The dual effects of task conflict on team creativity

Focusing on the role of team-focused transformational leadership

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Abstract

Purpose – The purpose of this paper is to explore the dual effects of task conflict on team creativity and the role of team-focused transformational leadership (TFL) as a key contingency in the task conflict–team creativity relationship.

Design/methodology/approach – Data were collected from 325 teams across ten large companies in South Korea. The study tested the hypothesized moderated mediation model using an SPSS macro (PROCESS, Hayes, 2008).

Findings – Results showed that task conflict is directly and positively related to team creativity and is negatively and indirectly related to team creativity via relationship conflict. Furthermore, the study found that team-focused TFL moderates all paths through which task conflict affects team creativity. Specifically, team-focused TFL enhances the positive direct effect of task conflict and alleviates the negative indirect effects of task conflict on team creativity.

Research limitations/implications – Although this study could not test the causal chains of the proposed relationships owing to a cross-sectional nature of data, the present research provides theoretical implications for the conflict, leadership and team creativity literatures. The study highlights the role of transformational leadership in the process through which team conflict is managed so as to increase team creativity.

Practical implications – To capitalize on the creativity-related benefits associated with task conflict, managers will need to pay attention to the role they can play and their leadership that emphasizes collective goals and identity. Managers and team leaders are also expected to intervene in conflict situations to minimize the harmful effect of task conflict that may take place owing to the association between task conflict and relationship conflict.

Social implications – The findings will have implications for any social contexts where people work together toward common goals. In such contexts, the study emphasizes the role of leadership in teams to use the creative potential associated with different opinions and values regarding what and how work to be completed.

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Originality/value – The study’s examination of the dual paths through which task conflict affects team creativity brings insights into why the impact of task conflict on team creativity has been inconsistent or unclear in past research. This paper also articulates a leader’s role in teams in relation to managing team conflict to increase team creativity.

Keywords Transformational leadership, Team creativity, Relationship conflict, Task conflict

Paper type Research paper

Many organizations are increasingly striving to innovate for a sustained competitive advantage. In so doing, teams are commonly used because they are well suited for creating and producing new and innovative collective knowledge (Wuchty et al., 2007). However, teams are not always effective for complex and creative tasks because they often experience coordination and motivation challenges that limit their capacity to facilitate superior creative performance (Diehl and Stroebe, 1991; Leeuwen and van Knippenberg, 2002; Mueller, 2012). Team conflict is an example of a relational factor that contributes to the creative potential within teams and, at the same time, challenges team processes for creativity.

Task conflict, representing “conflicts about the distribution of resources, procedures and policies and judgments and interpretation of facts” (De Dreu and Weingart, 2003a, p. 741), has been frequently examined to have a significant impact on team creativity (Yong et al., 2014). This form of conflict facilitates the surfacing of different ideas and/or viewpoints and enhances dialogue and debate among team members, thereby leading to increased team creativity (De Dreu, 2006). Nevertheless, this proposed positive relationship between task conflict and team creativity has received mixed empirical support (De Dreu and Weingart, 2003a; Hülsheger et al., 2009). Accordingly, scholars have taken a contingency approach to understand under which circumstances task conflict enhances or undermines a variety of team outcomes including creativity (De Dreu and Weingart, 2003b; O’Neill et al., 2013; Shaw et al., 2011).

Taking this contingency approach, as shown in Figure 1, we propose dual paths through which task conflict influences team creativity directly and indirectly. Specifically, we predict that task conflict has a positive and direct effect on team creativity, while it is also negatively related to team creativity owing to its indirect effect via relationship conflict. More importantly, we argue that the extent to which team conflicts affect team creativity is contingent on a leader’s team-focused transformational leadership (TFL).

Team-focused TFL entails a leader’s ability to have followers believe in an articulated vision and prioritize collective interests (Dong et al., 2017). Our theorizing for the moderating role of team-focused TFL draws on how team-focused TFL would help members internalize collective objectives and work more collaboratively for the team, partly attributed to their enhanced collective identity (Tse and Chiu, 2014). Building on this foundation, we develop

![Figure 1. Hypothesized theoretical model](image-url)
and test our theoretical predictions for why and how team-focused TFL can function as a critical contingency that enhances the benefits and neutralizes the drawbacks associated with relationship conflict in explaining team creativity.

This study makes three contributions to theory and research on conflict and team creativity. First, we extend existing research on conflict and creativity by examining both direct and indirect effects of task conflict on team creativity. We argue that task conflict can promote team creativity, but at the same time, it can negatively affect team creativity owing to its association with relationship conflict in teams. We test our model involving two contrasting effects of task conflict on team creativity and provide empirical evidence suggesting that the effect of task conflict on team creativity in fact results from a dynamic combination of the positive and negative team mechanisms. We shed light on why the impact of task conflict on team creativity has been inconsistent or unclear and contribute to reconciling the inconsistencies in past research.

Second, we highlight the roles of team-focused TFL in the process through which team conflict is managed to increase team creativity. Leadership has been proposed as a key aspect of the context that affects team creativity (Mumford et al., 2002). This is, in large part, owing to the fact that team leaders are critical to conflict resolution in ways that benefit team members and influence their choices about how to handle conflicts (Tanveer et al., 2018; Zhang et al., 2011). However, TFL and team conflict have not been integrated to explain creativity. The integration of these two constructs using the contingency perspective is, therefore, a valuable extension of previous research. We answer the call for a continuing investigation of potential moderators and intervening processes that may affect the effects of task conflict on teams (Loughry and Amason, 2014).

