Why does task conflict influence team creativity? The role of team reflexivity

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ABSTRACT

Although task conflict is usually seen to be beneficial to team creativity, the relationship is still unclear because of the mixed results. This research investigated why task conflicts resulted in some positive outcomes in terms of team creativity. Drawing on minority dissent theory, this study examined the conflict-creativity relationship by focusing on the mediating role of team reflexivity. We collected the sample data from 338 employees and 67 supervisors (67 teams) across three different sectors (banking, pharmaceuticals, and insurance) in Pakistan to support our hypotheses. We used bootstrapping analysis and the Sobel test to check for the mediation analysis. The results indicated that task conflict increases team reflexivity, team reflexivity facilitated team creativity, and thus, task conflict positively influenced team creativity via team reflexivity. The theoretical and practical implications of this study plus future directions are further discussed.

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Introduction

In this rapidly changing 21st century, the success of organizations depend on the creative ideas of their employees (Anderson, Potočnik, & Zhou, 2014; Zhou & Shalley, 2011). With the increasing importance of creativity, organizations are more depending on teams to bring diverse ideas and solution to complex problems (Bell, Kozlowski, & Blawath, 2012). Teams are made because they have diverse skills to complete a task that individual working alone may not be able to do effectively and efficiently (Widmer, Schippers, & West, 2009). But, team members should cooperate and share information with each other. However, when team members interact, they have different thinking which may lead to conflicts (Huang, 2012).

Conflict and its impact is inevitable, either positive or negative (Jehn, 1997). A lot of research has been conducted on whether conflict within teams is beneficial or not, and the results are inconsistent. It can effect routines, decrease productivity and satisfaction (Gladstein, 1984; Jehn, 1995; Wall & Nolan, 1986). However, it can also increase creativity, quality of decision making, and performance within organizations (Jehn, 1997; Leung & Tjosvold, 1998; Tjosvold, 1998). Various scholars have suggested the effects of team conflict on performance in general (e.g., De Dreu & Weingart, 2003; Jehn & Mannix, 2001) and creative performance in particular (e.g., De Dreu, 2006; Farh, Lee, & Farh, 2010; Miron-spektor, Erez, & Naveh, 2011). Team members specialized in different areas have the potential for creativity (Keller, 2001; Lovelace, Shapiro, & Weingart, 2001). They bring different ideas to find solutions which are novel and useful (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Oldham & Cummings, 1996). According to the current conflict literature, there are two main types of conflicts: task conflict and relationship conflict (Parayitam, Olson, & Bao, 2010). Task (or cognitive) conflict is the difference in opinion or perception of the task being performed by the team member (Yong, Sauer, & Mannix, 2014), whereas, relationship conflict refers to incompatibilities among members about personal issues

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which are not task related (Jehn, 1994). Various studies on relationship conflict have suggested that relationship conflict results in negative individual, group, and organizational outcomes (Huang, 2010). Whereas studies on task conflict have generated mixed results about performance outcomes as well as individual attributions (De Dreu & Weingart, 2003; Porter & Lilly, 1996). Considering the mixed results of task conflict on individual and team outcomes, we want to identify a potential mechanism that why task conflict have an impact on team creativity.

Research scholars are also emphasizing for further research to identify important mediators in inter-organizational teams facing conflict. By examining potential mediators, we may better understand why task conflict affects creativity, which have been found in some studies but not in others. For further understanding of the mechanisms, driving the relationship between task conflict and creativity, the present study examines the mediating role of team reflexivity by using minority dissent theory. In line with minority dissent theory, task conflict may play its role in improving team creativity by greater information exchange, reevaluation of the task, and promoting diverse thinking (De Dreu, 2006; De Dreu & West, 2001). As creativity needs team members' combine efforts to generate creative ideas or products, therefore, we suppose team reflexivity as a social-cognitive process that intervene task conflict and creativity relationship. Team reflexivity is defined as "the extent to which group members overtly reflect upon, and communicate about the group's objectives, strategies (e.g., decision making) and processes (e.g., communication), and adapt them to current or anticipated circumstances" (West, 2000). West (2000) found that conflicts favorably induce reflective behavior. Teams in which individuals have different tasks ideas and experiencing reflexivity are expected to accomplish better outcomes than non-reflexive teams or individuals (Nederveen Pieterse, van Knippenberg, & van Ginkel, 2011).

Although different studies provide empirical evidence for the task conflict and creativity relationship, the mediating mechanism of the relationship between the two variables are still not clear. This research study provides an explanation to the inconsistent results conducted previously between conflict-creativity relationship (Chen, Liu, Yuan, & Cui, 2019; Lee, Avgar, Park, & Choi, 2019; Li, Li, & Lin, 2019), by demonstrating the underlying mechanism of team reflexivity on the relationship between task conflict and creativity, thus, contributing to the conflict-creativity literature.

The remainder of this research study includes literature review with generated hypotheses and a conceptual model. Next, a well-articulated research methodology is followed, including sample and procedure along with measurement scales. After that, statistical analysis and results are revealed. Finally, we discussed our research findings, and also theoretical implications, practical implications, limitations with future directions, and conclusion are further presented.

