8% between 36 and 45, and 5.7% over 45. Team size included 33.4% with fewer than 10 people, 27.5% with 10–20 people, and 5% with more than 20 people. In all, 168 participants conducted basic research, 244 worked for high technology R&D, and 43 came from other fields.

Before aggregation, within group agreement on the measures and inter-group differences had to be demonstrated. James, Demaree, and Wolf's (1993) inter-rater agreement index (r_{wg}) and F-test were computed for team work value diversity ($r_{wg} = 0.83$, $F = 1.76^{**}$), positive mood ($r_{\mathrm{wg}} = 0.90$, $F = 1.55^{*}$), knowledge sharing ($r_{\mathrm{wg}} = 0.78$, $F = 2.08^{***}$) and team creativity ($r_{wg} = 0.93$, $F = 2.10^{***}$). According to the criterion that aggregation is justified by a median r_{wg} of 0.70 or greater (James, Demaree, & Wolf's, 1993), all group-level variables were found to exhibit acceptable levels of within group agreement. In addition, the F-test indicated that there were significant differences among the teams. Thus, we were able to proceed with the team-level analyses.

Measures

All of the measures were adapted from English instruments, using a back translation procedure to convert to Mandarin Chinese (please see Appendix).

Work value diversity

Four items ($\alpha = 0.84$) from Hobman, Bordia, and Gallois (2004) scale measured value diversity: 'To what extent are the members of your team…dissimilar from one another in work values; dissimilar from one another in work motivations; different from one another in terms of principles that guide the work; different from one another in terms of attitudes that guide the work.'

Informational diversity

Four items ($\alpha = 0.79$) from Hobman, Bordia, and Gallois's (2004) scale measured informational diversity: 'To what extent are the members of your team…dissimilar from one another in their educational background, different from one another in terms of their functional background, different from one another in terms of their professional background, and different from one another in terms of their work experiences.'

Positive mood

Five items ($\alpha = 0.94$) of positive emotion were adapted from the PANAS scales (Watson, Clark, & Tellegen, 1988): cheerful, enthusiastic, proud, inspired, and active.

Knowledge sharing

Three items ($\alpha = 0.87$) of knowledge sharing were used from Bock, Lee, Zmud, and Kim's (2005) scale. A sample item includes the following: 'My team members share their experience or know-how from work with each other.'

Creativity

Six items ($\alpha = 0.73$) of team creativity were adapted from Zhou and George's (2001) scale. Sample items include the following: 'My team searches out new technologies, processes, techniques, and/or

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product ideas'; 'My team often has new and innovative ideas'; 'My team comes up with creative solutions to problems'; and 'My team suggests new ways of performing work tasks.'

All variables were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Control variables

Team size, creative self-efficacy, and team informational diversity were included in the analyses as control variables. In previous studies, team size has been found to negatively affect creativity (Curral, Forrester, Dawson, & West, 2001; Kratzer, Gemunden, & Lettl, 2008), and is a key factor influencing team dynamics and performance (Brewer & Kramer, 1986). Team members' creative self-efficacy has also been found to be associated with their creativity (Tierney & Farmer, 2002) and might influence team members' evaluations of team creativity. We used three items ($\alpha = 0.66$) from Tierney and Farmer's (2002) scale to assess creative self-efficacy: 'I feel that I am good at generating novel ideas,' 'I have confidence in my ability to solve problems creatively,' and 'I have a knack for developing new and practical ideas in the workplace.' Informational diversity was included as a control variable due to its correlation with team work value diversity ($r = -0.31$, $p < .01$).

RESULTS

We examined the validity of the variables by splitting the sample into two parts randomly. One half of the sample was used to conduct an exploratory factor analysis (EFA) by using the varimax rotation of principal component factor analysis method. The EFA indicated that the items loaded on four factors (KMO of measurement = 0.90, $\chi^2 = 2697.59$, $df = 210$, $p < .001$). The total variance explained was 68.671%. Factor loadings are presented in Table 1.

Next, we used the other half of the sample to conduct a confirmatory factor analysis on all five variables in order to demonstrate that they empirically define distinct latent factors. Specifically, we put team creativity, team positive mood, team work value diversity, team information diversity, and team knowledge sharing into a five-factor model and compared its fit with a one-factor model in which all items were set to load on one factor. The goodness-of-fit indices indicated that the five factor model provided a superior fit to the data over the other model. The indices of the one-factor model were as follows: $\chi^2 = 582.336$, $\chi^2/df = 3.114$, RMSEA = 0.102, NFI = 0.721, RFI = 0.687, IFI = 0.792, TLI = 0.764, CFI = 0.790. The indices of the five-factor model were as follows: $\chi^2 = 256.220$, $\chi^2/df = 1.490$, RMSEA = 0.049, NFI = 0.902, RFI = 0.889, IFI = 0.937, TLI = 0.919, CFI = 0.936. Thus the RMSEA was less than 0.08; χ^2/df ranged from 1 to 3. Goodness-of-fit indices (IFI, TLI, and CFI) were all above the recommended 0.9 level (Hu & Bentler, 1999). Thus, the five-factor model was considered acceptable.