Third, we use survey data from a large sample of work teams in Korean companies, allowing a more generalizable conclusion regarding the effects of task conflict on team creativity across various types of functional tasks. More importantly, we think that examining the effect of task conflict in a cultural context in which expressing an opposing opinion is not necessarily encouraged and a unified collective voice and harmony is often considered desirable (Fu et al., 2007; McMillan et al., 2012) will be a conservative test of the positive effect of task conflict on team outcomes. Relatedly, given the hierarchical culture of Korea, the role of team-focused TFL as a key contingency in the task conflict–creativity relationship is well aligned with the setting because a leader’s role is likely to be more pronounced in general and specifically with regard to managing conflicts in teams in Eastern cultures. Findings from our study will provide cultural implications to conflict research.

**Theory and hypotheses**

**Direct effect of task conflict on team creativity**

Team creativity involves team processes that combine diverse perspectives to generate novel and useful solutions (Amabile, 1996; Sutton and Hargadon, 1996). Given the proximal conceptual link between task conflict and creativity, some scholars have maintained that task conflict is positively related to team creativity (Farh et al., 2010). Central to this positive relationship is the argument that task conflict is likely to promote divergent thinking and the sharing of a broader range of ideas and thoughts around work-related issues (Paletz and Schunn, 2010). Supporting this argument, research on minority dissent found that a work group is more creative in their thinking when experiencing some level of task conflict (Dyne and Saavedra, 1996). This is because individuals exposed to the disagreeing minority were stimulated to search for new solutions to a problem that would have otherwise not been reached and that were more likely to be correct (De Dreu and West, 2001).
Disagreements about the work being performed can, in certain settings, lead to healthy dialogue and debate. Such healthy debates, or productive controversy, can be linked to an enhanced quality of decisions (De Dreu and De Vries, 1997; Jehn, 1995; Simons et al., 1999) by making people seek better alternatives or solutions (Schulz-Hardt et al., 2002). The open discussion and debate are likely to enhance a team’s overall creativity because diverse thoughts and ideas are shared and various alternatives are considered through open discussion and debate. Furthermore, task conflict usually increases group members’ tendency to scrutinize task-related issues and to engage in a deep and deliberate processing of relevant information (Janssen et al., 1999). This tendency is likely to foster learning and the development of new and potentially highly creative insights, ultimately helping the group to become more effective and innovative (De Dreu, 2006; van Woerkom and van Engen, 2009). One of the beneficial effects of dissent on group decision quality operates via greater discussion intensity (Schulz-Hardt et al., 2002).

Although some research has proposed and validated a curvilinear relationship (an inverted U-shape) between task conflict and team creativity (De Dreu, 2006; Farh et al., 2010; Shaw et al., 2011), we propose the positive linear relationship between task conflict and team creativity. Research has not yet clarified how to determine what the optimal amount of task conflict is (Loughry and Amason, 2014), and a considerable amount of research evidence continues to support the positive linear relationship between task conflict and team creativity (Yong et al., 2014). Therefore, in keeping with previous research, we hypothesize that task conflict has a positive linear direct effect on team creativity:

\[ H1. \text{ Task conflict is positively and directly related to team creativity.} \]

**Indirect effect of task conflict on team creativity via relationship conflict**

As will be discussed below, we argue that task conflict has a negative indirect effect on creativity through relationship conflict. As such, we begin by supporting the direct relationship between task and relationship conflict. Conflict researchers have been interested in the links among different types of organizational conflicts and, in particular, a potential transformation of one to another (Martinez-Moreno et al., 2012; van den Berg et al., 2014). Specifically, strong and positive correlations between task conflict and relationship conflict have been reported in the conflict literature (Peterson and Behfar, 2003; Parayitam et al., 2010; Simons and Peterson, 2000; Yang and Mossholder, 2004). There are a number of conceptual explanations for the strong and positive relationship between two types of conflict. For example, it is possible to misinterpret task-related disagreements as a personal attack (Amason, 1996; Amason and Sapienza, 1997) and for task conflict to escalate to emotion-laden assaults (Jehn, 1997). Task conflict may trigger relationship conflict especially when one’s conflict behaviors are misconstrued as intentionally harmful and deem motivated by hidden agendas (Simons and Peterson, 2000). In addition, differences in ideas and viewpoints over task issues are assumed to be communicated in a rational manner and resolved through fact-based communication, but disagreements are often not expressed in a merely factual manner and can involve emotionality and personal feelings even if initiated as task-based facts (Huang, 2010; Yang and Mossholder, 2004). An individual’s perception of factual elements of a conflict can be quite personal, and disagreements can easily transform from debates about facts into personal attacks or emotional defenses, especially when individuals continue proposing and defending their own views.

Furthermore, cognitive differences can be a basis for the social categorization process, which entails developing opinions about their own group and negative opinions of other sub-groups (Tajfel, 1982). As such, differences of opinion in the team can lead to relationship
conflict owing to the increased hostility toward other sub-groups and clashes between such groups (Parayitam et al., 2010). Taken together and building on previous theoretical and empirical work on the relationship between task conflict and relationship conflict (Jehn and Mannix, 2001; Martínez-Moreno et al., 2012; Pelled, 1996; Simons and Peterson, 2000), we hypothesize that task conflict likely precedes relationship conflict:

\[ H2. \] Task conflict is positively related to relationship conflict.

Having proposed the link between task and relationship conflict, we now turn to the proposed negative effect of relationship conflict on team creativity. Relationship conflict has been shown to be detrimental to individuals, groups and organizations given that it tends to increase tensions, anxiety and uncomfortable feelings and emotions among team members (Jehn, 1994). Relationship conflict is likely to increase perceptions of negativity for any potential interactions with team members; a typical response to a negative and distressing situation is psychological and physical withdrawal (Peterson, 1983). In fact, avoiding interactions related to conflict issues is a common response in such situations (De Dreu and van Vianen, 2001). Therefore, high levels of relationship conflict in teams is likely to have a negative effect on creativity by discouraging team members from engaging with one another including the sharing of information and knowledge.