Literature Review

Task conflict and team reflexivity

Task Conflict plays a crucial role either in enhancing or inhibiting team reflexivity. Task conflict refers to disagreements among team members regarding the content and outcomes of the task performed (Jehn & Bendersky, 2003). It is related to issues and ideas based on difference in opinions about the task. Research suggest that when there is a conflict, the members start to think about the adequacy of their current ideas; then, they try to understand the other's perspective in order to think more adequately (Johnson, Johnson, & Tjosvold, 2014; Tjosvold, 2008; Tjosvold, Sun, & Wan, 2005). By confronting with conflicts, teams are able to reflect on their experiences to enhance their performance (Tjosvold, Hui, & Yu, 2003).

Various studies have suggested that difference in opinions can be useful to enhance reflexivity in teams (Konradt & Eckardt, 2016; Widmer et al., 2009). West (2000) defined team reflexivity as the "extent to which team members collectively reflect upon the team's objectives, strategies, and processes, as well as their wider organizations and environments, and adapt them accordingly". It involves interaction in which team members discuss and share their divergent views and ideas (Barge & Oliver, 2003; Schippers, Den Hartog, Koopman, & van Knippenberg, 2008). In team reflexivity, the team members think about their strategies and processes and adapt their functioning when coping with complex and volatile environments (Konradt, Otte, Schippers, & Steenfatt, 2016). Reflexivity assist teams to know about their actual workings and build new understandings and methods that react to challenging tasks (Carter & West, 1998). De Dreu (2002) found that teams experiencing minority dissent with high levels of reflexivity leads to creativity and divergent thinking.

When there is a task conflict in teams, the individuals start discussing the issue in order to find a possible solution to the problem. In this way, members try to gain more information from different perspectives and start to reevaluate the tasks (Shaw et al., 2011). Based on the above findings, we predict a positive relationship between task conflict and team reflexivity. Thus, hypothesize:

Hypothesis 1: task conflict is positively related to team reflexivity.

Team reflexivity and team creativity

Team reflexivity has been found to be a key team regulatory process in the recent literature (Lyubovnikova, Legood, Turner, & Mamakouka, 2017; Schippers, Edmondson, & West, 2014; Widmer et al., 2009). Team members that discuss ideas and suggestions can produce more creative solutions (Farh et al., 2010). Experiencing different perspectives and seeing things with new ways lead to creativity (Mumford & Gustafson, 1988). Creativity is defined as the process of 'coming up with fresh ideas for changing products, services, and processes so as to better achieve the organization's goals' (Amabile, Barsade, Mueller, & Staw, 2005). Usually creativity

is studied on three levels including an individual (Oldham & Cummings, 1996), team (Paulus, 2000; Rickards & Moger, 2000) and organizational level (Woodman, Sawyer, & Griffin, 1993). Here, we are focusing on team-level creativity. Team creativity is “the production of novel and useful ideas concerning products, services, processes, and procedures by a team of employees working together” (Shin & Zhou, 2007).

Empirical evidence supports that team reflexivity has been consistently shown positive results on group functioning and team outcome variables such as creative performance, innovation, satisfaction and commitment (De Dreu, 2002; Schippers, Den Hartog, Koopman, & Wienk, 2003; Shin, 2014; Tjosvold et al., 2003; Tjosvold, Tang, & West, 2004). West, Utsch, Borrill, & Dawson, (2002) found that teams engaged in reflexivity were more innovative and had high levels of knowledge diversity. Schippers et al., (2008) found that teams engaged in high reflexivity, gathers task information, looking at their past experiences, and reflect them in pursuing the tasks. Thus, team reflexivity is an important antecedent of team creativity and innovation (Schippers, West, & Dawson, 2015; Widmer et al., 2009). It has been identified as an important cognitive process that enhances team creativity by enabling team members to learn from one another, and make understanding that can result in effective output (Reiter-Palmon, Wigert, & de Vreede, 2012; West, 1996). In another study on BBC TV production teams, team reflexivity showed a positive relation with external management ratings of creativity (Carter & West, 1998). Therefore, we expect team reflexivity will have a positive impact on team creativity.

Hypothesis 2: Team reflexivity is positively related to team creativity.

Mediating role of team reflexivity

A number of research studies have found that team reflexivity is an important antecedent of team creativity and innovation (De Dreu, 2002; Schippers et al., 2015; West, 2000; Widmer et al., 2009); though, the mediating role of team reflexivity between task conflict and creativity still remains unclear. Some researchers have used team reflexivity as a mediator between team inputs and outputs (De Jong & Elfring, 2010; Lyubovnikova et al., 2017; Shin, 2014; Somech, 2006). Reflexivity mediated the performance benefits of different team inputs and outputs such as; both member diversity and frequent group meetings, group safety climates, experienced leadership and coaching leadership, transformational leadership, and cooperation among group members (Drach-Zahavy & Somech, 2001; Edmondson, 1999; Hirst, Mann, Bain, Pirola-Merlo, & Richver, 2004; Schippers et al., 2008; Schippers et al., 2003; Somech, 2006; Tjosvold et al., 2003, 2004). With plenty of evidence that the team reflexivity is an essential regulatory process for team performance and innovation (Carter & West, 1998; Konradt, Schippers, Garbers, & Steenfatt, 2015; Lyubovnikova et al., 2017; Nederveen Pieterse et al., 2011; Shin, 2014; Tjosvold et al., 2004), and also drawing on minority dissent theory, we propose that team reflexivity as an important explanatory mechanism underlying the relationship between task conflict and team creativity.