To assess the potential bias that may result from common method variance (CMV), the measurement model with an unmeasured latent CMV factor was compared with the same measurement model without the CMV factor. After adding the potential method construct, the model of team work value diversity, team information diversity, team knowledge sharing, team positive mood and team creativity was not significantly improved. Thus, common method bias was not a serious problem in this study (Hou, Wen, & Cheng, 2004).

Pearson correlation coefficients (please see Table 2) indicated that team positive mood correlated with value diversity ($r = -0.49$, $p < .01$) and team creativity ($r = 0.57$, $p < .01$). Team work value diversity negatively correlated with team creativity ($r = -0.64$, $p < .01$). Before the regression analysis, the mediated moderation model's fit indices were examined ($\chi^2 = 309.636$, $\chi^2/df = 2.624$, RMSEA = 0.06, NFI = 0.925, RFI = 0.903, IFI = 0.952, TLI = 0.937, CFI = 0.952). The model exhibited acceptable validity levels.

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Table 1. Factor loadings

	Factor				
	1	2	3	4	5
Team creativity 3	0.773	0.256	−0.021	0.064	0.176
Team creativity 4	0.724	0.168	0.279	0.070	0.269
Team creativity 1	0.720	0.176	0.231	0.195	0.214
Team creativity 5	0.720	0.207	0.307	0.121	0.169
Team creativity 6	0.712	0.183	0.298	0.103	0.229
Team creativity 2	0.650	0.222	0.418	0.102	0.069
Positive mood 3	0.208	0.813	0.157	0.039	0.038
Positive mood 2	0.197	0.775	0.188	−0.033	0.188
Positive mood 1	0.024	0.763	0.134	−0.019	0.117
Positive mood 5	0.313	0.748	0.125	0.118	0.091
Positive mood 4	0.285	0.727	0.247	0.117	0.128
Team knowledge sharing 1	0.213	0.257	0.767	−0.061	0.103
Team knowledge sharing 3	0.274	0.270	0.732	0.020	0.144
Team knowledge sharing 2	0.292	0.157	0.634	0.032	0.031
Information diversity 3	0.084	−0.007	0.057	0.853	−0.056
Information diversity 4	0.005	0.010	0.089	0.764	0.130
Information diversity 2	0.242	0.075	−0.089	0.726	0.048
Information diversity 1	0.067	0.070	−0.040	0.544	0.351
Value diversity 1	0.268	0.121	−0.078	0.127	0.740
Value diversity 2	0.320	0.160	0.236	0.128	0.721
Value diversity 3	0.220	0.234	0.363	0.109	0.628
Variance%	38.00	10.96	7.62	5.30	4.44

Table 2. Pearson correlation coefficients ($N = 47$)

	1	2	3	4	5
1. Team information diversity	1				
2. Team work value diversity	−0.31**				
3. Team positive mood	−0.17**	−0.49**	1		
4. Team knowledge sharing	0.13**	−0.48**	0.50**	1	
5. Team creativity	0.29**	−0.64**	0.57**	0.58**	1

Note. **$p < .01$, two-tailed test

The bootstrapping approach was used to ensure that the distributional assumptions of the regression analyses would be satisfied in the sample size of this study. Drawing on 1,000 random samples (Efron & Tibshirani, 1993), each analysis used 1,000 bootstrap resamples with a 95% confidence interval. To prevent multicollinearity from affecting the results, the independent variables were centered before the interaction term was computed (Aiken & West, 1991). To examine the moderated mediation model, we followed the steps suggested by Muller, Judd, and Yzerbyt (2005).