Relationship conflict arises from differences based, among other things, on personal values, norms, political preferences that are often central to one’s personal identity and acquired over time (De Dreu and van Vianen, 2001). As such, when experiencing relationship conflict, team members may perceive greater dissimilarity and social distance to other group members and their collective identity as a group may weaken. This social identity focused approach suggests that relationship conflict may further undermine team members’ engagement in collaborative processes. Given that collaborative process ensure that team members’ ideas are constructively exchanged and integrated, they are critical to group-level creativity (van Knippenberg et al., 2004). We, therefore, hypothesize a negative relationship between relationship conflict and team creativity. In addition, having argued that task conflict can spill over into relationship conflict \((H2)\), we also predict the mediating role of relationship conflict in the relationship between task conflict and team creativity:

\[ H3. \] Relationship conflict is negatively related to team creativity.

\[ H4. \] Task conflict is negatively and indirectly related to team creativity via relationship conflict.

The moderating role of team-focused transformational leadership
Team creativity is a function not only of the resources brought by individual members but also of the efficiency of the processes through which these resources are combined (Diehl and Stroebe, 1987; Mullen et al., 1991). Thus, building upon the contingency perspective discussed above (de Wit et al., 2012; Jehn and Bendersky, 2003), we suggest that team-focused TFL can be a critical contingency in which team resources are effectively managed and coordinated to increase team creativity.

Since van Knippenberg and Sitkin (2013) introduced dual-level model of transformational leadership to replace the traditional charismatic–transformational leadership approach with which a number of conceptual and empirical problems were found, the dual-level model of transformational leadership has been increasingly used in leadership research and received considerable empirical support for its construct validity (Cai et al., 2017; Dong et al., 2017;
According to the dual-level model, TFL operates simultaneously at multiple levels – individual and team levels (Wang and Howell, 2010). Individual-focused TFL is conceptualized as leaders recognizing and paying attention to follower’s needs and desires (individualized consideration) as well as encouraging individual members for a challenge and new ways of thinking (intellectual stimulation; Dong et al., 2017). Team-focused TFL, on the other hand, tends to focus on the whole group rather than individual members within the group. Two components of transformational leadership – idealized influence and inspirational motivation – have been shown to constitute team-focused TFL owing to their emphasis on common beliefs, shared values and collective ideologies (Tse and Chiu, 2014). Leaders high in team-focused TFL will provide a clear vision for the team, motivate the members with higher purposes or ideals and use inspirational communication. Given our study’s examination of team-level creativity, we explore the moderating role that team-focused TFL plays in affecting the relationships between task conflict and creativity. Specifically, we maintain that team-focused TFL moderates the paths through which task conflict affects team creativity by enhancing its positive direct effect on creativity and alleviating its negative indirect effects.

Team-focused transformational leaders are likely to enhance the positive effect of task conflict by gathering and integrating team members’ efforts and ensuring that they are directed toward shared goals and values. In other words, teams with a transformational leader are better able to engage with collective efforts to capitalize on debates and discussions regarding the advantages and disadvantages of work-related ideas, which is critical to enhanced creativity (van Knippenberg et al., 2004). By engaging in open discussions and debates induced by task conflict, team members are likely to exchange and integrate diverse thoughts and ideas in constructive ways so that they can achieve shared goals and objectives (Ayoko and Callan, 2010; Dong et al., 2017). Opposing viewpoints are likely to be valued and integrated for solutions when commitment to collective outcomes is high (Desivilya et al., 2010; Shin and Zhou, 2007). When team members feel that their inputs are appreciated and contribute to the achievement of shared objectives, their motivation and participation will be elevated (Detert and Burris, 2007; Li et al., 2014).

Similarly, De Dreu et al. (2011) suggested teams are more creative when members are willing to expend efforts on systematic information processing coupled with the social motivation to value collective interests and success. On the other hand, teams are not able to fully utilize the creative potential associated with task conflict when team members’ sense of common goals and motivation for the achievement of collective goals are not activated. For example, team discussions and debates may simply distract team members’ cognitive resources in the absence of shared goals and objectives that are typically instilled by team-focused TFL. We therefore maintain that team-focused TFL will enhance the positive effect of task conflict on team creativity:

H5. Team-focused transformational leadership (TFL) will moderate the direct relationship between task conflict and team creativity, such that the positive effect of task conflict on team creativity is stronger when team-focused transformational leadership is high.

Next, we predict that team-focused TFL weakens the negative relationship between task conflict and relationship conflict in teams. Transformational leaders can lead team members to focus on shared goals and values so that team members are less likely to misinterpret the disagreement or criticism over ideas as personal attacks. For example, team-focused transformational leaders emphasize the potential inherent to different opinions and perspectives and the capacity of these to help improve individual and group performance, thereby leading team members to approach task conflict in more positive and constructive
ways (van Knippenberg and Schippers, 2007; Wang et al., 2016). Moreover, team-focused TFL likely influences the manner in which team members communicate task-related ideas and opinions, for example, by deterring the use of harsh language and the display of impatient and aggressive attitudes. When different perspectives and ideas are communicated and shared in a more positive manner, team members will be less prone to view different opinions as a personal opposition or threats to individual and group goals. In sum, the effectiveness of team-focused TFL in promoting an understanding of shared goals and the emphasis on collective effort will likely induce a less threatening expression of task conflict and team members’ greater openness and acceptance of the content communicated. As such, it will consequently reduce the relational frictions and the probability of task conflict evolving to relationship conflict (Hüttermann and Boerner, 2011; Hobman and Bordia, 2006). We, therefore, argue that high levels of team-focused TFL will weaken the positive relationship between task conflict and relationship conflict.