Team reflexivity is suggested as a social-cognitive mediating process that can enhance team creativity (Shin, 2014). It involves attention of team members to consider other's perspectives with an open and positive mindset to focus on reviewing the tasks for a better understanding (Li, Li, Lin, & Liu, 2018). It is helpful for individuals working under challenging, unstable and uncertain conditions (West, 1996). Empirical findings also exhibit that team members having different tasks owing to reflexivity gives better output than non-reflexive teams (Nederveen Pieterse et al., 2011).

As we have hypothesized that task conflict will have a positive impact on team reflexivity which, in turn, will be positively related to team creativity. Considering hypotheses 1, and 2, we further expect that task conflict has an indirect effect on team creativity through team reflexivity, which becomes our third hypothesis i.e. a mediation effect.

Hypothesis 3: Team reflexivity mediates the positive effect of task conflict on team creativity.

We developed and investigated a mediation model depicted in Figure 1.

Fig. 1: The hypothesized model

Research and Methodology

Sample and procedure

To test our hypothesized model, the target sample of this research study was related to banking, pharmaceuticals and insurance sectors located in the Khyber Pakhtunkhwa (KPK) province of Pakistan. We collected data through paper-based questionnaires.

We separately collected the data of independent and dependent variables at two time points and from two sources (employee self-reporting and team leader reporting), in order to control the effect of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). At Time 1, we distributed questionnaires among 380 employees of 75 teams to rate the task conflict, team reflexivity and

about their demographics (i.e. age, gender, education, team tenure and organizational tenure). We received 338 filled questionnaires with a response rate of 88.9%. At Time 2, one month later, the immediate supervisors of the respective employees of the teams ranked each team on their overall team creativity scale plus team size. Finally, we obtained a usable sample size of 67 supervisors (67 teams). After matching, the final sample of 338 employees and 67 supervisors, 75.3% were male, and 24.7% were female. The mean age was 32.34 years (SD = 4.67). The average team size was 4.80 (ranging from 3-6), the average team tenure was 3.25 years, and their average organizational tenure was 4.75 years. Regarding the education of employees, majority (63.2 %) of the employees had master's degree, while 28.4% held a bachelor's degree.

Measures

We used a 5-point Likert scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*) to measure the four variables in our survey.

Task conflict: We measured the task conflict by using three items scale adapted from Jehn & Mannix (2001). The measurement items were “My colleagues, and I often have conflicting opinions about projects”; “My colleagues and I often have conflicting ideas”; “My colleagues and I often have disagreements about task-related issues.” The measured Cronbach's alpha was $\alpha = .89$.

Team Reflexivity: We assessed the team reflexivity by using five items scale adapted from Carter & West (1998). Sample items were “We regularly discuss whether the team is working effectively” and “In this team we modify our objectives in light of changing circumstances”. The measured Cronbach's alpha was $\alpha = .86$.

Team Creativity: We used the four items scale of Shin & Zhou (2007), in which the supervisor rated their team's creativity. Sample items were “How well does your team produce new ideas?” and “How useful are those ideas.” The measured Cronbach's alpha was $\alpha = .87$.

Control variables: On the basis of prior literature (Farmer, Tierney, & Kung-McIntyre, 2003; Gong, Huang, & Farh, 2009; Shin & Zhou, 2003; Tierney & Farmer, 2011; Zhang & Bartol, 2010), we controlled several variables which might influence the team creativity. We controlled for age, gender, team size, team tenure, and education level. Gender was assigned a code of 1 for male and 2 for female. Age, team tenure and organizational tenure were measured in number of years. Team tenure and team size was measured by the team leaders. Educational level was also coded into four categories ranging from 1 (college graduate) to 4 (doctoral degree).

Data aggregation

As the analysis is at the team-level, the team member's rating of task conflict and team reflexivity need to be aggregated to team level. For the aggregation, the variables need to be statistically justified, before we aggregate them. First, we examined the intra-class correlation ICC(1), and reliability of the mean ICC(2) to check the group variance (James, Demaree, & Wolf, 1984). We performed one-way random-effects of analysis of variance (ANOVA) to measure ICCs. The ICC(1) values of task conflict and team reflexivity were 0.18 and 0.25, respectively, and the ICC(2) values were 0.58 and 0.69, respectively. Second, by following the procedure developed by James et al., (1984), we measured the within-group inter-rater agreement (rwg). The mean rwg values of task conflict and team reflexivity were 0.82 and 0.89, respectively. Both these steps satisfied the conditions for the aggregation of individual responses to the team level.