To test Hypotheses 1, we regressed team knowledge sharing on the three control variables (team size, creativity self-efficacy, and team informational diversity) in step 1, and then on team work value diversity and team positive mood in step 2, before entering the interaction of team work value diversity and team positive mood. The interaction significantly affected team knowledge sharing ($\beta = 0.43$,

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TABLE 3. HIERARCHICAL REGRESSION RESULTS FOR TEAM KNOWLEDGE SHARING ($N = 47$)

	Team knowledge sharing						
	Controls		*Main effects*		*Interaction*		
	β	*95% CI*	β	*95% CI*	β	*95% CI*	*VIF*
Team size	−0.15	−0.57 to −0.34	−0.19	−0.54 to 0.19	−0.27*	−0.56 to 0.08	1.21
Creative self-efficacy	0.86***	0.48 to 1.20	0.44*	0.06 to 0.79	0.46*	0.10 to 0.79	1.55
Team informational diversity	−0.04	−0.33 to 0.18	−0.08	−0.28 to 0.14	−0.02	−0.21 to 0.17	1.33
Team value diversity (TVD)			−0.19	−0.41 to 0.08	−0.15	−0.36 to −0.13	1.96
Team positive mood (PM)			0.37*	0.04 to 0.64	0.23	−0.08 to 0.55	2.67
TVD × PM					0.43*	0.02 to 0.80	1.75
Adjusted R^2	0.39		0.61		0.65		
$\triangle R^2$	0.43		0.22		0.05		
F	10.75***		13.02*		6.14*		
df	3, 43		2, 41		1, 40		

Note. *$p < .05$; ***$p < .001$, two-tailed test.

$p < .05$, 95 % CI (0.02–0.80)). The change in r-square of the moderation model compared with the first step model was .27, F (1, 40) = 6.14* (see Table 3). Thus, Hypotheses 1 was supported.

Next, we regressed team creativity on team work value diversity and team positive mood after entering the two control variables. After entering the interaction, the results indicated that the interaction significantly affected team knowledge sharing (β = 0.34, $p < .05$, 95% CI (0.01–1.13)). The change in r-square of the moderation model compared with the first step model was 0.34, F (1, 40) = 10.98* (see Table 4, step 3). Thus, Hypothesis 2 was supported.

When team knowledge sharing was entered into the model, it fully mediated the impact of the interaction of team work value diversity and team positive mood on team creativity (β = 0.50, $p < .05$, 95% CI (0.11–0.87)). The change in r-square of the moderation model compared with the model of step 3 was 0.07, F (1, 40) = 10.29** (see Table 4, step 4). Thus Hypothesis 3 was supported. The VIFs of all variables in the above steps were less than 2.0, except team knowledge sharing, which was slightly more than 3.0, indicating multicollinearity was at acceptable levels.

The two moderating effects were graphed by the procedure suggested by Aiken and West (1991). Figure 2 shows that when positive mood was low, the relationship between value diversity and team creativity was negative. When positive mood was high, the negative relationship was reduced and the positive relationship was enhanced. And when positive mood was low, the relationship between value diversity and team knowledge sharing was negative, and when positive mood was high, the relationship between them was slightly positive.

DISCUSSION

We presented and empirically examined a model of mediated moderation in which team knowledge sharing mediated the moderating effect of positive team mood and team work value diversity on team creativity. Specifically, we found that team mood moderated the negative relationship between team work value diversity and team creativity such that the effect was less negative when team positive mood was high. In addition, team knowledge sharing mediated the relationship between the interaction of team work value diversity and team positive mood with team creativity. These findings respond to the call of researchers to examine how group composition and context relate to the communications within

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Table 4. Hierarchical regression results for team creativity ($N = 47$)

	Team creativity								
	Step 1		*Step 2*		*Step 3*		*Step 4*		
	β	*95% CI*	β	*95% CI*	β	*95% CI*	β	*95% CI*	*VIF*
Team size	0.06**	−0.57 to 0.34	0.02	−0.36 to 0.42	−0.11	−0.44 to 0.32	0.03	−0.31 to 0.53	1.36
TCSE	0.66	0.48 to 1.20	0.26	−0.21 to 0.72	0.29	−0.11 to 0.74	0.06	−0.24 to 0.49	1.95
TID	0.19	−0.33 to 0.18	0.11	−0.16 to 0.35	0.20	−0.01 to 0.40	0.21	0.02 to 0.40	1.33
TVD			−0.47*	−0.85 to −0.10	−0.41	−0.71 to −0.01	−0.33	−0.63 to 0.02	2.05
PM			0.14	−0.30 to 0.45	−0.06	−0.41 to −0.22	−0.18	−0.45 to 0.10	2.90
TVD × PM					0.63*	0.01 to 1.13	0.41	−0.12 to 0.87	2.02
TKS							0.50*	0.11 to 0.87	3.30
Adjusted R^2	0.28		0.53		0.62		0.69		
$\triangle R^2$	0.33		0.25		0.09		0.07		
F	6.94**		12.33*		10.98*		10.29**		
df	3, 43		2, 41		1, 40		1, 39		

Notes. PM = team positive mood; TCSE = team creative self-efficacy; TID = team informational diversity; TKS = team knowledge sharing; TVD = team work value diversity.
*$p < .05$; **$p < .01$; ***$p < .05$, two-tailed test.