Team-focused TFL is also expected to play a role in mitigating the negative effect of relationship conflict on team creativity by highlighting the collective identity in team members and increasing team cohesion. Transformational leaders can bolster social integration and the bonds among team members through visioning and inspirational motivation (Dionne et al., 2004). When team members are exposed to team-focused TFL, their collective self, rather than personal self, is likely to be activated (Cai et al., 2017), and their negative feelings and dissatisfaction arising from relationship conflict may become less salient. Team-focused TFL can, therefore, promote functional team processes in which team members attach emotional and interpersonal importance to their group. This social identification process is critical to reducing the negative effects of relationship conflict because team members place less importance on differences they may have, both at a surface- and deep-level, and they transcend personal interests in pursuit of collective interests through depersonalizing self-categorization processes (Harrison et al., 1998; Hogg and Terry, 2000; Turner, 1987). As a result, when leaders display high levels of team-focused TFL, team members are likely more motivated to manage their conflicts cooperatively for mutual benefit rather than approach conflicts in a competitive manner and, thus, promote team coordination (Zhang et al., 2011). However, if teams lack the leadership that can help activate their collective identity, members will likely view their interpersonal problems from a self-centered perspective. Furthermore, teams will be less likely to function as a collective entity in the face of high levels of relationship conflict in the absence of leadership interventions. We, therefore, propose that team-focused TFL moderates the relationship between relationship conflict and team creativity by mitigating the negative effect of relationship conflict on team creativity:

\( H6a \). Team-focused transformational leadership (TFL) moderates the relationship between task conflict and relationship conflict such that this positive relationship is weaker when team-focused TFL is high rather than low.

\( H6b \). Team-focused transformational leadership (TFL) moderates the relationship between relationship conflict and team creativity such that this negative relationship is weaker when team-focused TFL is high rather than low.

\( H6c \). Team-focused transformational leadership (TFL) moderates the indirect relationship between task conflict and team creativity via relationship conflict such that the negative indirect relationship between task conflict and team creativity via relationship is weaker when team-focused TFL is high rather than low.
Method

Research setting and participants

We collected data from members of 492 teams across 10 Korean companies of various sizes in the transportation, construction, heavy manufacturing and energy industries. As this research was conducted as part of organizational diagnosis and change initiatives, it received strong support from top executives of the participating firms, resulting in a high response rate[1] (71 per cent). The teams performed one of seven different functional areas of administration, business development, design, operations management, production technology, R&D and sales, which provided an opportunity to examine the factors and mechanisms of team creativity in a representative context of work teams. Production technology and sales teams consisted of more than 50 per cent of the sample[2].

Although surveys were prepared by a team of researchers including two authors of the current study, the HR department at the headquarter office coordinated the process of creating an online survey on the company’s server and took responsibility for administering surveys. On the basis of the companies’ employee data, all participants were invited to complete an online survey, a link to which was sent to their company email addresses. The survey was introduced to employees as a company-wide data collection process for assessing organizational effectiveness and formulating a strategic plan for a continuous company growth. The survey comprised two parts: one about individual characteristics and the other about team experiences. The participants received an invitation to complete each part with a two-week time gap. All participants received the same questionnaires, but team leaders were asked to evaluate their team’s overall performance and creative performance. The participants were guaranteed confidentiality.

Surveys were completed by 3,176 individuals, representing a 71 per cent response rate. The team leaders’ ratings for team creativity were missing for some teams, and thus, the final usable sample size was 325 teams. As our research focus is team-level processes and outcomes, it was critical to acquire as many responses as possible for each team to gain a fair understanding of team characteristics. The average team size was 8.86, and the average response rate per team was 68.6 per cent in the final sample. Among respondents, 88 per cent were men and 97.2 per cent had at least some education at the college level. The average age was 32.66 years. The average company tenure was 4.56 years, and average department tenure was 10.7 months.

Measures

The survey distributed to the employees was first compiled in English (because it included existing measures originally developed in English). The survey items were then translated into Korean, and then back translated back into English by bilingual PhD students and researchers following the procedure recommended by Brislin’s (1980). The back-translation was reviewed and supervised by a head researcher who had a relationship with participating organizations and was in charge of data collection process. The HR managers at the headquarter office also checked item wording for appropriateness to the company setting. All responses were made on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Team creativity. We asked team leaders to assess their team’s creativity by using four items adapted from Zhou and George (2001). We chose four items measuring the creativity of ideas and solutions for improving performance, and adapted them to a team context. Team leaders were asked to indicate the extent to which the team output was “creative” and “original and practical”. Example items include: “My team suggests new ways to achieve goals or objectives” and “My team comes up with new and practical ideas to improve
we averaged responses to the four items to create a measure of team creativity. Cronbach’s alpha for the team creativity measure is 0.95.

Task conflict. We adapted three items from Jehn and Mannix (2001) and asked team members to assess the perceived level of disagreement over task-related issues within a team by transforming the original questions into statements. An example item is “There are conflicts about ideas in my team/work unit”. Cronbach’s alpha is 0.90.

Relationship conflict. We adapted Jehn and Mannix’s (2001) three items and asked team members to assess the perceived level of relationship conflict within a team by transforming the original questions into statements. A sample item is as follows: “There is friction among members in my team/work unit”. Cronbach’s alpha is 0.89.

Team-focused transformational leadership. We asked team members to assess their team leader’s team-focused transformational leadership using Pearce and Sims’s (2002) nine items. Consistent with the conceptualization of team-focused transformational leadership (Dong et al., 2017), our measure captures providing a vision, expressing idealism and using inspirational communication of team-focused transformational leadership. Sample items include “My team leader provides a clear vision of where our team is going” and “My team leader is driven by higher purposes or ideals”. Cronbach’s alpha is 0.97.