Confirmative factor analysis

Before testing our hypotheses, we conducted confirmatory factor analyses (CFA) in AMOS 20.0 in order to confirm validity and the distinctiveness of our constructs. The CFA results showed that the two factor model (task conflict and team reflexivity) fits best with the data indices ($\chi^2 = 281.64$, $df = 161$, $p < 0.01$, comparative fit index (CFI) = 0.92, incremental fit index (IFI) = 0.92, Tucker-Lewis index (TLI) = 0.96, standardized root mean residual (SRMR) = 0.024, and root mean square error of approximation (RMSEA) = 0.036,) than the alternative one factor model, as presented in Table 1.

Furthermore, factor and item loadings exceeded 0.60 criterion (Bagozzi & Yi, 1988), ranging from 0.76 to 0.89. We also examined composite reliability (CR), ranging from 0.84 to 0.91, exceeded the threshold point of 0.7 (Bagozzi & Yi, 1988). In addition, we checked the average variance extracted (AVE) for each scale, ranging from 0.63 to 0.65, which is also satisfactory. Finally, to confirm the discriminant validity, the square roots of AVE of each construct was greater than the inter-correlations between variables (Fornell & Larcker, 1981) (Table 2).

Table 1: Confirmatory factor analysis of task conflict and team reflexivity

	$\chi^2(df)$	$\Delta\chi^2$	CFI	IFI	TLI	SRMR	RMSEA
Two-Factor Model (baseline Model)	281.644(161)	-	0.923	0.923	0.962	0.024	0.036
One-factor Model ^a	1214.023(173)	932.379	0.791	0.792	0.751	0.178	0.188

a: Task Conflict and Team Reflexivity are merged.

Note: $\Delta\chi^2$ symbolize the increase of χ^2 in comparison with the baseline 2-factor model.

Source: CFA analysis via AMOS 20.0

Results

Descriptive Statistics

Table 2. shows the means, standard deviations, and inter-correlations for all control variables, independent variable, mediator and dependent variable, and also the square roots of AVE in diagonals.

Hypotheses Testing

To test our hypotheses, we used the bootstrapping approach of Hayes (2018) PROCESS Macro for SPSS to estimate the mediation model.

Table 3 shows the results of the mediation analysis (H1-H3). According to the results of first hypothesis, which indicated that task conflict is positively related to team reflexivity ($B = 0.20$, $t = 3.86$ and $p < 0.01$). Thus, H1 was supported. The second hypothesis, which stated that team reflexivity is positively related to team creativity ($B = 0.35$, $t = 5.83$ and $p < 0.02$), was also supported. Finally, the indirect effect of task conflict on team creativity was also significant (0.14), which supported H3. Therefore, these hypotheses H1-H3, demonstrated that team reflexivity mediated the relationship between task conflict and team creativity. Furthermore, the Sobel test also validated that the indirect effect (0.14) was significant (Sobel $z = 3.89$, $p < 0.02$). Similarly, the results of bootstrapping (5000 bootstrap samples with 95 percent confidence intervals) indicated that the indirect effect of task conflict on team creativity via team reflexivity did not contain zero (0.07, 0.19). Thus, confirming further support to H3.

Table 2: Means, standard deviations, correlations, composite reliability, and average variance extracted

	Variables	M	SD	1	2	3	4	5	6	7	8		CR	AVE
1	Average Age	32.34	4.67	—										
2	Average Gender	1.27	.38	.27	—									
3	Team Size	4.80	2.05	.06	.07	—								
4	Team Tenure	3.25	2.53	.53*	-.08	-.15	—							
5	Education Level	3.97	1.15	.15	.15	-.05	-.07	—						
6	Task Conflict	4.23	.70	-.05	.07*	-.04	-.12	-.22	(.80)				.89	.65
	Team Reflexivity	4.57	.71	.21	-.15	-.11	-.08	.09	.17*	.21**	(0.80)		.91	.65
8	Team Creativity	4.72	.69	-.24*	.25*	.08	.06	.06	.29**	.23*	.31**	(.79)	.84	.63

N = 67 Teams, M = Mean, SD = Standard Deviation, CR = Composite reliability, AVE = Average variance extracted
Square root of AVE is shown in parentheses on the diagonal.