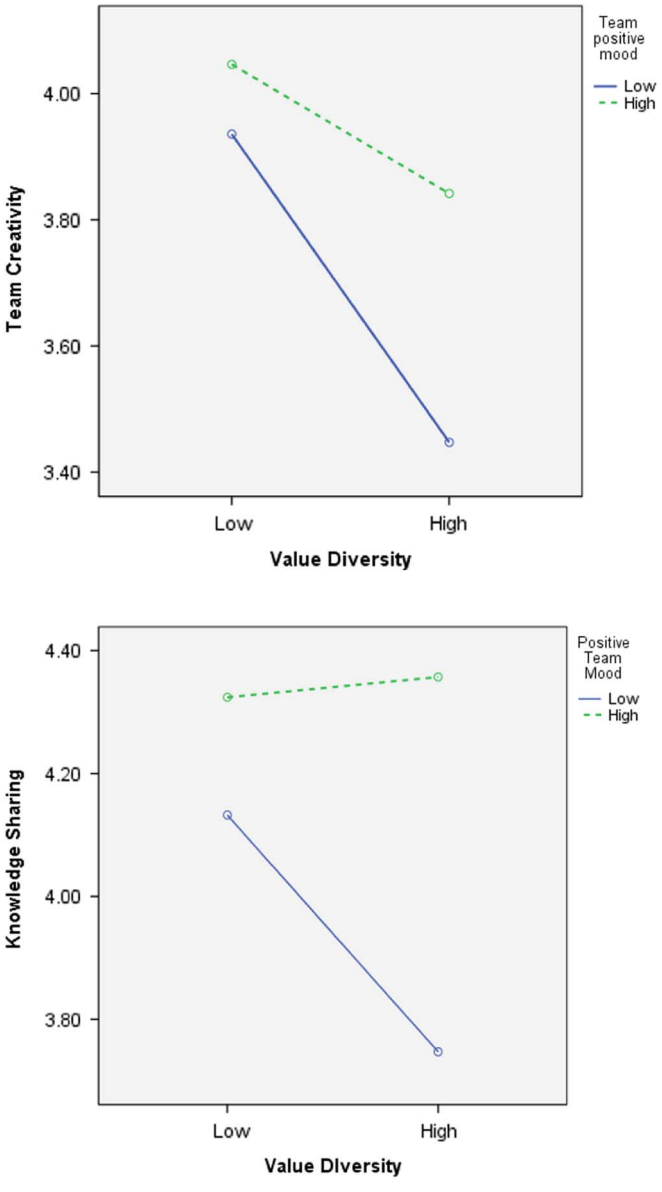

FIGURE 2. MODERATING EFFECTS

teams (Bowers, Pharmer, & Salas, 2000). Our study is also the first to empirically examine some of van Knippenberg, De Dreu, and Homan (2004) conceptual ideas concerning an integrative model of the diversity-creativity relationship.

Our findings have implications for theory. First, we found that team work value diversity exhibited a direct negative relationship with creativity. As noted earlier, similarity-attraction theory (Byrne, 1971) suggests that people are attracted to and prefer to be with similar others because they anticipate their own beliefs will be reinforced. Thus, value diversity may have been directly negatively associated with creativity due to dysfunctional conflicts arising from being different from the group (Mannix & Neale, 2005).

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Teams experiencing these types of conflicts would be less likely to exhibit creative behaviors such as offering and elaborating on unique ideas with each other.

Our study also has implications for the literature on knowledge sharing. We found that team work value diversity was associated with lower levels of knowledge sharing. It may be that team work value diversity involves differences in work principles and motivations and thus decrease team members' willingness to share knowledge. This finding is in line with earlier studies which have found that value diversity is associated with a lower number of conversation exchanges (Oetzel, 1998).

Thus, a third implication of our findings is that in order for teams that are high in value diversity to exhibit creative ideas, this unique knowledge first needs to be shared among team members. Previous research has suggested that only when team members share knowledge are they able to obtain non-overlapping information from each other (Richter et al., 2012). When group members with a diverse array of work values share knowledge, this increases the group's pool of unique knowledge which should result in novel approaches (i.e., creative thinking; Gilson et al., 2013). Accordingly, our findings suggest that knowledge sharing is necessary to facilitate the positive link between value diversity and creativity; otherwise, diversity can have negative effects on creativity. This idea extends the findings of recent research that found that individual explicit knowledge mediated the relationship between tenure diversity and individual creativity (Gilson et al., 2013).