Control variables. Following Becker’s (2005) and Becker et al.’s (2016) recommendations, the relationships between potential control variables (i.e. socio-demographic variables) and our dependent variable (i.e. team creativity) were examined at the empirical level. None of our potential control variables were correlated with our dependent variable except team size, average department tenure and team function dummies. Therefore, we included team size, average age, average department tenure, average gender and dummy variables for functional areas of teams as controls in our subsequent analyses.

Aggregation for team-level analysis

All variables needed to be aggregated to the team level before analysis as the team is the unit of analysis in this study. Aggregation requires that the perceptions of team members within a team are reasonably homogeneous. We used ICC (1) and (2) values to reflect between-group variance. ICC (1) represents the proportional variance accounted by group membership and ICC (2) reflects the reliability of group mean value (Bliese, 2000). We performed a series of one-way ANOVA to calculate ICCs. ICC (1) values of task conflict, relationship conflict and team-focused TFL were 0.06, 0.00 and 0.04, respectively, and ICC (2) values of the three shared constructs were 0.38, 0.01 and 0.27, respectively. The F values were statistically significant for task conflict (F [324, 1660] = 1.61, p < 0.01) and team-focused TFL (F [324, 1660] = 1.37, p < 0.01), but not for relationship conflict (F [324, 1660] = 1.01, p > 0.10). Another check for aggregation to the team level yielded acceptable values (within-group agreement or rwg(j); median rwg(j) for task conflict = 0.91; median rwg(j) for relationship conflict = 0.87; median rwg(j) for team-focused TFL = 0.94), indicating strong agreement within teams. Although ICC values of all three variables were unusually small, the low ICC scores for conflict are not uncommon (Ayoko and Chua, 2014; Greer, Jehn and Mannix, 2008), and our aggregation was primarily theory-driven. Also, George (1990) argued that one must demonstrate agreement within a group rather than differences across groups to justify aggregation. Given that the estimate of within-group interrater reliability provided satisfactory results and that we used the validated measures in the previous studies (i.e. Jehn’s conflict measures), task conflict, relationship conflict and team-focused TFL were aggregated to the team level.
Confirmatory factor analysis
We performed a series of confirmatory factor analyses (CFA) at the team level to ensure that task conflict, relationship conflict and team-focused transformational leadership could be loaded as distinct factors. The CFA results indicate that a three-factor model fits best with the data ($\chi^2 = 1049.94$, $df = 82$; comparative fit index [CFI] = 0.98; Tucker–Lewis index [TLI] = 0.97; standardized root mean square residual [SRMR] = 0.07; root-mean-square error of approximation [RMSEA] = 0.06). We also compared this model to two alternative models: one with all variables loaded in one factor and the other with variables loaded in two factors (i.e. two types of team conflict as one factor and team-focused TFL as another factor). We found that the three-factor model provided a significantly better fit than two alternative models (e.g. RMSEA = 0.20 and 0.12, respectively, for one- and two-factor models). The CFA results confirm the discriminant validity of three constructs used in this study.

Results
Descriptive statistics and correlations for all key variables used in this study are reported in Table I.

Hypothesis testing
We tested the model using a method described by Preacher et al. (2007). We used an SPSS macro (Hayes, 2018; Preacher et al., 2007) to estimate both mediation and moderated mediation models. Results from the mediation model indicated that task conflict was positively and directly related to team creativity ($B = 0.11$, $p < 0.05$), supporting $H1$. In addition, task conflict was positively related to relationship conflict ($B = 0.52$, $p < 0.01$), and, in turn, relationship conflict was negatively related to team creativity ($B = -0.17$, $p < 0.01$), lending support for $H2$ and $H3$. Results also showed that the indirect effect of task conflict on team creativity ($B = -0.09$) was significant[6]. Thus, in support of $H4$, relationship conflict in teams mediated the relationship between task conflict in teams and team creativity.

Tables 2 and 3 show results from the moderated mediation model. In regard to $H5$, the results suggest that team-focused TFL moderates the relationship between task conflict and team creativity ($B = -0.14$, $p < 0.01$; see Table II) although the moderation effect seems to exist in the opposite direction as will be discussed below. As shown in Table III, high levels of task conflict in teams were directly associated with increased team creativity for teams with low team-focused TFL ($B = 0.30$, $p < 0.01$). However, task conflict was not associated with team creativity for teams with high team-focused TFL ($B = 0.01$, $p = 0.82$). The plot is presented in Figure 2. The hypothesized effect of team-focused TFL as an enhancer of the relationship between task conflict and team creativity is not supported ($H5$).

Next, with regard to $H6a$-$H6c$, the results indicate that team-focused TFL moderates the relationship between task conflict and relationship conflict ($H6a$) and the relationship between relationship conflict and team creativity ($H6b$). The results showed that the interactive effect of task conflict and team-focused TFL was significant on relationship conflict ($B = -0.12$, $p < 0.01$; see Table II). As shown in Table III, the path from task conflict to relationship conflict was weaker when team-focused TFL is high ($B = 0.42$, $p < 0.01$) than low ($B = 0.65$, $p < 0.01$), thereby supporting $H6a$. The results also showed that the interactive effect of relationship conflict and team-focused TFL on team creativity was significant ($B = 0.10$, $p < 0.05$; see Table II), thereby supporting $H6b$. However, the path from relationship conflict to team creativity was significant only when team-focused TFL is low ($B = -0.28$, $p < 0.01$). We calculated the conditional indirect effect of task conflict on team creativity to test $H6c$. This indirect effect was significant when team-focused TFL is
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<tr>
<td>Task conflict</td>
<td>4.09</td>
<td>0.58</td>
<td>0.11</td>
<td>0.14***</td>
<td>0.06</td>
<td>-0.07</td>
<td>(0.90)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship conflict</td>
<td>3.41</td>
<td>0.72</td>
<td>0.03</td>
<td>0.11</td>
<td>0.13*</td>
<td>0.00</td>
<td>0.54***</td>
<td>(0.89)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Moderator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team-focused transformational leadership</td>
<td>4.81</td>
<td>0.84</td>
<td>0.08</td>
<td>0.07</td>
<td>-0.13*</td>
<td>0.06</td>
<td>-0.08</td>
<td>-0.22***</td>
<td>(0.97)</td>
<td></td>
</tr>
<tr>
<td><strong>Dependent variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team creativity</td>
<td>5.22</td>
<td>0.81</td>
<td>-0.03</td>
<td>-0.00</td>
<td>0.05</td>
<td>0.06</td>
<td>0.01</td>
<td>-0.14*</td>
<td>0.19**</td>
<td>(0.95)</td>
</tr>
</tbody>
</table>