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

Source of M, SD and correlations: Author's data via SPSS; Source of CR and AVE: Author's data via AMOS 20.0

Table 3: Regression results for mediation

Direct and total effects						
Variable			B	SE	<i>t</i>	<i>p</i>
Team creativity regressed on task conflict			.26	.05	4.82	.02
Team reflexivity regressed on task conflict			.20	.05	3.86	.01
Team creativity regressed on team reflexivity, controlling for task conflict			.35	.06	5.83	.02
Team creativity regressed on task conflict, controlling for team reflexivity			.21	.05	3.82	.01
Indirect effect and significance using distribution						
	Value	SE	LL 95% CI	UL 95% CI	<i>z</i>	<i>p</i>
Sobel	.14	.03	.06	.18	3.89	.02
Bootstrap results for indirect effect						
	M	SE	LL 95% CI	UL 95% CI		
Effect	.13	.04	.07	.19		
Notes: Sample size = 67 ; Number of bootstrap sample = 5,000; LL = lower limit; UL = upper limit; CI = confidence interval						

Notes: Sample size = 67 ; Number of bootstrap sample = 5,000; LL = lower limit; UL = upper limit; CI = confidence interval

Source: Data analyzed via SPSS PROCESS Macro (Hayes, 2018)

Discussion

In our study, we aimed to advance our understanding about task conflict and team creativity to find why task conflict sometimes can improve the overall team creativity. As task conflict in teams brings diverse ideas and knowledge to team members, which may enhance team creativity. Therefore, we considered task conflict and its impact on team creativity, and found support for both direct and indirect path from task conflict to team creativity via team reflexivity. First, we found that task conflict is positively related to team reflexivity. Second, team reflexivity was found to have a positive impact on team creativity. In this way, the team reflexivity was seen to fully mediate the task conflict and team creativity relationship. Although not hypothesized, but in line with the previous research findings, we found support that task conflict is positively related to team creativity, showing that it brings diverse ideas required for team creativity (Jehn & Mannix, 2001; Lee et al., 2019).

Theoretical Implications

As our theoretical model is based on minority dissent theory, we argued that task conflict in teams activates reevaluation of the tasks, reflecting upon and discussing tasks at hand by sharing more information and learning new things, thus improving team creativity. In this way, our study has several theoretical contributions to the conflict and creativity literature. First, this research examines an underlying mechanism that links task conflict and team creativity. That is, team reflexivity serves as a key mediator between the task conflict and team creativity relationship. Team members who experience task conflict tries to give their own opinions and ideas by defending their stance. They reevaluate the task in light of those difference in ideas and encouraging team members to reflect upon and make plans for further improvement. These findings are also consistent with previous studies that acknowledges the indirect link between task conflict and creativity (Chen et al., 2019; Li et al., 2019). Therefore, our research tried to further answered the call for exploring the mechanisms between task conflict and team outcomes, specifically team creativity with full supported mediation (Loughry & Amason, 2014; Li et al., 2019). It would be also interesting for future research to explore other potential mechanisms relating to information and knowledge sharing perspectives.

Second, most of the existing studies on conflict are conducted in Western culture. As this is the first study to be conducted in Pakistan, it would add further understanding of conflict-creativity relationship in a different context.

Practical Implications

As far as the practical implications of this study are concerned, the organizations should promote the culture of frequent meeting sessions and different training and development programs for employees to discuss their task issues. Based on our results and in line with some of the previous research findings, which showed that task conflict can enhance team related outcomes, more specifically team creativity (Hu, Chen, Gu, Huang, & Liu, 2017; Lee et al., 2019; Yong et al., 2014), we also suggest supervisors and team leaders to provide enough opportunities and time for team members to reflect upon their tasks and to rethink about it, which may enhance their overall team creativity. Therefore, the managers should not worry about the conflicts in teams unless these conflicts are not transformed into interpersonal conflicts.

Conclusions

In short, the present study aimed to advance our understanding about the role of task conflict in enhancing creativity from the team-level perspective. In this regard, we utilized the role of team reflexivity as an intervening mechanism between task conflict and team creativity. By collecting data from three sectors (banking, pharmaceuticals and insurance), the findings supported our suggested mediation model showing that task conflict affect team creativity via team reflexivity. Hence, this study tried to find an answer to why (team reflexivity) task conflict translated into team creativity. It will be interesting to see further research in relevant area, but from a multilevel perspective by taking some boundary conditions in consideration as well.

There are various limitations in our study, which can serve as future directions for conducting further research in this area. First, we collected our data from limited sectors (banking, pharmaceuticals and insurance) and from one geographic region (KPK province) of the country. The results may vary in other sectors, regions and countries. Therefore, future research might consider a sample from different sectors, regions and countries, to cover the generalizability issue. The second limitation is regarding the measures of task conflict and team creativity. In this study, we also followed the standard practice of measuring individual's perception of team task conflict, which is then aggregated to give a team level score (Jehn & Mannix 2001). This way of measuring team conflict may not give the accurate level of measured score. An objective measure can be designed to determine the real team conflict in future studies. Third, the data were collected at two different time points (Time 1 and Time 2), with only one-month gap. Future research can apply longitudinal design with longer time intervals to produce more accurate results. In addition, due to the multifaceted nature of the conflict, future studies should further test conflict-creativity relationship from a multilevel or cross-level effect.