Finally, we examined how team positive mood affects the intervening role of knowledge sharing in the value diversity-creativity relationship. Scherer and Tran (2001) classified emotions into five major groups: approach, achievement, deterrence, withdrawal, and antagonistic emotions. Approach emotions (e.g., interest, hope, joy, and anticipation) are thought to 'foster exploration and development, provide motivational underpinning for sustained goal directed activity' (p. 388) and may be a key resource for diverse teams as they may facilitate open discussions and the offering of creative ideas. This is consistent with our finding that team mood moderated the negative indirect relationship between team work value diversity and team creativity such that this indirect effect is less negative when team mood is high. Our findings build on other studies pointing to the central role of group shared affect in determining whether work group diversity is an asset or a liability (Hentschel et al., 2013).

The findings of our study also have practical implications. Diversity that is not easily visible can affect team outcomes. Managers should not ignore value diversity when composing teams expected to generate innovative ideas. Specifically, they should form teams with a broad array of work values. In the training of teams, organizations could have members discuss the complete work value profiles of their teams. Previous laboratory research has found that the effects of value diversity can begin early in the team's tenure. Woehr, Arciniega, and Poling (2013) found that value diversity resulted in lower team cohesion, lower team efficacy, and more conflict. Thus, it is important that knowledge sharing be encouraged at the same time that value diversity is being considered.

Managers can play a key role in facilitating team members' knowledge sharing. For instance, they should consider their own level of knowledge sharing, especially when they have different work values from the other team members. As will be discussed subsequently, fostering a positive mood within the team would help achieve this. Previous research has found that managers who model knowledge sharing and promote sharing information and ideas tend to have subordinates who engage in more knowledge sharing (Carmeli, Gelbard, & Reiter-Palmon, 2013). Managers should ensure that opportunities for team member knowledge sharing exist and are expected and rewarded. Performance evaluation systems should include knowledge sharing as a key dimension of team members' job performance. This will persuade team members to share information because they know they are being evaluated, and offer a signal that this behavior is viewed as critical by the organization. Thus, value diversity and knowledge sharing should be considered in the formation, training, and performance evaluation of teams.

Once a team has been selected, trained, and a performance evaluation system has been adopted, managers and team leaders should take steps to ensure the team maintains a positive shared affective

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climate, given our study's findings on mood. Research has found that leaders play a key role in shaping team moods (Collins et al., 2013). A recent longitudinal experimental study found that teams with leaders who exhibit positive mood expressive behaviors tend to have positive moods transferred to them by their leaders (Sy, Choi, & Johnson, 2013). Another way that leaders can shape team moods involves managing the verbal communication behaviors that shape team members' interactions. Some research has found that complaining statements in groups lead to a negative team mood (Lehmann-Willenbrock, Meyers, Kauffeld, Neininger, & Henschel, 2011).

Along with these theoretical and practical implications, some caveats should be considered in interpreting our study's findings. First, our study's cross-sectional design and the wide variety of contextual factors operating in organizational contexts preclude making causal inferences. Second, our data were self-reported; thus, common method bias may have contributed to our results. However, because our hypotheses were based on theory, more confidence can be placed in our findings. Third, whereas the sample spanned numerous organizations, all were research institutes in China. Future research is needed to determine the extent to which the findings are generalizable to other organizational contexts.

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APPENDIX

Work value diversity

1. Dissimilar from one another in work values.
2. Dissimilar from one another in work motivations.
3. Different from one another in terms of principles that guide the work.
4. Different from one another in terms of attitudes that guide the work.

Informational diversity

1. Dissimilar from one another in their educational background.
2. Different from one another in terms of their functional background.

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3. Different from one another in terms of their professional background.
4. Different from one another in terms of their work experience.

Positive mood

The following words describe different feelings and emotions. Please indicate for each item to what extent you have felt this way at work during the project period within the last year:

1. Cheerful
2. Enthusiastic
3. Pride
4. Inspired
5. Active

Knowledge sharing

The following items involve the frequency with which you and your team members share knowledge with each other.

1. Share experience or know-how from work with each other.
2. Provide know-where or know-whom at the request of other team members.
3. Share expertise from education or training with each other.

Creative self-efficacy

1. I feel that I am good at generating novel ideas.
2. I have confidence in my ability to solve problems creatively.
3. I have a knack for developing new and practical ideas in the workplace.

Creativity

1. My team searches out new technologies, processes, techniques, and/or product ideas.
2. My team often has new and innovative ideas.
3. My team comes up with creative solutions to problems.
4. My team suggests new ways of performing work tasks.
5. My team is good at finding new problem solving methods.
6. My team is good at creativity.

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