**Notes:** *Listwise N = 325 teams; *p < 0.05; **p < 0.01 (two-tailed)
### Table III.

<table>
<thead>
<tr>
<th>Level</th>
<th>$P_{MX}$</th>
<th>$P_{YM}$</th>
<th>Direct effect $(P_{YX})$</th>
<th>Indirect effect $(P_{YM}P_{MX})$</th>
<th>Total effects $(P_{YX} + P_{YM}P_{MX})$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFL$_{Low}$</td>
<td>0.65**</td>
<td>0.28**</td>
<td>0.30**</td>
<td>-0.18**</td>
<td>0.12**</td>
</tr>
<tr>
<td>TFL$_{High}$</td>
<td>0.42**</td>
<td>0.09</td>
<td>0.01</td>
<td>-0.04</td>
<td>-0.03</td>
</tr>
</tbody>
</table>

**Notes:** TFL = transformational leadership; $N = 325$ teams; team-focused TFL was $-0.96$ (i.e. 1 SD below the mean) and $1.01$ (i.e. 1 SD above the mean) for low and high levels of TFL, respectively; **$p < 0.01$ (two-tailed)

### Table II.

**Regression results for overall model**

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>SE</th>
<th>$t$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mediator variable model: relationship conflict</td>
<td></td>
<td></td>
<td></td>
<td>0.37</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.39</td>
<td>0.41</td>
<td>-0.94</td>
<td></td>
</tr>
<tr>
<td>Team size</td>
<td>0.00</td>
<td>0.00</td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td>Average department tenure</td>
<td>0.00</td>
<td>0.00</td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td>Average age</td>
<td>-0.00</td>
<td>0.01</td>
<td>-0.24</td>
<td></td>
</tr>
<tr>
<td>Average gender</td>
<td>0.12</td>
<td>0.23</td>
<td>0.50</td>
<td></td>
</tr>
</tbody>
</table>

**Team function dummies**

| Administration                                                        | 0.32  | 0.13 | 2.38* |
| Business development                                                   | 0.06  | 0.59 | 0.10  |
| Design                                                                | 0.33  | 0.19 | 1.72  |
| Production technology                                                  | 0.59  | 0.29 | 2.20* |
| Operations management                                                  | 0.32  | 0.13 | 2.36* |
| R&D                                                                   | 0.17  | 0.19 | 0.89  |
| Task conflict                                                          | 0.54  | 0.05 | 11.16** |
| Team-focused transformational leadership (TFL)                         | -0.15 | 0.05 | -3.18** |
| Task conflict × TFL                                                    | -0.12 | 0.04 | -2.89** |

**Dependent variable model: team creativity**

| Constant                                                              | 5.43  | 0.40 | 13.7*** |
| Team size                                                             | 0.01  | 0.01 | 1.70   |
| Average department tenure                                            | 0.00  | 0.00 | 0.92   |
| Average age                                                           | -0.01 | 0.01 | -0.82  |
| Average gender                                                        | -0.02 | 0.22 | -0.09  |

**Team function dummies**

| Administration                                                        | 0.00  | 0.13 | 0.01  |
| Business development                                                   | 0.85  | 0.56 | 1.51  |
| Design                                                                | -0.11 | 0.18 | -0.61 |
| Production technology                                                  | -0.04 | 0.28 | -0.14 |
| Operations management                                                  | 0.10  | 0.13 | 0.75  |
| R&D                                                                   | -0.34 | 0.18 | -1.90 |
| Task conflict                                                          | 0.16  | 0.05 | 2.83** |
| Team-focused transformational leadership (TFL)                         | 0.12  | 0.05 | 2.63** |
| Task conflict × TFL                                                    | -0.14 | 0.04 | -3.15** |
| Relationship conflict                                                  | -0.19 | 0.05 | -3.29** |
| Relationship conflict × TFL                                            | 0.10  | 0.04 | 2.13*  |

**Notes:** TFL = transformational leadership; $N = 325$ teams; unstandardized regression coefficients are reported; *$p < 0.05$; **$p < 0.01$ (two-tailed)

---

### Table III.

Direct, indirect and total effects at low and high levels of team-focused TFL for task conflict

<table>
<thead>
<tr>
<th>Level</th>
<th>$P_{MX}$</th>
<th>$P_{YM}$</th>
<th>Direct effect $(P_{YX})$</th>
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<td>-0.03</td>
</tr>
</tbody>
</table>

**Notes:** TFL = transformational leadership; $N = 325$ teams; team-focused TFL was $-0.96$ (i.e. 1 SD below the mean) and $1.01$ (i.e. 1 SD above the mean) for low and high levels of TFL, respectively; **$p < 0.01$ (two-tailed)
low ($B = -0.18; p < 0.01$), but it was not significant when team-focused TFL is high ($B = -0.04; p = 0.23$). We also plotted these three interaction patterns graphically in Figures 3-5. The hypothesized effect of team-focused TFL for the relationship between task conflict and relationship conflict is supported. In addition, the hypothesized effect of team-focused TFL
as a neutralizer of the relationship between relationship conflict and team creativity is also supported. Taken together, the results provide evidence for the moderating role of team-focused TFL in the task conflict—team creativity relationships. We further discuss these findings and provide alternative explanations where necessary in the following section.