References

- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing work environment for creativity. *Academy of Management Journal*, 39(5), 1154–1184. <https://doi.org/10.2307/256995>
- Amabile, Teresa M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and Creativity at Work. *Administrative Science Quarterly*, 50(3), 367–403.
- Anderson, N., Potočník, K., & Zhou, J. (2014). Innovation and Creativity in Organizations. *Journal of Management*, 40(5), 1297–1333. <https://doi.org/10.1177/0149206314527128>
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94. <https://doi.org/10.1007/BF02723327>
- Barge, J. K., & Oliver, C. (2003). Working with Appreciation in Managerial Practice. *Academy of Management Review*, 28(1), 124–142. <https://doi.org/10.5465/amr.2003.8925244>
- Bell, B. S., Kozlowski, S. W. J., & Blawath, S. (2012). Team Learning: A Theoretical Integration and Review. In S. W. J. Kozlowski (Ed.), *The Oxford Handbook of Organizational Psychology*. Oxford University Press.
- Carter, S. M., & West, M. A. (1998). Reflexivity, effectiveness, and mental health in BBC-TV production teams. *Small Group Research*, 29(5), 583–601.
- Chen, X., Liu, J., Yuan, Y., & Cui, X. (2019). The curvilinear effect of task conflict on idea generation. *International Journal of Conflict Management*, 30(2), 158–179.
- De Dreu, C. K. W. (2006). When Too Little or Too Much Hurts: Evidence for a Curvilinear Relationship Between Task Conflict and Innovation in Teams. *Journal of Management*, 32(1), 83–107. <https://doi.org/10.1177/0149206305277795>
- 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(4), 741–749. <https://doi.org/10.1037/0021-9010.88.4.741>
- 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(6), 1191–1201. <https://doi.org/10.1037/0021-9010.86.6.1191>
- De Jong, B. A., & Elfring, T. (2010). How does trust affect the performance of ongoing teams? the mediating role of reflexivity, monitoring, and effort. *Academy of Management Journal*, 53(3), 535–549. <https://doi.org/10.5465/amj.2010.51468649>
- Drach-Zahavy, A., & Somech, A. (2001). Understanding team innovation: The role of team processes and structures. *Group Dynamics: Theory, Research, and Practice*, 5(2), 111–123.
- Dreu, C. K. W. De. (2002). Team innovation and team effectiveness: The importance of minority dissent and reflexivity. *European Journal of Work and Organizational Psychology*, 11(3), 285–298. <https://doi.org/10.1080/13594320244000175>
- Edmondson, A. (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly*, 44(2), 350. <https://doi.org/10.2307/2666999>
- Farh, J.-L., Lee, C., & Farh, C. I. C. (2010). Task conflict and team creativity: A question of how much and when. *Journal of Applied Psychology*, 95(6), 1173–1180.
- Farmer, S. M., Tierney, P., & Kung-McIntyre, K. (2003). Employee Creativity In Taiwan: An Application Of Role Identity Theory. *Academy of Management Journal*, 46(5), 618–630.
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39.
- Gladstein, D. L. (1984). Groups in Context: A Model of Task Group Effectiveness. *Administrative Science Quarterly*, 29(4), 499. <https://doi.org/10.2307/2392936>
- Gong, Y., Huang, J.-C., & Farh, J.-L. (2009). Employee Learning Orientation, Transformational Leadership, and Employee Creativity: The Mediating Role of Employee Creative Self-Efficacy. *Academy of Management Journal*, 52(4), 765–778.
- Hayes, A. F. (2018). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (2nd ed.). Guilford, New York, NY.
- Hirst, G., Mann, L., Bain, P., Pirola-Merlo, A., & Richver, A. (2004). Learning to lead: The development and testing of a model of leadership learning. *Leadership Quarterly*, 15(3), 311–327. <https://doi.org/10.1016/j.leaqua.2004.02.011>
- Hu, N., Chen, Z., Gu, J., Huang, S., & Liu, H. (2017). Conflict and creativity in inter-organizational teams. *International Journal of Conflict Management*, 28(1), 74–102.
- Huang, J. (2010). Unbundling task conflict and relationship conflict. *International Journal of Conflict Management*, 21(3), 334–355. <https://doi.org/10.1108/10444061011063207>
- Huang, J. C. (2012). The relationship between conflict and team performance in Taiwan: The moderating effect of goal orientation. *International Journal of Human Resource Management*, 23(10), 2126–2143. <https://doi.org/10.1080/09585192.2012.664961>
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69(1), 85–98.
- Jehn, K. A. (1994). Enhancing effectiveness: an investigation of advantages and disadvantages of value-based intragroup conflict. *International Journal of Conflict Management*, 5(3), 223–238. <https://doi.org/10.1108/eb022744>
- Jehn, K. A. (1995). A Multimethod Examination of the Benefits and Detriments of Intragroup Conflict. *Administrative Science Quarterly*, 40(2), 256–282.