Discussion
In this study, we set out to advance our current knowledge regarding conflict and creativity in teams. We did so by examining the direct and indirect effects of task conflict on team creativity in conjunction with the role of team-focused TFL. Our findings have a number of empirical and theoretical implications.

First, we demonstrate that task conflict is directly and positively related to team creativity. This finding suggests that task conflict may induce positive team processes that, in turn, enhance team creativity. It is consistent with early conflict researchers that advocated for the beneficial effect of task conflict (Jehn and Mannix, 2001). However, we also demonstrate that task conflict is negatively related to team creativity via increased relationship conflict. Specifically, as extensively substantiated in previous research, task conflict is found to be positively associated with relationship conflict. In turn, we show that tensions and frustrations rooted in incompatible personal norms and values can undermine team creativity, which might be explained by the associated weakening of team collaboration that is critical to generating, evaluating and selecting the most novel and creative ideas in teams. This finding along with the evidence regarding the positive association of task conflict and team creativity is valuable as it informs the long-standing debate in the conflict literature — whether task conflict is functional or dysfunctional for teams — by providing an explanation for the inconsistent and mixed findings in past research (de Wit et al., 2012; Hülsheger et al., 2009; Langfred and Moye, 2014; Loughry and Amason, 2014; Lovelace et al., 2001). For instance, the inconsistent or non-significant beneficial effect of task conflict in the previous research may be the product of the different direct and indirect effects. As such, our support for the dual paths through which task conflict affects team creativity suggests the need to shift the focus from whether task conflict is positive or negative for a host of outcomes to the question of under which conditions will the positive or negative effects dominate.

Second, the results from this study emphasize the role of a leader’s team-focused TFL in moderating the relationships between conflicts and team creativity as well as the relationship between task conflict and relationship conflict. As predicted, a leader’s team-
focused TFL plays a key role moderating both paths that constitute the indirect effect of task conflict on team creativity via relationship conflict. Team-focused TFL, we argue, is likely to prevent misunderstandings or misinterpretations that may cause task conflict to escalate to emotion-laden relationship conflict and to reduce the extent to which teams suffer from the negative influence of relationship conflict on creativity. As the results suggest, teams with a leader exhibiting high levels of team-focused TFL appear to be able to minimize the potential harm from the development of relational tensions and distress which can sabotage the climate necessary for increased creativity. Our findings are consistent with research that has examined the role of leadership as a moderator that can enhance, neutralize or substitute for team conflict (Ayoko and Callan, 2010; Hu et al., 2017), and we provide evidence that suggests that team-focused TFL can affect the ways in which individuals interpret and react to conflict and help teams manage conflicts so as to enhance potential benefits.

Nevertheless, team-focused TFL was shown to operate in a manner that is different from the one we hypothesized for the relationship between task conflict and team creativity. We argued that teams with high levels of team-focused TFL would be better able to capitalize on the presence of higher levels of task conflict in terms of their creativity. In contrast to this proposed relationship, our results indicate that high levels of team-focused TFL did not increase creativity as levels of task conflict increased. In teams with high levels of team-focused TFL, the effect of task conflict on team creativity was not significant. To be clear, high levels of team-focused TFL did not weaken the relationship between task conflict and creativity, but they did not have the proposed amplifying effect either.

There are a few possible explanations for this finding. First, our findings with regard to the increase in creativity for teams with low levels of team-focused TFL and high levels of task conflict suggest a possible substitution effect. In other words, it is the teams with low levels of leadership that see a boost in team creativity, suggesting that the process of engaging in task conflict provides teams with similar returns to those facilitated by team-focused TFL. The pattern of interactions found in this study suggests that high levels of team-focused TFL substitute for — rather than complement — task conflict in facilitating creativity. We also believe that there may be a cultural explanation for the substitution effect of leadership. Podsakoff et al. (1996) suggests that the effect of a transformational leadership behavior may be stronger than previously suggested because leaders can influence subordinates not only directly through their behavior, but also by shaping the context in which the subordinates work. We think that the role of a team leader in achieving a high level of collective creativity which draws on collaboration and contribution of many individuals may have been pronounced in a hierarchical cultural context in which a strong leadership is endorsed and expected (Javidan et al., 2006).

Practical implications

Our findings also have important implications for practitioners. First, our findings support the argument that conflict can have clear creativity-related benefits. Managers should, therefore, be attuned to this potential. Task conflict represents an informational resource that draws on the different ideas, perspectives and knowledge that team members bring to the group. As such, it can enhance team creativity by facilitating a deep and deliberate processing of task-relevant information. However, task conflict can spillover into relationship conflict which, in turn, causes emotional distress among team members and weakens team collaboration. Leaders and managers should, therefore, pay particular attention to preventing the transformation of task conflict into emotionally loaded relationship-centered arguments.
In doing so, they will increase the likelihood of maximizing the beneficial effects of task conflict.

Managers interested in capitalizing on the creativity-related benefits associated with task conflict should also pay attention to the role they can play through leadership behaviors that emphasize collective goals and identity. Findings from this research suggest that a leader’s team-focused TFL may be a substitute to task conflict when it comes to creativity. Teams with a leader exhibiting high levels of team-focused TFL do not seem to bring an additional return on task conflict. Therefore, managers need to understand clearly how their leadership interacts with other team processes so as to leverage this dynamic to compensate for various team process shortcomings. Thus, for example, in teams with more constrained leadership or an absence of leadership, managers may want to seek ways to facilitate and take advantage of a healthy level of task conflict.

Managers and team leaders should also actively manage the level of relationship conflict in teams given the detrimental effect of relationship conflict on team creativity documented in our study. Transformational leadership behaviors that include “fostering the acceptance of group goals” and “being an example by prioritizing collective interests” appear to be effective in minimizing the negative emotional effects of relationship conflict on a team’s climate and subsequent team’s creative performance.

Limitations and future research
As with all studies, our paper is not without its limitations. While there are several advantages associated with the study’s sample, there are some limitations that need to be acknowledged. First, the sample was biased in terms of gender and education as almost 90 per cent of the respondents were male and had at least some college education. Given the existing evidence regarding the effect of a team’s gender composition on various team processes and outcomes (LePine et al., 2002), such homogeneity may limit the generalizability of the relationships reported in this study. Second, the sample represents several industry sectors but a majority of the industries fall under one broad category – heavy manufacturing. Here too, industry-related characteristics may constrain the generalizability of our findings. Third, we tested our theoretical predictions using the sample with various functional areas represented; however, our findings do not provide implications for how the focal relationships examined in the current study may hold for different task types [7]. For example, the positive relationship between task conflict and team creativity may be more pronounced in creative tasks rather than non-creative tasks as suggested in research (de Wit et al., 2012). Future research could examine whether the task conflict-team outcome relationship is contingent on task types. Additionally, it would be also interesting to examine whether the role of leadership, specifically transformational leadership, in moderating the effects of team conflicts is more or less critical for some types of tasks than others.

A second limitation relates to the data. The data are cross-sectional, which raises some concerns regarding causality between variables. In the future, researchers should consider a longitudinal research design to examine the relationship between conflict and team creativity. The longitudinal design would also allow the examination of the varying effect of conflict on team creativity over the span of a team’s life cycle (Farh et al., 2010). A third possible limitation of this study relates to our measures. Scholar have been paying increased attention to how conflict is measured in this stream of research, and the limitations of perceptual measures been recognized. Future research should complement perceptual measures with objective ones. The manner in which conflict is expressed (e.g. directness and oppositional intensity; Weingart et al., 2015) also deserves consideration as it has implications for perceptions and measurement of conflict and it may influence the ways in
which people experience and react to conflict. Furthermore, the possibility that team members may have varying experience and perceptions of conflict should be accounted for as well. In the present study, we focused on the aggregated level of conflict within the team; however, relationship conflict showed low ICC values. Future research should focus on team members’ asymmetric perceptions of conflict within a team and examine their effect on various outcomes of individuals and teams.

Lastly, we focused on team-focused TFL and examined its moderating effect on the relationship between conflicts and team creativity. As individual-focused TFL draws on very different leadership dimensions such as individualized consideration and intellectual stimulation, we speculate that it may moderate the relationship between conflicts and team creativity in a different manner than does team-focused TFL. Future research should further examine how a leader’s individual-focused TFL may interact with conflicts in enhancing or hindering team creativity and innovation. In addition, findings from this study have some cultural implications, in particular with regard to the role of leadership, but the effect of cultural context was not directly tested in the current study. It might be a meaningful avenue for research to examine the roles of cultural values and norms in shaping the conflict–outcome relationship to add cultural nuance to conflict research or to establish generalization across different cultural contexts.

Having acknowledged these limitations, it is important to note that scholars have increasingly recognized the importance of boundary conditions in understanding the effects of conflict on individuals and teams. Given the lack of evidence regarding the role of leadership in shaping the processes by which conflicts affect team creativity, there is a particular need for this type of research in this domain. We believe that the line of inquiry set forth in this study provides insights as to how task conflict can both enhance and hinder a team’s creative potential via distinct direct and indirect effects. This effort also contributes to expanding our understanding of a leader’s role in teams in relation to key team processes including conflict and creativity.

Notes

1. The response rate across industries did not vary much, with a standard deviation of 5.73.

2. In our sample, teams distributed across seven functional tasks as the following: 78 teams in administration (24 per cent), 2 teams in business development (0.6 per cent), 34 teams in design (10.5 per cent), 88 teams in production technology (27 per cent), 9 teams in operations management (2.8 per cent), 28 teams in R&D (8.6 per cent), and 86 teams in sales (26.5 per cent).

3. Becker (2005) suggested that unnecessary control variables not only decrease statistical power but also may generate biased estimates.

4. To further examine the effect of gender diversity in our data, we calculated the correlations between team creativity and three indexes of gender diversity: average gender, gender standard deviation and gender heterogeneity index4 (HI) following the work of Metzner (2003), but none of the gender indexes was significantly correlated with team creativity.

5. We created six team function dummies and used sales as a base group because it was highly represented in the sample along with production technology. Also, sales is a function that is often believed to demand the least creativity, so using sales as the base group allowed comparisons with other functional groups. Nevertheless, using a different functional group (e.g. administration) as a comparison group did not change the results.

6. Significance tests for the indirect effects were based on bias-corrected confidence intervals derived from 5,000 bootstrapped samples (Preacher and Hayes, 2004; Shrout and Bolger, 2002).
7. In the present study, we could not examine the effect of different task types because we did not have sufficient information to define the nature of team tasks and classify the tasks into creative vs non-creative tasks. Also, there existed significant variance in how creative or non-creative the tasks were within the same functional groups (e.g. sales). However, as one reviewer and editor pointed out, the relationships demonstrated in the current study may vary depending on how much potential of creativity is allowed by different task types. When we created a dummy variable for creative and non-creative tasks based on a general understanding of functional areas and used it in our analyses instead of team function dummies, the overall moderated mediation model remained consistent although the direct relationship between task conflict and team creativity was supported only at a marginal level ($p < 0.10$). The results of the analysis with the dummy code for creative vs. non-creative tasks could be made available upon request to the corresponding author.

References


Task conflict on team creativity


**Further reading**


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