- Jehn, K. A. (1997). A Qualitative Analysis of Conflict Types and Dimensions in Organizational Groups. *Administrative Science Quarterly*, 42(3), 530. <https://doi.org/10.2307/2393737>
- Jehn, K. A., & Bendersky, C. (2003). Intragroup Conflict in Organizations: a Contingency Perspective on the Conflict-Outcome Relationship. *Research in Organizational Behavior*, 25(03), 187–242. [https://doi.org/10.1016/S0191-3085\(03\)25005-X](https://doi.org/10.1016/S0191-3085(03)25005-X)
- Jehn, K. A., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal*, 44(2), 238–251. <https://doi.org/10.2307/3069453>
- Johnson, D. W., Johnson, R. T., & Tjosvold, D. (2014). Constructive controversy: The value of intellectual opposition. In M. Deutsch & P. Coleman (Eds.), *The handbook of conflict resolution: Theory and practice*. (pp. 69–91). San Francisco: Jossey- Bass.
- Keller, R. T. (2001). Cross-Functional Project Groups In Research And New Product Development: Diversity, Communications, Job Stress, And Outcomes. *Academy of Management Journal*, 44(3), 547–555. <https://doi.org/10.2307/3069369>
- Konradt, U., & Eckardt, G. (2016). Short-term and long-term relationships between reflection and performance in teams: evidence from a four-wave longitudinal study. *European Journal of Work and Organizational Psychology*, 25(6), 804–818.
- Konradt, U., Otte, K. P., Schippers, M. C., & Steenfatt, C. (2016). Reflexivity in Teams: A Review and New Perspectives. *The Journal of Psychology*, 150(2), 153–174.
- Konradt, U., Schippers, M. C., Garbers, Y., & Steenfatt, C. (2015). Effects of guided reflexivity and team feedback on team performance improvement: The role of team regulatory processes and cognitive emergent states. *European Journal of Work and Organizational Psychology*, 24(5), 777–795. <https://doi.org/10.1080/1359432X.2015.1005608>
- Loughry, M., & Amason, A. (2014). Why won't task conflict cooperate? Deciphering stubborn results. *International Journal of Conflict Management*, 25(4), 333–358.
- Lee, E. K., Avgar, A. C., Park, W.-W., & Choi, D. (2019). The dual effects of task conflict on team creativity. *International Journal of Conflict Management*, 30(1), 132–154.
- Leung, K., & Tjosvold, D. (1998). Introduction: conflict management in the Asia Pacific. In *Conflict Management in the Asia Pacific: Assumption and Approaches in Diverse Culture* (pp. 1–14). New York, NY: John Wiley & Sons Ltd.
- Li, C.-R., Li, C.-X., Lin, C.-J., & Liu, J. (2018). The influence of team reflexivity and shared meta-knowledge on the curvilinear relationship between team diversity and team ambidexterity. *Management Decision*, 56(5), 1033–1050.
- Li, C.-R., Li, C., & Lin, C. (2019). The effect of individual task conflict on employee creativity: A moderated mediation model. *Thinking Skills and Creativity*, 31, 112–124.
- Lovelace, K., Shapiro, 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(4), 779–793.
- Lyubovnikova, J., Legood, A., Turner, N., & Mamakouka, A. (2017). How Authentic Leadership Influences Team Performance: The Mediating Role of Team Reflexivity. *Journal of Business Ethics*, 141(1), 59–70. <https://doi.org/10.1007/s10551-015-2692-3>
- Miron-spektor, E., Erez, M., & Naveh, E. (2011). The Effect of Conformist and Attentive-To-Detail Members on Team Innovation: Reconciling the Innovation Paradox. *Academy of Management Journal*, 54(4), 740–760. <https://doi.org/10.5465/amj.2011.64870100>
- Mumford, M. D., & Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, 103(1), 27–43.
- Nederveen Pieterse, A., van Knippenberg, D., & van Ginkel, W. P. (2011). Diversity in goal orientation, team reflexivity, and team performance. *Organizational Behavior and Human Decision Processes*, 114(2), 153–164. <https://doi.org/10.1016/j.obhdp.2010.11.003>
- Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39(3), 607–634. <https://doi.org/10.2307/256657>
- Parayitam, S., Olson, B. J., & Bao, Y. (2010). Task conflict, relationship conflict and agreement-seeking behavior in Chinese top management teams. *International Journal of Conflict Management*, 21(1), 94–116. <https://doi.org/10.1108/10444061011016641>
- Paulus, P. (2000). Groups, Teams, and Creativity: The Creative Potential of Idea-generating Groups. *Applied Psychology*, 49(2), 237–262. <https://doi.org/10.1111/1464-0597.00013>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Porter, T. W., & Lilly, B. S. (1996). The Effects Of Conflict, Trust, And Task Commitment On Project Team Performance. *International Journal of Conflict Management*, 7(4), 361–376.
- Reiter-Palmon, R., Wigert, B., & de Vreede, T. (2012). Team creativity and innovation: The effect of group composition, social processes, and cognition. In M. Mumford (Ed.), *Handbook of Organizational Creativity* (295–326). London, England: Academic Press.
- Rickards, T., & Moger, S. (2000). Creative Leadership Processes in Project Team Development: An Alternative to Tuckman's Stage Model. *British Journal of Management*, 11(4), 273–283. <https://doi.org/10.1111/1467-8551.00173>
- Schippers, Michaela C., Den Hartog, D. N., Koopman, P. L., & van Knippenberg, D. (2008). The role of transformational leadership in enhancing team reflexivity. *Human Relations*, 61(11), 1593–1616. <https://doi.org/10.1177/0018726708096639>

- Schippers, Michaela C., Den Hartog, D. N., Koopman, P. L., & Wienk, J. A. (2003). Diversity and team outcomes: the moderating effects of outcome interdependence and group longevity and the mediating effect of reflexivity. *Journal of Organizational Behavior*, 24(6), 779–802. <https://doi.org/10.1002/job.220>
- Schippers, Michaela C., Edmondson, A. C., & West, M. A. (2014). Team Reflexivity as an Antidote to Team Information-Processing Failures. *Small Group Research*, 45(6), 731–769.
- Schippers, Michaela C., West, M. A., & Dawson, J. F. (2015). Team Reflexivity and Innovation. *Journal of Management*, 41(3), 769–788. <https://doi.org/10.1177/0149206312441210>
- Shaw, J. D., Zhu, J., Duffy, M. K., Scott, K. L., Shih, H.-A., & Susanto, E. (2011). A contingency model of conflict and team effectiveness. *Journal of Applied Psychology*, 96(2), 391–400. <https://doi.org/10.1037/a0021340>
- Shin, S. J., & Zhou, J. (2003). Transformational Leadership, Conservation, And Creativity: Evidence From Korea. *Academy of Management Journal*, 46(6), 703–714.
- Shin, S. J., & Zhou, J. (2007). When is educational specialization heterogeneity related to creativity in research and development teams? Transformational leadership as a moderator. *Journal of Applied Psychology*, 92(6), 1709–1721.
- Shin, Y. (2014). Positive Group Affect and Team Creativity: Mediation of Team Reflexivity and Promotion Focus. *Small Group Research*, 45(3), 337–364.
- Somech, A. (2006). The Effects of Leadership Style and Team Process on Performance and Innovation in Functionally Heterogeneous Teams. *Journal of Management*, 32(1), 132–157.
- Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology*, 96(2), 277–293.
- Tjosvold, D. (1998). Cooperative and Competitive Goal Approach to Conflict: Accomplishments and Challenges. *Applied Psychology*, 47(3), 285–313.
- Tjosvold, D. (2008). Constructive Controversy for Management Education: Developing Committed, Open-Minded Researchers. *Academy of Management Learning & Education*, 7(1), 73–85. <https://doi.org/10.5465/amle.2008.31413864>
- Tjosvold, D., Hui, C., & Yu, Z. (2003). Conflict Management and Task Reflexivity for Team in-Role and Extra-Role Performance in China. *International Journal of Conflict Management*, 14(2), 141–163. <https://doi.org/10.1108/eb022895>
- Tjosvold, D., Sun, H. F., & Wan, P. (2005). Effects of Openness, Problem Solving, and Blaming on Learning: An Experiment in China. *The Journal of Social Psychology*, 145(6), 629–644.
- Tjosvold, D., Tang, M. M. L., & West, M. (2004). Reflexivity for Team Innovation in China. *Group & Organization Management*, 29(5), 540–559.
- Wall, V. D., & Nolan, L. L. (1986). Perceptions of Inequity, Satisfaction, and Conflict in Task-Oriented Groups. *Human Relations*, 39(11), 1033–1051.
- West, M. (1996). Reflexivity and Work Group Effectiveness: a Conceptual Innovation. In West MA (Ed.), *Handbook of work group psychology* (555–579). London: Wiley.
- West, M. A. (2000). Reflexivity, revolution and innovation in work teams. In D. A. Johnson & S. T. Beyerlein (Eds.), *Advances in the interdisciplinary study of work teams: Product development teams* (1–29). Stamford, Connecticut: JAI Press.
- West, M. A., Utsch, A., Borrill, C. S., & Dawson, J. F. (2002). *Diversity, demands and team innovation*. Unpublished manuscript, Birmingham.
- Widmer, P., Schippers, M., & West, M. (2009). Recent developments in reflexivity research: A review. *Psychology of Everyday Activity*, 2(2), 2–11.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a Theory of Organizational Creativity. *Academy of Management Review*, 18(2), 293–321.
- Yong, K., Sauer, S. J., & Mannix, E. A. (2014). Conflict and Creativity in Interdisciplinary Teams. *Small Group Research*, 45(3), 266–289. <https://doi.org/10.1177/1046496414530789>
- Zhang, X., & Bartol, K. M. (2010). The influence of creative process engagement on employee creative performance and overall job performance: A curvilinear assessment. *Journal of Applied Psychology*, 95(5), 862–873. <https://doi.org/10.1037/a0020173>
- Zhou, J., & Shalley, C. E. (2011). Deepening our understanding of creativity in the workplace: A review of different approaches to creativity research. In *APA handbook of industrial and organizational psychology, Vol 1: Building and developing the organization*. (275–302). Washington: American Psychological Association. <https://doi.org/10.1037/12169-009>